

A/T FS3

Coax/Twinax

Connection

User's Guide

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First edition of the *Intermate A/T FS3 User's Guide*

Made in Denmark

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Year 2000

This product, the utility programs and the configuration programs have no year 2000 dependency, which will affect their function and operation or their corresponding environments.

Table of Contents

1. About this Guide	11
1.1 Conventions	12
2. Introduction	13
2.1 Product Overview	13
2.2 Box Contents	15
2.3 A/T FS3 Serial I/O Port	15
3. Installation	17
3.1 Hardware Installation	17
3.1.1 Adjusting Coax Mode	18
3.1.1.1 Adjusting Coax IPDS Mode	20
3.1.1.2 Adjusting Twinax Mode	21
3.1.1.2.1 Adjusting Twinax IPDS Mode	25
4. Initial Configuration	29
4.1 The Front Panel	30
4.2 The Switch Menu System	33
4.3 The On-line IDB Command Language	35
4.4 The Remote Menu System	36
4.4.1 Terminal Configuration	36
4.4.2 Configuration Examples	41
4.5 The IPDS Parser	49
5. Configuration and Management	51
5.1 The Front Panel	52
5.2 The Switch Menu System	52
5.3 On-line IDB Commands	53
5.4 The IDB Utility Program	54
5.5 The Remote Menu System	55
5.6 The IPDS Parser	55
5.6.1 Using the Parser	55
5.6.2 Parser Syntax	56
5.7 The IPDS Configuration File	57
6. Option Reference	61

6.1 SCS Coax Options	61
6.1.1 Local Copy Form Feed Action	62
6.1.2 Country Code Selection	63
6.1.3 Non-Printable Character	64
6.1.4 Contoller Reset Commands	64
6.1.5 Form Feed Support	64
6.1.6 Data Conversion	65
6.1.7 CSC Characters	66
6.1.8 IBM Printer Emulation	67
6.1.9 Buffer Size	67
6.1.10 Printer Features	68
6.1.11 Advanced Printer Features	68
6.1.12 Extended Printer ID	70
6.1.13 MPP+1 (LU3 mode only)	70
6.1.14 Form Feed Data (LU3 mode only)	71
6.1.15 Form Feed Last (LU3 mode only)	71
6.1.16 Null Suppression	71
6.1.17 Form Feed Position (LU3 mode only)	72
6.1.18 Power Up Time	72
6.1.19 Intervention Required Response	72
6.1.20 Bold Print Control	73
6.1.21 PS Characteristics	74
6.1.22 Prescribe Command Recognition Character	74
6.1.23 End Of Message Control	74
6.1.24 Output Optimization On	75
6.1.25 Reset Per Page	75
6.1.26 Coax Timeout	75
6.1.27 Right to Left Printing	76
6.1.28 Old Command Sequence Support	76
6.1.29 Skip Blank Page	76
6.1.30 Paper Size Cassette 1	77
6.1.31 Paper Size Cassette 2	77
6.1.32 Paper Size Cassette 3	77
6.1.33 Paper Size Cassette 4	78
6.1.34 Paper Size Cassette 5	78
6.1.35 Paper Size Cassette 6	78
6.1.36 Paper Size Cassette 7	79
6.1.37 Paper Size Cassette 8	79
6.1.38 Characters Per Inch	79
6.1.39 Mono Case or Dual Case	80
6.1.40 Maximum Print Position	80
6.1.41 Left Margin	80
6.1.42 Right Margin	80
6.1.43 Lines Per Inch	81
6.1.44 Single/Double Line Spacing	81
6.1.45 Lines Per Page	81
6.1.46 Top Margin	81
6.1.47 Bottom Margin	82
6.1.48 Base Colour	82
6.1.49 Print Quality	82

6.1.50 Default Source Drawer	83
6.1.51 Page Orientation	83
6.1.52 Programmed Symbols Page Orientation	84
6.1.53 Automatic Print Orientation	84
6.1.54 Cassette 1 Orientation	85
6.1.55 Cassette 2 Orientation	85
6.1.56 Cassette 3 Orientation	85
6.1.57 Cassette 4 Orientation	86
6.1.58 Cassette 5 Orientation	86
6.1.59 Cassette 6 Orientation	86
6.1.60 Cassette 7 Orientation	87
6.1.61 Cassette 8 Orientation	87
6.1.62 Line Density Type	88
6.1.63 Printer Maximum MPP @ 10 CPI	88
6.1.64 Form Length Type	89
6.1.65 Transparency Method	90
6.1.66 Formatted Strings	90
6.1.67 Handling IBM Code Transparency	91
6.1.68 Repetition Character	92
6.1.69 Lead In Characters	92
6.1.70 Lead Out Characters	93
6.1.71 Suppress Format Control Codes At Power Up	94
6.1.72 Hex Dump Mode	95
6.1.73 Screen Buffer Size	95
6.2 SCS Twinax Options	96
6.2.1 Miscellaneous Settings	97
6.2.1.1 Unprintable Character	97
6.2.1.2 Printer Emulation	98
6.2.1.3 Overlay Calls	99
6.2.1.4 Compress CPI	100
6.2.1.5 Format Control Code Suppression	100
6.2.1.6 Force Euro Support	101
6.2.1.7 Timeout initialize	102
6.2.1.8 Intervention Status	102
6.2.1.9 Download Font	103
6.2.2 Power On Default Settings	104
6.2.2.1 Country Code	104
6.2.2.2 Code Page	106
6.2.2.3 Default Font	108
6.2.2.4 Default Characters Per Inch	108
6.2.2.5 Default Maximum Printing Position	109
6.2.2.6 Default Left Margin in Characters	109
6.2.2.7 Default Right Margin in Characters	109
6.2.2.8 Default Lines Per Inch	110
6.2.2.9 Default Lines Per Page	110
6.2.2.10 Default Top Margin in Lines	111
6.2.2.11 Default Print Quality	111
6.2.2.12 Default Source Drawer	112
6.2.2.13 Default Forms Media	113
6.2.2.14 Default Destination Drawer	114

6.2.2.15 Default Simplex/Duplex	115
6.2.2.16 Default Page Orientation	115
6.2.3 COR Settings	116
6.2.3.1 Left Margin Offset In COR	116
6.2.3.2 Top Margin Offset In COR	117
6.2.3.3 Physical Page Length	118
6.2.3.4 Physical Page Width	119
6.2.3.5 Left Margin Offset In Landscape	120
6.2.3.6 Top Margin Offset In Landscape	121
6.2.3.7 Page Orientation Drawer 1	122
6.2.3.8 Page Orientation Drawer 2	122
6.2.3.9 Computer Output Reduction Drawer 1	123
6.2.3.10 Computer Output Reduction Drawer 2	124
6.2.3.11 Computer Output Reduction Text Mode	125
6.2.3.12 Computer Output Line Spacing Reduction	125
6.2.4 Horizontal/vertical Positioning	126
6.2.4.1 Proportional Font Move	126
6.2.4.2 Movement Horizontal/Vertical	127
6.2.5 Transparent Mode	128
6.2.5.1 CSC Characters	128
6.2.5.2 Repetition Character	129
6.2.5.3 Lead In Characters	130
6.2.5.4 Lead Out Characters	130
6.3 IPDS Options	131
6.3.1 Paper size	131
6.3.2 Emulation	134
6.3.3 Code Page	134
6.3.4 Code Page version	137
6.3.5 Exception Suppression	138
6.3.6 Page Counter Update	139
6.3.7 Resource Memory	140
6.3.8 Duplex Print Enable	140
6.3.9 Printable Area Option	141
6.3.10 MICR enable	141
6.3.11 Input-tray mapping	142
6.3.12 Output-bin mapping	144
6.3.13 Output jogging	146
6.3.14 Margin adjustment	146
6.3.15 Print IPDS status	147
6.3.16 IPDS software key	147
6.3.17 Skip blank pages	147
6.3.18 Rotate simplex	148
6.3.19 Cassette linking	148
6.3.20 IPDS device address	150
6.3.21 IPDS buffer size	151
6.3.22 Intervention Required	151
6.3.23 String Before IPDS	152
6.3.24 String After IPDS	153
6.4 Miscellaneous Options	156

6.4.1 SCS Twinax Device Address	157
6.4.2 Enable IPDS printing (Coax)	158
6.4.3 SCS Hex Dump	159
6.4.4 Print IDB Dump	159
6.4.5 Print Status Dump	160
6.4.6 Restore Factory IDB	160
Appendices	161
A. Technical Specifications	161
B. IBM Cabling System	169
C. Cable Specifications	171
D. ASCII Character Table (extract)	173
E. Switch Settings	175
F. Selecting Input Cassettes	183
F.1 Using String Triggers	183
F.1.1 Coax users	183
F.1.2 Twinax users	184
F.2 Using PPM Commands	185
G. Prescribe L-Parameters (IPDS only)	187
H. Euro Support	189
H.1 Requirements for Printing the Euro Character	189
H.2 Coax Users	190
H.3 Twinax Users	190
I. Printing a Status Sheet	191
J. Firmware Upgrade	195
J.1 The Intermate Download Utility Program	196
J.1.1 Installation	196
J.1.2 Downloading Files	198
J.1.3 Uploading Configuration Files	200
K. Requirements for IPDS Printing	201
L. The IPDS Software Key	203
L.1 Ordering the Key	203
L.2 Entering the Key	203
L.3 Deleting the Key	205
M. IPDS Font Summary	207
M.1 IBM 4028 (3916) Emulation Fonts (300 dpi)	207
M.2 IBM 3812 Emulation Fonts (240 dpi)	208
N. IPDS Features	211
N.1 The Distinction between AFP and IPDS	211
N.2 IPDS Fonts	212
O. Page Orientation System (Coax)	213
P. COR/APO Logic (Twinax)	215
Q. Special Coax IDB Commands	219
R. Special Twinax IDB Commands	221

S. Conversion Utilities	223
S.1 Character Conversion	223
S.2 String Conversion	224
S.2.1 Predefined Strings	224
S.2.2 User-defined Strings	225
T. Related Publications	229
U. Customer Support	231
Index	233

1. About this Guide

This guide describes the Interimate A/T FS3 internal interface for Kyocera's line of 3V FS and FS+ printers equipped with a KUIO port. Backward compatibility is also provided as the A/T FS3 fits in 5V FS and FS+ printers. Refer to the list of supported printers in appendix A. *Technical Specifications* on page 161.

In order to install and be able to use the A/T FS3 only chapter 3. *Installation* has to be read. It is, however, recommended also to perform the initial configuration outlined in chapter 4. *Initial Configuration*.

Chapter summary

2. Introduction

Describes the A/T FS3 and its main features.

3. Installation

Provides a step-by-step installation of the A/T FS3 on your system.

4. Initial Configuration

Deals with the recommended initial configuration, which should be performed at first time installation. A number of different approaches to altering some of the most common options are described.

5. Configuration and Management

This chapter is a continuation of the previous. It provides a more comprehensive explanation to some of the configuration techniques.

6. Option Reference

Provides a list and description of all available options and their settings.

Appendices

Contains supplementary and other useful information.

1.1 Conventions

Special keys are shown in angle brackets such as <Enter> or <F1>.

Windows push-buttons are marked like this |OK|.

Printer push buttons are written in quotation marks, eg “Mode”.

Printer front panel text and ranges are shown in square brackets, eg [003] and [0.00..99.99] respectively.

Names and references, including option names, which should be paid special attention are written in *italic*.

On screen text is written in Courier typeface.

Hyperlinks are written in blue, eg www.intermate.com.

2. Introduction

The Intermate A/T FS3 SCS interface allows 3270/5250 attachment of Kyocera Page printers. With the standard version it is possible to connect to either Coax or Twinax environments. At the same time IPDS printing can be enabled in a test mode.

IPDS production printing is enabled by entering a software activation key. Refer to appendix L. *The IPDS Software Key* on page 203.

Printing facilities in other environments connected via the printer's parallel attachment are not lost when the A/T FS3 is installed. This is due to the printer's dynamic sharing of the available ports. Refer to the printer documentation.

Configuration and management of the A/T FS3 can be done in a number of ways. Among them through the Intermate Data Base (IDB) which is configured via on-line command sequences or via downloading of the entire IDB configuration file.

Another approach to configuration and management of the A/T FS3 is to start a terminal session via the RS/232 serial config/upgrade cable. This accesses the *Remote Menu System* which allows configuration of the A/T FS3 through easy to use menus.

The initial configuration is quickly done using either the front panel or the switch on the back of the A/T FS3.

2.1 Product Overview

- Emulation selection (3812/16, 4028 or 3916) and configuration is easily done from the host, via the switch, with a terminal program (eg the Windows 95/98 or Windows NT program *HyperTerminal*) or via the printer's front panel.
- The only tool needed for hardware installation is a screwdriver. The A/T FS3 consists of the A/T FS3 interface card, and either a Twinax or Coax DB9 connector cable. Both cables are included. The A/T FS3 occupies the printer's internal KUIO port and allows dynamic sharing with the existing input ports.

- The Intermate A/T FS3 supports *dual addresses* in 5250 mode which enables the printer to act concurrently as an IPDS printer and a 5219/3812 compatible SCS printer device. The AS/400 host sees the A/T FS3 as two separate logical printer devices.
- The A/T FS3 is backward compatible with all previous Intermate interfaces for Kyocera. Also included is the IDB (Intermate Data Base). These two features enable the use of existing IDB configurations with the A/T FS3.
With the IDB the user can create a protocol conversion table that suits his specific needs.
- The standard version of the A/T FS3 is capable of running IPDS with full support for the IPDS features of the corresponding IBM 3112/16, 3812/16, 3912/16, and 4028 printers and is 100% plug compatible with these printer types. The mode is, however, hindered by a nag text, which is printed on each IPDS page. Please see the next paragraph.
- With the purchase and entering of an IPDS software activation key, the A/T FS3 enters IPDS production printing for the IBM host immediately.

Distinctive features of the IPDS facilities are described in appendix *N. IPDS Features* on page 211.

2.2 Box Contents

The Intermate A/S FS3 package includes:

- A/T FS3 Coax/Twinax interface card - part no. 24976.
- Coax DB9 connector cable - part no. 17897.
- Twinax DB9 connector cable - part no. 13851.
- Serial config/upgrade cable - part no. 20233.
- The Documentation and Utilities CD.
- Quick Installation Guide - document no. GS-019-x

2.3 A/T FS3 Serial I/O Port

The serial I/O port on the A/T FS3 allows for easy microcode upgrade of the interface through a PC utility program. The serial I/O port is also used as a trace output port for dumping system data sent from the host onto a serial attached PC. The serial I/O port is combined in the same 9 pole DB connector used for host attachment and therefore requires a dedicated config/upgrade cable. Refer to appendix C. *Cable Specifications* on page 171.

The serial config/upgrade cable (part no. 20233) is included with the A/T FS3. The cable attaches to a PC and to the A/T FS3 when installed in the printer. It is used to for remote configuration and for upgrading of the firmware. A cable for tracing host print jobs is also available. It is ordered from Intermate.

Upgrade/Trace cable Coax - part no. 20278

Upgrade/Trace cable Twinax - part no. 20279

3. Installation

3.1 Hardware Installation

To install

1. Power Off the printer and unplug the power cord.

Caution: If the printer is not powered Off before installation, parts of the A/T FS3 and printer may be permanently damaged.

2. Unpack the A/T FS3 and make sure you have the following parts:
 - The Intermate A/T FS3 interface wrapped in its antistatic bag.
 - Coax DB9 connector cable - part no. 17897 *or*
Twinax DB9 connector cable - part no. 13851
 - Serial config/upgrade cable - part no. 20233.

You will also need:

- A screwdriver.
3. Remove the metal plate covering the option port by taking out the screws. Refer to the printer documentation if in doubt.
 4. If another interface is occupying the internal KUIO port, you should make sure it is alright to remove this.

Caution: Discharge yourself from static electricity before handling the interface cards. This is easily done by touching a radiator, gripping a (metal) table leg, or by touching the printer's metal cabinet. Alternatively you can wear an anti-static wrist strap.

5. Unpack the A/T FS3.
6. Slide the A/T FS3 into the internal KUIO port in the printer. Secure its position by inserting the screws.

This concludes the physical installation. What is left is the connection to the system and the logical installation.

Coax: Continue with the next section.

Twinax: Proceed with section 3.1.2 *Adjusting Twinax Mode* on page 21.

3.1.1 Adjusting Coax Mode

To complete the installation

1. Insert the coax cable's DB9 connector in the back of the A/T FS3 and connect the coax connector with the communication cable from eg the IBM 3x74 controller.
2. Make sure the switch is in position "0" (= Normal operation) and power On the printer.
3. Set the *Printer Emulation*. This is done via the front panel or via the switch (position "D"). The procedure for setting the emulation via the front panel is described below. If the printer does not have a front panel, refer to the section describing the *Switch Menu System* in chapter 4. *Initial Configuration* on page 33 and to appendix E. *Switch Settings* on page 175.

To set the Printer Emulation via the front panel

Note: Configuration via the front panel is performed by entering configuration mode on the printer and editing the *IP-address* bytes. Changing these bytes does not affect the operation of the printer, as the *IP-address* bytes are only used by the A/T FS3.

- A. Press the "Mode" button to enter configuration mode.

- B. Press “+” or “-“ until the display reads “Interface”.
- C. Press “Enter” and push “+” or “-“ until the interface type reads “Option”. Press “Enter”.
- D. Press “>” twice. This displays “DHCP”.
- E. Press “+” once to display “IP Address”.
- F. Press “Enter” to activate the setting of the first *IP-address* byte (to the right). Use the “>” and “<“ buttons to select the second address byte (000.003.###.010). These three digits represent the *Printer Emulation*. Valid front panel values are:

000	Old IBM 3287
001	IBM 3287
004	IBM 3268
005	IBM 3230
016	IBM 4214
020	IBM 3812 (default value)
036	IBM 4224
084	Advanced SCS

- G. Use the “+” and “-” buttons to adjust the value to your liking.
 - H. Press the “Enter” button to save the new value.
 - I. Power the printer Off and On to activate the new value.
4. Create a definition for an IBM SCS printer in VTAM according to the *Printer Emulation* (option 10) selected in the A/T FS3. See next step. Consult your system administrator if in doubt.
 5. Verify the setting of the most important options and change them if needed. These options include *Screen Buffer Size* and *Country Code Selection*.

Refer to chapter 4. *Initial Configuration* on page 29.

You can check the option settings by printing a status sheet. This is done by pressing the “Status” button on the front panel or by turning the switch to position “2”. Remember to turn the switch back in position “0” after the pages are printed.

This completes the standard SCS installation.

Continue with section 3.1.1.1 *Adjusting Coax IPDS Mode* below, if you wish to print IPDS as well.

3.1.1.1 Adjusting Coax IPDS Mode

To enable IPDS printing

1. Set the *IPDS Emulation* option according to your preference. The option is described on page 134 and is set via the front panel or via the switch. Refer to chapter 4. *Initial Configuration* on page 29.
2. Enable IPDS printing. This is done via the switch (position “E”) or via the printer’s front panel (first digit in the first *IP-address* byte, 000.003.020.01#). Refer to chapter 4. *Initial Configuration* on page 29.
3. Create a definition for an IBM IPDS printer in VTAM according to the emulation set with the A/T FS3 option *IPDS Emulation*. Consult your system administrator if you have doubts about VTAM.
4. Verify the setting of the most important IPDS options and change them if needed. These options include *Page Counter Update*, *Emulation*, *Code Page* and *Code Page version*. Refer to chapter 4. *Initial Configuration* on page 29.

You can check the option settings by printing a status sheet. This is done by pressing the “Status” button on the front panel or by turning the switch to position “2”. Remember to turn the switch back in position “0” after the pages are printed.

The IPDS installation is now complete and ready to run in demo mode. This

means that it is fully functional, but is hindered by a nag text printed on each page. To remove this text an IPDS software key has to be entered. Refer to appendix L. *The IPDS Software Key* on page 203.

3.1.2 Adjusting Twinax Mode

DO NOT connect to your Sys/36, AS/400 or 5x94 controller before a Twinax Device address has been determined and set. The default Twinax device address of the A/T FS3 is zero.

On the AS/400 the device addresses can be printed on the current system printer with the CL command:

```
PRTDEVADR
```

This prompts you for a device controller description, ie:

```
CTL##      (“##” is a number)
```

Contact your system administrator if in doubt.

Locate a free device address on the system and set it in the A/T FS3. The device address is altered via the front panel or via the switch. Refer to and complete one of the two next approaches, then continue with configuration of the host. AS/400 configuration is described on page 24.

To set the device address via the front panel

Note: Configuration via the front panel is done by entering configuration mode and editing the *IP-address* bytes. Changing these bytes does NOT affect the operation of the printer, as the *IP-address* is only used by the A/T FS3 when this is installed.

1. Make sure the printer is NOT connected to the host. Power On the printer.
2. Press the “Mode” button to enter configuration mode.
3. Press “+” or “-“ until the display reads “Interface”.

4. Press “Enter” and push “+” or “-“ until the interface type reads “Option”. Press “Enter”.
5. Push the arrow button “>” twice. This displays “DHCP”.
6. Push the “+” button once to display “IP Address”.
7. Press “Enter” to activate the setting of the first *IP-address* byte. This is the three digits furthest to the right (000.000.005.###). These digits represent the twinax device address.
8. Use the “+” and “-” buttons to adjust the value to your liking. Valid values are from 0 - 6. The device address is disabled if a value higher than or equal to 7 is entered.
9. Press the “Enter” button to save the new value.
10. Verify the setting of the most important options and change them if needed. These options include *Printer Emulation*, *Code Page* and *Country Code*. Refer to the section describing the front panel in chapter 4, *Initial Configuration* on page 30.

You can check the option settings by printing a status sheet. This is done by pressing the “Status” button on the front panel.

11. Power Off the printer.

The new values are activated at the next power On. DO NOT connect the printer to the system, yet. Ignore the below procedure and continue with the paragraphs following it.

To set the device address via the switch

1. Power Off the printer and make sure it is not connected to the host.
2. Turn the switch to position “E” to access the *Set twinax address* menu point when the printer is powered On next.
3. Power On the printer.

4. Wait for a page to be printed. This page contains information on the selected menu option.
5. Set the twinax device address by turning the switch. Valid values are from 0 - 6. Values higher than or equal to 7 disable the device address.
6. Wait for a page to be printed. This confirms the new address.
7. Turn the switch to position "F" to save the new value.
8. Wait for a page to be printed. This confirms the saving of the value.
9. Turn the switch to position "0" to end the configuration.
10. Verify the setting of the most important options and change them if needed. These options include *Printer Emulation*, *Code Page* and *Country Code*. Refer to the section describing the *Switch Menu System* in chapter 4. *Initial Configuration* on page 33.

You can check the option settings by printing a status sheet. This is done by powering Off the printer, turning the switch to position "2" and powering On the printer.

11. Power Off the printer and make sure the switch is in position "0".

The new values are activated at the next power On. DO NOT connect the printer to the system, yet. Continue with the paragraph below.

The next step is to configure the host. If you already have an AS/400 printer device description available on your system and you have set the correct device address, you can complete the installation now by connecting the printer to the system and powering it On. Otherwise you should NOT connect it, but continue with the AS/400 configuration procedure below.

The AS/400 configuration is performed with the Auto Configuration feature. The A/T FS3 configures as a *3812 model 1 printer device. This is also the default setting of the A/T FS3 *Printer Emulation* option.

To configure the AS/400 and the A/T FS3

1. Check whether Auto Configuration is enabled with the CL command:

```
DSPSYSVAL SYSVAL(QAUTOCFG)
```

If Auto Configuration is disabled (= '0'), then enable it:

Note: Consult your system administrator if you do not have sufficient rights to perform this action.

```
CHGSYSVAL SYSVAL(QAUTOCFG) VALUE('1')
```

2. Insert the twinax cable's DB9 connector in the back of the A/T FS3 and connect the twinax connector with the communication cable from the controller.
3. Power On the printer.
4. Verify that the AS/400 detects a new device type *3812 by using the CL command `WRKDEVD PRT*` and pressing F5 (refresh) continuously.
5. Start the Printer Writer for the device:

```
STRPRTWTR DEV(PRT08)
```

6. Make a test printout:

```
CHGJOB PRTDEV(PRT08)
```

```
PRTDEVADR CTLD(CTL01)
```

If you do not receive a printout, check if there is a message waiting on the writer:

```
WRKWTR PRT*
```

7. If you had to enable Auto Configuration in step 1, then disable it again:

```
CHGSYSVAL SYSVAL(QAUTOCFG) VALUE('0')
```

This completes the standard SCS installation.

Continue with section *3.1.2.1 Adjusting Twinax IPDS Mode* below, if you wish to print IPDS as well.

3.1.2.1 Adjusting Twinax IPDS Mode

To enable IPDS printing

1. Power Off the printer and disconnect it from the system.
2. Locate a free device address. On the AS/400 the device addresses can be printed on the current system printer with the CL command:

```
PRTDEVADR
```

This prompts you for a device controller description, ie:

```
CTL##          (“##” is a number)
```

Contact your system administrator if in doubt.

3. Set the *IPDS device address*. This is done via switch position “A” or via the printer’s front panel (first digit in the first *Subnet mask address* byte, 001.000.002.10#). Refer to chapter 4. *Initial Configuration* on page 29.

IPDS printing is enabled, when the device address has been set.

4. Verify the setting of the most important IPDS options and change them if needed. These options include *IPDS Emulation*, *Page Counter Update*, *Code Page*, *Code Page version* and *Buffer Size*. Refer to chapter 4. *Initial Configuration* on page 29.

You can check the option settings by printing a status sheet. This is done by pressing the “Status” button on the front panel or by powering Off the printer, turning the switch to position “2” and powering On the printer. Remember to turn the switch back in position “0” after the pages are printed.

5. Power Off the printer when done.

The next step is to configure the host. If you already have an AS/400 *IPDS printer device description available on your system and you have set the correct device address, you can complete the installation now by connecting the printer to the system and powering it On. Otherwise you should NOT connect it, but continue with the AS/400 configuration procedure below.

The AS/400 configuration is performed with the Auto Configuration feature. The A/T FS3 configures as an *IPDS device.

In IPDS mode the A/T FS3 works in both AFP=*YES and AFP=*NO mode for the device description.

AFP=*NO lets you print from Office/400 (including merged graphics, BGU, GDDM, etc.) at a higher throughput than with AFP=*YES but with less functionality. AFP=*NO is the default value when using auto configuration.

AFP=*YES lets you make full use of OS/400 AFP Print Services, including overlays, page segments, downloaded fonts, etc. You can also send print jobs from a mainframe or from a PC with IBM ClientAccess through the AS/400.

To configure the AS/400 and the A/T FS3

1. Check whether Auto Configuration is enabled with the CL command:

```
DSPSYSVAL SYSVAL(QAUTOCFG)
```

If Auto Configuration is disabled (= '0'), then enable it:

Note: Consult your system administrator if you do not have sufficient rights to perform this action.

```
CHGSYSVAL SYSVAL(QAUTOCFG) VALUE('1')
```

2. Connect the printer to the system and power it On.

3. Verify that the AS/400 has detected a new device type *IPDS by using the CL command WRKDEVD PRT* and pressing F5 (refresh) continuously.

4. If you want to enable OS/400 AFP Print Services for the *IPDS device use the following commands (sample device name PRT08):

```
VRYCFG CFGOBJ(PRT08) CFGTYPE(*DEV) STATUS(*OFF)
```

```
CHGDEVPRT DEVD(PRT08) AFP(*YES)
```

```
VRYCFG CFGOBJ(PRT08) CFGTYPE(*DEV) STATUS(*ON)
```

5. Start the Printer Writer for the device:

```
STRPRTWTR DEV(PRT08)
```

6. Make a test printout:

```
CHGJOB PRTDEV(PRT08)
```

```
PRTDEVADR CTLD(CTL01)
```

If you did not receive a printout, check if there is a message waiting on the writer:

```
WRKWTR PRT*
```

7. If you had to enable Auto Configuration in step 1, then disable it again:

```
CHGSYSVAL SYSVAL(QAUTOCFG) VALUE('0')
```

The IPDS installation is now complete and ready to run in demo mode. This means that it is fully functional, but is hindered by a nag text printed on each page. To remove this text an IPDS software key has to be entered. Refer to appendix *L. The IPDS Software Key* on page 203.

4. Initial Configuration

This chapter provides different approaches for configuring the options that should be configured when installing the A/T FS3. The most common options and their default values are shown below.

	Coax		Twinax		IPDS	
	Value	Ref. page	Value	Ref. page	Value	Ref. page
Printer emulation	IBM 3812 / 4028	67	IBM 3812 model 1 (5219 mode)	98	IBM 3916 (300 dpi)	134
Code page	-	-	Multinational	106	International set 5	134
Code page version	-	-	-	-	Standard code page version 1	137
Country code	English	63	Multinational	104	-	-
Screen buffer size	3440 bytes	95	-	-	-	-
IPDS Buffer size (Twinax)	-	-	-	-	1024 bytes	151
Page counter update	-	-	-	-	Normal	139

Configuration via the front panel is quick and easy. How this is done is described on page 30.

The *Switch Menu System* also provides quick access to the most common options. It is described on page 33.

All of the SCS options can be configured via the on-line IDB command language. An introduction to the language is provided on page 35.

The *Remote Menu System* is accessed with an ordinary terminal program (eg HyperTerminal). It is described on page 36.

The last method described is the *IPDS parser*. The Parser can only be used to change the IPDS options. It is described on page 49.

Common to all configuration methods are, that the printer has to be powered Off and On in order to activate any new option settings.

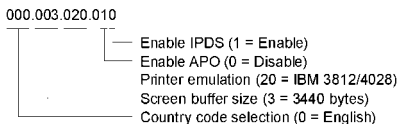
4.1 The Front Panel

Note: Not all of the supported Kyocera printer models are equipped with a front panel.

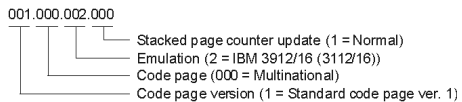
Configuration via the front panel on the printer works as a short-cut to the options, which are most likely to need configuration at first time installation. The A/T FS3 is configured by entering configuration mode on the printer and editing the *IP-address* bytes. Changing these bytes does not affect the operation of the printer, as the IP-addresses are *ONLY* used by the A/T FS3. After changing the options the printer power has to be recycled in order to activate the new option values.

Depending on the mode the A/T FS3 is running (Coax / Twinax), the *IP-address* and *Subnet mask address* bytes control different options. The figures below and the table following them show the switch positions.

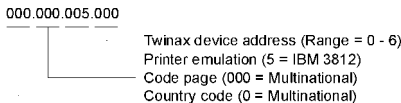
Initial Coax Options (IP-address)



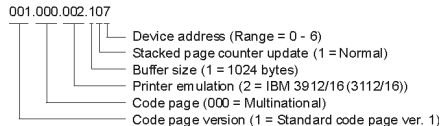
Coax IPDS Options (Subnet mask address)



Initial Twinax Options (IP-address)



Twinax IPDS Options (Subnet mask address)



	Coax	Twinax	IPDS
	Ref. page	Ref. page	Ref. page
Device address	-	157	150
Enable IPDS (Coax)	-	-	158
Enable APO	84	-	-
Printer emulation	67	98	134
Screen buffer size	95	-	-
IPDS buffer size (Twinax users only)	-	-	151
Code page	-	106	134
Code page version	-	-	137
Country code	63	104	-
Page counter update	-	-	139

Example (To change the Country Code to German)

Tip: Print a *Status* sheet to see the current *Country Code* value. Refer to appendix I. *Printing a Status Sheet* on page 191.

1. Power Off the printer and make sure the switch on the back of the A/T FS3 is in position "0".
2. Power On the printer and press the "Mode" button to enter configuration mode.
3. Press "+" or "--" until the display reads "Interface".
4. Press "Enter" and push "+" or "--" until the interface type reads "Option". Press "Enter".
5. Push the ">" button twice to display "DHCP".
6. Push the "+" button once to display "IP Address".

7. Press “Enter” to edit the above address.
8. Press “>” three times to select the first digit in the fourth address byte (###.000.000.000). This byte represents the *Country Code*.
9. Use the “+” and “-” buttons to adjust the value to “002” (= Germany/Austria).
10. Press the “Enter” button to save the new value.
11. Recycle the printer power to activate the new value or continue with setting the other *IP-address* bytes if needed.

Note: Twinax users will have to set the *Code Page* as well. This is because the *Code Page* value has higher priority than the *Country Code*. Therefore, repeat the above procedure, but select and set the third *IP-address* byte to “003” (= Germany/Austria).

4.2 The Switch Menu System

The switch located on the back of the A/T FS3 offers quick access to some of the most common options. Refer also to appendix *E. Switch Settings* on page 175.

Note: The IPDS options are only available when IPDS printing is enabled. If you have not enable IPDS printing, refer to sections *3.1.1.1 Adjusting Coax IPDS Mode* and *3.1.2.1 Adjusting Twinax IPDS Mode* on page 20 and 25, respectively.

	Switch position	Default setting	Ref. page
Coax			
Set buffer screen size	A	3440 bytes	95
Set country code 0 - 14	B	English	63
Set country code 15 - 23	C	-	63
Set printer emulation	D	IBM 3812 / 4028	67
Twinax			
Set country code	B	Multinational	104
Set code page	C	Multinational	106
Set printer emulation	D	IBM 3812 model 1 (5219 mode)	98
IPDS			
Set emulation	6	IBM 3916 (300 dpi)	134
Set code page version	7	Standard code page version 1	137
Set code page	8	International set 5	134
Set buffer size (Twinax)	9	1024 bytes	151

The example below shows how to change the *Printer Emulation*. During the configuration, a page is printed each time the switch is turned. The page

contains information on what to do next.

Note: Coax users do not have to power Off the printer before turning the switch to the wanted position in order to enter the selected menu point. The procedure below reflects the functionality of the Twinax mode, which is common to both Coax and Twinax modes.

To change the Printer Emulation

1. Power Off the printer.
2. Turn the switch to position “D”. This accesses the *Printer Emulation* in the *Switch Menu System* at the next power on. Refer to appendix *E. Switch Settings* on page 175.
3. Power On the printer.
4. Wait for a page to be printed. The page contains information on the selected menu option.
5. Set the *Printer Emulation* by turning the switch to the position that matches your preferred emulation. Refer to appendix *E. Switch Settings* on page 175 and to the option descriptions on page 67 (Coax) and on page 98 (Twinax).
6. Wait for a page to be printed. The page acknowledges the setting of the new value.
7. Turn the switch to position “0” to save the new value.
8. Wait for a page to be printed to confirm the saving of the value.
9. Power the printer Off and On to enable the use of the new option value.

4.3 The On-line IDB Command Language

With the IDB command language all of the SCS options can be configured.

Note: The setting of the twinax device address, enabling of IPDS printing and configuration of IPDS options can not be performed with the IDB language. Refer to chapter 3. *Installation* and to the other sections in this chapter.

The IDB options, which should be checked initially, are listed below.

	Default setting	Sample setting	Ref. page
Coax			
Screen size	3440 bytes	3564 bytes	95
Printer emulation	IBM 3812 / 4028	IBM 4214	67
Country code	English	German/Austrian	63
Twinax			
Printer emulation	IBM 3812 model 1 (5219 mode)	IBM 4214 model 2	98
Code page	Multinational	Germany/Austria	106
Country code	Multinational	Germany/Austria	104

On-line configuration of the above IDB options is done by typing command line sequences on the host and printing them on the printer equipped with the A/T FS3.

The applied IDB language varies depending on the mode the A/T FS3 is running. If in Coax mode; the language is *Advanced IDB*, while Twinax mode offers both an *Advanced IDB* and an *User IDB* language. The command lines below set the above options to the “Sample settings” written in the table. Refer to the option descriptions if you require other option values.

When option settings have been changed, the printer has to be powered Off and On to enable the use of new values.

<i>Advanced IDB (Coax)</i>	<i>Advanced IDB (Twinax)</i>	<i>User IDB (Twinax)</i>
&%IDB_EDIT:	&%IDB_EDIT:	&%IDB_EDIT:
OPTION 237:4:	OPTION 10:0:	PRTEMUL 4214:
OPTION 10:16:	OPTION 240:17,1:	DEFPCODPAG 273:
OPTION 2:2:	OPTION 2:2:	DEFPCNTCOD 2:
EXIT	EXIT	EXIT

4.4 The Remote Menu System

The *Remote Menu System* (RMS) provides an easy-to-use interface for configuration of the A/T FS3.

4.4.1 Terminal Configuration


The *Remote Menu System* is accessed via a terminal program. This section discusses the *HyperTerminal* program, which is included with Windows 95/98 and NT 4.0. Any terminal program can, however, be used to communicate with the A/T FS3. As Windows 95/98 and NT 4.0 are widely used platforms, only the *HyperTerminal* program is discussed. The relevant settings are easy to recognise in case another terminal program is used.

To connect to the Remote Menu System

Note: All images in this section have been made using Windows 95.

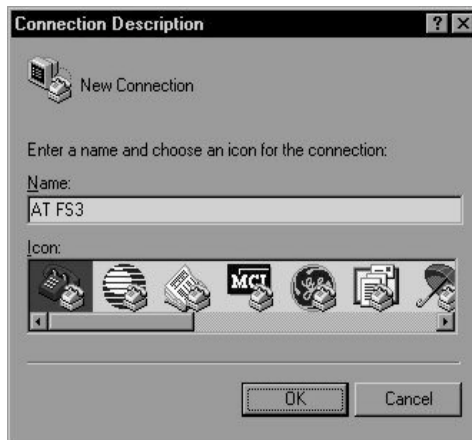
1. Power Off the printer and disconnect it from the system.
2. Connect the printer with the A/T FS3 to a PC running Windows 95/98 or NT 4.0 via the serial config/upgrade cable (Intermate part no. 20233). Note the COM-port you use on the PC, eg *COM1*.
3. Set the switch on the A/T FS3 to position "5" to enable terminal configuration mode at the next power on.

4. If you already have set up an A/T FS3 terminal session on your PC, you should start it now and proceed with step 5. Otherwise, continue with the remaining part of this step, which explains how to set up a terminal session.

Press the  Start button, choose “Programs”, “Accessories”, “HyperTerminal” and double-click on the “Hypertrm” icon. If the program is not installed on your PC, you will have to install it. Refer to the Windows documentation or enter the word “hyperterminal” as search object in the on-line help.

Note: When running the *HyperTerminal* program you may be asked to install a modem. This can be ignored, as it is not needed.

When running the *HyperTerminal* program you are first asked for a *Connection Description*. Type for example “AT FS3”. See the figure below. Click the |OK| button.

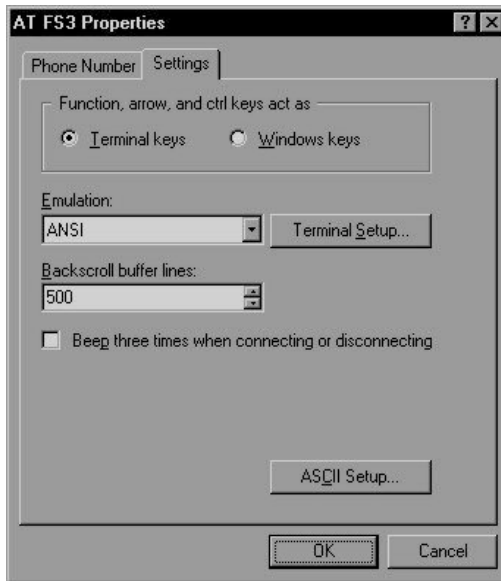


The next screen prompts for a *Phone Number*, which must be ignored. However, at the bottom of this screen the communication port (*Connect using*) is set. Check that the proper COM-port is chosen and click the |OK| button.



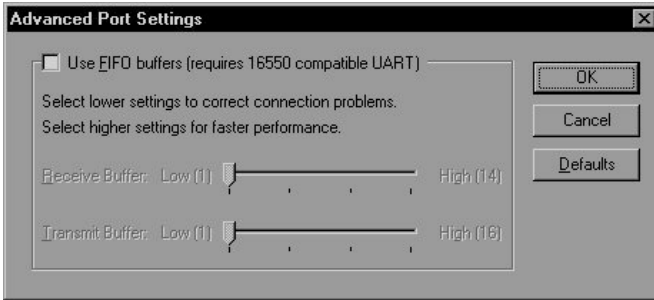
Set the *Properties* for the chosen communication port according to the next figure. When finished click the [Advanced...] button.

Windows NT users only: Ignore the below figure and the paragraph beneath it.



In the *Advanced Port Settings* box, make sure that “Use FIFO buffers..” is NOT marked. Click the [OK] button when done.

Windows NT users only: Ignore the below figure and the paragraph beneath it.



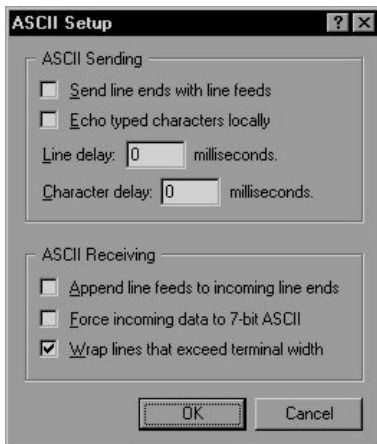
The next screen is the Main terminal window. Here you choose “Properties”. It is found in the “File” menu and on the Toolbar. This accesses the *Properties* for the connection. In the top of the box just opened are two folders, choose *Settings*. Set the *Emulation* to “ANSI” and the remaining options according to your preferences.



Press the [Terminal Setup...] button and set the cursor options to your liking. Close the box with the [OK] button.



The last options, that need to be altered, are accessed by pressing the [ASCII Setup] button in the *Properties* box. Set the options according to the next figure.



Click **OK** repeatedly until you are back in the Main terminal window.

5. Turn On the printer.
6. Wait for the A/T FS3 Main menu to appear. You are now ready to configure the options.

```

+-----+
| Main Menu |
+-----+
1. Twinax Setup
2. Coax Setup
+-----+
Enter number (1-2) :

```

4.4.2 Configuration Examples

The two examples in this section show how to change the *IPDS code page* (Coax and Twinax users) and how to change the *Before IPDS* string (Twinax users only). Even though the second example only applies to Twinax users, Coax users can also benefit from it, as the syntax for entering strings is the same.

For both examples it is assumed you are logged on to the A/T FS3 and that you

have the Main Menu on your PC screen. Refer to the previous section which explains how to log on to the A/T FS3 using the *HyperTerminal* program included with Windows.

To change the IPDS code page (Coax and Twinax users)

1. Choose the kind of mode you are using the A/T FS3 in.

```
+-----+
| Main Menu                               |
+-----+
1. Twinax Setup
2. Coax Setup
+-----+
Enter number (1-2) : 1
```

2. Select the *Edit IPDS parameters*.

```
+-----+
| Twinax Main menu                         |
+-----+
1. Edit SCS parameters
2. Edit IPDS parameters
+-----+
Enter option (1-2) : 2
```

3. Select the *Code Page* option.

```
+-----+
| IPDS options                               |
+-----+
1 Paper size                               19 Cassette linking
2 Emulation                               20 IPDS device adress
3 Code Page                               21 IPDS buffer size
4 Code Page version                       0. Previous menu
5 Exception Suppression
6 Page Counter Update
7 Resource Memory
8 Duplex Print Enable
9 Printable Area Option
10 MIRC enable
11 Input-tray mapping
12 Output-bin mapping
13 Output jogging
14 Margin adjustment
15 Print IPDS status
16 IPDS software key
17 Skip blank pages
18 Rotate simplex
+-----+
Enter option (0-21) : 3
```


4. Change the code page to “Austria/Germany”, by typing “5” followed by <Enter>. The menu system returns to the *IPDS options* menu.

Tip: Press <ESC> to return to the previous menu.

```
+-----+
| 3 Code Page                               |
+-----+
0) INT_5                18) SPAIN_ALT        36) RESERVED
1) USA_CANADA           19) JAP_KATAKANA     37) TURKISH_1
2) INT_1                20) APL              38) RESERVED
3) SYMBOL_7            21) FRANCE              39) TURKISH_2
4) CAN_FRENCH          22) RESV_340_OCR       40) RESERVED
5) AUS_GER              23) INT_TYPO           41) Reserved
6) BELGIAN              24) PC                  42) Reserved
7) BRAZIL               25) PORTUGAL_ALT       43) USA_EU
8) DEN_NOR              26) ICELAND            44) AUS/GER_EU
9) FIN_SWE              27) OCR_A              45) DEN/NOR_EU
10) ITALY               28) OCR_B              46) FIN/SWE_EU
11) JAP_ENGLISH        29) RESV_420_ARABIC    47) ITALY_EU
12) PORTUGAL           30) RESV_424_HEBREW    48) SPA.SPE_EU
13) SPANISH_SPEAK      31) CAN_BILINGUAL     49) UK_EU
14) UK                  32) SWISS_BILINGUAL   50) FRANCE_EU
15) AUS_GER_ALT        33) SPANISH            51) MULTI_EU
16) DEN_NOR_ALT        34) RESERVED           52) ICELAND_EU
17) FIN_SWE_ALT        35) RESERVED

+-----+
Current setting is : 'Canadian/French'
Enter option (0-39) : 5
```

The *Code Page* option is described on page 134.

5. Terminate the terminal session by disconnecting from the A/T FS3. In the *HyperTerminal* program this is done by pressing the |Disconnect| button () on the tool-bar.
6. Power Off the printer and turn the switch on the A/T FS3 to position “0” (= Normal operation).
7. Disconnect the printer from the PC and reconnect it to the system. New option settings are activated at the next power On.

8. Close the *HyperTerminal* program. When closing the program for the first time, you are asked, if you want to disconnect. Answer “Yes” to this and also to saving the session. The terminal session file which contains the terminal setup is as default put in the *HyperTerminal* directory under the name of the connection, eg:

```
C:\Program Files\Accessories\HyperTerminal\AT FS3
```

Next time settings need to be altered, you only have to start the *HyperTerminal* program with this file (connection).

Tip: Create a shortcut on the desktop to the file. Refer to the Windows 95/98/NT 4.0 documentation if in doubt.

To type the *Before IPDS* string (*Twinax* users only)

1. Select the *Twinax Setup* menu item.

```
+-----+
| Main Menu                               |
+-----+
1. Twinax Setup
2. Coax Setup
+-----+
Enter number (1-2) : 1
```

2. Select *Edit SCS parameters*.

```
+-----+
| Twinax Main menu                         |
+-----+
1. Edit SCS parameters
2. Edit IPDS parameters
+-----+
Enter option (1-2) : 1
```

3. Select *Printer settings*.

```
+-----+
| Twinax SCS parameters |
+-----+
1. Printer settings
2. Printer Commands
3. Intermate utility commands
4. Font utility
5. Advanced IDB options
6. Print IDB Status
7. Print font sample
8. Setup SCS twinax device adr.
  0. Main menu
+-----+
Enter option (0-8) : 1
```

4. Select *Miscelleaneous settings*.

```
+-----+
| 1. Printer settings |
+-----+
1 Miscellaneous settings
2 Power on default settings
3 Computer output reduction settings
4 Horizontal/vertical positioning
  0. Previous menu
+-----+
Enter number (0-4) : 1
```

5. Select *Before/After IPDS*.

```
+-----+
| 1 Miscellaneous settings |
+-----+
1 Unprintable character
2 Printer emulation
3 Overlay calls
4 Compress CPI
5 Format control code suppression
6 Force Eurosupport
7 Timeout initialize
8 Intervention status
9 Before/After IPDS
0. Previous menu
+-----+
Enter number (0-9) : 9
```

6. Select *Enter string for Before IPDS*.

```
+-----+
| 9 Before/After IPDS |
+-----+
1) Enter string for Before IPDS
2) Enter string for After IPDS
+-----+
Enter option (1-2) : 1
```


7. Enter the string.

```
Enter string for 'Before IPDS'
Saved string : (not defined)
Insert mode : Off
F1:Toggle insert mode; F2:Delete; F3:Exit without save; F4:Clear string
+-----+
"Test string before IPDS."
+-----+
Events :
Char events :
```

Please note

- that the string is entered with quotes (" "). These are ignored by the A/T FS3 but are required in order to handle the string correctly internally in the interface.
- that the string is saved and the input sequence is terminated by pressing <Enter>.

The menu system returns to the *Before/After IPDS* menu.

8. Terminate the terminal session by disconnecting from the A/T FS3. This is done by pressing the |Disconnect| button  on the tool-bar.
9. Power Off the printer and turn the switch on the A/T FS3 to position "0" (= Normal operation).
10. Disconnect the printer from the PC and reconnect it to the system. New option settings are activated at the next power On.
11. Close the *HyperTerminal* program.

4.5 The IPDS Parser

The IPDS Parser is used for configuration of the IPDS options. This is done by sending a parser string included in the IPDS data stream to the A/T FS3, ie printing it.

The IPDS options are described in section 6.3 *IPDS Options* starting on page 131. A sample parser string is written after each option description. Sending this string to the A/T FS3 sets the option in question to its default value.

Important: The options *Skip blank pages*, *Rotate simplex* and *Cassette linking* CANNOT be set using the IPDS parser.

Tip: Print the IPDS Configuration page. This page contains the valid parser strings and is printed together with the status sheets. The sheets are printed by pressing the "Status" button in the front panel. Refer also to appendix I. *Printing a Status Sheet* on page 191.

To change the Code Page from an AS/400 or an IBM 3270 host

1. Make sure, that the A/T FS3 has been configured for IPDS printing. Refer to section 3.1.1.1 *Adjusting Coax IPDS Mode* on page 20 or section 3.1.2.1 *Adjusting Twinax IPDS Mode* on page 25.
2. Print an *IPDS Status Page* by pressing the "Status" button in the front panel. Refer to this page when setting the IPDS options.
3. Find the *IPDS Parser name* of the *IPDS Code Page* you wish to use. See page 134.
4. Type the name of the code page after the equal sign in the string shown below and print it on the printer. Eg AUS_GER for "Austria/Germany". The default setting is INT_5, which is "International Set 5".

```
&%OPT_=;IPDS_CODE_PAGE=AUS_GER;&%
```

5. Repeat steps 3 and 4 with the relevant modifications, if more option settings should be changed. Refer to the option descriptions in section 6.3 *IPDS*

Options.

The below parser string sets the *IPDS Emulation* to 4028. Refer to the option description on page 134.

```
&%OPT_=;IPDS_EMULATION=4028;&%
```

The IPDS parser syntax is described in section 5.6 *The IPDS Parser* on page 55.

5. Configuration and Management

The A/T FS3 can be configured in a number of ways.

- Via the front panel.

The options accessible from the front panel are those which it is recommended to check when installing the A/T FS3.

- Via the *Switch Menu System*.

This method uses the switch located on the A/T FS3. The switch also provides access to those options which it is recommended to check when installing the A/T FS3.

- Via on-line IDB editor commands.

These commands are sent from the host, or from an attached screen by hard copy. The approach is normally used for minor alterations. It is also possible to print the editor commands from *Display Writer* or similar.

3270 terminal ->A/T FS3

All of the SCS options can be configured via the on-line IDB editor commands.

- Via the IDB utility program.

The IDB configuration file includes all the IDB settings. It is downloaded and uploaded with the *Intermate Download Utility*. Edited with the DOS utility programs *Intermate 3270 IDB configuration file editor* (P01-xxxx.exe) or *Intermate 5250 IDB configuration file editor* (P02-xxxx.exe).

- Via the *Remote Menu System*.

This method uses a terminal program (eg HyperTerminal) running on a PC which is connected to the printer via the serial config/upgrade cable. All options can be edited this way.

- Via the *IPDS Parser*.

Only the IPDS options can be configured with the parser. The IPDS parser strings have to be included in the IPDS data stream.

- Via the *IPDS Configuration File*.

This file contains the IPDS option settings. The file is retrieved and stored using the *Intermate Download Utility*.

The configuration methods are described in the following sections.

5.1 The Front Panel

Configuration via the front panel is covered in full by section *4.1 The Front Panel* on page 30.

5.2 The Switch Menu System

Configuration via the *Switch Menu System* is described in section *4.2 The Switch Menu System* on page 33. Refer to appendix *E. Switch Settings* on page 175 for an overview of the options assigned to the different switch settings.

5.3 On-line IDB Commands

The *Intermate DataBase* (IDB) included in the A/T FS3 contains the SCS protocol settings used for host printing. In the following these are referred to as *IDB settings*.

On-line configuration of the IDB settings is done by sending IDB command strings from the host, ie embedding them in the SCS data stream sent to the printer. Below each of the SCS Coax and Twinax options described in chapter 6. *Option Reference* is a sample IDB string, which sets the option to its default setting.

The IDB command strings are composed using the IDB language. The available language depends on the type of connection. Coax users have the *Advanced IDB* language while Twinax users have both an *Advanced IDB* and the *User IDB* language.

Apart from configuration of IDB settings the IDB languages are also used to produce service printouts.

Refer to the *Intermate IDB Technical Reference* guide, document no. GG-013-x. This guide describes the IDB options and settings, the on-line IDB languages and special IDB features. It is included on the *Documentation and Utilities* CD. New editions will be made available on the web site (www.intermate.com/atfs3).

Another approach to editing the IDB settings is to download, edit and upload the IDB configuration file. Refer to section 5.4 *The IDB Utility Program* below.

5.4 The IDB Utility Program

Editing and downloading of the IDB configuration file provide easy and fast configuration when several A/T FS3 should have the same or similar IDB configurations.

The IDB option settings are retrieved and uploaded with the *Intermate Download Utility* program. Refer to section *J.1 The Intermate Download Utility Program* on page 196.

The configuration of the IDB options and events with the IDB utility program is done on screen with a PC. For this purpose two DOS programs exist. These are the *Intermate 3270 IDB configuration file editor* (P01-xxxx.exe) or *Intermate 5250 IDB configuration file editor* (P02-xxxx.exe). Both programs are included on the *Documentation and Utilities CD*.

To edit the IDB options and events

1. Retrieve the IDB configuration file from the A/T FS3 with the *Intermate Download Utility* program.
2. Start the *Intermate IDB 3270 configuration file editor* (Coax users) or the *Intermate IDB 5250 configuration file editor* (Twinax users) program in a DOS session on a PC. Select [Load IDB File] and choose the IDB file from the list. It is convenient to place all *.idb files in the same directory as the utility program.
3. Make the necessary changes to the options and events.
4. Save the IDB file and exit the program.
5. Download the new IDB file to the A/T FS3 with the *Intermate Download Utility* program.

5.5 The Remote Menu System

The *Remote Menu System* is accessed with an ordinary PC-based terminal program. Refer to chapter 4. *Initial Configuration* section 4.4 *The Remote Menu System* on page 36 for details on how to setup a connection.

Section 4.4.2 *Configuration Examples* on page 41 shows how to change option settings.

5.6 The IPDS Parser

The IPDS Parser works like a remote front panel for configuring the IPDS options. The parser is accessed and options are changed by printing IPDS parser strings from a Sys370 (Coax) or AS/400 (Twinax) host environment. The parser is valid in both 4028 and 3816 mode.

The current setting of the IPDS options are printed on the *IPDS Status Page*. This page is printed by pressing the “Status” button in the front panel. Refer to appendix I. *Printing a Status Sheet* on page 191.

5.6.1 Using the Parser

The IPDS options are configured by sending the configuration data as text included in the IPDS data stream to the A/T FS3. The following rules apply for configuration data:

- Send the data as text (PT2 tower) using an EBCDIC based code page. Sending the programming sequence in SCS/DSC format has no effect.
- Parser option text and values are case sensitive.
- All scanned data are printed as normal, ie the A/T FS3 shows no indication of the configuration options being interpreted correctly.
- All non-printable characters (eg spaces) and positioning commands are ignored within the programming sequence.

- All option settings with syntax or range errors are ignored.
- No settings take effect before the printer has been powered OFF and ON.

5.6.2 Parser Syntax

The configuration mode is *entered* by sending the following lead-in string.

```
&%OPT_=;
```

The configuration mode is *left* by sending the following trailer string.

```
&%
```

When configuration mode is left, the new option settings are saved. The printer has to be powered Off and On to activate the use of the new settings.

All configuration options must be separated by a semi-colon (;). Line feed, form feed etc. are ignored and should be avoided. They can, however, be accepted according to the usage illustrated in the examples below.

valid:

```
&%OPT_=;<lf><ff>  
IPDS_CODE_PAGE=UK;<lf>  
FRT_MARG_TOP=25;BACK_MARG_TOP=25;&%
```

Invalid:

```
&%OPT_=<lf>;  
IPDS_CODE_PAGE=UK;&%           (<lf> is in the wrong place)  
&%opt_=;IPDS_CODE_PAGE=UK;&%   (mistyped lead-in string)
```

5.7 The IPDS Configuration File

Important: This approach requires Boot Code K60-9231 or later and version P16-9231 (V2R7) of the *Intermate Download Utility*.

The file *K64-xxxx* contains the IPDS settings. It is retrieved and stored using the *Intermate Download Utility* (P16-xxxx.exe).

The file allows for quick and uniform setup of several A/T FS3.

Changes to the file are made by changing the IPDS settings in the A/T FS3. The file is a copy of the IPDS settings and cannot be edited after it is retrieved. It can only be downloaded.

Note: The *Before IPDS* and *After IPDS* strings are not included in the IPDS configuration file. These strings are stored in the IDB. Refer to section 5.4 *The IDB Utility Program* for details on how to retrieve the IDB. Refer to the option descriptions in section 6.3.23 *String Before IPDS* and section 6.3.24 *String After IPDS* on pages 152 and 153, respectively.

To retrieve the IPDS configuration file

1. Disconnect the printer from the system.
2. Make sure the PC is turned On and that the operating system is running.
3. Connect the printer to the PC via the serial config/upgrade cable. Do NOT power On the printer.
4. Launch the *Intermate Download Utility*.
5. Select the "Upload" menu (<Alt>+U).
6. Select the "IPDS Config" menu item.

7. Make sure the switch on the A/T FS3 is in position "0" (= Normal operation). Click the |Ok| button in the dialogue box and power On the printer to start the transfer. The progress is displayed as a horizontal bar on the screen.
8. When the transfer is complete, you are asked for a name and location of the file. It is recommended to use the file name syntax "K64-xxxx.bin". The "xxxx" is the version number of the file. Refer to the firmware numbering convention explained in the beginning of appendix 3.1.1.1. *Firmware Upgrade* on page 20.
9. Close the *Intermate Download Utility*.
10. Power Off the printer and disconnect the serial config/upgrade cable.

To store the IPDS configuration file

1. Disconnect the printer from the system.
2. Make sure the PC is turned On and that the operating system is running.
3. Connect the printer to the PC via the serial config/upgrade cable. Do NOT power On the printer.
4. Launch the *Intermate Download Utility*.
5. Select the "Download" menu (<Alt>+D).
6. Make sure the file type is set to reflect *.bin files.
7. Locate and choose the IPDS configuration file (*K64-xxxx.bin*).
8. Press the |Open| button to initiate the transfer.

9. Make sure the switch on the A/T FS3 is in position "0" (= Normal operation) and power On the printer. The progress of the transfer is displayed as a horizontal bar on the screen.

Caution: During the transfer it is recommended NOT to push the [Cancel] button. If by accident a wrong file is chosen, then let the program complete the transfer. The correct file can be downloaded afterwards.

10. Close the *Intermate Download Utility* when the transfer is complete.
11. Power Off the printer and reconnect it to the system.

6. Option Reference

The option descriptions in this chapter use an asterisk "*" to indicate factory default settings.

The standard operation of the A/T FS3 equals that of a 5250/3270 SCS interface. All SCS options are set to the defaults of an IBM 3812.

6.1 SCS Coax Options

This section describes the Coax options.

The options are configured in a number of ways. All the SCS options are set via IDB command sequence lines sent from the host, via downloading of the IDB configuration file (*a_fs_xxx.idb*), or via the *Remote Menu System*. A limited number of options can also be set via the front panel or via the *Switch Menu System*. Refer to chapter 5. *Configuration and Management* starting on page 51.

The IPDS options are all set via the *Remote Menu System*. Again, a limited number of options can be set via the front panel or via the *Switch Menu System*.

The columns in the option tables have the headings shown below.

Adv. IDB option values	Comments.
------------------------	-----------

Options which can be configured via the front panel have a third column inserted, ie:

Adv. IDB option values	Front Panel text	Comments.
------------------------	------------------	-----------

The values in the *Front Panel text* column are written in square brackets, eg [001].

Options which can be accessed and set via the *Switch Menu System* have a note attached to them. Refer to appendix E. *Switch Settings* on page 175.

At the end of each option description is a sample IDB command line. This line sets the default value for the option. It must be sent from the host, ie included in the data stream (LU1 or LU3 non-IPDS data), to have effect.

The *Advanced IDB Command Language* used for configuration is described in the *Intermate IDB Technical Reference*, document no. GG-013-x. The guide is included on the *Documentation and Utilities* CD. New editions will be made available on the Intermate web site (www.intermate.com/atfs3).

6.1.1 Local Copy Form Feed Action

This option selects the action for form feeding. Local copy jobs do not end with a form feed and the last page of the job remains in the printer.

0	No Action
1	FF Before
2 *	FF After
3	FF Before & After

Advanced IDB Language: &%IDB_EDIT: OPTION 1:2:EXIT

6.1.2 Country Code Selection

This option defines the default character set. In the front panel the option is located in the fourth *IP-address* byte (###.003.020.010).

Note: This option can also be set via the switch on the back of the A/T FS3. Refer to appendix *E. Switch Settings* on page 175.

Country Code	Front Panel	Comments	Country Code	Front Panel	Comments
1 *	[000]	English	13	[013]	French
2	[002]	German/Austrian	14	[014]	International
3	[003]	German/Austrian, alt	15	[015]	Italian
4	[004]	Belgian	16	[016]	Portuguese
5	[005]	Brazilian	17	[017]	Portuguese, alt
6	[006]	Canadian bilingual	18	[018]	Spanish
7	[007]	Canadian French	19	[019]	Spanish, alt
8	[008]	Danish/Norwegian	20	[020]	Spanish speaking
9	[009]	Danish/Norwegian, alt	21	[021]	Swiss German/Swiss French
10	[010]	U.K.	22	[022]	Japanese/English
11	[011]	Finnish/Swedish	23	[023]	Spanish data/text processing
12	[012]	Finnish/Swedish, alt	Other	Other	Defaults to 1 (English)

Advanced IDB Language: &%IDB_EDIT: OPTION 2:1:EXIT

6.1.3 Non-Printable Character

This option defines the character to be used instead of unprintable characters in the data stream. The default is zero or nothing. Refer to appendix *D. ASCII Character Table (extract)* on page 173 for a list of printable characters and their decimal values.

0 * [0..255]	Decimal ASCII character value.
--------------	--------------------------------

Advanced IDB Language: &%IDB_EDIT: OPTION 3:0:EXIT

6.1.4 Controller Reset Commands

This option defines if a form feed or a carriage return is issued after an End of Message is found in the data stream.

1	Form Feed
2	Carriage Return

Advanced IDB Language: &%IDB_EDIT: OPTION 4:0:EXIT

6.1.5 Form Feed Support

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

0 *	Always FF
1	Always LF
2	LF & FF

Advanced IDB Language: &%IDB_EDIT: OPTION 5:0:EXIT

6.1.6 Data Conversion

Important: Do not use this option without consulting Intermate first. If set to a value other than the default value 0, it can only be restored by restoring the factory default settings.

The option defines if normal data conversion is to be used or transparent data conversion with no character conversion.

In transparent mode, there is no check for the CSC characters (&%) and the CSC escape sequences (Bxx) are passed directly to the parallel output. All data is passed directly through the A/T FS3 in EBCDIC or Device Buffer Code.

0 *	Normal
2	Disable IDBedit

Advanced IDB Language: &%IDB_EDIT: OPTION 6:0:EXIT

6.1.7 CSC Characters

CSC is short for Command String Character. The CSC is a unique two-character sequence, which opens the internal editor in the A/T FS3. It must be used every time commands are sent to the A/T FS3. The default values are "&" (option 8, 38 decimal) and "%" (option 9, 37 decimal). The CSC is also used in front of the Lead in characters (option 171/172) and for passing single hex values to the printer. (&% 1B = <esc>). The colon ":" (option 7, 58 decimal) is the default for the IDB Edit Delimiter, which is used to separate programming commands.

First CSC character

38 *	[0..255]	All ASCII characters allowed.
------	----------	-------------------------------

Second CSC character

37 *	[0..255]	All ASCII characters allowed.
------	----------	-------------------------------

IDB edit delimiter

58 *	[0..255]	All ASCII characters allowed.
------	----------	-------------------------------

Refer to appendix *D. ASCII Character Table (extract)* on page 173 for a list of printable characters.

In the example below several options are set at the same time. This is done by writing the number of the first option and separating the setting values for the preceding options with commas.

Advanced IDB: &%IDB_EDIT: OPTION 7:58,38,37: EXIT or
 &%IDB_EDIT: OPTION 7:58: OPTION 8:38:
 OPTION 9:37: EXIT

6.1.8 IBM Printer Emulation

This option defines the printer emulation to be used by the A/T FS3. In the front panel the option is located in the second *IP-address* byte (000.003.###.010).

Note: It is possible to configure this option via the switch on the back of the A/T FS3. Refer to appendix *E. Switch Settings* on page 175.

Adv. IDB	Front Panel	Comments
0	[000]	Old 3287
1	[001]	3287
4	[004]	3268
5	[005]	3230
16	[016]	4214
20 *	[020]	3812
36	[036]	4224
84	[084]	Advanced SCS

Advanced IDB Language: &%IDB_EDIT: OPTION 10:20:EXIT

6.1.9 Buffer Size

This option defines the default buffer size. The buffer size is reported to the host at power on.

0 *	4 Kbyte
1	8 Kbyte

Advanced IDB Language: &%IDB_EDIT: OPTION 11:0:EXIT

6.1.10 Printer Features

This option defines which text features: extended attribute buffer (EAB), a programming language (APL), programmed symbols (PS) and 3289 text characteristics have been installed.

0	None
1	PS
2	3289 Text
3	PS + 3289
4	EAB
5	EAB + PS
6 *	EAB + APL
7	EAB + APL + PS

Advanced IDB Language: &%IDB_EDIT: OPTION 12:6:EXIT

6.1.11 Advanced Printer Features

This option defines which advanced printer features are supported.

Adv. IDB option values		Comments	
Bit no. 1	Yes *	LU3 Query	LU3 query supported.
	No		
Bit no. 2	Yes	SF & Query	Query List and Structured Fields (SF) supported.
	No *		
Bit no. 4	Yes	Trans. Table	Translate table required. "Yes" should only be selected if PS is installed.
	No *		
Bit no. 6	Yes	EAB Flash **	Blinking supported.
	No *		
Bit no. 7	Yes *	EAB Reverse **	Reverse supported.
	No		
Bit no. 8	Yes *	EAB Underline **	Underlining supported.
	No		

** Not supported if the IBM Printer Emulation is set to 3287.

The setting of option 13 controls address 000Ah of the Printer Control Information Area (PCIA). The value set in option 13 controls all the above settings. The decimal number representing the default settings is found like this:

Bit no.	8	7	6	5	4	3	2	1
Value	1	1	0	0	0	0	0	1

"Yes" is indicated with the value 1 and "No" with a 0. The decimal number is found by converting the bottom line, which is a binary number, to a decimal number. In this case it is 193.

Advanced IDB Language: &%IDB_EDIT: OPTION 13:193:EXIT

6.1.12 Extended Printer ID

This option defines if the SCS Function Management (FM) header and/or colour is supported. The data that follows the FM header is in Structured Fields.

Adv. IDB option values		Comments
Bit no. 5	Yes *	SCS FM Header
	No	
Bit no. 6	Yes	Colour
	No *	

The setting of option 14 controls address 000Eh of the Printer Control Information Area (PCIA). The value set in option 14 controls the settings above. The decimal number representing the default settings is found like this:

Bit no.	8	7	6	5	4	3	2	1
Value	0	0	0	1	0	0	0	0

"Yes" is indicated with the value 1 and "No" with a 0. The decimal number is found by converting the bottom line, which is a binary number, to a decimal number. In this case the number is 16.

Advanced IDB Language: &%IDB_EDIT: OPTION 14:16:EXIT

6.1.13 MPP+1 (LU3 mode only)

This option defines print and line position. MPP = Maximum Print Position. CR = carriage return position. NL = new line position.

0 *	CR=+0 NL=+1
2	CR=+1 NL=+2
5	CR=+1 NL=+1
6	CR=+0 NL=+2

Advanced IDB Language: &%IDB_EDIT: OPTION 15:0:EXIT

6.1.14 Form Feed Data (LU3 mode only)

This option applies only in LU3 mode. It is executed if the form-feed is not sent as the last character in a buffer but in the first print position or in the position MPP+1. If option 19 is set to 1, this option is also executed.

1 *	Print position 2 next page
2	Print position 1 next page

Advanced IDB Language: &%IDB_EDIT: OPTION 16:1:EXIT

6.1.15 Form Feed Last (LU3 mode only)

This option defines if the form feed is to occur in the first print position (PP) of the first line or of the second line.

1	PP 1 2nd line
2 *	PP 1 first line

Advanced IDB Language: &%IDB_EDIT: OPTION 17:2:EXIT

6.1.16 Null Suppression

This option defines if null lines are to be suppressed or if the character in the LU3 table should print in the place of null characters. If null lines are suppressed, then the amount of data in the buffer to be transmitted or printed is reduced.

1 *	Suppress
2	Print character

Advanced IDB Language: &%IDB_EDIT: OPTION 18:1:EXIT

6.1.17 Form Feed Position (LU3 mode only)

This option defines when a form feed is valid.

Adv. IDB option values	Comments	
1	Always FF	Always valid
2 *	1PP/MPP+1	Valid at first position of first position after MPP
5	S Always FF	Always valid at next page
6	SPP1/MPP+1	Always valid at first position of second line of first position after MPP

Advanced IDB Language: &%IDB_EDIT: OPTION 19:2:EXIT

6.1.18 Power Up Time

This option specifies an additional time delay for the A/T FS3 which is used when the printer is powered On.

The A/T FS3 waits the specified time, before communicating with the printer.

0 *	Default 30 seconds.
xx	xx seconds.

Advanced IDB Language: &%IDB_EDIT: OPTION 20:0:EXIT

6.1.19 Intervention Required Response

This option sets the interval before an intervention required signal is sent to the host after a printer error occurs.

0 *	Not supported
1	10 minutes
2	2 minutes
5	5 minutes

Advanced IDB Language: &%IDB_EDIT: OPTION 21:0:EXIT

6.1.20 Bold Print Control

This option defines when to enable bold printing.

Adv. IDB option values		Comments	
Bit no. 1	Yes *	Bold on CR	Bold on a carriage return
	No		
Bit no. 2	Yes *	Bold on BS	Bold on a backspace
	No		
Bit no. 3	Yes *	Bold on multi BS	Bold on multiple backspaces
	No		

The settings above are set with the value stored in option 22. The decimal number representing the default settings is found like this:

Bit no.	8	7	6	5	4	3	2	1
Value	0	0	0	0	0	1	1	1

"Yes" is indicated with the value 1 and "No" with a 0. The decimal number is found by converting the bottom line, which is a binary number, to a decimal number. In this case the number is 7.

Advanced IDB Language: &%IDB_EDIT: OPTION 22:7:EXIT

6.1.21 PS Characteristics

This option defines which Programmed Symbols (PS) have been installed. You can select various combinations of Programmed Symbols number 2 through number 7. "Triple plane" means the symbols are three-dimensional.

Adv. IDB option values	Comments	
64	PS 2-3	
80	PS 2-3, 3t	PS no. 3 it triple plane
128	PS 2-5	
132	PS 2-5, 5t	PS no. 5 triple plane
192	PS 2-7	

Advanced IDB Language: &%IDB_EDIT: OPTION 23:0:EXIT

6.1.22 Prescribe Command Recognition Character

This option is only used when loaded programmed symbols, eg GDDM, are printed.

0 *	"R" is used as Command Recognition Character.
xx	xx is used as Command Recognition Character.

Advanced IDB Language: &%IDB_EDIT: OPTION 24:0:EXIT

6.1.23 End Of Message Control

This option defines how the print position is handled at an End of Message control code.

Adv. IDB option values	Comments	
1	PP Unchanged	No change in print position
2	Like CR	Like a carriage return
3 *	Like NL	Like a new line

Advanced IDB Language: &%IDB_EDIT: OPTION 25:3:EXIT

6.1.24 Output Optimization On

This option defines if Carriage Returns and Spaces should be suppressed during printing.

1 *	No suppression
2	CR & Spaces
3	Spaces

Advanced IDB Language: &%IDB_EDIT: OPTION 26:1:EXIT

6.1.25 Reset Per Page

This option defines when the default settings are sent to the printer.

Adv. IDB option values	Comments	
0 *	Normal	Normal operations
1	All pages	After every page
2	After FF	After a form feed

Advanced IDB Language: &%IDB_EDIT: OPTION 27:0:EXIT

6.1.26 Coax Timeout

This option defines the number of seconds, which need to pass without any activity before a form feed is generated if unprinted data remains in the printer buffer. Values less than or equal to 15, default to 15 seconds.

0 * [0..255]	[Seconds]
--------------	-----------

Advanced IDB Language: &%IDB_EDIT: OPTION 29:0:EXIT

6.1.27 Right to Left Printing

This option controls the right-to-left printing feature.

1	a. NON-SCS(LU3) left to right b. SCS(LU-1) left to right
3	a. NON-SCS(LU3) left to right b. SCS(LU-1) right to left
5	a. NON-SCS(LU3) right to left b. SCS(LU-1) left to right
7	a. NON-SCS(LU3) right to left b. SCS(LU-1) right to left.
else *	Disable right to left printing

Advanced IDB Language: &%IDB_EDIT: OPTION 30:0:EXIT

6.1.28 Old Command Sequence Support

This option determines whether old command sequences are supported. The following command sequences are affected: <CSC>L{xx}, <CSC>W{xx}, <CSC>O{xx} and <CSC>={x}.

0 *	Old command sequences are supported
else	Old command sequences are NOT supported

Advanced IDB Language: &%IDB_EDIT: OPTION 31:0:EXIT

6.1.29 Skip Blank Page

This option controls the Skip Blank Page. A "Yes" means that if a page contains only a CR, NL, LF or FF, then it is not printed.

0 *	Yes
1	No

Advanced IDB Language: &%IDB_EDIT: OPTION 32:0:EXIT

6.1.30 Paper Size Cassette 1

This option selects the default paper size for Cassette 1. It is only used when the APO/COR functions have been activated.

0 *	A4
1	B5
2	Letter
3	Legal

Advanced IDB Language: &%IDB_EDIT: OPTION 90:0:EXIT

6.1.31 Paper Size Cassette 2

This option selects the default paper size for Cassette 2. It is only used when the APO/COR functions have been activated.

0 *	A4
1	B5
2	Letter
3	Legal

Advanced IDB Language: &%IDB_EDIT: OPTION 91:0:EXIT

6.1.32 Paper Size Cassette 3

This option selects the default paper size for Cassette 3. It is only active used when the APO/COR functions have been activated.

0 *	A4
1	B5
2	Letter
3	Legal

Advanced IDB Language: &%IDB_EDIT: OPTION 92:0:EXIT

6.1.33 Paper Size Cassette 4

This option selects the default paper size for Cassette 4. It is only active when the APO/COR functions have been activated.

0 *	A4
1	B5
2	Letter
3	Legal

Advanced IDB Language: &%IDB_EDIT: OPTION 93:0:EXIT

6.1.34 Paper Size Cassette 5

This option selects the default paper size for Cassette 5. It is only active when the APO/COR functions have been activated.

0 *	A4
1	B5
2	Letter
3	Legal

Advanced IDB Language: &%IDB_EDIT: OPTION 94:0:EXIT

6.1.35 Paper Size Cassette 6

This option selects the default paper size for Cassette 6. It is only active when the APO/COR functions have been activated.

0 *	A4
1	B5
2	Letter
3	Legal

Advanced IDB Language: &%IDB_EDIT: OPTION 95:0:EXIT

6.1.36 Paper Size Cassette 7

This option selects the default paper size for Cassette 7. It is only active when the APO/COR functions have been activated.

0 *	A4
1	B5
2	Letter
3	Legal

Advanced IDB Language: &%IDB_EDIT: OPTION 96:0:EXIT

6.1.37 Paper Size Cassette 8

This option selects the default paper size for Cassette 8. It is only active when the APO/COR functions have been activated.

0 *	A4
1	B5
2	Letter
3	Legal

Advanced IDB Language: &%IDB_EDIT: OPTION 97:0:EXIT

6.1.38 Characters Per Inch

This option defines the default number of characters per inch.

10 *	10 CPI
12	12 CPI
15	15 CPI
16	16.7 CPI

Advanced IDB Language: &%IDB_EDIT: OPTION 100:10:EXIT

6.1.39 Mono Case or Dual Case

This option controls whether dual (upper and lower case) or mono (upper case only) is the default.

0 *	Dual
1	Mono

Advanced IDB Language: &%IDB_EDIT: OPTION 101:0:EXIT

6.1.40 Maximum Print Position

This option defines the maximum number of characters per line.

132 * [0..255]	Characters per line
----------------	---------------------

Advanced IDB Language: &%IDB_EDIT: OPTION 102:132:EXIT

6.1.41 Left Margin

This option selects the default left margin in characters.

1 * [0..255]	[Characters]
--------------	--------------

Advanced IDB Language: &%IDB_EDIT: OPTION 103:1:EXIT

6.1.42 Right Margin

This option selects the default right margin in characters.

132 * [0..255]	[Characters]
----------------	--------------

Advanced IDB Language: &%IDB_EDIT: OPTION 104:132:EXIT

6.1.43 Lines Per Inch

This option selects the number of lines per inch.

6 * [0..255]	LPI
--------------	-----

Advanced IDB Language: &%IDB_EDIT: OPTION 105:6:EXIT

6.1.44 Single/Double Line Spacing

This option sets the default line spacing.

0 *	Single line
1	Double line

Advanced IDB Language: &%IDB_EDIT: OPTION 106:0:EXIT

6.1.45 Lines Per Page

This option defines the default number of lines per page.

66 * [0..255]	LPP
---------------	-----

Advanced IDB Language: &%IDB_EDIT: OPTION 107:66:EXIT

6.1.46 Top Margin

This option selects the default top margin in line numbers.

1 * [0..255]	[Lines]
--------------	---------

Advanced IDB Language: &%IDB_EDIT: OPTION 108:1:EXIT

6.1.47 Bottom Margin

This option selects the default bottom margin in line numbers.

66 *	[0..255]	[Lines]
------	----------	---------

Advanced IDB Language: &%IDB_EDIT: OPTION 109:66:EXIT

6.1.48 Base Colour

This option selects the default colour. The use of colour is controlled by the Colour setting under the *Extended Printer ID* option.

0 *	Black
1	Blue
2	Red
3	Pink
4	Green
5	Turquoise
6	Yellow
7	Undefined

Advanced IDB Language: &%IDB_EDIT: OPTION 110:0:EXIT

6.1.49 Print Quality

This option controls the default print quality.

0 *	Undefined
1	Data processing
2	Near letter
3	Near letter 2

Advanced IDB Language: &%IDB_EDIT: OPTION 112:0:EXIT

6.1.50 Default Source Drawer

This option selects the default Drawer number.

0	Undefined
1 *	Bin 1
2	Bin 2
3	Bin 3
4	Bin 4
5	Bin 5
6	Bin 6
7	Bin 7
8	Bin 8

Advanced IDB Language: &%IDB_EDIT: OPTION 113:1:EXIT

6.1.51 Page Orientation

This option selects the default page orientation.

0 *	Portrait
1	Landscape

Advanced IDB Language: &%IDB_EDIT: OPTION 120:0:EXIT

6.1.52 Programmed Symbols Page Orientation

This option defines whether programmed symbols are printed in portrait or landscape orientation or whether COR (computer output reduction) or APO (automatic print orientation) is active.

0 *	Portrait
1	Landscape
2	All portrait
3	All landscape
6	All COR
16	APO controlled **

** COR/APO Setting (Option 122) must be set to “Yes” for this to work correctly.

Advanced IDB Language: &%IDB_EDIT: OPTION 121:0:EXIT

6.1.53 Automatic Print Orientation

This option controls if Automatic Print Orientation is enabled. APO automatically controls the page orientation. When APO is selected the A/T FS3 calculates the print area required for printing the document. This is based on page formatting commands received from the host. If the document does not fit on a page in portrait orientation, the orientation is changed to landscape. Refer to appendix O. *Page Orientation System (Coax)* on page 213 for further details.

In the front panel the option is controlled by the second digit in the first *IP-address* byte (000.003.020.0#0). Refer to section 4.1 *The Front Panel* on page 30.

Adv. IDB	Front Panel	Comments
1 or other	[0]	APO is disabled
2 *	[1]	APO is enabled

Advanced IDB Language: &%IDB_EDIT: OPTION 122:2:EXIT

6.1.54 Cassette 1 Orientation

This option selects the page orientation for cassette 1.

0	Portrait
1	Landscape
2 *	COR

Advanced IDB Language: &%IDB_EDIT: OPTION 123:2:EXIT

6.1.55 Cassette 2 Orientation

This option selects the page orientation for cassette 2.

0	Portrait
1	Landscape
2 *	COR

Advanced IDB Language: &%IDB_EDIT: OPTION 124:2:EXIT

6.1.56 Cassette 3 Orientation

This option selects the page orientation for cassette 3.

0 *	Portrait
1	Landscape
2	COR

Advanced IDB Language: &%IDB_EDIT: OPTION 125:0:EXIT

6.1.57 Cassette 4 Orientation

This option selects the page orientation for cassette 4.

0 *	Portrait
1	Landscape
2	COR

Advanced IDB Language: &%IDB_EDIT: OPTION 126:0:EXIT

6.1.58 Cassette 5 Orientation

This option selects the page orientation for cassette 5.

0 *	Portrait
1	Landscape
2	COR

Advanced IDB Language: &%IDB_EDIT: OPTION 127:0:EXIT

6.1.59 Cassette 6 Orientation

This option selects the page orientation for cassette 6.

0 *	Portrait
1	Landscape
2	COR

Advanced IDB Language: &%IDB_EDIT: OPTION 128:0:EXIT

6.1.60 Cassette 7 Orientation

This option selects the page orientation for cassette 7.

0 *	Portrait
1	Landscape
2	COR

Advanced IDB Language: &%IDB_EDIT: OPTION 129:0:EXIT

6.1.61 Cassette 8 Orientation

This option selects the page orientation for cassette 8.

Note: This option is controlled with option 141.

0 *	Portrait
1	Landscape
2	COR

Advanced IDB Language: &%IDB_EDIT: OPTION 141:0:EXIT

6.1.62 Line Density Type

This option adjusts the LPI (Lines Per Inch) value received from the host.

0 *	Use event 48 - 51
1	Header + LD in decimal ASCII + Trailer
2	Header + LD in hexadecimal ASCII + Trailer
3	Header + LD in binary + Trailer
4	Header + LD in decimal ASCII incl 1/100th + Trailer
Other	Use event 48 - 51

Advanced IDB Language: &%IDB_EDIT: OPTION 130:0:EXIT

The header and trailer strings are pointed to by option 131 and option 132, respectively. These options can be set to point to any string. The line density used by the printer is based on the LPI value received from the host. The A/T FS3 uses the below expression when calculating the line density.

$$LD(\text{printer}) = \frac{\text{Option}(134, 133)}{\text{LPI}(\text{host})}$$

Option 133 contains the LSD (Least Significant Digit/Byte) and option 134 the MSD (Most Significant Digit/Byte). The below example shows how to store the decimal number 72 (Option 130 = 1).

Advanced IDB Language: &%IDB_EDIT: OPTION 133:72:
OPTION 134:0:EXIT

6.1.63 Printer Maximum MPP @ 10 CPI

This option defines the Maximum Print Position in characters at 10 CPI.

254 *	254 characters
xxx [0..255]	xxx characters

Advanced IDB Language: &%IDB_EDIT: OPTION 140:254:EXIT

6.1.64 Form Length Type

This option adjusts the LPP (Lines Per Page) value received from the host. It is controlled by option number 150 - 156.

Option 150 selects how the form length type is calculated.

0 *	No form length download
1	Header + LPP in decimal ASCII + Trailer
2	Header + LPP in hexadecimal ASCII + Trailer
3	Header + LPP in binary + Trailer

Advanced IDB Language: &%IDB_EDIT: OPTION 150:0:EXIT

The header and trailer strings are pointed to by option 151 and option 152, respectively. These options can be set to point to any string.

The form length used by the printer is based on the LPP value received from the host. The A/T FS3 uses the below expression when calculating the form length.

$$LPP(\text{printer}) = \frac{LPP(\text{host}) * \text{Option}(156, 155)}{\text{Option}(154, 153)}$$

Option 153 and 155 contain the LSD (Least Significant Digits/Bytes) and option 154 and 156 the MSD (Most Significant Digits/Bytes). The below example shows how to store the decimal number 3 in option 155 and 156 (Option 150 = 1).

Advanced IDB Language: &%IDB_EDIT: OPTION 155:3:
OPTION 156:0:EXIT

6.1.65 Transparency Method

This option defines if the normal Interimate transparent mode or the alternate (AXIS) transparency format is the default.

0 *	Normal
1	Alternative

Advanced IDB Language: &%IDB_EDIT: OPTION 167:0:EXIT

6.1.66 Formatted Strings

This option defines the Lead in character for the formatted String utility.

Important: Do not use a character between 0-9 (ASCII 49-57), A-F (ASCII 65-70) and do not use one of the characters used as lead in for one of the other CSC commands.

Refer to appendix *D. ASCII Character Table* on page 173 for a list of printable characters.

0 * [0..255]	Decimal ASCII character value
--------------	-------------------------------

Advanced IDB language: &%IDB_EDIT: OPTION 168:0:EXIT

6.1.67 Handling IBM Code Transparency

This option determines whether data within a transparent data stream control code are printed as received (“No Translation” setting). This includes invalid data, but not data between 40h and FEh.

The “User Lead” setting indicates that user defined transparent lead in characters are used without the pass through sequence (CSC characters option 8 and 9).

Setting the option to values other than 1 or 2, result in normal transparent data handling. This means that transparent data is translated from EBCDIC to ASCII. If the transparent data is not between 40h and FEh, it is printed as hyphens. Refer to the setting of option 3.

1	No translation
2	User lead

To use Translation, *Suppress Format Control Codes At PowerUp* (Option 177) should be set to “No AutoNL” (Option value = 1).

Advanced IDB Language: &%IDB_EDIT: OPTION 169:0:EXIT

6.1.68 Repetition Character

This option defines the repetition character used in the *Advanced IDB* language. The value stored in the option is a decimal ASCII value.

When the repetition character is defined, the preceding value acts as the repetition factor. This value is a hexadecimal value and can be any number from 01h - FFh (decimal: 1 - 255).

The example below shows the use of the repetition character. The character “/” is used as Lead In and Lead Out character. Refer to the sections *6.1.69 Lead In Characters* and *6.1.70 Lead Out Characters*.

Host sample input	ASCII output
&% /4142430C*44 /	ABCDDDDDDDDDDDD

0 *	No repetition character defined, ie disabled.
42	Use “*”.
xx	Use XX.

Advanced IDB Language: &%IDB_EDIT: OPTION 170:0:EXIT

6.1.69 Lead In Characters

The Lead In characters consist of two characters defined by option 171 and 172. The values stored in the options are decimal ASCII values. Refer to the example in section *6.1.68 Repetition Character*.

Note: None of the Lead In characters may be “0 - 9”, “A - F”, “a - f” or the repetition character (option 170).

0 *	No Lead In character is used.
47	Use “/”.
xx	Use XX (XX >= 32).

The IDB string below sets both option 171 and 172. The comma is a delimiter, which is used when several parameters are set in a single sequence.

Advanced IDB Language: &%IDB_EDIT: OPTION 171:0,0:EXIT

6.1.70 Lead Out Characters

The Lead Out characters consist of four characters defined by option 173, 174, 175 and 176. The values stored in the options are decimal ASCII values. Refer to the example in section *6.1.68 Repetition Character*.

Note: None of the Lead Out characters may be “0 - 9”, “A - F”, “a - f” or the repetition character (option 170).

0 *	No Lead Out character is used.
47	Use “/”.
xx	Use XX (XX >= 32).

The IDB string below sets all four options in one sequence. The comma is a delimiter, which is used when several parameters are set in a single sequence.

Advanced IDB Language: &%IDB_EDIT: OPTION 173:0,0,0,0:
EXIT

6.1.71 Suppress Format Control Codes At Power Up

This option defines the suppression of control codes after power on.

Adv. IDB option values	Comments	
0 *	Normal	Standard handling of control codes after power on. Can be disabled with the <CSC> + M command.
1	No AutoNL	AutoNL is disabled after power on in Host direct print and Local Copy print. Can be enabled with the <CSC>-M command. All Host generated codes are still sent to the printer.
2	No AutoNL'	AutoNL is disabled after power on in Host direct print. Can be enabled with the <CSC>-M command. All Host generated codes are still sent. AutoNL is performed in Local Copy print.
3	No Codes	CR, LF, NL and FF codes from the Host are suppressed and the auto-NL function is disabled. Can be enabled with the <CSC>-M command. <i>Note:</i> Because control codes are suppressed horizontal/vertical tab and other commands which depend on correct page format do not work correctly.
4	Normal'	Standard handling of control codes after power on. If the <CSC>+M command is used later on, CR, LF, NL and FF codes from the Host are suppressed and the auto-NL function is disabled.
5	No Codes'	CR, LF, NL and FF codes from the Host are suppressed. Can be enabled with the <CSC>-M command. The auto-NL is still enabled.
6	Normal''	Standard handling of control codes after power on. If the <CSC>+M command is used later on, CR, LF, NL and FF codes from the Host are suppressed. The auto-NL function is still enabled.

Refer also to appendix Q. *Special Coax IDB Commands* on page 219.

Advanced IDB Language: &%IDB_EDIT: OPTION 177:0:EXIT

6.1.72 Hex Dump Mode

This option controls the mode used by the A/T FS3. When in Hex Dump Mode all data sent to the printer is printed as hexadecimal values.

The option is normally used in connection with troubleshooting, ie tracing of data.

Note: Hex Dump Mode is also enabled via the switch on the A/T FS3 (switch position "F"). Refer to appendix *E. Switch Settings* on page 175.

0 *	Normal operation.
1	Hex Dump Mode.

Advanced IDB Language: &%IDB_EDIT: OPTION 236:0:EXIT

6.1.73 Screen Buffer Size

This option selects the default screen buffer size in bytes. In the front panel the option is located in the third *IP-address* byte (000.###.020.010).

Note: It is possible to configure the option via the switch on the back of the A/T FS3. Refer to appendix *E. Switch Settings* on page 175 and to section *4.2 The Switch* on page 33.

If an old IDB configuration file with the *Screen Buffer Size* set to "0" is downloaded, then set this option to "5" in order to keep the minimum value.

Adv. IDB	Front Panel	Comments
1	[001]	1920 bytes
2	[002]	2560 bytes
3 *	[003]	3440 bytes
4	[004]	3564 bytes
5	[005]	960 bytes

Advanced IDB Language: &%IDB_EDIT: OPTION 237:3:EXIT

6.2 SCS Twinax Options

This section describes the Twinax options.

The options are configured in a number of ways. All the SCS options are set via IDB command sequence lines sent from the host, via downloading of the IDB configuration file (*t_fs_xxx.idb*), or via the *Remote Menu System*. A limited number of options can also be set via the front panel or via the *Switch Menu System*. Refer to chapter 5. *Configuration and Management* starting on page 51.

The IPDS options are all set via the *Remote Menu System*. Again, a limited number of options can be set via the front panel or via the *Switch Menu System*.

The focus of the described options is on those most common. Some SCS options such as the *Paper handling commands* belong to a group of options called the *SCS Twinax Extended Options*. These are not described in this guide. Refer to the *Intermate IDB Technical Reference* guide, document no. GG-013-x. The guide is included on the *Documentation and Utilities* CD.

The columns in the option tables have the following headings.

Adv. IDB option values	User IDB option values	Comments.
------------------------	------------------------	-----------

Options which can be configured via the front panel have a fourth column inserted, ie:

Adv. IDB option values	User IDB option values	Front Panel text	Comments.
------------------------	------------------------	------------------	-----------

The values in the *Front Panel text* column are written in square brackets, eg [001].

Options which can be accessed and set via the *Switch Menu System* have a note attached to them. Refer to appendix E. *Switch Settings* on page 175.

At the end of each option description are two sample IDB command lines. Each of these lines can be used to set the default value for the option. The lines must be sent from the host, ie included in the SCS data stream, to have effect.

6.2.1 Miscellaneous Settings

6.2.1.1 Unprintable Character

This option defines the character to be used for unprintable characters in the data stream. The character is printed when the AS400/System3X sends an unprintable character or a character not supported by the printer. The character can be entered with the User IDB command, using both EBCDIC characters and ASCII hex values preceded by a slash (eg /4F).

0 * [0..255]

[00..FF]

A value of "0" defaults to the hyphen character (45 dec, 2D hex)

Refer to appendix *D. ASCII Character Table (extract)* on page 173 for a list of printable characters.

User IDB: &%IDB_EDIT: UNPCHR - :EXIT

 &%IDB_EDIT: UNPCHR /2D:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 3:45:EXIT

6.2.1.2 Printer Emulation

This option defines the printer emulation to be used by the A/T Adapter. The printer emulation determines which printout functions can be used from AS400/System3X. Maximum functionality is obtained by choosing the 3812 emulation.

In the front panel the option is located in the second *IP-address* byte (000.000.###.000).

Note: It is possible to configure this option via the switch on the back of the A/T FS3. Refer to appendix E. *Switch Settings* on page 175.

Adv. IDB	User IDB	Front Panel	Comments
0	4214	[000]	4214 model 2.
1	5225	[001]	5225 model 1.
2	5224	[002]	5224 model 1.
3	5256	[003]	5256 model 3.
4	5219	[004]	5219 model D01/D02.
5 *	3812	[005]	3812 model 1 (5219 mode).

User IDB: &%IDB_EDIT: PRTEMUL 3812:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 10:5:EXIT

6.2.1.3 Overlay Calls

This option defines if an overlay call (predefined string) is printed on top of each page. The “overlay” may contain a call to an electronic form, a macro, or the string stated by the OVLDRAW command itself. It has a maximum of 255 characters. A string for paper cassette 1 and paper cassette 2 can also be defined. This enables the user to define a form to be printed each time paper from cassette 1 is selected and likewise printing of the same or another form each time paper from cassette 2 is selected.

When the overlay call is enabled, either OVLDRAW command 1 or 2 is executed on top of each page. OVLDRAW command 1 is executed if paper cassette 1 has been selected and OVLDRAW command 2 is executed if paper cassette 2 has been selected. Refer to the *Intermate IDB Technical Reference* guide, document no. GG-013-x. The guide is included on the *Documentation and Utilities CD*..

0 *	OFF	Disable overlay calls..
1	ON	Enable overlay calls..

User IDB: &%IDB_EDIT: OVLCAL OFF:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 28:0:EXIT

6.2.1.4 Compress CPI

This option defines the compression of the horizontal character spacing. This command is made to compensate for the reduced printable area of the HP PCL emulation, and makes it possible to print 80 characters on a line using 10 CPI, 96 characters on a line using 12 CPI and 120 characters on a line using 15 CPI.

If compress CPI is enabled, the CPI is compressed as follows:

10 CPI => 10.2 CPI
12 CPI => 12.2 CPI
15 CPI => 15.3 CPI

Other values can be calculated like this:

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

0 *	OFF	Normal CPI.
1	ON	Compress CPI.

User IDB: &%IDB_EDIT: COMCPI OFF:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 128:0:EXIT

6.2.1.5 Format Control Code Suppression

This option controls the “auto newline” and the “auto formfeed” features. If the printout is incorrectly double spaced, enabling this option in most cases solves the problem.

0 *	ON	Auto newline enabled.
1	OFF	Auto newline disabled.

User IDB: &%IDB_EDIT: CTLCODSUP OFF:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 177:0:EXIT

6.2.1.6 Force Euro Support

This option controls whether Euro Support is forced or not. If it is set to “ON”, the normal code pages are re-mapped to code pages containing the Euro character. This means that the international currency symbol is replaced with the Euro character in the EBCDIC code pages.

Note: In order to print the Euro character, you may have to upgrade the printer firmware and fonts. Contact your Kyocera printer supplier for further information.

Country	Normal code pages	Re-mapped code pages
USA/Canada	37	1140
Austria/Germany	273	1141
Denmark/Norway	277	1142
Finland/Sweden	278	1143
Italy	280	1144
Spain	284	1145
UK	285	1146
France	297	1147
Multinational	500	1148
Iceland	871	1149

0 *	OFF	Normal, ie Euro Support is not enabled.
1	ON	Force Euro Support.

User IDB: &%IDB_EDIT: EURSUP OFF:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 139:0:EXIT

6.2.1.7 Timeout initialize

The A/T FS3 stores the page setup of each job it receives. When this option is set to values other than 0 the A/T FS3 sends the page setup of the previous job when it receives a job after timeout. This is done to prevent print jobs coming in between from other environments from affecting the formatting of the host jobs.

Note: The option should be set to 0, if the printer is not shared.

0	0	Timeout 30 seconds, without restoring of page setup.
10 *	10	Timeout 30 seconds, with restoring of page setup after 30 seconds. This applies to all values below 30.
[31..255]	[31..255]	Timeout 31 - 255 seconds, with restoring of page setup after 31 - 255 seconds.

User IDB: &%IDB_EDIT: TIMOUT 10:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 29:10:EXIT

6.2.1.8 Intervention Status

This option controls how the Intervention Status is reported to the host.

An intervention is when the printer requires user interaction. For example, if the printer is out of paper or if a paper jam has occurred.

0 *	NORM	Interventions are reported back to the host. A paper jam is reported as a paper jam. Out of paper is reported as out of paper etc.
1	OFF	Interventions are reported back to the host as off-line.

User IDB: &%IDB_EDIT: INTSTAT NORM:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 21:0:EXIT

6.2.1.9 Download Font

This option controls whether or not soft fonts are downloaded to the printer at power On.

Refer also to the *Intermate IDB Technical Reference guide*, document no. GG-013-x. The guide is included on the *Documentation and Utilities CD*.

Font	IBM font no.	PCL font no.
OCR-B	3	10003
Boldface	155	10155
Boldface Italic	159	10159
Essay	160	10160
Essay Bold	163	10163
Document	175	10175

0 *	-	Enable soft font download.
1	-	Disable soft font download.

User IDB: not supported

Advanced IDB: &%IDB_EDIT: OPTION 244:0:EXIT

6.2.2 Power On Default Settings

6.2.2.1 Country Code

This option defines which default character set is used. Country definition by “Country code” is commonly used on System 36 and 38, and applications migrated from these systems.

The option is located in the fourth *IP-address* byte (###.000.005.000) in the front panel.

Note: The *Code Page* option has always higher priority than the *Country Code*.

This option can be set via the switch on the A/T FS3. Refer to appendix *E. Switch Settings* on page 175.

Adv. IDB	User IDB	Front Panel	Comments
0 *	0	[000]	Multinational.
1	1	[001]	USA/Canada.
2	2	[002]	Germany/Austria.
3	3	[003]	Belgium.
4	4	[004]	Brazil.
5	5	[005]	Canada (French).
6	6	[006]	Denmark/Norway.
7	7	[007]	Finland/Sweden.
8	8	[008]	France.
9	9	[009]	Italy.
10	10	[010]	Japan (English).
11	11	[011]	USA/Canada Alternate.
12	12	[012]	Portugal.
13	13	[013]	Spain.
14	14	[014]	Spanish Speaking

Adv. IDB	User IDB	Front Panel	Comments
15	15	[015]	United Kingdom.

User IDB: &%IDB_EDIT: DEFCNTCOD 0:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 2:0:EXIT

6.2.2.2 Code Page

This option defines which default code page is used. Country definition by code page is commonly used by AS/400 computers. Setting this option to a code page other than 500 could cause incorrect printing of national characters on System 36, as the *Code Page* has higher priority than the *Country Code*. In the front panel the option is located in the third *IP-address* byte (000.###.005.000).

Note: This option can be set via the switch on the A/T FS3. Refer to appendix E. *Switch Settings* on page 175.

Options marked with a dagger (†) can be forced, or remapped, to support the Euro character. Refer to section 6.2.1.6 *Force Euro Support* on page 101.

Adv. IDB	User IDB (Code Page)	Front Panel	Comments
244 + 1 *	500 †	[000]	Multinational.
37 + 0	37 †	[001]	USA/Canada.
3 + 1	259	[002]	Mathematical.
17 + 1	273 †	[003]	Austria/Germany.
18 + 1	274	[004]	Belgium.
19 + 1	275	[005]	Brazil.
21 + 1	277 †	[006]	Denmark/Norway.
22 + 1	278 †	[007]	Finland/Sweden.
24 + 1	280 †	[008]	Italy.
25 + 1	281	[009]	Japan-English.
26 + 1	282	[010]	Portugal.
28 + 1	284 †	[011]	Spanish Speaking.
29 + 1	285 †	[012]	United Kingdom.
41 + 1	297 †	[013]	France.
84 + 1	340	[014]	OCR-A / OCR-B.

Adv. IDB	User IDB (Code Page)	Front Panel	Comments
103 + 3	871 †	[015]	Iceland.
2 + 4	1026	[016]	Turkish.
Code pages with Euro Support			
116 + 4	1140	[017]	USA/Canada.
117 + 4	1141	[018]	Germany/Austria.
118 + 4	1142	[019]	Denmark/Norway.
119 + 4	1143	[020]	Finland/Sweden.
120 + 4	1144	[021]	Italy.
121 + 4	1145	[022]	Spain.
122 + 4	1146	[023]	UK.
123 + 4	1147	[024]	France.
124 + 4	1148	[025]	Multinational.
125 + 4	1149	[026]	Iceland.

The values stored in option 240 and 241 (see column 1), are found like this:

240: [Code Page] – (256 * ([Code page] / 256))

241: [Code Page] / 256 *Reduce* result to nearest whole number.

User IDB: &%IDB_EDIT: DEFCODPAG 500:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 240:244:

 OPTION 241:1:EXIT or

 &%IDB_EDIT: OPTION 240:244,1:EXIT

6.2.2.3 Default Font

This option selects which font is the current default using the Font ID. In 5219/3812 mode this setting is overwritten by the first control buffer from the system.

11 *	[0..9999]	Default IBM Font ID. Only fonts programmed in to the Font Table are valid.
------	-----------	--

The values stored in option 242 and 243 are found like this:

242: [Font ID] – (256 * ([Font ID] / 256))

243: [Font ID] / 256 *Reduce* result to nearest whole number.

User IDB: &%IDB_EDIT: DEFFNT 11:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 242:11:

 OPTION 243:0:EXIT or

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

6.2.2.4 Default Characters Per Inch

This option selects the default CPI (characters per inch). Default CPI is used when the default CPI is selected from the AS400 or System 36 and when the printer is powered On.

Note: In 5219 (3812) mode this setting is always overwritten by the first control buffer from the system. For other emulation this setting is in most cases replaced by a value selected from the system.

10 *	10	10 CPI.
12	12	12 CPI.
15	15	15 CPI.
16	16	16.7 CPI.

User IDB: &%IDB_EDIT: DEFDCPI 10:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 100:10:EXIT

6.2.2.5 Default Maximum Printing Position

This option defines the maximum horizontal print position on the paper. Default maximum print position is used when the printer is powered On and the default value is selected from the AS400 or System 36.

80 * [0..255]	[0..255]	Default maximum printing position.
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User IDB: &%IDB_EDIT: DEFMPP 80:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 102:80:EXIT

6.2.2.6 Default Left Margin in Characters

This option defines the default left margin. It is only used at start up.

Note: In 5219 (3812) mode this setting is always overwritten by the first control buffer from the system. For other emulation this setting is in most cases replaced by a value selected from the system.

0 * [0..255]	[0..255]	Default left margin in characters.
--------------	----------	------------------------------------

User IDB: &%IDB_EDIT: DEFLEFTMRG 0:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 103:0:EXIT

6.2.2.7 Default Right Margin in Characters

This option defines the right default margin. It is only used at start up.

Note: In 5219 (3812) mode this setting is always overwritten by the first control buffer from the system. For other emulation this setting is in most cases replaced by a value selected from the system.

0 * [0..255]	[0..255]	Default right margin in characters.
--------------	----------	-------------------------------------

User IDB: &%IDB_EDIT: DEFRTGTMRG 0:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 104:0:EXIT

6.2.2.8 Default Lines Per Inch

This option selects the default number of lines per inch (LPI.) Default LPI is only used at start up.

Note: In 5219 (3812) mode this setting is always overwritten by the first control buffer from the system. For other emulation this setting is in most cases replaced by a value selected from the system.

6 *	6	6 LPI.
8	8	8 LPI.
9	9	9 LPI.

User IDB: &%IDB_EDIT: DEFLPI 6:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 105:6:EXIT

6.2.2.9 Default Lines Per Page

This option determines the default number of lines per page (LPP). It is only used at start up.

Note: In 5219 (3812) mode this setting is always overwritten by the first control buffer from the system. For other emulation this setting is in most cases replaced by a value selected from the system.

68 *	[0..255]	[0..255]	Default lines per page.
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User IDB: &%IDB_EDIT: DEFLPP 68:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 107:68:EXIT

6.2.2.10 Default Top Margin in Lines

This option defines the default top margin in lines. It is only used at start up.

Note: In 5219 (3812) mode this setting is always overwritten by the first control buffer from the system. For other emulation this setting is in most cases replaced by a value selected from the system.

0 * [0..255]

[0..255]

Default top margin in lines.

User IDB: &%IDB_EDIT: DEFTOPMRG 0:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 108:0:EXIT

6.2.2.11 Default Print Quality

This option selects the default print quality. It is only used at start up.

Note: In 5219 (3812) mode this setting is always overwritten by the first control buffer from the system. For other emulation this setting is in most cases replaced by a value selected from the system.

In the 5219/3812 emulation the Print Quality parameter in combination with COR Text Mode is used to enable and disable the APO/COR function (the Automatic Page Orientation/Computer Output Reduction.)

0 *	DEF	Printer default is used (no change).
1	DRF	Draft quality.
2	DP	Data processing.
3	LQ	Letter quality.

User IDB: &%IDB_EDIT: DEFPRQTQLT DEF:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 112:0:EXIT

6.2.2.12 Default Source Drawer

This option selects the default paper input drawer. This is only used at startup and is in most cases replaced by a value selected from the system. The setting triggers definitions made by the SRCDRW command. Refer to the description of the *Source Drawer* in the *Intermate IDB Technical Reference* guide.

0 *	DEF	Printer default is used (no change).
1	1	Drawer 1 (top).
2	2	Drawer 2 (bottom).
3	3	Drawer 3 (optional).
4	4	Drawer 4 (optional).
5	5	Drawer 5 (optional).
6	6	Drawer 6 (optional).
7	7	Drawer 7 (optional).
8	8	Drawer 8 (optional).

User IDB: &%IDB_EDIT: DEF SRCDRW DEF:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 113:0:EXIT

6.2.2.13 Default Forms Media

This option selects the default paper drawer. This is only used at start up and is in most cases replaced by a value selected by the user. The setting triggers definitions made by the SLTMED command. Refer to the description of the *Select Paper/Envelope Media* in the *Intermate IDB Technical Reference* guide.

0 *	DEF	Printer default is used (no change).
1	PAP	Paper media is selected.
2	ENV	Envelope media is selected.

User IDB: &%IDB_EDIT: DEFFRMSEL DEF:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 114:0:EXIT

6.2.2.14 Default Destination Drawer

This option selects the default output bin. It is only used at start up and is in most cases replaced by a value selected by the user. The setting triggers definitions made by the Destination Drawer (DSTDRW) command. Refer to the *Intermate IDB Technical Reference* guide.

0 *	DEF	Printer default is used (no change).
1	1	Bin 1 (top).
2	2	Bin 2 (bottom).
3	3	Bin 3 (optional).
4	4	Bin 4 (optional).
5	5	Bin 5 (optional).
6	6	Bin 6 (optional).
7	7	Bin 7 (optional).
8	8	Bin 8 (optional).

User IDB: &%IDB_EDIT: DEFDSTDRW DEF:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 115:0:EXIT

6.2.2.15 Default Simplex/Duplex

This option selects default simplex or duplex print. It is only used at start up and is in most cases replaced by a value selected from the system. The setting triggers definitions made by the Select Simplex/Duplex Printer (SLTSIMDUP) command. Refer to the *Intermate IDB Technical Reference* guide.

The tumble setting is used for pages connected or bound at the top.

0 *	DEF	Printer default is used (no change).
1	SIM	Simplex is selected.
2	DUP	Duplex long edge binding is selected.
3	TUM	Duplex short edge binding is selected.

User IDB: &%IDB_EDIT: DEFSIMDUP DEF:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 116:0:EXIT

6.2.2.16 Default Page Orientation

This option selects the default page orientation. It is only used at power On and is in most cases replaced by a value selected from the system.

0 *	DEF	Printer default is used (no change).
1	POR	Portrait orientation is selected.
2	LAN	Landscape orientation is selected.

User IDB: &%IDB_EDIT: DEFORT DEF:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 120:0:EXIT

6.2.3 COR Settings

6.2.3.1 Left Margin Offset In COR

This option defines the offset added to the left margin when printing in Computer Output Reduction mode. Note that the *User IDB* command can use both inches (I) and centimetres (C) with 2 decimals.

122 + 2 *

[0.00..99.99]

Left margin offset in COR in 1/100 inch.

The values stored in option 78 and 79 represent the offset when using the *Advanced IDB* language. The default offset is calculated like this:

78: $[\text{Marg. inch} * 1440] - (256 * ([\text{Marg. inch} * 1440] / 256))$

79: $[\text{Marg. inch} * 1440] / 256$ Reduce this result in both equations to nearest whole number.

78: $(0.440 * 1440) - (256 * ([0.440 * 1440] / 256)) = 122$

79: $(0.440 * 1440) / 256 \approx 2$

Note: The number stored in option 78 and 79 is always in inches. If your desired number is in centimeters it can be converted to inches by multiplying with 0.394 inch/cm.

User IDB: &%IDB_EDIT: LFTOFFCOR I 0.44:EXIT or
 &%IDB_EDIT: LFTOFFCOR C 1.12:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 78:122:
 OPTION 79:2:EXIT

6.2.3.2 Top Margin Offset In COR

This option defines the offset added to the top margin when printing in Computer Output Reduction mode. Note that the *User IDB* command can use both inches (I) and centimetres (C) with 2 decimals.

0 + 0 *

[0.00..99.99]

Top margin offset in COR in 1/100 inch.

The values stored in option 80 and 81 represent the offset when using the *Advanced IDB* language. An offset of one inch is calculated like this:

$$80: [\text{Marg. inch} * 1440] - (256 * ([\text{Marg. inch} * 1440] / 256))$$

$$81: [\text{Marg. inch} * 1440] / 256 \quad \text{Reduce this result in both equations to nearest whole number.}$$

$$80: (1 * 1440) - (256 * (1 * 1440) / 256) = 160$$

$$81: (1 * 1440) / 256 \approx 5$$

Note: The number stored in option 80 and 81 is always in inches. If your desired number is in centimeters it can be converted to inches by multiplying with 0.394 inch/cm.

User IDB: &%IDB_EDIT: TOPOFFCOR I 0.00:EXIT or
 &%IDB_EDIT: TOPOFFCOR C 0.00:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 80:0:
 OPTION 81:0:EXIT

6.2.3.3 Physical Page Length

This option defines the physical page length of the paper.

The page length is used together with the page width by the APO/COR (Automatic Page Orientation function/Computer Output Reduction) to calculate the page orientation. The *User IDB* command enables entering of any length in inches (I) and centimetres (C) with 2 decimals (0.00 . . . 99.99).

208 + 65 *	[0.00..99.99]	A4 297 mm (11.7 inches).
224 + 61	[0.00..99.99]	Letter 279.4 mm (11 inch).
192 + 78	[0.00..99.99]	Legal 355.6 mm (14 inch).
16 + 59	[0.00..99.99]	Executive 266.7 mm (10.5 inch).

The values stored in option 82 and 83 (see column 1) are calculated like this: (1 inch = 1440)

$$82: [\text{Length inch} * 1440] - (256 * ([\text{Length inch} * 1440] / 256))$$

83: $[\text{Length inch} * 1440] / 256$ Reduce this result in both equations to nearest whole number.

$$82: (11.7 * 1440) - (256 * ([11.7 * 1440] / 256)) = 208$$

$$83: (11.7 * 1440) / 256 \approx 65$$

Note: The number stored in option 82 and 83 is always in inches. If your desired number is in centimeters it can be converted to inches by multiplying with 0.394 inch/cm.

User IDB: &%IDB_EDIT: PAGLNG C 29.70:EXIT or
 &%IDB_EDIT: PAGLNG I 11.70:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 82:208:
 OPTION 83:65:EXIT

6.2.3.4 Physical Page Width

This option defines the physical page width of the paper placed in the printer.

The page width is used, together with the page length, by the APO/COR (Automatic Page Orientation function/Computer Output Reduction) to calculate the page orientation. The *User IDB* command enables you to enter any length in inches (I) or centimetres (C) with 2 decimals (0.00 . . . 99.99).

133 + 46 *	[0.00..99.99]	A4 210 mm (8.27 inches).
208 + 47	[0.00..99.99]	Letter 215.9 mm (8.5 inch).
200 + 40	[0.00..99.99]	Executive 184.2 mm (7.25 inch).

The values stored in option 84 and 85 (see column 1) are calculated like this: (1 inch = 1440)

$$84: [\text{Width inch} * 1440] - (256 * ([\text{Width inch} * 1440] / 256))$$

$$85: [\text{Width inch} * 1440] / 256 \quad \text{Reduce this result in both equations to nearest whole number.}$$

$$84: (8.27 * 1440) - (256 * ([8.27 * 1440] / 256)) = 132$$

$$85: (8.27 * 1440) / 256 \approx 46$$

Note: The number stored in option 84 and 85 is always in inches. If your desired number is in centimeters it can be converted to inches by multiplying with 0.394 inch/cm.

User IDB: &%IDB_EDIT: PAGWDT C 21.00:EXIT or
 &%IDB_EDIT: PAGWDT I 8.27:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 84:132:
 OPTION 85:46:EXIT

6.2.3.5 Left Margin Offset In Landscape

This option defines the offset added to the left margin when printing in Landscape. The *User IDB* enables you to enter any length in inches (I) or centimetres (C) with 2 decimals.

0 + 0 *	[0.00..99.99]	Left margin offset in landscape in 1/100 inch.
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The values stored in option 86 and 87 represent the offset when using the *Advanced IDB* language. An offset of one inch is calculated like this:

$$86: [\text{Marg. inch} * 1440] - (256 * ([\text{Marg. inch} * 1440] / 256))$$

$$87: [\text{Marg. inch} * 1440] / 256 \quad \text{Reduce this result in both equations to nearest whole number.}$$

$$86: (1 * 1440) - (256 * ([1 * 1440] / 256)) = 160$$

$$87: (1 * 1440) / 256 \approx 5$$

Note: The number stored in option 86 and 87 is always in inches. If your desired number is in centimeters it can be converted to inches by multiplying with 0.394 inch/cm.

User IDB: &%IDB_EDIT: LFTOFFLAN I 0.00:EXIT or
 &%IDB_EDIT: LFTOFFLAN C 0.00:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 86:0:
 OPTION 87:0:EXIT

6.2.3.6 Top Margin Offset In Landscape

This option defines the offset added to the top margin when printing in Landscape. The *User IDB* enables you to enter any length in inches (I) or centimetres (C) with 2 decimals.

147 + 0 *

[0.00..99.99]

Top margin offset in landscape in 1/100 inch.

The values stored in option 88 and 89 represent the offset when using the *Advanced IDB* language. The default offset is calculated like this:

$$88: [\text{Marg. inch} * 1440] - (256 * ([\text{Marg. inch} * 1440] / 256))$$

$$89: [\text{Marg. inch} * 1440] / 256 \quad \textit{Reduce} \text{ this result in both equations to nearest whole number.}$$

$$88: (0.10 * 1440) - (256 * ([0.10 * 1440] / 256)) \quad = \quad 147$$

$$89: (0.10 * 1440) / 256 \quad \approx \quad 0$$

Note: The number stored in option 88 and 89 is always in inches. If your desired number is in centimeters it can be converted to inches by multiplying with 0.394 inch/cm.

User IDB: &%IDB_EDIT: TOPOFFLAN I 0.10:EXIT or
 &%IDB_EDIT: TOPOFFLAN C 0.25:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 88:147:
 OPTION 89:0:EXIT

6.2.3.7 Page Orientation Drawer 1

This option defines the default page orientation for paper cassette 1. The option is only used when the APO/COR (Automatic Page Orientation / Computer Output Reduction) function is disabled with the CORDRW 1 setting. Refer to appendix P. *COR/APO Logic (Twinax)* on page 215 and to section 6.2.3.9 *Computer Output Reduction Drawer 1* on page 123.

When APO/COR is disabled this command determines the page orientation used automatic page orientation is selected from the AS400/System3X.

0	DEF	Default, no specific orientation defined.
1 *	POR	Portrait.
2	LAN	Landscape.

User IDB: &%IDB_EDIT: ORTDRW 1 POR:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 121:1:EXIT

6.2.3.8 Page Orientation Drawer 2

This option defines the default page orientation for paper cassette 2. The option is only used when the APO/COR (Automatic Page Orientation/ Computer Output Reduction) function is disabled with the CORDRW 2 setting. Refer to appendix P. *COR/APO Logic (Twinax)* on page 215 and to section 6.2.3.10 *Computer Output Reduction Drawer 2* on page 124.

When APO/COR is disabled this command determines the page orientation used automatic page orientation is selected from the AS400/System3X.

0	DEF	Default, no specific orientation defined.
1 *	POR	Portrait.
2	LAN	Landscape.

User IDB: &%IDB_EDIT: ORTDRW 2 POR:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 122:1:EXIT

6.2.3.9 Computer Output Reduction Drawer 1

This option defines how the APO/COR function (Automatic Page Orientation/Computer Output Reduction) works for paper cassette 1.

With the command it is possible to disable the APO/COR function so that the page orientation change only can be made manually. It is also possible to select between Landscape and Portrait (APO) only, or it can be stated that automatic reduction (COR) should be performed as well. Refer to appendix *P. COR/APO Logic (Twinax)* on page 215.

When APO is selected, the A/T FS3 calculates the print area required for printing the document. If the document does not fit on the page in portrait orientation, the orientation is changed to landscape. COR performs the same function, but when the document does not fit in either orientation, COR compresses the page to make it fit. If the page cannot be made to fit, the setting of the *Page Orientation Drawer 1* option is used.

0	OFF	APO/COR disabled.
1 *	APO	APO/COR enabled.
2	COR	APO only enabled.
3	STODIS	Ignore all text orientation commands and use the setting of DEFORT. Se page 115.

User IDB: &%IDB_EDIT: CORDRW 1 COR:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 123:1:EXIT

6.2.3.10 Computer Output Reduction Drawer 2

This option defines how the APO/COR function (Automatic Page Orientation/Computer Output Reduction) works for paper cassette 2.

With the command it is possible to disable the APO/COR function so that the page orientation change only can be made manually. It is also possible to select between Landscape and Portrait (APO) only, or it can be stated that automatic reduction (COR) should be performed as well. Refer to appendix *P. COR/APO Logic (Twinax)* on page 215.

When APO is selected, the A/T FS3 calculates the print area required for printing the document. If the document does not fit on the page in portrait orientation, the orientation is changed to landscape. COR performs the same function, but when the document does not fit in either orientation, COR compresses the page to make it fit. If the page cannot be made to fit, the setting of the *Page Orientation Drawer 2* option is used.

0	OFF	APO/COR disabled.
1 *	APO	APO/COR enabled.
2	COR	APO only enabled.
3	STODIS	Ignore all text orientation commands and use the setting of DEFORT. Se page 115.

User IDB: &%IDB_EDIT: CORDRW 2 COR:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 124:1:EXIT

6.2.3.11 Computer Output Reduction Text Mode

This option controls text mode in the APO/COR function. In the APO/COR function the print quality parameter is used (text mode on/off) to disable/enable computer output reduction mode. To print in COR mode, the print quality must be set to “Data Processing” (Text mode off.) If “Letter Quality” or “Draft” (Text mode on) is selected the COR mode is disabled and the print job is printed in Portrait orientation (Text mode.) As it is not always possible to control the print quality of the print jobs, which are being printed from the AS400/System3X, this option is used to disable text mode. When text mode is disabled the APO/COR function ignores the print quality parameter and print all print jobs fulfilling the requirements in COR mode. Refer to appendix *P. COR/APO Logic (Twinax)* on page 215.

0 *	OFF	Normal IBM interpretation.
1	ON	Ignore the system TEXT parameter.
2	APO	Observe TEXT parameter in APO as well.

User IDB: &%IDB_EDIT: TXTMOD OFF:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 126:0:EXIT

6.2.3.12 Computer Output Line Spacing Reduction

This option defines the reduction percent of the line spacing in Computer Output Reduction mode.

In COR mode the line spacing is normally reduced to 70% of the normal line spacing.

The option value indicates the percent to which the line spacing is reduced to in relation to the normal line spacing. If 62 is selected, the line spacing is reduced to 62% of the normal value (100%).

70 *	[1..100]	[1..100]	Percentage of normal line spacing.
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User IDB: &%IDB_EDIT: LINSRED 70:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 127:70:EXIT

6.2.4 Horizontal/vertical Positioning

6.2.4.1 Proportional Font Move

This option controls the proportional font handling.

To use the AS400/System 3X proportional fonts 155 - 175 from DisplayWrite/Office or a similar program, it is necessary that the A/T FS3 has full control of the fonts in the printer.

The individual character width values of the printer's native fonts must correspond to the width value which the AS400/System 3X expects the characters to have. The A/T FS3, therefore, adjusts each character to obtain the correct width value. This is necessary in order to be able to use bold text, underscored text, and to align to right margin.

Enabling this option enables Proportional Font Move on all fonts. If the function only has to be enabled for only a single font, it is recommended to use the "P" value for the <spacing> parameter in the PRGFNT command rather than disabling PRPFNTMOV. Refer to the *Intermate IDB Technical Reference* guide.

0 *	OFF	Proportional font move disabled (better PCL resemblance).
1	ON	Proportional font move enabled (better IBM resemblance).

User IDB: &%IDB_EDIT: PRPFNTMOV OFF:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 118:0:EXIT

6.2.4.2 Movement Horizontal/Vertical

This option defines how the movement on the page is made.

In the *Remote Menu System* this option is controlled by the options *Horizontal move* and *Vertical move*.

0	HORMOV SP: VERMOV LF	Horizontal uses space. Vertical movement uses line feed.
1 *	HORMOV ESC: VERMOV ESC	Both use escape.
2	HORMOV SP: VERMOV ESC	Horizontal uses space. Vertical uses escape.
3	HORMOV ESC: VERMOV LF	Horizontal uses escape. Vertical uses line feed.

User IDB: &%IDB_EDIT: HORMOV ESC: VERMOV ESC:EXIT

Advanced IDB: &%IDB_EDIT: OPTION 158:1:EXIT

6.2.5 Transparent Mode

6.2.5.1 CSC Characters

The Command String Character (CSC) is a unique two-character sequence, which opens the A/T FS3 internal editor. It must be used every time IDB commands are sent to the A/T FS3. The default values are "&" (option 8, 38 decimal) and "%" (option 9, 37 decimal). The CSC is also used in front of the Lead in characters (OPTION 171/172) and for passing single hex values to the printer. (&%1B = <esc>). The colon ":" (option 7, 58 decimal) is the default for the IDB Edit Delimiter, which is used to separate programming commands.

First CSC character

38 *	[0..255]	All ASCII characters allowed.
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Second CSC character

37 *	[0..255]	All ASCII characters allowed.
------	----------	-------------------------------

IDB edit delimiter

58 *	[0..255]	All ASCII characters allowed.
------	----------	-------------------------------

Refer to appendix *D. ASCII Character Table (extract)* on page 173 for a list of printable characters.

In the *Advanced IDB* example below several options are set at the same time. This is done by writing the number of the first option and separating the values for the preceding options with commas.

User IDB: not supported

Advanced IDB: &%IDB_EDIT: OPTION 7:58,38,37: EXIT or
&%IDB_EDIT: OPTION 7:58: OPTION 8:38:
OPTION 9:37: EXIT

6.2.5.3 Lead In Characters

The Lead In characters consist of two characters defined by option 171 and 172. The values stored in the options are decimal ASCII values. Refer to the example in section 6.2.5.2 *Repetition Character*.

Note: None of the Lead In characters may be “0 - 9”, “A - F”, “a - f” or the repetition character (option 170).

0 *	OFF	No Lead In character is used.
47	47 or “/”	Use “/” (without the quotes)
xx	xx	Use the ASCII value XX (XX >= 32).

The IDB string below sets both option 171 and 172. The comma is a delimiter, which is used when several parameters are set in a single sequence.

User IDB: &%IDB_EDIT: LEDINSEQ OFF:EXIT
Advanced IDB Language: &%IDB_EDIT: OPTION 171:0,0:EXIT

6.2.5.4 Lead Out Characters

The Lead Out characters consist of four characters defined by option 173, 174, 175 and 176. The values stored in the options are decimal ASCII values. Refer to the example in section 6.2.5.2 *Repetition Character*.

Note: None of the Lead Out characters may be “0 - 9”, “A - F”, “a - f” or the repetition character (option 170).

0 *	OFF	No Lead Out character is used.
47	47 or “/”	Use “/” (without the quotes).
xx	xx	Use the ASCII value XX (XX >= 32).

The IDB string below sets all four options in one sequence. The comma is a delimiter, which is used when several parameters are set in a single sequence.

User IDB: &%IDB_EDIT: LEDOUTSEQ OFF:EXIT
Advanced IDB Language: &%IDB_EDIT: OPTION 173:0,0,0,0:
EXIT

6.3 IPDS Options

The IPDS options control how the IPDS emulation operates. The options are not available on the original IBM 3812-2 printer.

Configuration of the options is done via the printer's front panel, via the *Switch Menu System*, via the *Remote Menu System* or via the *IPDS Parser*. Refer to chapter 5. *Configuration and Management* starting on page 51.

Most columns in the option tables in this section have the below headings.

Front Panel text	RMS no.	IPDS Parser	Comments
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RMS no is an abbreviation of *Remote Menu System number*.

Options which can be set via the *Switch Menu System* have a note attached to them. Refer to appendix E. *Switch Settings* on page 175.

6.3.1 Paper size

These options define the paper sizes of the physical input trays. The available (detectable) trays are shown below.

RMS no.	IPDS Parser option name	Comments
1	SEL_PAPER_MP	Manual feeder
2	SEL_PAPER_CASS1	Tray 1
3	SEL_PAPER_CASS2	Tray 2
4	SEL_PAPER_CASS3	Tray 3
5	SEL_PAPER_CASS4	Tray 4
6	SEL_PAPER_CASS5	Tray 5
7	SEL_PAPER_CASS6	Tray 6
8	SEL_PAPER_ENV_FEED	EF-1 or UF-1

The paper size for each tray is reported to the host. It is important to distinguish between *detected* and *selected* paper sizes. If the paper size for a tray is set to a value other than “Auto detect”, it means that this (*selected*) value is used instead of the *detected* paper size for that tray. The *selected* paper size thereby overrides the *detected* paper size. This makes it possible to simulate printing on paper sizes not detected in the printer.

The *detected* paper trays are summarised on the *IPDS Status Page*. Refer to appendix I, *Printing a Status Sheet* on page 191.

The table below shows the available paper sizes for the input trays.

RMS no.	IPDS Parser	Comments
1	AUTODETECT	Auto detect (ie use the <i>detected</i> paper size)
2	MONARCH	Monarch envelope (4.125 x 7.5 inch)
3	BUSINESS	Business envelope (4.125 x 9.5 inch)
4	DL	DL envelope (11 x 22 cm)
5	C5	C5 envelope (16.2 x 22.9 cm)
6	EXECUTIVE	Executive (7.25 x 10.5 inch)
7	LETTER	US letter (8.5 x 11 inch)
8	LEGAL	US legal (8.5 x 14 inch)
9	A4	A4 (21 x 29.7 cm)
10	JIS_B5	JIS B5 (18.2 x 25.7 cm)

RMS no.	IPDS Parser	Comments
11	A3	A3 (29.7 x 42 cm)
12	B4	B4 (25.7 x 36.4 cm)
13	LEDGER	US ledger (11 x 17 inch)
14	A5	A5 (14.8 x 21 cm)
15	A6	A6 (10.5 x 14.8 cm)
16	JIS_B6	JIS B6 (12.8 x 18.2 cm)
17	COMMERCIAL_9	Commercial envelope no. 9 (3.875 x 8.875 inch)
18	COMMERCIAL_6	Commercial no. 6 (3.625 x 6.5 inch)
19	ISO_B5	ISO B5 envelope (17.6 x 25 cm)
20	CUSTOM	Custom (11.7 x 17.7 inch)
21	C4	C4 (22.9 x 32.4 cm)
22	HAGAKI	Hagaki (10 x 14.8 cm)
23	OFUKU_HAGAKI	Ofuku-Hagaki (14.8 x 20 cm)

IPDS parser syntax with default value:

```
&%OPT_=;SEL_PAPER_CASS1=AUTODETECT;&%
```

6.3.2 Emulation

This option selects the printer emulation used by the IPDS emulation. The 3812 and 3816 replies are identical. If for instance duplex is enabled, then this is reported to the host independently of the emulation.

In the front panel the option is located in the second *Subnet mask address* byte (000.000.###.000).

Note: It is possible to configure this option via the switch on the back of the A/T FS3. Refer to appendix *E. Switch Settings* on page 175.

Front Panel	RMS no.	IPDS Parser	Comments
[000]	1	3816	IBM 3812/16
[001]	2	4028	IBM 4028
[002] *	3	3916	IBM 3912/16 (3112/16)

IPDS parser syntax with default setting:
&%OPT_= ; IPDS_EMULATION=3916 ; &%

6.3.3 Code Page

This option controls the default code page for the IPDS emulation.

In the front panel the option is located in the third *Subnet mask address* byte (000.###.000.000).

Note: It is possible to configure the option via the switch on the back of the A/T FS3. Refer to appendix *E. Switch Settings* on page 175.

Code Page	Front panel	RMS no.	IPDS Parser	Country
500 *	[000]	0	INT_5	International Set 5 (multinational)
37	[001]	1	USA_CANADA	USA/Canada
256	[002]	2	INT_1	International Set 1
259	[003]	3	SYMBOL_7	Symbols Set 7
260	[004]	4	CAN_FRENCH	Canadian French

Code Page	Front panel	RMS no.	IPDS Parser	Country
273	[005]	5	AUS_GER	Austria/Germany
274	[006]	6	BELGIAN	Belgian
275	[007]	7	BRAZIL	Brazil
277	[008]	8	DEN_NOR	Denmark/Norway
278	[009]	9	FIN_SWE	Finland/Sweden
280	[010]	10	ITALY	Italy
281	[011]	11	JAP_ENGLISH	Japan/English
282	[012]	12	PORTUGAL	Portugal
284	[013]	13	SPANISH_SPEAK	Spanish Speaking
285	[014]	14	UK	United Kingdom
286	[015]	15	AUS_GER_ALT	Austria/Germany (alternate)
287	[016]	16	DEN_NOR_ALT	Denmark/Norway (alternate)
288	[017]	17	FIN_SWE_ALT	Finland/Sweden (alternate)
289	[018]	18	SPAIN_ALT	Spain (alternate)
290	[019]	19	JAP_KATAKANA	Japan-Katakana
293	[020]	20	APL	APL
297	[021]	21	FRANCE	France
500	[022]	22	RESV_340_OCR	Reserved 340 OCR
361	[023]	23	INT_TYPO	International Typographic
437	[024]	24	PC	Personal Computer
37	[025]	25	PORTUGAL_ALT	Portugal (alternate)
871	[026]	26	ICELAND	Iceland
892	[027]	27	OCR_A	OCR-A
893	[028]	28	OCR_B	OCR-B
500	[029]	29	RESV_420_ARABIC	Reserved 420 Arabic
500	[030]	30	RESV_424_HEBREW	Reserved 424 Hebrew
37	[031]	31	CAN_BILINGUAL	Canadian Bilingual
500	[032]	32	SWISS_BILINGUAL	Swiss Bilingual
284	[033]	33	SPANISH	Spanish
500	[034]	34	-	Reserved
500	[035]	35	-	Reserved
500	[036]	36	-	Reserved
1026	[037]	37	TURKISH_1	Turkish 1

Code Page	Front panel	RMS no.	IPDS Parser	Country
500	[038]	38	-	Reserved
905	[039]	39	TURKISH_2	Turkish 2
Code pages with Euro Support				
1140	[040]	40	USA_EU	USA/Canada
1141	[041]	41	AUS/GER_EU	Austria/Germany
1142	[042]	42	DEN/NOR_EU	Denmark/Norway
1143	[043]	43	FIN/SWE_EU	Finland/Sweden
1144	[044]	44	ITALY_EU	Italy
1145	[045]	45	SPA.SPE_EU	Spain
1146	[046]	46	UK_EU	United Kingdom
1147	[047]	47	FRANCE_EU	France
1148	[048]	48	MULTI_EU	Multinational
1149	[049]	49	ICELAND_EU	Iceland

IPDS parser syntax with default setting:
&%OPT_= ; IPDS_CODE_PAGE=INT_5 ; &%

6.3.4 Code Page version

This option controls which version of a code page is used. Some code pages are available in two versions. If some characters print differently than those entered on the keyboard, try checking the code page version, as some characters differ between the two versions of the same code page.

In the front panel this option is located in the fourth *Subnet mask address* byte (###.000.000.000).

Note: It is possible to configure this option via the switch on the back of the A/T FS3. Refer to appendix *E. Switch Settings* on page 175.

The code pages differ on some special characters. Refer to the *IBM font reference manual* for details.

Front Panel	RMS no.	IPDS Parser	Comments
[000]	1	VER_0	Use old code page version 0.
[001] *	2	VER_1	Use standard codepage version 1 for codepages close to 37 or 500 (non typographic standard codepages).

IPDS parser syntax with default setting:

```
&%OPT_= ; IPDS_CODE_PAGE_VER=VER_1 ; &%
```

6.3.5 Exception Suppression

This option controls the suppression of exceptions. It is often practical to suppress exception reporting on undefined characters and position errors (printing outside valid printable area).

The option overrides the EHC control in the IPDS data stream.

RMS no.	IPDS Parser	Comments
1 *	NONE	No suppression of exceptions. (None)
2	POSITION	Exception reporting for position errors (outside VPA) is suppressed. (Position)
3	UNDEFINED	Exception reporting, when an undefined character is found, is suppressed. (Undefined)
4	POS_UNDEF	Both position errors and undefined character exceptions are suppressed. (Position and undefined)

IPDS parser syntax with default setting:

```
&%OPT_= ; EXCEPT_SUPPR=NONE ; &%
```

6.3.6 Page Counter Update

This option controls the update of the page counter. If the A/T FS3 updates the page counter after the page has been processed, the printer could in some cases lose pages, if it is turned off while printing. However, the printer recovers correctly from jam and cover open errors.

The location of the option varies depending on the mode the A/T FS3 is in, ie either Coax or Twinax. In Coax mode it is located in the first *Subnet mask address* byte (001.000.002.###). In Twinax mode it is controlled by the second digit in the first *Subnet mask address* byte (001.00.002.1#7).

Front Panel	RMS no.	IPDS Parser	Comments
[1] *	1	LATE	Normal (Late). This means that pages are reported printed, after they have been printed.
[0]	2	EARLY	Early. This means early reporting after pages have been processed. The printer could in some cases lose pages, if it is turned off while printing. However, the printer recovers correctly from jam and cover open errors. Selecting Early will in most cases give the maximum print speed compared to Normal.

IPDS parser syntax with default setting:

```
&%OPT_= ; PAGE_COUNT_UPDATE=LATE ; &%
```

6.3.7 Resource Memory

This option controls the allocation of memory between the IPDS resource memory and the output buffer used for pages ready for print.

Increasing output memory can sometimes improve speed because transmission and printing time are better used. Increasing memory for resources is sometimes a good idea, if printing large IPDS jobs with many downloaded fonts, page segments or overlays.

RMS no.	IPDS Parser	Comments
1 *	NORMAL	Normal memory allocation.
2	LESS	Allocate less resource memory but more for output buffer.
3	MORE	Allocate more memory but less for output buffer.

IPDS parser syntax with default setting:

```
&%OPT_=;RESOURCE_MEMORY=NORMAL; &%
```

6.3.8 Duplex Print Enable

This option defines how the duplex printing capabilities are reported to the host.

RMS no.	IPDS Parser	Comments
1 *	AUTO_DETECT	Auto detect Duplex unit, ie use the setting of the <i>Duplex Detect</i> option.
2	DISABLED	Do not report duplex support to the host, even if the duplex unit is physically present. (Disabled)
3	ENABLED	Report duplex support to the host, even if the duplex unit is not physically installed. (Enabled)

IPDS parser syntax with default setting:

```
&%OPT_=;DUPLEX_PRINT=AUTO_DETECT; &%
```

6.3.9 Printable Area Option

This option controls what printable area is reported in the *Obtain Printer Characteristics* reply on the 4028 emulation, and of logical corners.

Note: The option is only used in 4028 emulation. It is recommended to set it to "1".

RMS no.	IPDS Parser	Comments
1	3816	Normal. Printable area and paper size is the same. (Area 3816)
2 *	4028	4028 compatible. Printable area is smaller than the paper size, thereby allowing the host to compensate for the reduced printable area of the laser printer. (Area 4028)
3	PAGE	4028 "Print Page" option. The upper left corner (0,0) of the Logical Page is forced inside the 4028 Printable Area. (Area Page)

IPDS parser syntax with default value:

```
&%OPT_= ; PRINT_AREA=4028 ; &%
```

6.3.10 MICR enable

This option controls whether support for magnetic ink printing is reported to the PSF.

RMS no.	IPDS Parser	Comments
1 *	NO	Magnetic ink not supported. (Disabled)
2	YES	Magnetic ink supported. (Enabled)

IPDS parser syntax with default value:

```
&%OPT_= ; MICR_PRT=NO ; &%
```

6.3.11 Input-tray mapping

These options control how the host's IPDS requests for physical input trays are mapped. Any host IPDS input source can be mapped to any printer input sources. The A/T FS3 holds eight input tray mappings.

In the A/T FS3 the *IPDS number* received from the host is selected with the "IBM ID". The "IBM ID" is mapped via the *### tray-mapping* option to a physical input cassette in the printer. The "###" is the mapping number.

Each *IPDS number* (or IBM ID) can ONLY be mapped once. A *tray mapping* number can, however, be mapped to several *IPDS numbers*, ie linking them to the same physical input tray.

Linking of physical trays in the printer, ie setting up of *automatic cassette switching* when a cassette runs out of paper, is controlled by the printer. Refer to the *Cassette linking* option. See section 6.3.19 *Cassette linking* on page 148.

With the *Remote Menu System* the "IBM ID" assigned to each tray is changed by selecting one of the available mappings in the *Input-tray mapping* sub-menu. This enters configuration mode for the selected mapping. The mapping is set up in two steps. First the cassette number representing a physical tray in the printer is selected. Next, the "IBM ID" for that tray is selected.

With the *IPDS Parser* the "IBM ID" is assigned to the tray mapping in a single parser sequence. See the example in the end of this section.

The first table shows some sample IPDS numbers (IBM IDs) and the strings used by the *IPDS Parser* to identify the mapping numbers. The second table shows the *Input tray* numbers.

IPDS Number		IPDS Parser option name
RMS no.	IPDS Parser	
1	0	1ST_CASSMAP
2	1	2ND_CASSMAP
3	2	3RD_CASSMAP
4	3	4TH_CASSMAP
5	4	5TH_CASSMAP

IPDS Number		IPDS Parser option name
RMS no.	IPDS Parser	
6	5	6TH_CASSMAP
7	99	7TH_CASSMAP
8	64	8TH_CASSMAP

Input tray		Comments
RMS no.	IPDS Parser	
1	1	Tray 1
2	2	Tray 2
3	3	Tray 3
4	4	Tray 4
5	5	Tray 5
6	6	Tray 6
7	7	Envelope tray
8	8	Manual feeder

IPDS parser syntax and example with default value:

`&%OPT_=;OPTION_NAME=IPDS_NO,INPUT_TRAY;&%`

(syntax)

`&%OPT_=;1ST_CASSMAP=0,1;&%`

(example)

6.3.12 Output-bin mapping

These options control how the host's IPDS requests for physical output bins are mapped. Any host IPDS output bin can be mapped to any printer output bin source. The A/T FS3 holds 11 output bin mappings.

In the A/T FS3 the *IPDS number* received from the host is selected with the "IBM ID". The "IBM ID" is mapped via the *### bin-mapping* option to a physical output bin in the printer. The "###" is the mapping number.

Each *IPDS number* (or IBM ID) should ONLY be mapped once. If the same *IPDS number* is used more than once, then the lowest mapping number controls which output bin the *IPDS number* is mapped to.

A *bin-mapping* can, however, be mapped to several IPDS numbers, ie linking them to the same physical output bin.

With the *Remote Menu System* the "IBM ID" assigned to each tray is changed by selecting one of the available mappings in the *Output-bin mapping* sub-menu. This enters configuration mode for the selected mapping. The mapping is set up in three steps. First the *Bin mapping number* representing a physical bin in the printer is selected. Next, the "IBM ID" for the bin is selected. Third and last the face-up or face-down selection for the bin is set.

With the *IPDS Parser* the "IBM ID" is assigned to the bin mapping in a single parser sequence. Face-up output is selected by adding 100 to the *Output-bin mapping* number. See the tables and examples below.

The first table shows some sample *IPDS numbers* (IBM IDs) and the strings used by the *IPDS Parser* to identify the mapping numbers. The valid range for the *IPDS number* is 1 - 255. The value 0 disables the use of the selected mapping.

The second table shows the *Output-bin mapping* numbers.

IPDS Number		IPDS Parser option name
RMS no.	IPDS Parser	
0 [Disabled]	-	-
1	1	1ST_BINMAP
2	2	2ND_BINMAP
3	3	3RD_BINMAP

IPDS Number		IPDS Parser option name
RMS no.	IPDS Parser	
4	4	4TH_BINMAP
5	5	5TH_BINMAP
6	6	6TH_BINMAP
7	7	7TH_BINMAP
8	8	8TH_BINMAP
9	9	9TH_BINMAP
10	10	10TH_BINMAP
11	11	11TH_BINMAP

Output-bin mapping		Comments
RMS no.	IPDS Parser	
0	0	Bin 0 (standard output bin), facedown
1 - 99	1 - 99	Bin 1 - 99 (stacker), facedown
100	100	Output bin on back of printer or first stacker bin, faceup
101 - 199	101 - 199	Bin 1 - 99 (stacker), faceup

IPDS parser syntax and example with default value:

&%OPT_=;OPTION_NAME=IPDS_NO,OUTPUT_BIN;&% (syntax)

&%OPT_=;1ST_BINMAP=0,1;&% (example, face-down)

&%OPT_=;1ST_BINMAP=0,101;&% (example, face-up)

6.3.13 Output jogging

This option tells the IPDS emulation what kind of stacker is installed on the printer. Refer also to the *Output-bin mapping* options.

RMS no.	IPDS Parser option name	Comments
1 *	DISABLED	Disables support for jogging.
2	DF-30	The 3 bins stacker DF-30 is installed.
3	ST-30	The single bin stacker ST-30 is installed.

IPDS parser syntax with default value:
&%OPT_=; JOGGING=DISABLED; &%

6.3.14 Margin adjustment

These options control the margins for IPDS jobs.

RMS no.	IPDS Parser option name	Comments
1	FRT_MARG_TOP	Front top margin
2	FRT_MARG_LEFT	Front left margin
3	BACK_MARG_TOP	Back top margin
4	BACK_MARG_LEFT	Back left margin
5	ENV_MARG_TOP	Envelope top margin
6	ENV_MARG_LEFT	Envelope left margin

Each of the margins can be set within the range shown below.

RMS no.	IPDS Parser	Comments
0 * [-128..127]	-128..127	Unit is 1/300 of an inch. Negative values indicate less margin.

IPDS parser syntax with default value:
&%OPT_=; FRT_MARG_TOP=0; &%

6.3.15 Print IPDS status

This function prints the IPDS status sheet. The sheet contains the IPDS version number, the IPDS settings, the IPDS option name parser strings and more.

Refer to appendix *I. Printing a Status Sheet* on page 191 for a procedure of how to print the sheet.

6.3.16 IPDS software key

This option is used for entering the IPDS software key. The key is required to enter IPDS production printing. When the key is entered, the nag text printed on each IPDS page in demo mode, is removed. The key is ordered from the point of purchase.

The key is entered via the front panel or via the *Remote Menu System*. Entering via the front panel is done by editing the *Gateway IP-address* bytes (123.255.123.255).

Refer to appendix *L. The IPDS Software Key* on page 203 for more details on how to enter the key.

6.3.17 Skip blank pages

Note: This option cannot be set using the IPDS parser.

This option controls the printing of blank pages.

RMS no.	Comments
1 *	Print blank pages (= No).
2	Skip printing of blank pages (= Yes).

6.3.18 Rotate simplex

Note: This option cannot be set using the IPDS parser.

This option controls if pages printed in simplex are rotated 180 degrees relative to duplex pages. The option is intended for use with mixed printing of simplex and duplex jobs on printers feeding the paper on the long edge (such as the Kyocera FS-7000).

RMS no.	Comments
1 *	Do NOT rotate simplex pages (= No).
2	Rotate simplex pages 180 degrees (= Yes).

6.3.19 Cassette linking

Note: This option cannot be set using the IPDS parser.

For optimal operation with the Kyocera FS-7000+ and FS-9000 printers the printer firmware level must be version 46.06IM or higher. This firmware solves issues relating to detection and reporting of paper out and paper jam. The firmware also allows the printer's AutoCassette system (R1) to be used for cassette linking instead.

This option should be set to *I* (= NO_LINK). Please note that the 46.06IM firmware is an evaluation version made specifically for LCI Intermate. It is available from the Intermate web site.

This option is used on printers with multiple input cassettes. It works together with the printer's automatic linking option. This enables automatic switching between the printer's cassettes when a cassette runs out of paper. The printer's *linking* option is set up using the Prescribe language.

The printer's *linking* option and this option have to have the same setting in order for the linking to function properly.

The Kyocera Prescribe command FRPO (Firmware RePrOgram) is used to set the Auto cassette switching parameter (R1) in the printer. The Prescribe sample strings contained in the below table are those that match the available option values. Refer to the printer documentation for details about the Prescribe

language and how to send commands to the printer.

RMS no.	Prescribe String	Comments
1 *	!R!frpoR1,0;exit;	Do NOT link any cassettes, ie do not switch cassette when the current cassette runs out of paper.
2	!R!frpoR1,1;exit;	Link cassettes 1 and 2. When the current cassette is reported empty, paper is fed from the alternative cassette. If the current cassette is no. 1, cassette no. 2 is used when this is empty or vice versa.
3	!R!frpoR1,2;exit;	do. but with cassette no. 3 and 4.
4	!R!frpoR1,3;exit;	do. but with cassette no. 5 and 6.
5	!R!frpoR1,4;exit;	Link cassettes 1, 2, 3 and 4. When the current cassette is reported empty, paper is fed from the alternative cassettes, starting from the bottom. If printing is done from cassette no. 1, cassette no. 4 is used when cassette no. 1 runs out of paper. If cassette no. 4 also is empty, cassette no. 3 is used and so on.
6	!R!frpoR1,5;exit;	do. but with cassette no. 3, 4, 5 and 6.
7	!R!frpoR1,6;exit;	do. but with cassette no. 1, 2, 5 and 6.
8	!R!frpoR1,7;exit;	do. but with cassette no. 1, 2, 3, 4, 5 and 6.

6.3.20 IPDS device address

Note: This option applies only to Twinax users.

This option defines the twinax IPDS device address. When set the option enables the IPDS API which is downloaded to the printer at power On.

The address must match the IPDS device address used by the system for the printer. The address is normally determined by the system administrator. It has to be configured *before* the A/T FS3 is connected to the network. Refer to section 3.1 *Hardware Installation* on page 17.

In the front panel the option is controlled by the first digit in the first *Subnet mask address* byte (001.000.002.10#).

Note: The option can also be configured via the switch (position “A”) on the back of the A/T FS3. Refer to appendix E. *Switch Settings* on page 175.

Operating the A/T FS3 in both IPDS and SCS (5219/3812) mode, requires two different device addresses to be allocated to and set in the A/T FS3.

If the SCS Device Address and the IPDS Device Address are the same, the SCS Device Address is used and the IPDS Device Address is ignored.

Front Panel	RMS no.	Comments
[000] * [000..006]	1 - 7	Enable IPDS printing. The device address is only valid for the IPDS session.
[007] or other	8	Disable IPDS printing. The IPDS device address is disabled together with the downloading of IPDS code to the printer.

6.3.21 IPDS buffer size

Note: This option applies only to Twinax users.

This option defines the size of the IPDS input buffer. It has only effect if the *IPDS device address* option has been set.

In the front panel the option is controlled by the first digit in the first *Subnet mask address* byte (001.000.002.#07).

Note: It is possible to configure this option via the switch on the back of the A/T FS3. Refer to appendix *E. Switch Settings* on page 175.

This option cannot be configured with the IPDS parser.

Front Panel	Comments
[0]	Sets the IPDS buffer size to 256 bytes.
[1] *	Sets the IPDS buffer size to 1024 bytes.

6.3.22 Intervention Required

Note: This option has no effect in twinax environments, as Intervention Required replies always are sent.

This option controls whether intervention required should be reported to the PSF. This includes messages regarding paper out, paper jam and other incidences needing user intervention.

IPDS Parser	Comments
NO	Intervention reply is not reported.
YES *	Interventions are reported.

IPDS parser syntax with default value:

```
&%OPT_= ; INTRV_REQ=NO ; &%
```

6.3.23 String Before IPDS

Note: This option is not included in the IPDS configuration file.

The option specifies an ASCII string which is sent to the printer before an IPDS job is printed.

The string is intended for *Kyocera Prescribe commands*. This can be used to call a macro before a job starts, to select a paper cassette, to set the page orientation, to adjust the printable area etc.

The below line is a Kyocera Prescribe sample string which selects paper cassette 1 and sets the page orientation to landscape.

```
!R! CASS 1; SPO L; EXIT;
```

The below Prescribe sample string adjusts the printable area. The string is for the Kyocera FS-7000 printer when printing on A4-sized paper. This is perhaps the most common use of the *String Before IPDS* option.

Important: The *Printable Area Option* option has to be set to "3816" in order for full page printing to work.

```
!R! frpoD1,1; frpoR3,1; frpoL2,61; frpoL4,32;  
frpoL5,12; frpoL6,00; frpoL8,45; exit;
```

The string is composed of:

- The D1 parameter set to "1". This enables full page printing in the printer.
- The R3 parameter set to "1". This disables the predefined margins used in the emulation.
- The L-parameters. These adjust the printed page to fill the entire page. See appendix G. *Prescribe L-Parameters (IPDS only)* on page 187.

Refer to the printer documentation for details about the Prescribe language.

The *String Before IPDS* option is a predefined event-string relation. Event number 153 is triggered before an IPDS job starts. This sends the contents of

6.3.24 String After IPDS

Note: This option is not included in the IPDS configuration file.

The option specifies an ASCII string which is sent to the printer after an IPDS job is printed.

The string is intended for *Kyocera Prescribe commands*. This can be used to make a page feed (separator page), to select a paper cassette, to set the page orientation, to adjust the printable area etc.

The below line is a Kyocera Prescribe sample string which makes a page feed and sets the page orientation to portrait.

```
!R! PAGE; SPO P; EXIT;
```

The below Prescribe sample string re-adjusts the printable area. The string is for the Kyocera FS-7000 printer when printing on A4-sized paper. It is provided that the printable area was adjusted with the *String Before IPDS* option before the job started to print. This is perhaps the most common use of the *String After IPDS* option.

```
!R! frpoD1,0; frpoR3,0; frpoL2,60; frpoL4,15;  
frpoL5,10; frpoL6,94; frpoL8,50; exit;
```

The string is composed of:

- The D1 parameter set to "0". This disables full page printing in the printer.
- The R3 parameter set to "0". This enables the predefined margins used in the emulation.
- The L-parameters. These set the printed page back to the defaults. See appendix *G. Prescribe L-Parameters (IPDS only)* on page 187.

Refer to the printer documentation for details about the Prescribe language.

The *String After IPDS* option is a predefined event-string relation. Event number 154 is triggered after an IPDS job completes. This sends the contents of string number 83 (factory default) to the printer.

6.4 Miscellaneous Options

These options control a mixed selection of options and functions.

Some of the options and functions are configured via the front panel, while others are controlled via the switch on the back of the A/T FS3. Refer to chapter 5. *Configuration and Management* starting on page 51.

There are two columns in the tables used in this chapter. The first column shows the different values that apply to each option. The second column contains comments to the option values in the first column.

Front Panel text

Comments.

The values in the *Front Panel text* column are written in square brackets, eg [001].

Interface switch text

Comments.

Options which can be accessed via the front panel and via the switch have a note attached to them. Refer to appendix E. *Switch Settings* on page 175.

6.4.1 SCS Twinax Device Address

This option defines the SCS winax device address, which must match the address used by the system for the printer. The address is normally determined by the system administrator. It has to be configured *before* the A/T FS3 is connected to the network. Refer to the section *3.1 Hardware Installation* on page 17.

In the front panel the option is controlled by the first *IP-address* byte (000.000.005.###).

Note: The option can also be configured via the switch (position “E”) on the back of the A/T FS3. Refer to appendix *E. Switch Settings* on page 175.

Operating the A/T FS3 in both IPDS and SCS (5219/3812) mode, requires two different device addresses to be allocated to and set in the A/T FS3.

If the SCS Twinax Device Address and the IPDS Device Address are the same, the SCS Twinax Device Address is used and the IPDS Device Address is ignored.

Front Panel	Comments
[000] * [000..006]	Twinax device address valid for the SCS session.
[007] or other	Disables the SCS device session.

6.4.2 Enable IPDS printing (Coax)

Note: This option applies only to Coax users.

This option controls whether IPDS printing is enabled. Please note that an IPDS software key is required in order to enter IPDS production printing. The option can be set via the front panel or via the switch on the back of the A/T FS3.

In the front panel the option is controlled by the first digit in the first *IP-address* byte (000.003.020.01#).

When setting the option via the switch, position “E” is used to control the option. Please note that pages describing what to do next are printed when the configuration is carried out via the switch.

In order to be able to print IPDS, an IBM IPDS printer definition has to be created in VTAM. Refer to section *3.1.1.1 Adjusting Coax IPDS Mode* on page 20.

Front Panel	Comments
[1]	Enable IPDS printing.
[0]	Disable IPDS printing.

6.4.3 SCS Hex Dump

This option can only be accessed via the switch on the back of the A/T FS3. Refer to appendix *E. Switch Settings* on page 175.

With the option, hex tracing is enabled. It can be used to diagnose print job problems. When Hex Dump is selected, all data sent to the printer is printed in hexadecimal and character representation. Control codes are not executed. When using the option, it is recommended to power the printer Off and On, in order to include the power On initialization data in the dump.

Interface switch position 0	Do not print SCS hex dump (Normal operation).
Interface switch position F	Enable SCS hex dump.

6.4.4 Print IDB Dump

This option can only be accessed via the switch on the back of the A/T FS3. Refer to appendix *E. Switch Settings* on page 175.

Enabling this option prints a report listing the current settings. Print this report when asked to by technical support representatives.

Interface switch position 0	Do not IDB dump (Normal operation).
Interface switch position 3	Print IDB dump.

User IDB: &%IDB_PRINT_FULLL:EXIT

6.4.5 Print Status Dump

This option can only be accessed via the switch on the back of the A/T FS3. Refer to appendix *E. Switch Settings* on page 175.

Enabling this option prints a report listing the current IDB settings in ASCII format. Print this report when asked to by technical support representatives.

Interface switch position 2	Print interface status page.
Interface switch position 0	Do not print status dump (Normal operation).

Related commands

Advanced IDB and User IDB: &%IDB_PRINT:EXIT (short)
Advanced IDB and User IDB: &%IDB_PRINT_FULL:EXIT (long)

6.4.6 Restore Factory IDB

This option can only be accessed via the switch on the back of the A/T FS3. Refer to appendix *E. Switch Settings* on page 175.

Select this option to restore the Factory IDB settings. The printer has to be powered Off and On for the defaults to become active.

Interface switch position 0	Do not restore (Normal operation).
Interface switch position 1	Restore factory IDB.

Appendices

A. Technical Specifications

Supported printers

- FS-600
- FS-680
- FS-800
- FS-1000
- FS-1200
- FS-1700+
- FS-1750
- FS-3700+
- FS-3750
- FS-3800
- FS-5800C
- FS-5900C
- FS-6700
- FS-6900
- FS-7000
- FS-7000+
- FS-9000
- Any future Kyocera printer with a 3V KUIO port.

Physical attachments

- IBM 3270 coax or twisted pair cable via a Dual Purpose Connector.
- IBM 5250 twinax cable

Host attachments

3270 Coax

- 3174 Control Unit, Configuration Support A, Release 3.0 or Later
- 3274 Control Unit, Configuration Support D, Release 65.1 or Later
- 9370 WSA Control Unit

5250 Twinax

- IBM AS/400
- IBM S/36
- IBM S/38
- IBM 5294 Remote Controller
- IBM 5394 Remote Controller
- IBM 5494 Remote Controller

SCS emulation*3270 Coax*

- IBM 3812-1 (non-IPDS)
- IBM 4224-1 (non-IPDS)
- IBM 3287
- IBM 3268
- IBM 4214
- IBM 3262
- IBM 3230

5250 Twinax

- IBM 3812-01
- IBM 5259 D01/D02
- IBM 4214-02
- IBM 5225-01
- IBM 5224-01
- IBM 5256-03

SCS features supported

3270 Coax

- GDDM, Computer Output Reduction (COR)
- Automatic Page Orientation (APO)
- SCS (LU1) and 3270 data stream (LU3)
- EAB (Extended Attribute Buffer), APL2
- RPQs for 3287, 3268 and 4214
- Structured fields and query
- Draft, NLQ and LQ modes
- 3 bin paper input
- Colour

5250 Twinax

- SCS/DCA L2 data stream incl. PPM commands
- 3 drawer input and duplex
- COR/APO
- IBM font selection
- IBM virtual ASCII transparency

SCS features for user configuration

- EBCDIC character conversion
- SCS command conversion
- Text string conversion
- Native and other 3rd party ASCII transparent modes
- EBCDIC hexdump
- Restore factory defaults

IPDS emulation

- IBM 3812-2
- IBM 3816-1S
- IBM 3816-1D
- IBM 4028-NS1
- IBM 4028-AS1
- IBM 3912/16
- IBM 3112/16

IPDS Features Supported

- Data Towers: Text, IM Image, IO Image, Graphics, Bar Code
- Resource Towers: Page Segment, Overlay, Loaded Font, IPDS Exception Reporting
- Duplex printing
- All resident fonts functional equivalent to IBM 3812, 4028, 3916 and 3116 standard fonts
- DIN-A3 and Ledger (11x17) support

Software Requirements for IPDS

3270 Coax

- GDDM Release 1, Modification 1
- DW/370 Release 2 (when used with GDDM)
- PSF/MVS Release 2.1
- PSF/VM Release 1.1

5250 Twinax

- System/36 Release 5.1 or later
- System/38 Release 8 or later
- AS/400 Release 2 or later

General hardware features

- MCF 5206e RISC Processor with 23 MIPS performance
- 1 Mbyte flash memory for microcode and fonts

Approvals

- EMC, CE:
 - EN55022 Class B 1994
 - EN50082-1/1997
- FCC Class A, subpart B of Part 15
- Year 2000 prepared
- Euro enabled

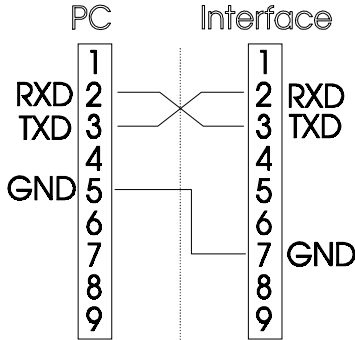
Note: Technical specification information is subject to change without notice.

B. IBM Cabling System

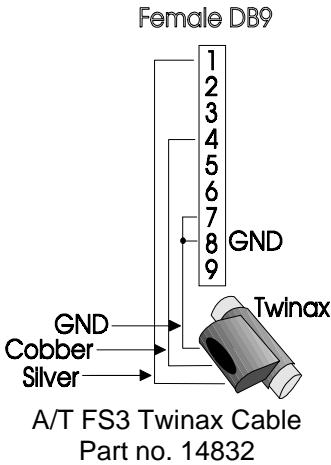
When using the Intermate A/T FS3 on an IBM cabling system the Twinax lines are terminated in the cross field. In this case a Twinax dummy plug is needed, so that the auto-termination T-cable does not terminate.

The plug is available from the point of purchase or directly from LCI Intermate A/S.

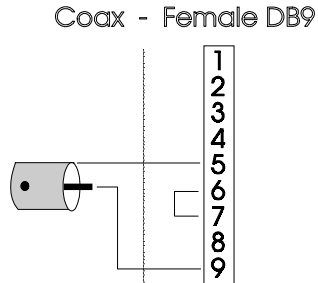
C. Cable Specifications



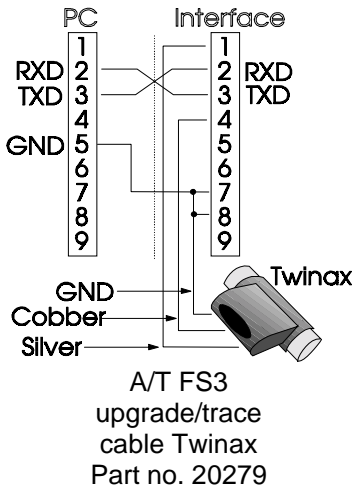
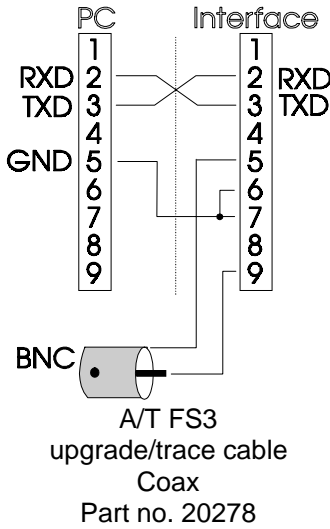
A/T FS3 Upgrade Cable
Part no. 20233



A/T FS3 Twinax Cable
Part no. 14832



A/T FS3 Coax Cable
Part no. 14384



D. ASCII Character Table (extract)

Hex	ASCII	Decimal	Hex	ASCII	Decimal	Hex	ASCII	Decimal
20	space	32	40	@	64	60	"	96
21	!	33	41	A	65	61	a	97
22	"	34	42	B	66	62	b	98
23	#	35	43	C	67	63	c	99
24	\$	36	44	D	68	64	d	100
25	%	37	45	E	69	65	e	101
26	&	38	46	F	70	66	f	102
27	'	39	47	G	71	67	g	103
28	(	40	48	H	72	68	h	104
29	)	41	49	I	73	69	i	105
2A	*	42	4A	J	74	6A	j	106
2B	+	43	4B	K	75	6B	k	107
2C	,	44	4C	L	76	6C	l	108
2D	-	45	4D	M	77	6D	m	109
2E	.	46	4E	N	78	6E	n	110
2F	/	47	4F	O	79	6F	o	111
30	0	48	50	P	80	70	p	112
31	1	49	51	Q	81	71	q	113
32	2	50	52	R	82	72	r	114
33	3	51	53	S	83	73	s	115
34	4	52	54	T	84	74	t	116
35	5	53	55	U	85	75	u	117
36	6	54	56	V	86	76	v	118
37	7	55	57	W	87	77	w	119
38	8	56	58	X	88	78	x	120
39	9	57	59	Y	89	79	y	121
3A	:	58	5A	Z	90	7A	z	122
3B	;	59	5B	[	91	7B	{	123
3C	<	60	5C	\	92	7C	|	124
3D	=	61	5D	]	93	7D	}	125
3E	>	62	5E	^	94	7E	~	126
3F	?	63	5F	_	95			

Note: The above table is an extract of the 7 bit character set only.

E. Switch Settings

The switch is placed on the back of the A/T FS3. It is used to access the *Switch Menu System*. This provides easy access to some useful functions and options.

- Different kinds of dumps can be printed.
- A limited number of options can be configured. These are options, which it is recommended to check when installing the A/T FS3.

Basic operation of the switch is described in section 4.2 *The Switch Menu System* on page 33.

Switch setting	Coax	Twinax
0	Normal Operation	Normal Operation
1	Restore Factory IDB	Restore Factory IDB
2	Print IF Status Page	Print Status Dump
3	Print IDB settings	Print IDB Dump
4	No action (Not used)	No action (Not used)
5	Terminal Configuration	Terminal Configuration
6	Set IPDS Emulation	Set IPDS Emulation
7	Set IPDS Codepage Version	Set IPDS Codepage Version
8	Set IPDS Codepage	Set IPDS Codepage
9	Not used	Set IPDS Buffer size
A	Set Screen Size	Set IPDS device address
B	Set Country Code 0-14	Set SCS Country Code
C	Set Country Code 15-23	Set SCS Codepage
D	Set Printer Emulation	Set SCS Printer Emulation
E	Enable IPDS	Set SCS Twinax Address
F	Enable Hexdump	Enable Hexdump

Note: The printer power has to be recycled in order to enable the use of any new option values.

The available option switch values are shown on the following pages. The menu points, which access the options are repeated in the top row for each option. The factory default settings are marked with asterisks (“*”). Refer also

to the option descriptions in chapter 6. *Option Reference* starting on page 61.

Coax option values

	A	D	B	C
Switch setting	Screen Size	Printer Emulation	Country Code 0 - 14	Country Code 15 - 23
0	-	Old IBM 3287	English	Italian
1	1920 bytes, Model 2	IBM 3287	English *	Portuguese
2	2560 bytes, Model 3	IBM 3268	German/Austrian	Portuguese, alternate
3	3440 bytes, Model 4 *	IBM 3230	German/Austrian, alternate	Spanish
4	3564 bytes, Model 5	IBM 4214	Belgian	Spanish alternate
5	960 bytes, Model 1	IBM 3812/4028 *	Brazilian	Spanish speaking
6	-	IBM 4224	Canadian bilingual	Swiss German/French
7	-	-	Canadian French	Japanese/English
8	-	-	Danish/Norwegian	Spanish text processing
9	-	-	Danish/Norwegian, alternate	-
A	-	-	English, UK	-
B	-	-	Finnish/Swedish	-
C	-	-	Finnish/Swedish, alternate	-
D	-	-	French/Azerty 105	-
E	-	-	International	-
F	-	-	-	-

Coax IPDS option values

	6	7	8
Switch setting	IPDS Emulation	Code Page Version	Code Page
0	IBM3812/16	Standard Code Page Version 1 *	-
1	IBM 4028	Old Code Page Version 0	-
2	IBM 3912/16 (3112/16) *	-	-
3	-	-	-
4	-	-	-
5	-	-	-
6	-	-	-
7	-	-	-
8	-	-	-
9	-	-	-
A	-	-	-
B	-	-	-
C	-	-	Sub menu C
D	-	-	Sub menu D
E	-	-	Sub menu E
F	-	-	Sub menu F

Coax IPDS Code Page sub menus

	C	D	E	F
Switch setting	Sub menu C	Sub menu D	Sub menu E	Sub menu F
0	International set 5 *	Italy	APL	Reserved 424 Hebrew
1	USA/Canada	Japan English	France	Canadian Bilingual
2	International set 1	Portugal	Reserved 340 OCR	Swiss Bilingual
3	Symbol set 7	Spanish Speaking	International Typographic	Spanish
4	Canadian/French	United Kingdom	Personal Computer	Reserved
5	Austria/Germany	Austria/Germany alt	Portugal alt	Reserved
6	Belgian	Denmark/Norway alt	Iceland	Reserved
7	Brazil	Finland/Sweden alt	OCR A	Turkish 1
8	Denmark/Norway	Spain alt	OCR B	Reserved
9	Finland/Sweden	Japan Katakana	Reserved 420 Arabic	Turkish 2
A	-	-	-	-
B	-	-	-	-
C	-	-	-	-
D	-	-	-	-
E	-	-	-	-
F	-	-	-	-

Twinax option values

	E	D	C	B
Switch setting	Twinax Address	Printer Emulation	Codepage	Country Code
0	0 *	4214 model 2	500 Multinational *	0 Multinational *
1	1	5225 model 1	37 USA/Canada	1 USA/Canada
2	2	5224 model 1	259 Mathematical	2 Germany/Austria
3	3	5256 model 3	273 Germany/Austria	3 Belgium
4	4	5219 model D01/D02	274 Belgium	4 Brazil
5	5	3812 in 5219 mode *	275 Brazil	5 Canada (French)
6	6	-	277 Denmark/Norway	6 Denmark/Norway
7	-	-	278 Finland/Sweden	7 Finland/Sweden
8	-	-	280 Italy	8 France
9	-	-	281 Japan English	9 Italy
A	-	-	282 Portugal	10 Japan (English)
B	-	-	284 Spanish speaking	11 USA/Canada
C	-	-	285 United Kingdom	12 Portugal
D	-	-	297 France	13 Spain
E	-	-	340 OCR-A/OCR-B	14 Spanish speaking
F	-	-	-	-

Twinax IPDS option values

	6	7	8	9
Switch setting	IPDS Emulation	Code Page Version	Code Page	Buffer Size
0	IBM 3812/16	Old Code Page Version 0	-	256 bytes
1	IBM 4028	Standard Code Page Version 1 *	-	1024 bytes *
2	IBM 3912/16 (3112/16) *	-	-	-
3	-	-	-	-
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-
8	-	-	-	-
9	-	-	-	-
A	-	-	-	-
B	-	-	-	-
C	-	-	Sub menu C	-
D	-	-	Sub menu D	-
E	-	-	Sub menu E	-
F	-	-	Sub menu F	-

Twinax IPDS Code Page sub menus

	C	D	E	F
Switch setting	Sub menu C	Sub menu D	Sub menu E	Sub menu F
0	International set 5 *	Italy	APL	Reserved 424 Hebrew
1	USA/Canada	Japan English	France	Canadian Bilingual
2	International set 1	Portugal	Reserved 340 OCR	Swiss Bilingual
3	Symbol set 7	Spanish Speaking	International Typographic	Spanish
4	Canadian/French	United Kingdom	Personal Computer	Reserved
5	Austria/Germany	Austria/Germany alt	Portugal alt	Reserved
6	Belgian	Denmark/Norway alt	Iceland	Reserved
7	Brazil	Finland/Sweden alt	OCR A	Turkish 1
8	Denmark/Norway	Spain alt	OCR B	Reserved
9	Finland/Sweden	Japan Katakana	Reserved 420 Arabic	Turkish 2
A	-	-	-	-
B	-	-	-	-
C	-	-	-	-
D	-	-	-	-
E	-	-	-	-
F	-	-	-	-

F. Selecting Input Cassettes

The A/T FS3 supports up to eight input cassettes. These are selected via string triggers or via PPM commands.

F.1 Using String Triggers

Selection of input cassettes via string triggers is available to both Coax and Twinax users. This is done by including a trigger sequence in the SCS data stream. The detected string is removed from the printout.

A comprehensive description of how string triggers work can be found in the *Intermate IDB Technical Reference*, document no. GG-013-x. The guide is included on the *Documentation and Utilities* CD. New editions will be made available on the Intermate web site (www.intermate.com/atfs3).

F.1.1 Coax users

The factory default IDB contains eight predefined triggers for selection of cassettes.

Trigger string	Cassette no.	Event
<CSC>=A	1	66
<CSC>=B	2	67
<CSC>=M	3	68
<CSC>=C	4	74
<CSC>=D	5	75
<CSC>=E	6	76
<CSC>=F	7	77
<CSC>=G	8	78

The default <CSC> character is “&%”.

Example

Cassette number 5 is selected by sending the following string.

&%=D

When the string is received, it is interpreted and causes a predefined string to be sent to the printer.

F.1.2 Twinax users

The factory default IDB contains eight predefined triggers for selection of cassettes.

Event	Cassette no.
66	1
67	2
68	3
74	4
75	5
76	6
77	7
78	8

When the printer is powered On, the A/T FS3 selects a default source cassette. Which cassette is selected is set with the DEF SRC DRW command (option 113). See the description on page 112.

F.2 Using PPM Commands

Cassettes can also be selected via PPM commands. For this purpose the PPM Source Drawer byte (SD) is decoded.

SD value	Event	Cassette no.
1	66	1
2	67	2
3	68	3
4	74	4
5	75	5
6	76	6
7	77	7
8	78	8

G. Prescribe L-Parameters (IPDS only)

Note: Refer to the descriptions of the *String Before IPDS* and *String After IPDS* options on pages 152 and 153, respectively.

The table below shows the default settings of the L-parameters which enable full page printing for some common Kyocera printers. Please note, that

- paper fed from optional paper cassettes may cause the printed image to be misaligned by as much as 1 mm. This also applies if printing involves a duplex unit or if printing is done on different paper sizes.
- misalignment of the front and back of pages printed in duplex may also occur. The top and bottom margins and the left and right margins should be adjusted symmetrically to each physical paper edge.

The L-parameters are viewed as pairs, ie "L1" and "L2" represent the top margin, "L3" and "L4" the left margin and so on. For the *Default FS-600* printer the "L1" and "L2" parameters correspond to a top margin of 0.32 inches.

L-parameter	Top		Left		Bottom		Right	
	L1	L2	L3	L4	L5	L6	L7	L8
Printer								
Default FS-600	0	32	1	23	10	61	8	11
Values for FS-600 full page	0	12	1	0	10	95	8	48
Default FS-680	0	41	1	28	10	61	8	11
Values for FS-680 full page	0	12	1	0	10	95	8	48
Default FS-800	0	38	1	27	10	61	8	11
Values for FS-800 full page	0	19	1	27	10	95	8	46
Default FS-1200	1	0	1	3	10	61	8	11
Values for FS-1200 full page	0	81	1	2	10	95	8	45
Default FS-1700+	1	0	1	5	10	61	8	11
Values for FS-1700+ full page	0	85	1	8	10	95	8	48
Default FS-1750	0	99	1	2	10	61	8	11

L-parameter	Top		Left		Bottom		Right	
	L1	L2	L3	L4	L5	L6	L7	L8
Printer								
Values for FS-1750 full page	0	84	1	0	10	94	8	45
Default FS-3700+	1	0	1	5	10	61	8	11
Values for FS-3700+ full page	0	85	1	8	10	95	8	48
Default FS-3750	0	99	1	2	10	61	8	11
Values for FS-3750 full page	0	84	1	3	10	93	8	51
Default FS-6700	0	63	1	26	10	61	8	11
Values for FS-6700 full page (A4 landscape)	0	43	1	26	10	95	8	45
Default FS-7000	0	78	0	33	10	61	8	11
Values for FS-7000 full page (A4 landscape)	0	59	0	33	10	95	8	44
Values for FS-7000 full page (A4 portrait)	0	50	0	23	10	80	8	43
Default FS-7000+	0	96	0	26	10	61	8	11
Values for FS-7000+ full page	0	78	0	28	10	93	8	45
Default FS-9000	0	95	0	27	10	61	8	11
Values for FS-9000 full page (A4 landscape)	0	83	0	31	10	92	8	48
Values for FS-9000 full page (A4 portrait)	0	81	0	29	10	93	8	44

The values in the table are suggested values and have to be modified depending on the printer model. Refer to the printer documentation.

H. Euro Support

H.1 Requirements for Printing the Euro Character

The below table shows the minimum printer firmware requirements in order to be able to print the Euro character.

The firmware level is printed on the printer’s status sheet which is printed by pressing the “Status” button. Refer to the printer documentation.

Printer	Firmware level
FS-600	30.12 or greater
FS-680	30.12 or greater
FS-800	38.07 or greater
FS-1000	Not available
FS-1200	All
FS-1700+	40.07 or greater (not available for PCL5e printers)
FS-1750	All
FS-3700+	40.07 or greater (not available for PCL5e printers)
FS-3750	All
FS-3800	Not available
FS-5800C	110.00 or greater
FS-5900C	120.02 or greater
FS-6700	42.02 or greater
FS-6900	Not available
FS-7000	26.00 Eval F or greater
FS-7000+	46.03 or greater
FS-9000	46.03 or greater

All of the above firmware contain the character set 9N (ISO Latin 9), which in

turn includes the Euro character in position A4 (hex). The Euro character is not available to Postscript fonts.

H.2 Coax Users

The Euro character is selected via a character event. This is done by setting the character event BA (hex, decimal no. 186) to point to string 80 (decimal).

When the A/T FS3 receives the character BA (hex), it triggers string 80. In this string a predefined string is stored, which replaces the BA (hex) character with the Euro character.

The character event is set up via the *Remote Menu System* or by including the following IDB programming string in the SCS data stream.

```
&%IDB_EDIT:EVENT /BA:80:EXIT
```

H.3 Twinax Users

Euro support is enabled via the IDB languages. When the EURSUP command (option 139) is set to “ON”, Euro Support is forced. This means that the currently selected code page is remapped to a Euro code page. The Euro code pages can alternatively be selected directly with the DEFCODPAG command (option 240 and 241). Refer to section 6.2.1.6 *Force Euro Support* on page 101 and section 6.2.2.2 *Code Page* on page 106, respectively.

I. Printing a Status Sheet

The A/T FS3 *Status* sheets consist of an SCS and an IPDS *Status* sheet. Both sheets are printed when printer's status page is requested. The IPDS sheet is, however, only when printed when IPDS mode is enabled.

The *Status* sheet are printed with one of the below procedures. The sheets must not be confused with that of the printer. Refer to the printer documentation for details.

The printed sheet contains information on the current firmware versions, the current setting of some common options etc.

To print the Status Sheets via the front panel

1. Press the "Status" button. This prints the printer's *Status page* and the A/T FS3 *Status sheets*. If IPDS printing is enabled, then an *IPDS Status sheet* is also printed.

To print the Status Sheets via the switch on the A/T FS3

Important: Coax users do not have to turn the printer power Off and On in the procedure below. With the switch in position "0" (= Normal operation) it is possible to turn the switch to position "2", wait for the sheets to print, and turn the switch back to position "0" when done.

1. Power Off the printer.
2. Turn the switch to position "2".
3. Power On the printer and wait for the pages to be printed.
4. Power Off the printer and set the switch to position "0" (= Normal operation).

To print the Status Sheets via a terminal program (Remote Menu System)

Important: Only the IPDS status page can be printed using this approach.

1. Power Off the printer and disconnect it from the system.
2. Connect the printer with the A/T FS3 to a PC or similar running a terminal program via the serial config/upgrade cable. Refer to section 5.5 *The Remote Menu System* on page 55 for details.
3. Set the switch on the A/T FS3 to position "5" (= Terminal configuration). This enables terminal configuration mode at the next power on.
4. Power On the printer.
5. Wait for A/T FS3 Main menu to appear.
6. Select the mode used by the A/T FS3, ie either Coax or Twinax.
7. Select the IPDS parameters.
8. Select the Print IPDS status menu item.
9. Wait for the page to print.
10. Terminate the session.
11. Power Off the printer and turn the switch on the A/T FS3 to position "0" (= Normal operation).
12. Disconnect the printer from the PC and reconnect it to the system.

The following pages show a twinax SCS *Status* sheet and an IPDS *Status sheet*.

Intermate A/T FS: Twinax Interface - SCS Configuration

LDL subtitle : A/T and FAX FS: 5219/1812 emulation: (Symbolset 850/89) (K110-05.108)

Firmware Versions

Firmware Version: K62-0481, Level or Revision: 33.22 \$
 Boot Version: K60-0481
 Coax Version: K6-0481
 Serial no.: 4234967285

Device Address

SCS Device address: 3

Miscellaneous settings

Unprintable character : 0 = -
 Printer emulation : 3812 in 5219 mode
 Overlay calls : Off
 Prescribe transparent : Off
 Compress CPI : Off
 Suppress control code : On
 DB ESC characters : *\$
 Intervention status : Normal

Power on default settings

Characters per inch : 10
 Maximum printing position : E0
 Left margin in characters : C
 Right margin in characters : C
 Lines per inch : E
 Lines per page : E9
 Top margin in characters : C
 Print quality : Default
 Source drawer : Default
 Form selection : Default
 Destination drawer : Default
 Simplex/duplex : Default

COR settings

Left margin offset in COR : 0.44 inc. = 1.11 cm
 Top margin offset in COR : 0.00 inc. = 0.00 cm
 Physical page length : 11.69 inc. = 29.70 cm
 Physical page width : 8.50 inc. = 21.59 cm
 Left margin offset in landscape : 0.00 inc. = 0.00 cm
 Top margin offset in landscape : 0.19 inc. = 0.25 cm
 Default page orientation : Default
 Default page orientation drawer 1 : Portrait
 Default page orientation drawer 2 : Portrait
 Drawer 1 : Computer output reduction
 Drawer 2 : Computer output reduction
 Text mode : On
 Line spacing : 70

Horizontal/Vertical movement

Proportional font move : On
 Horizontal move : Escape
 Vertical move : Escape

Transparent mode settings

Repetition character : Off
 Lead in sequence : Off
 Lead out sequence : Off

Font/Character settings

Country : Country Code 0 Multinational
 Codepage : Code Page E00 International
 Font : 11

LCI-Intermate A/S Tel: +45 72 26 04 00
 Kongevejen 194A Fax: +45 72 26 04 01
 DK-3460 Birkerød, Denmark WEB: www.intermate.com

Intermate A/T PS- Series Twinax Interface - IPDS Configuration

IPDS API Version

IPDS Version.....: None
 Serial no.....: 4294967295

Twinax Device Address

IPDS Device address.: Off

Margin Settings

FRONT_MARG_TOP : 18768
 FRONT_MARG_LEFT : 17491
 BACK_MARG_TOP : 8259
 BACK_MARG_LEFT : 28526
 ENV_MARG_TOP : 26217
 ENV_MARG_LEFT : 26400

Input Cassette Mapping

1ST_CASSMAP : IBM ID 105 = Cassette 102
 2ND_CASSMAP : IBM ID 101 = Cassette 108
 3RD_CASSMAP : IBM ID 32 = Cassette 32
 4TH_CASSMAP : IBM ID 32 = Cassette 32
 5TH_CASSMAP : IBM ID 32 = Cassette 32
 6TH_CASSMAP : IBM ID 58 = Cassette 32
 7TH_CASSMAP : IBM ID 75 = Cassette 32
 8TH_CASSMAP : IBM ID 52 = Cassette 54

Output Bin Mapping

1ST_BINMAP : IBM ID 0 = Bin 1 (facedown)
 2ND_BINMAP : IBM ID 0 = Bin 1 (facedown)
 3RD_BINMAP : IBM ID 0 = Bin 9 (facedown)
 4TH_BINMAP : IBM ID 0 = Bin 9 (facedown)
 5TH_BINMAP : IBM ID 0 = Bin 9 (facedown)
 6TH_BINMAP : IBM ID 0 = Bin 9 (facedown)
 7TH_BINMAP : IBM ID 0 = Bin 9 (facedown)
 8TH_BINMAP : IBM ID 0 = Bin 9 (facedown)
 9TH_BINMAP : IBM ID 0 = Bin 9 (facedown)
 10TH_BINMAP : IBM ID 0 = Bin 9 (facedown)
 11TH_BINMAP : IBM ID 0 = Bin 2 (facedown)

Paper Type Settings

SEL_PAPER_MP : NOT_VALID (A4)
 SEL_PAPER_CASS1 : NOT_VALID (A4)
 SEL_PAPER_CASS2 : NOT_VALID (NONE_DEFINED)
 SEL_PAPER_CASS3 : NOT_VALID (NONE_DEFINED)
 SEL_PAPER_CASS4 : NOT_VALID (NONE_DEFINED)
 SEL_PAPER_CASS5 : NOT_VALID (NONE_DEFINED)
 SEL_PAPER_CASS6 : NOT_VALID (NONE_DEFINED)
 SEL_PAPER_ENV_FEED : NONE_DEFINED (NONE_DEFINED)

Miscellaneous settings

IPDS_EMULATION : NOT_VALID
 IPDS_CODE_PAGE : NOT_VALID
 IPDS_CODE_PAGE_VER : NOT_VALID
 ESOCKET_SUPPS : NOT_VALID
 INTRV_REQ : NOT_VALID
 PAGE_COUNT_UPDATE : 256 BYTES
 RESOURCE_MEMORY : NOT_VALID
 JCGGING : DISABLED (SIMPLEX)
 DUPLEX_PRINT : NOT_VALID
 PRINT_AREA : NOT_VALID
 LEDE_BUFFER_SIZE : 1024 BYTES
 SKIP_BLANK_PAGES : NOT_VALID
 SIMPLEX_ROTATE : NO
 CASE_LINKING : NO_LINK

Before IPDS :

After IPDS :

J. Firmware Upgrade

The adding of new features and correction of errors in the A/T FS3 firmware is covered by regular firmware releases. New releases of the firmware are available for download at the Intermate web site (www.intermate.com/atfs3). The version numbers of the firmware currently loaded are printed on the *Status* sheets. Refer to appendix I. *Printing a Status Sheet* on page 191.

In general it is recommended always to ensure that the latest firmware versions are loaded before reporting any problems.

The firmware filenames, as they appear on the web site are:

Firmware filename	Files included	Comments
K60-xxxx.zip	K60-xxxx.bin	The <i>Boot Code</i> initialises the A/T FS3. It also enables the reception of firmware through the serial config/upgrade cable. A faulty upgrade could cause the A/T FS3 to lock, in which case it would have to be re-initialised. Contact the point of purchase or the Intermate Customer Support. Upgrade: via the <i>Intermate Download Utility</i> .
K61-xxxx.zip	K61-xxxx.bin	The <i>Coax Main Code</i> also contains the code for downloading the IPDS micro code. Upgrade: via the <i>Intermate Download Utility</i> .
K62-xxxx.zip	K62-xxxx.bin	The <i>Twinax Main Code</i> also contains the code for downloading the IPDS micro code. Upgrade: via the <i>Intermate Download Utility</i> .
K63-xxxx.zip	K63-xxxx.bin	The <i>IPDS API Code</i> , which is downloaded to the printer. The code also contains the IPDS fonts. Both the 240 dpi and the 300 dpi fonts are included in the file. Upgrade: via the <i>Intermate Download Utility</i> .
K64-xxxx.zip	K64-xxxx.bin	The <i>IPDS Configuration File</i> . This file is retrieved from the A/T FS3 and stored in other A/T FS3 which should have the same IPDS configuration. A file containing the default settings is available from the Intermate web site (www.intermate.com/atfs3). Refer to section 5.7 <i>The IPDS Configuration File</i> on page 57. Upgrade: via the <i>Intermate Download Utility</i> .

The firmware releases are named using a special revision system. Take for example the firmware component called *K61-8501*. The first 3 positions indicate the firmware component ID. In this case it is Coax firmware = K61. The first digit after the hyphen is the year of the release (1998). The next two digits give the week number (**50**) and the last is the release level within that week (**1**).

J.1 The Intermate Download Utility Program


The *Intermate Download Utility* program (P16-xxxx.exe) is used to download firmware, to retrieve and store IDB configuration files and to retrieve and store the IPDS Configuration file.

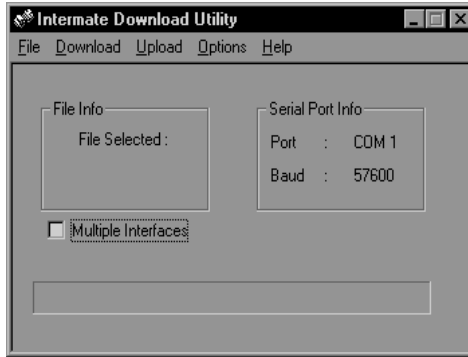
The program is included on the *Documentation and Utilities* CD. New versions are made available on the Intermate web site (www.intermate.com/atfs3).

J.1.1 Installation

The *Intermate Download Utility* program is a native Windows 95/98/NT program. It is installed by executing the *P16-xxxx.exe* file. This extracts the files needed to run the program. The default directory is *C:\Program files\LCI Intermate\Intermate Download Utility*. If you prefer another location the path can be edited.

If you will be using the program often, it is useful to create a short-cut on the desktop. This is done by right-clicking the file *IMA_DWNL.exe*, dragging the copy to the desktop, releasing the right mouse button and confirming the creation of the short-cut.

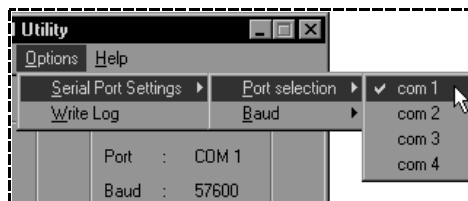
The program is launched by double-clicking the program icon or by pressing the  Start button and choosing *Programs, Intermate Download Utility* and *IMA_DWNL.exe*. This displays the main screen.



The user interface is self-explanatory. On-line help is provided via the help menu (<Alt>+h).

In order to use and optimise the usage of the program, it is recommended to check whether the default serial port settings are acceptable. This applies to the choice of *communication port* and *baud rate*. Both settings are set via the “Options” menu.

Tip: Usually a *baud rate* of 19,200 bps is good. If the PC is unable to connect to the A/T FS3 at this rate, then try a different *baud rate*. Alternatively, check the port settings and cable connection.



After the program is installed and set up you are ready to connect the PC to the printer equipped with the A/T FS3 via the serial config/upgrade cable.

J.1.2 Downloading Files

Download of firmware and IDB or IPDS configuration files follow similar procedures. The only difference lays in the kind of file which is downloaded. The *Intermate Download Utility* distinguishes between three file types. These are *.bin, *.ffs and *.idb. The *.bin extension is used by firmware and IPDS configuration files. The *.idb extension is used by IDB configuration files. The *.ffs extension is not used in connection with the A/T FS3. Refer to the beginning of this appendix for the name syntax of the firmware and IPDS configuration files.

The procedure below shows how to download a *Boot Code* firmware file. Refer also to section 5.7 *The IPDS Configuration File* on page 57 for information on how to download that file.

To download firmware

1. Disconnect the printer from the system.
2. Make sure the PC is turned On and ready.
3. Connect the printer to the PC via the serial config/upgrade cable included with the A/T FS3. Do NOT power the printer On.
4. Launch the *Intermate Download Utility* program.
5. Select the “Download” menu (<Alt>+D).
6. Make sure the file type is set to reflect *.bin files.
7. Locate and choose the *Boot* firmware file (*K60-xxxx.bin*) in the file dialogue box.
8. Press the |Open| button to initiate the download.

9. Make sure the switch on the A/T FS3 is in position "0" (= Normal operation) and power On the printer. The progress of the download is displayed as a horizontal bar on the screen.

Caution: During the download it is recommended NOT to push the [Cancel] button unless you are familiar with the workings of the program and the A/T FS3. If by accident a wrong file is chosen, then let the program complete the download. The download can be repeated with the correct file afterwards.

10. Close the *Intermate Download Utility* program when the download is complete.
11. Power the printer Off and reconnect it to the system. The use of the new firmware is enabled at the next power On.

The printer power always has to be recycled in order to enable the use of any new firmware or IDB configuration files downloaded to the A/T FS3.

If more firmware components or IDB settings should be downloaded, it is not necessary to restart the utility program. Just recycle the printer power and choose another component for download.

J.1.3 Uploading Configuration Files

IDB configuration files uploaded with the *Intermate Download Utility* are edited with the PC utility DOS-programs *Intermate 3270 IDB configuration file editor* (P01-xxxx.exe) or *Intermate 5250 IDB configuration file editor* (P02-xxxx.exe). Refer to section 5.4 *The IDB Utility Program* on page 54 for details on these programs.

The IPDS configuration file cannot be edited. Refer to section 5.7 *The IPDS Configuration File* on page 57 for details on how to retrieve this file.

To retrieve the IDB settings

1. Disconnect the printer from the system.
2. Make sure the PC is turned On and ready.
3. Connect the printer to the PC via the serial config/upgrade cable included with the A/T FS3. Do NOT power On the printer.
4. Launch the *Intermate Download Utility* program.
5. Select the “Upload” menu (<Alt>+U).
6. Select the kind of IDB to upload, ie either Coax or Twinax.
7. Make sure the switch on the A/T FS3 is in position "0" (= Normal operation). Click the |Ok| button in the dialogue box and power On the printer to start the transfer. The progress is displayed as a horizontal bar on the screen.
8. When the transfer is complete, the *Intermate Download Utility* asks for a name and location of the file. It is recommended to use the file extension *.*idb*. The names used in this guide are *a_fs_xxx.idb* for Coax IDB files and *t_fs_xxx.idb* for Twinax IDB files. The “xxx” indicates the file version number.
9. Close the *Intermate Download Utility* program.
10. Power Off the printer and reconnect it to the system.

K. Requirements for IPDS Printing

Important: Ask the point of purchase or Intermate Customer Support, if the printer is not in the below list.

To secure IPDS functionality the printer must meet the minimum requirements listed below. Enabling IPDS in a printer which does not meet the minimum requirements causes the printer to hang up.

Printer	Printer firmware *	Printer memory **
FS-600	30.12	16 Mbyte
FS-680	30.15	16 Mbyte
FS-800	38.07	16 Mbyte
FS-1000	Not available	Not available
FS-1200	Not available	Not available
FS-1700+	40.08 + A7 engine firmware	12 Mbyte
FS-1750	56.06	16 Mbyte
FS-3700+	40.08 + A7 engine firmware	12 Mbyte
FS-3750	56.04	16 Mbyte
FS-3800	Not available	Not available
FS-5800C ***	÷	÷
FS-5900C ***	÷	÷
FS-6700	42.02	12 Mbyte
FS-6900	Not available	Not available
FS-7000	25.15 eval F	12 Mbyte
FS-7000+	46.07	12 Mbyte
FS-9000	46.07	12 Mbyte

* It is generally recommended always to use the latest printer firmware.

** Additional memory above the minimum requirement may be required

for printing complex jobs, eg duplex printing.
*** IPDS printing is NOT supported on colour printers.

Refer to the printer documentation for further details.

L. The IPDS Software Key

The standard version of the A/T FS3 is capable of running IPDS in demo mode. This means that a nag text is printed on each IPDS page. Production printing mode is activated through the IPDS software activation key.

L.1 Ordering the Key

The key is ordered from the point of purchase. If the A/T FS3 was bought from LCI Intermate A/S directly, the key can be ordered by fax or e-mail (sales@intermate.com). In both cases the following minimum information must be provided.

- The 7 digit serial number (S/N). The number is printed on the A/T FS3 status sheets.
- Kyocera printer type.
- Your name, company and information on how to reach you.

L.2 Entering the Key

The 12 digit software key is entered via the front panel or via the *Remote Menu System*.

To enter the key via the front panel

1. Power Off the printer and make sure the switch on the A/T FS3 is in position “0” (= Normal operation).
2. Power On the printer and press the “Mode” button.
3. Press “+” or “-“ until the display reads “Interface”.
4. Press “Enter” and push “+” or “-“ until the interface type reads “Option”. Press “Enter”.

5. Press “>” twice to display “DHCP”.
6. Press “+” until the *Gateway* address displays.
7. Press “Enter” to edit the address.
8. Key in the IPDS software key. Use the “+” and “-“ buttons to increase and decrease individual digits. Use the “<“ and “>” buttons to select digits.
9. Press “Enter” to save the key.
10. Power Off the printer.

To enter the key via the Remote Menu System

1. Power Off the printer and disconnect it from the system.
2. Connect the printer via the serial config/upgrade cable to a PC running Windows 95/98 or NT.
3. Start a terminal session on the PC. If this is the first time that the PC logs on to the A/T FS3, a terminal session has to be created. Refer to section 4.4 *The Remote Menu System* on page 36. Here it is explained how to create a terminal session with the *HyperTerminal* program.
4. Turn the switch on the A/T FS3 to position “5” and power On the printer.
5. Wait for the A/T FS3 terminal *Main Menu* to appear on your PC screen.
6. Type “1” or “2” to enter the *Twinax* or *Coax Main menu*, respectively.
7. Select the “IPDS parameters”.

8. Select the “IPDS software key” option in the *IPDS options* menu.
9. Enter the 12 digit key. The key consists of 4 bytes of each up to 3 digits (eg 23.255.1.5). Each byte is in the range 0 - 255. The A/T FS3 does not accept values outside this range. When entering the key, each byte is separated with a dot “.”.

```

+-----+
| 16 IPDS software key          |
+-----+
Enter software key [xxx.xxx.xxx.xxx] (esc for exit)

```

The key is saved in the A/T FS3, as soon as it is entered correctly, ie when it contains no values outside the valid range.

10. Turn the switch on the A/T FS3 to position “0” (= Normal operation).
11. Power Off the printer.
12. Disconnect the printer from the PC and reconnect it to the system. The IPDS key is activated at the next power On.
13. Terminate the terminal session on the PC. Answer “yes”, when asked whether you want to disconnect.

L.3 Deleting the Key

The IPDS software key is deleted by re-entering the default key (“0.0.0.0”). Follow the procedure in section *L.2 Entering the Key* on page 203.

M. IPDS Font Summary

The A/T FS3 includes both 240 dpi and 300 dpi IPDS fonts.

Note: Fonts marked with an asterisk (“*”) do not support the Euro character.

M.1 IBM 4028 (3916) Emulation Fonts (300 dpi)

Intermate font	IBM font ID	CPI	Point Size	Equivalent IBM font
OCR-B *	3	10	12	OCR-B
Courier	11	10	12	Courier
Prestige Pica	12	10	12	Prestige Pica
Courier Italic	18	10	12	Courier Italic
OCR-A *	19	10	12	OCR-A
Courier Bold	46	10	12	Courier Bold
APL *	76	12	10	APL
Courier	85	12	10	Courier
Prestige Elite	86	12	10	Prestige Elite
Courier Italic	92	12	10	Courier Italic
Prestige Elite Bold	111	12	10	Prestige Elite Bold
Prestige Elite Italic	112	12	10	Prestige Elite Italic
Boldface	159	PS	12	Boldface
Prestige	164	PS	12	Prestige
Prestige	221	15	9	Prestige
Courier	223	15	9	Courier
Courier	254	17.1	8.5	Courier
Prestige	256	17.1	8.5	Prestige
Letter Gothic	281	20	7.5	LetterGothic
Nimbus Roman	5687	Typo	6	Times Roman
Nimbus Roman	5687	Typo	8	Times Roman
Nimbus Roman	5687	Typo	10	Times Roman
Nimbus Roman	5687	Typo	12	Times Roman
Nimbus Roman Bold	5707	Typo	10	Times Roman Bold
Nimbus Roman Bold	5707	Typo	12	Times Roman Bold

Intermate font	IBM font ID	CPI	Point Size	Equivalent IBM font
Nimbus Roman Bold	5707	Typo	14	Times Roman Bold
Nimbus Roman Bold	5707	Typo	18	Times Roman Bold
Nimbus Roman Bold	5707	Typo	24	Times Roman Bold
Nimbus Roman Italic	5815	Typo	10	Times Roman Italic
Nimbus Roman Italic	5815	Typo	12	Times Roman Italic
Nimbus Roman Bold Italic	5835	Typo	10	Times Roman Bold Italic
Nimbus Roman Bold Italic	5835	Typo	12	Times Roman Bold Italic

PS - Proportional Spaced Typeface

Typo - Typographical Typeface

Times Roman is a registered trademark of Linotype AG and/or its subsidiaries.

Nimbus Roman is a functional equivalent of Times Roman.

M.2 IBM 3812 Emulation Fonts (240 dpi)

No.	IBM font ID	subs/bold ID	Equivalent IBM font
1 *	3		OCR-B
2	5		Orator 10
3	11		Courier 10
	12	s 11	Prestige 10
	13	s 11	Artisan 10
4	18		Courier Italic 10
5 *	19		OCR-A
	20	s 12	Pica 10
	26	s 40	Matrix Gothic 10
	30	s 11	Math-symbol 10
	38	b 5	Orator bold 10
	39	b 40	Gothic-text bold 10
6	40		Gothic-text 10
	41	s 40	Roman-text 10
	42	s 40	Serif-text 10
	43	s 68	Serif-text Italic 10

No.	IBM font ID	subs/bold ID	Equivalent IBM font
7	44		Katakana-gothic 10
8 *	45		APL 10
	46	b 11	Courier bold 10
	60	b 12	Prestige bold 10
9	66		Gothic-text 12
10	68		Gothic-text Italic 12
	69	b 66	Gothic-text bold 12
	70	s 66	Serif-text 12
	71	s 68	Serif-text Italic 12
	72	s 69	Serif-text bold 12
	80	s 86	Math-symbol 12
11	84		Script 12
12	85		Courier 12
13	86		Prestige 12
14	87		Letter-gothic 12
	91	s 112	Light-Italic 12
	107	s 85	12 Pitch
	108	b 85	Courier bold 12
	110	b 87	Letter-gothic bold 12
	111	b 86	Prestige bold 12
15	112		Prestige Italic 12
16	155		Boldface Italic
	158	s 175	Modern
	159	b 175	Boldface
17	160		Essay
18	162		Essay Italic
	163	b 160	Essay bold
19	173		Essay light
20	175		Document
	176	s 159	Boldface
	177	s 155	Boldface Italic
21	204		Gothic-text 13
	221	s 230	Prestige 15
	222	s 230	Gothic 15

No.	IBM font ID	subs/bold ID	Equivalent IBM font
	223	s 230	Courier 15
	225	s 86	Math-symbol 15
	229	s 230	Serif 15
22	230		Gothic-text 15
23	244		Courier 5
	245	b 244	Courier bold 5
24	252		Courier 17
	253	b 252	Courier bold 17
25	254		Courier 17ss
26 *	280		APL 20
27	281		Gothic-text 20
28	290		Gothic-text 27
29	751(4407/54)		Sonoran serif 8pt
30	1051(4407/66)		Sonoran serif 10pt
31	1053(4427/66)		Sonoran serif bold 10pt
32	1056(4535/66)		Sonoran serif Italic 10pt
33	1351(4407/78)		Sonoran serif 12pt
34	1653(4427/108)		Sonoran serif bold 16pt
35	2103(4427/162)		Sonoran serif bold 24pt

b - created by bolding algorithm

s - simulated by substitution

N. IPDS Features

The Intelligent Printer Data Stream (IPDS) is the host-to-printer data stream for Advanced Function Printing (AFP) subsystems. It is part of IBM's System Application Architecture (SAA). The IPDS architecture is functionally divided into nine command set towers, each representing a major printer capability. There are five data towers: *Text*, *IM Image*, *IO Image*, *Graphics* and *Bar Code*. And four resource towers: *Page Segment*, *Overlay*, *Loaded Font*, and *IPDS Exception Reporting*.

With IPDS it is possible to

- Use the all-points-addressable printing capability of the page printer to print text, graphics, images or bar codes at any point on the page.
- Use images and vector graphics to print line drawings, pie charts, bar charts, graphics, logos, signatures etc.
- Combine all kinds of data on the same page.
- Print in all rotations either on separate pages or on the same page.
- Electronically store and later print forms and letterheads.
- Electronically store and later print host fonts.

N.1 The Distinction between AFP and IPDS

In general AFP is the entire SAA print concept, whereas the *AFP Data Stream* (AFPDS) represents closed *page definition files*, which have information of various resources (eg the coordinates of a line and where to place a logo). The resources, which are not resident in the printer (eg a logo), are picked up in the PSF libraries and incorporated in the IPDS format representing the *final formatted output*, which communicates bidirectionally between the PSF and the printer. This interaction for instance ensures that the logo is loaded into the printer only when needed (first time and after an error situation), and deleted only when other resources needs the space.

N.2 IPDS Fonts

The A/T FS3 contains both 240 dpi and 300 dpi fonts. There is a total of 32 resident 300 dpi (dots per inch) fonts (4028 emulation), which are functionally equivalent to the standard IBM 4028 AS1/NS1. The 240 dpi fonts consist of 35 resident fonts, which are equivalent to the standard IBM 3812 Model 2 fonts. Refer to appendix *M. IPDS Font Summary* on page 207, for a full listing of the resident fonts.

The fonts are contained in the IPDS firmware (*K63-xxxx*). If new fonts become available, the entire IPDS firmware has to be upgraded.

O. Page Orientation System (Coax)

An Automatic Print Orientation (APO) and a Computer Output Reduction (COR) system is available in the A/T FS3. Both APO and COR can be used with all printer emulation. The feature involves the options and events shown in the table below.

Event no.	Description	Option no.	Description
36	20 CPI	97	Cassette/tray 8 paper size
37	27 CPI	120	Page orientation
38	13.33 CPI	122	Automatic Print Orientation (APO)
71	Select COR landscape orientation	123	Cassette/tray 1 print orientation
Option no.	Description	124	Cassette/tray 2 print orientation
90	Cassette/tray 1 paper size	125	Cassette/tray 3 print orientation
91	Cassette/tray 2 paper size	126	Cassette/tray 4 print orientation
92	Cassette/tray 3 paper size	127	Cassette/tray 5 print orientation
93	Cassette/tray 4 paper size	128	Cassette/tray 6 print orientation
94	Cassette/tray 5 paper size	129	Cassette/tray 7 print orientation
95	Cassette/tray 6 paper size	141	Cassette/tray 8 print orientation
96	Cassette/tray 7 paper size		

The number of available source drawers/trays depends on the printer emulation. The 4214 emulation offers 3 source drawers, the 3812 emulation 2 and the other emulation only one source drawer/tray. In DSC/DSE (LU3) print mode you cannot change source drawer/tray, you always get paper from the default cassette/tray (controlled by option 113). In LU1 (SCS) mode you can change cassette/tray with the PPM command (if your emulation offers more than one source drawer/tray).

The extended Page Orientation Selection System is controlled by option 122 (Automatic Print Orientation controller). If option 122 is 1 or 2, option 123 - 125 and option 90 - 92 are used to select orientation. If option 122 is 0, Page Orientation is controlled by option 120. Option 120 Print Orientation is used on all cassettes/trays.

The Page Orientation Selection is done exactly like on a 3812 printer. Refer to the IBM 3812 manual for further information about COR, APO and the Page Orientation Selection system in general.

P. COR/APO Logic (Twinax)

The Intermate A/T FS3 has, when being used as 3812 in 5219 mode, the possibility to "rotate" the printout (portrait/landscape) from various criteria.

The distinction is between control of text, orientated according to a set text orientation command (STO) in the data stream (the FCB - format control buffer) and control of the text orientation from the text orientation automatic of the A/T FS3. The A/T FS3 is reacting to the page format stated in the FCB, for instance, from fanfold lists, which are normally printed on matrix printers with wide platens. You can test the automatic controls easily by using the "Print Screen" key from the system. This screen dump is usually printed in "landscape" and "compressed" if the automatic page orientation (APO) and computer output reduction (COR) is switched on by the CORDRW command.

As the user does not always have the possibility of defining if a printout is to be rotated and compressed in the system the focus is on how the printer automatic controls operate. It is provided there are no STO commands in the data stream from the system. The STO command always has higher priority than the automatic controls of the printer itself.

The following points refer to the flowchart at the end of this appendix.

1. Calculation of the page format is based on the following information in the FCB.

$$\text{page width (inches)} = \frac{\text{characters per line}}{\text{characters per inch (pitch)}}$$

$$\text{page length (inches)} = \frac{\text{lines per page}}{\text{lines per inch (LPI)}}$$

These two measures are compared with values stated by the PAGLNG and the PAGWDT settings. Refer to pages 118 and 119 which specify the maximum valid page size.

Example: Use an A4 page format as valid page size:

PAGLNG = A4 and PAGWDT = A4

2. If the page format stated in the FCB is within (or equal to) the page size settings of PAGLNG and PAGWDT, the page size is "valid". In which case the printout is in landscape if the page length is smaller than the width, otherwise portrait. In both cases with the font selected by the system.
3. If either the page width or the page length from the system exceed the page size stated in the A/T FS3 the page size is "invalid". The result is a compressed landscape printout by means of the COR algorithm:
 - "Vertical spacing" is reduced from normal line spacing to a percentage value according to the LINSPPRED setting. Refer to the option *Computer Output Line Spacing Reduction* on page 125.
 - Margins (offset) are set according to the LFTOFFCOR and TOPOFFCOR settings. Refer to the option *Left Margin Offset In COR* on page 116 and *Top Margin Offset In COR* on page 117.
 - 10 pitch fonts are reduced to 13 pitch (font type stated in font table position no. 51)
 - Other pitch sizes are compressed to the nearest smaller font.
4. Most program applications normally have a set of standard values for page length, characters per line etc. The user might have few or no possibilities of changing these. Therefore a final control exists, which allows the user to prevent a compressed landscape printout and force it into portrait with a font selected by him.

Portrait can be forced by setting one of the following statements:

- TEXT-YES or ROTATE-0 for System/36 OCL.
- PRTQLTY(*STD) or (*NLQ) or PAGRTT(0) for System/38 CL and AS400.

Note: The statements TEXT or PRTQLTY do not as the ROTATE or PAGRTT command force printout in portrait if only APO is enabled in the CORDRW 1 and CORDRW 2 options.

The previously mentioned "screen dump" will for instance use the default printer profile on a AS400 for the device. On a AS400 it is possible to affect the system print parameters in the FCB by changing the printer file containing default settings for the device. This is done by either changing the existing system printer file QSYSPRT (CHGPRTF FILE(QSYSPRT)) or creating your own printer file (CRTPRTF). Please consult the AS400 documentation for information on this subject. Defining the printer file to make the COR is normally done in connection with IPDS page printers as these printers do not support the APO/COR function.

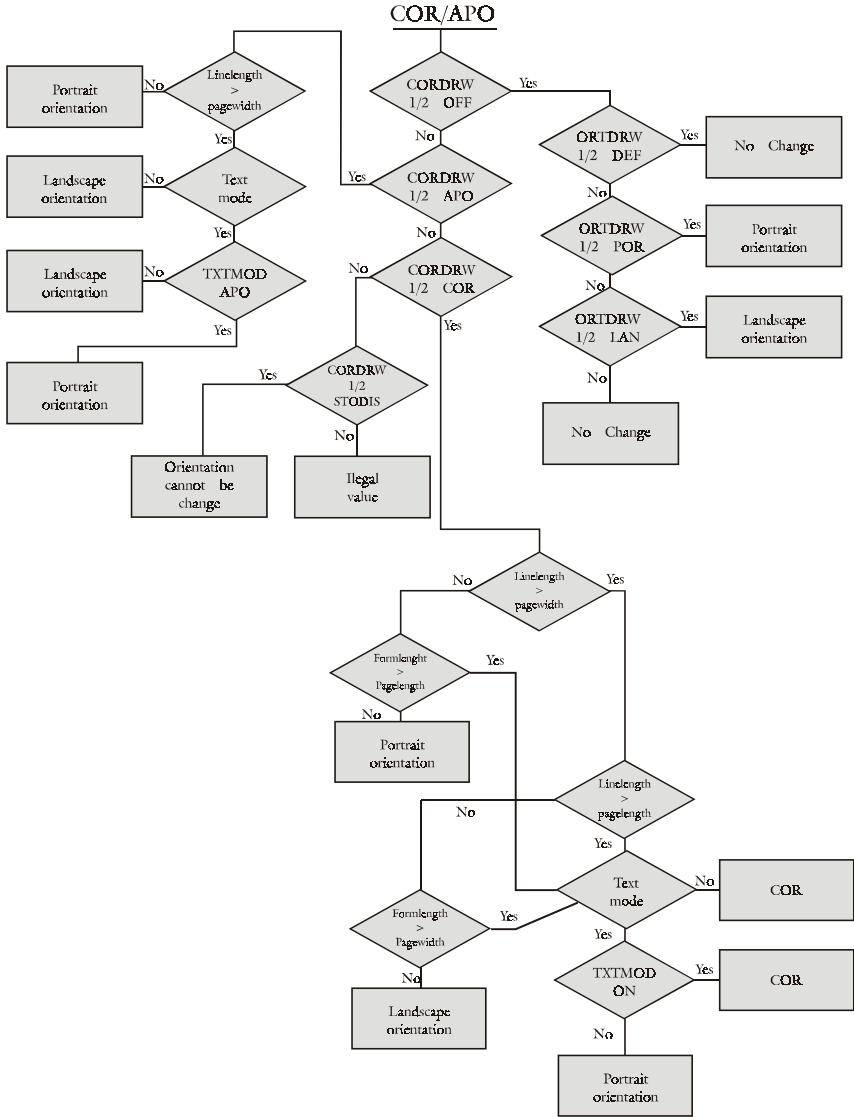
If the APO/COR is disabled (CORDRW 1/2 = OFF) the STO command will thus control the rotation of the printout. This means that if a landscape print controlled by the STO command is sent, followed by a print without the STO command, this printout is affected by the previously sent STO command and therefore result in landscape printout. This is the only way an original IBM 3812 can operate. However, a default page orientation can be set with the ORTDRW option. Refer to *Page Orientation Drawer 1* on page 122 and *Page Orientation Drawer 2* on page 122 for paper cassette 1 and 2 respectively.

Example

Disable COR and set Portrait as default orientation for drawer 2 only:

CORDRW 2 = OFF and ORTDRW 2 = POR

Page Orientation Logic Flowchart



Q. Special Coax IDB Commands

The supported special Intermate commands descend mainly from old EPROM type interfaces (without software setup).

Larger numbers indicate higher precedence.

Precedence	Description
5 CSC>HEXDUMP	Enter hex-dump mode (small format).
5 <CSC>HEXDUMP_FULLL	Enter hex-dump mode (large format).
5 <CSC>IDB_EDIT	Enter IDB edit mode.
5 <CSC>IDB_PRINT	Dump IDB (small format).
5 <CSC>IDB_PRINT_FULLL	Dump IDB (large format).
5 <CSC>L{xx}	Reserved, active if Option 31 = 0.
5 <CSC>W{xx}	Reserved, active if Option 31 = 0.
5 <CSC>NOHEXDUMP	Exit hex dump mode.
5 <CSC>O{xx}	Reserved, active if Option 31 = 0.
5 <CSC>REG	Dump House Keep information.
5 <CSC>/ . . .	Enter Intermate transparent mode.
5 <CSC>=	Reserved, active if Option 31 = 0.
5 <CSC>+M	Suppress format control codes.
5 <CSC>-M	Standard handling of format control.
5 <CSC>STATUS_IPDS	IPDS status.
5 <CSC>{XY}	Enter special transparent mode (X = Option 171, Y = Option 172).
3 <CSC>{X}YYY[,ZZZ] <CSC>	Formatted string (X = Option 168, YYY = String #, ZZZ = Parameters).
2 <CSC><CSC>	Double CSC (prints <CSC>).
1 <CSC>{XY}	Single transparent character.

R. Special Twinax IDB Commands

The supported special Intermate commands descend mainly from old EPROM type interfaces (without software setup).

Larger numbers indicate higher precedence.

Precedence	Description
5 CSC>IDB_EDIT	Enter IDB edit mode.
5 <CSC>IDB_PRINT	Dump IDB (small format).
5 <CSC>IDB_PRINT_FULLL	Dump IDB (large format).
5 &%HEXDUMP	Enter hex-dump mode.
5 &%NOHEXDUMP	Exit hex-dump mode.
5 &%IDB_FONT	Print sample printout of all fonts currently programmed in the Font Table.
5 &%+M	Enable Control Code Suppression.
5 &%-M	Disable Control Code Suppression.
5 <CSC>/ . . .	Enter Intermate transparent mode.
5 <CSC>+<CSC>	Suppress format control codes.
5 <CSC>-<CSC>	Standard handling of format control.
5 <CSC>{XY}	Enter special transparent mode (X = Option 171, Y = Option 172).
2 <CSC><CSC>	Double CSC (prints <CSC>).
1 <CSC>{XY}	Single or Multibyte transparent character.
5 <CSC>IDB_STATUS	Prints status dump.
5 <CSC>IDB_FONT	Prints font list.
5 <CSC>-X	Trig event X.

S. Conversion Utilities

Note: This appendix does not describe all the aspects of the conversion utilities. A comprehensive description is provided in the *Intermate IDB Technical Reference* guide, document no. GG-013-x. The guide is included on the *Documentation and Utilities* CD. New editions will be made available on the Intermate web site (www.intermate.com/atfs3).

With the conversion utilities it is possible to set up a number of triggers. Both characters and strings can be used as triggers.

Prior to setting up a character or string conversion, an available event has to be found. This is done by reviewing the currently defined strings with the *Remote Menu System* (eg HyperTerminal), with the IDB configuration utility programs (*Intermate 3270 IDB configuration file editor* (P01-xxxx.exe) or *Intermate 5250 IDB configuration file editor* (P02-xxxx.exe)), or by making an IDB-dump.

The character or string conversions are set up with the *Remote Menu System*, with the IDB configuration utility programs, or with the IDB on-line commands.

S.1 Character Conversion

Triggering of a single character is also known as a character event. Both simple character conversion and triggering of complete strings can be set up.

Note: Before setting up a character conversion, you should make a dump of the ASCII Table. Refer to this dump when creating the conversion, ie be sure that the character you wish to use as trigger does exist.

Example - using the on-line IDB command language

The character "@" (ASCII 40 hex) is to activate a Character Event. When the character is sent through the *Translate* or *Character Table*, a specific string is to be sent to the printer. In this example string number 67.

Character Event /40 (hex) point to string 67
String 67 contents HELLO

IDB programming sequence for setting character event 40 to point at string, and defining the contents of string 67 to "HELLO".

Host Input	Action
&%IDB_EDIT:	Enter the editor
CHAEVENT /40:67:	Set character event to point to string 67
STRING67:HELLO:	Store 'HELLO' in string 67
QUIT	Leave the editor

Host sample input	Printer output
@ WORLD	HELLO WORLD

S.2 String Conversion

The A/T FS3 supports two kinds of string conversion. These are the *predefined* and the *user-defined* strings. There are 16 predefined triggers and 30 user-defined.

S.2.1 Predefined Strings

These 16 strings all have predefined trigger sequences. The sequences are IDB commands consisting of the CSC character followed by a hexadecimal number (<CSC>-X).

<CSC>	=	&%
X	=	0 - F (hexadecimal upper-case)

The trigger strings correspond to the events 160-175. The location in the *Event Table* is found by adding the decimal value of the "X" above to 160. Each of the events can be set to point to any string.

Example - using the on-line IDB command language

User defined trigger	&%-7
Defined in event	167 (160 + 7h = 167)
Host Input	Action
%IDB_EDIT:	Open the editor
EVENT 167:24:	Set &%-7 to string # 24
STRING 24:Test String:	Set string #24
QUIT	Exit editor
Host Sample Input	ASCII Output
This is a &%-7	This is a Test String

S.2.2 User-defined Strings

The A/T FS3 holds 30 user-defined strings. The trigger strings are stored in the events 200 - 229. Be sure to keep within the below rules when programming the strings.

- Each trigger (input) string can consist of a maximum of eight characters. A output string can consist of a maximum of 255 characters.
- A trigger string (input string) must be unique, ie it must not match another string, nor may it match the start of another string.
- The syntax rules for programming a string and for programming a trigger are the same. ASCII characters and hexadecimal characters must be preceded by a “/”.
- String conversion is NOT performed on the output strings replacing the input strings.
- Trigger (input) strings are removed from the data stream and replaced by the output strings.

- A trigger can contain all characters greater than 01h. However, caution is required when trying to trigger on ASCII characters between 01h and 1Fh, as these are mostly control codes (CR, LF, FF etc.). An incorrect trigger or string could affect page formatting. Use events 80 - 86 to change action on a control code.
- Trigger strings are active after the printer has been powered Off and On.

Programming of the strings - using the Remote Menu System

The programming of the string triggers is almost identical in both Coax and Twinax mode. When logged on to the A/T FS3 with a terminal (eg HyperTerminal) the approach leading to the string definitions differs, depending on the selected mode. Refer to the approaches below.

Coax users: Select *User triggers* on the *Standard Coax* menu, followed by *User trigger 0-9*, *User trigger 10-19*, or *User trigger 20-29*.

Twinax users: Select *Intermate utility commands* on the *Standard Twinax* menu followed by *String conversion* and *String conversion definition*.

The Coax and Twinax *Input String (trigger)* screens used to enter the eight character long string trigger sequence are shown below.

```
Enter input string (trigger) :
Insert mode : Off      F1:Toggle insert mode; F2:Delete; F3:Exit without save
Original string : (not defined)
Edit string
+-----+
"twinax test"
+-----+
Events :
Char events :
```

```

Enter new trigger (1)
Insert mode : Off      F1:Toggle insert mode; F2:Delete; F3:Exit without save
Original string : "test-tes"
Edit string
+-----+
| "coax test"         |
+-----+
Events :
Char events :
    
```

Press <Enter> to store the input string or trigger. This brings up the *Output string (trigger)* screen.

```

Enter destination string (output) :
Insert mode : Off      F1:Toggle insert mode; F2:Delete; F3:Exit without save
Original string : (not defined)
Edit string
+-----+
| "This string can have more than 255 characters" |
+-----+
Events :
Char events :
    
```

```

Enter new string for trigger 1
Insert mode : Off      F1:Toggle insert mode; F2:Delete; F3:Exit without save
Original string : (not defined)
Edit string
+-----+
| "This string can have more than 255 characters" |
+-----+
Events : 200
Char events :
    
```

Note: Coax users are asked if they wish to edit the currently assigned string, before preceding to the actual editing of the string.

T. Related Publications

Refer to the publications below for additional information.

- IBM Intelligent Printer Data Stream Reference, S544-3417.
- Using the IBM LaserPrinter 4028 Model AS1 with the Application System/400 and System/36, S544-4262.
- IBM LaserPrinter 4028 Model AS1 IPDS Handbook, S544-4260.
- Using the IBM Pageprinter 3812 with an IBM System/36 or S/38, S544-3343.
- IBM Pageprinter 3812 IPDS Handbook, S544-3102.
- IBM 3812 and 3816 Page Printers Font Reference, GA34-2111.
- The printer documentation.
- Intermate IDB Technical Reference, document no. GG-013-x.
- Intermate A/T FS3, Coax/Twinax Connection, Quick Installation Guide, document no. GS-019-x.

U. Customer Support

LCI Intermate A/S provides full technical support for this product.

If you encounter problems, or have questions on how to use the Intermate A/T FS3, please contact the point of purchase. You should have the A/T FS3 *Status* sheets and also that of the printer available for reference. Refer to appendix I. *Printing a Status Sheet* on page 191.

If the problems concerns SCS printing, you should also have the IDB status dump and IDB dump pages ready for reference. It might also be necessary to make a HEX dump of the problem using the special `&%HEXDUMP` and `&%NOHEXDUMP` IDB commands.

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Index

A

About this guide 11
 Adjusting coax mode 18
 Adjusting twinax mode 21
 Advanced Function Printing 211
 AFP 211
 All-points-addressable 211
 APO (Coax) 84
 Approvals 167
 AS/400 configuration 21
 ASCII character table 173
 Auto-termination 169

B

Before/After IPDS option 152,
 153
 Boot firmware 195
 Box contents 15

C

Cable specifications 171
 Chapter summary 11
 Character conversion 223
 Coax main code firmware 195
 Code page (Twinax) 106
 Configuration and management
 51
 Front panel 52
 IDB utility program 54
 IPDS configuration file 57
 IPDS parser 55
 Remote Menu System 55
 Switch Menu System 52
 Conventions 12
 Conversion utilities 223

 Character conversion 223
 String conversion 224
 COR/APO logic (twinax) 215
 Country code (Coax) 63
 Country code (Twinax) 104
 Customer support 231

D

Deleting the IPDS software key
 205
 Disable IPDS printing
 Coax users 158
 Twinax users 150
 Downloading files 198
 Dummy plug 169

E

Emission notices 3
 Enable IPDS printing
 Coax users 158
 Twinax users 150
 Entering the IPDS software key
 203
 Euro character 189
 Euro support 189
 Coax users 190
 Twinax users 190
 Exception Reporting 138
 Exception suppression 138
 Extended page orientation
 selection system (coax) 213

F

Factory default IDB settings 160
 Factory setting 61

Firmware files 195
Firmware revision system ... 196
Firmware upgrade 195
Font Summary 207
 IBM 3812 208
 IBM 4028 207
Font utility (twinax) 103
Front panel 30, 52

G

General hardware features ... 167

H

Hardware installation 17
Host attachments 162
 Coax 162
 Twinax 162
HyperTerminal 36

I

IBM Cabling System 169
IDB utility program 54
 Editing options and events
 54
 Intermate Download Utility
 54
Initial configuration 29
 Front panel 30
 IPDS parser 49
 On-line IDB command
 language 35
 Remote Menu System 36
 Switch Menu System 33
Installation 17
Intelligent Printer Data Stream
..... 211
Intermate 3270 IDB configuration
file editor 51, 54, 200, 223

Intermate 5250 IDB configuration
file editor 51, 54, 200, 223
Intermate download utility ... 54,
 196
 Downloading files 198
 Installation 196
 Uploading IDB configuration
 file 200
 Uploading IPDS configuration
 file 200
Introduction 13
IPDS buffer size (Twinax) ... 151
IPDS code page 134
IPDS code page version 137
IPDS configuration file .. 57, 195
 Requirements 57
 To retrieve 57
 To store 58
IPDS Emulation 134, 165
IPDS Features 211
IPDS font summary 207
IPDS main code firmware ... 195
IPDS options 131
 Back left margin 146
 Back top margin 146
 Cassette linking 148
 Code page 134
 Code page version 137
 Detected paper size 131
 Duplex print enable 140
 Emulation 134
 Envelope left margin ... 146
 Envelope top margin ... 146
 Exception reporting control
 138
 Exception suppression ... 138
 Front left margin 146
 Front top margin 146
 Input-tray mapping 142
 Intervention required ... 151

IPDS buffer size (Twinax only)
 151
 IPDS device address 150
 IPDS software key 147
 Margin adjustment 146
 MICR enable 141
 Output jogging 146
 Output-bin mapping 144
 Page counter update 139
 Paper size 131
 Print IPDS status 147
 Printable area option 141
 Resource memory 140
 Rotate simplex 148
 Selected paper size 131
 Skip blank pages 147
 String after IPDS 153
 String before IPDS 152
 IPDS parser 49, 55
 Syntax 56
 Using the parser 55
 IPDS software key 147, 203
 Deleting 205
 Entering 203
 Ordering 203
 IPDS stacked page counter update
 139
 IPDS status sheet 147, 191

K

K60-xxxx 195, 198
 K61-xxxx 195
 K62-xxxx 195
 K63-xxxx 195, 212
 K64-xxxx 57, 195

M

Magnetic ink printing (IPDS only)
 141

Margins 146
 Miscellaneous options 156
 Print IDB dump 159
 Print interface status dump
 160
 Restore factory IDB 160
 SCS hex dump 159
 SCS twinax device address
 157

O

On-line IDB command language
 35
 Option reference 61
 IPDS options 131
 Miscellaneous options ... 156
 SCS Coax Options 61
 SCS twinax options 96
 Ordering the IPDS software key
 203

P

P01-xxxx 51, 54, 200, 223
 P02-xxxx 51, 54, 200, 223
 P16-xxxx 54, 196
 Page orientation logic flowchart
 (twinax) 218
 Page orientation system (coax)
 213
 Physical attachments 161
 PPM commands 185
 Printer emulation (Coax) 67
 Printer emulation (Twinax) ... 98
 Printing a status sheet 191
 via a terminal program ... 192
 via the front panel 191
 via the switch 191
 Product overview 13

R

- Related publications 229
- Remote Menu System 36
 - Configuration examples . . . 41
 - Terminal configuration 36
- Requirements for printing the Euro character 189
- Resident fonts 212
- Restore factory IDB 160
- RMS 36
- RMS no. 131

S

- SAA 211
- Screen buffer size (Coax) 95
- SCS coax options 61
 - Advanced printer features . . 68
 - Automatic print orientation 84
 - Base colour 82
 - Bold print control 73
 - Bottom margin 82
 - Buffer size 67
 - Cassette 1 orientation 85
 - Cassette 2 orientation 85
 - Cassette 3 orientation 85
 - Cassette 4 orientation 86
 - Cassette 5 orientation 86
 - Cassette 6 orientation 86
 - Cassette 7 orientation 87
 - Cassette 8 orientation 87
 - Characters per inch 79
 - Coax timeout 75
 - Colour support 70
 - Controller reset commands 64
 - Country code selection 63
 - CSC character 66
 - Data conversion 65
 - Default source drawer 83
 - End of message control 74
 - Extended printer ID 70
 - First CSC character 66
 - Form feed data (LU3 mode only) 71
 - Form feed last (LU3 mode only) 71
 - Form feed position 72
 - Form feed support 64
 - Form length type 89
 - Formatted strings 90
 - Handling IBM code transparency 91
 - Hex dump mode 95
 - IDB edit delimiter 66
 - Intervention required response 72
 - Lead in characters 92
 - Lead out characters 93
 - Left margin 80
 - Line density type 88
 - Lines per inch 81
 - Lines per page 81
 - Local copy form feed action 62
 - Maximum print position 80
 - Mono/dual case 80
 - MPP+1 (LU3 mode only) 70
 - Non-printable character 64
 - Null suppression (formatted LU3 mode only) 71
 - Old command sequence support 76
 - Output optimization on 75
 - Page orientation 83
 - Paper size cassette 1 77
 - Paper size cassette 2 77
 - Paper size cassette 3 77
 - Paper size cassette 4 78

- Paper size cassette 5 78
- Paper size cassette 6 78
- Paper size cassette 7 79
- Paper size cassette 8 79
- Power up time 72
- Prescribe command recognition character 74
- Print quality 82
- Printer emulation 67
- Printer features 68
- Printer maximum MPP @ 10 CPI 88
- Programmed symbols page orientation 84
- PS characteristics 74
- Repetition character 92
- Reset per page 75
- Right margin 80
- Right to left printing 76
- Screen buffer size 95
- Second CSC character 66
- Single/double line spacing 81
- Skip blank page 76
- Suppress format control codes at power up 94
- Top margin 81
- Transparency method 90
- SCS emulation 163
- SCS emulations
 - Coax 163
 - Twinax 163
- SCS features for user configuration 165
- SCS features supported 164
 - Coax 164
 - Twinax 164
- SCS twinax options 96
 - Code page 106
 - Compress CPI 100
 - COR drawer 1 123
 - COR drawer 2 124
 - COR line spacing reduction 125
 - COR text mode 125
 - Country code 104
 - CSC characters 128
 - Default destination drawer 114
 - Default font 108
 - Default forms media 113
 - Default left margin in characters 109
 - Default lines per inch 110
 - Default lines per page 110
 - Default maximum printing position 109
 - Default page orientation 115
 - Default print quality 111
 - Default right margin in characters 109
 - Default simplex/duplex 115
 - Default source drawer 112
 - Default top margin in lines 111
 - Download font 103
 - First CSC character 128
 - Force Euro Support 101
 - Format control code suppression 100
 - Horizontal move 127
 - IDB edit delimiter 128
 - Intervention status 102
 - Lead in characters 130
 - Lead out characters 130
 - Left margin offset in COR 116
 - Left margin offset in landscape 120
 - Movement horizontal/vertical

..... 127
Non-printable character ... 97
Overlay calls 99
Page orientation drawer 1
..... 122
Page orientation drawer 2
..... 122
Physical page length 118
Physical page width 119
Printer emulation 98
Proportional font move ... 126
Repetition character 129
Second CSC character ... 128
Timeout initialize 102
Top margin offset in COR
..... 117
Top margin offset in landscape
..... 121
Unprintable character 97
Vertical move 127
Selecting input cassettes 183
 Using PPM commands ... 185
 Using string triggers 183
Serial I/O port 15
Serial link cable 15, 198, 200
Special Coax IDB commands
..... 219
Special Twinax IDB commands
..... 221
Static electricity warning 17
Status sheet 191
String conversion 224
Supported printers 161
Switch 33
Switch Menu System 33, 175
Switch settings 175
 Coax IPDS code page sub
 menus 178
 Coax IPDS option values
 177

Coax option values 176
Twinax IPDS code page sub
menus 181
Twinax IPDS option values
..... 180
Twinax option values 179

T

Technical specifications 161
 Approvals 167
 General hardware features
 167
 Host attachments 162
 IPDS emulation 165
 IPDS features supported .. 166
 Physical attachments 161
 SCS emulation 163
 SCS features for user
 configuration 165
 SCS features supported .. 164
 Software requirements for
 IPDS 166
 Supported printers 161
Towers 211
 Bar Code 211
 data towers 211
 Graphics 211
 IM Image 211
 IO Image 211
 IPDS Exception Reporting
 211
 Loaded Font 211
 Overlay 211
 Page Segment 211
 Text 211
Trademark credits 2
Twinax Address 21
 via front panel 21
 via switch 22

Twinax main code firmware . 195
Twinax soft font 103

U

Uploading IDB configuration file
. 200
Uploading IPDS configuration file
. 200

W

Warranty notice 2

Y

Year 2000 compliancy 3