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Infoprint 4000-IR1/IR2 and 4000-IR3/IR4 Printers (4000-IR1/IR2 and 4000-IR3/IR4)

This section describes the Infoprint 4000-IR1/IR2 and 4000-IR3/IR4 printer characteristics. The Infoprint 4000-IR1/IR2 and 4000-IR3/IR4 are continuous-forms printers that use laser and electrophotographic technology to print text, images, graphics, and bar codes at up to 464 impressions per minute (ipm) for the Infoprint 4000-IR1/IR2 printer and 708 impressions per minute (ipm) for the Infoprint 4000-IR3/IR4 printer in duplex mode. The Infoprint 4000-IR1/IR2 and 4000-IR3/IR4 printers have 18-inch wide paper paths with a 17-inch wide print width, which permits printing of two 8.5-by-11 inch or two ISO A4 pages on a single side of a sheet. The Infoprint 4000-IR1/IR2 and 4000-IR3/IR4 printers use the Advanced Function Common Control Unit (AFCCU) based on RISC technology.

The Infoprint 4000 -IR1/IR2 and 4000-IR3/IR4 also has 480/600 pels-per-inch resolution and the Print Quality Enhancement (PQE) function, which smooths edges on diagonal lines, protects fine details, improves the fidelity of images, and allows for adjustment of the boldness of text and the darkness of images.

Figure 35. Infoprint 4000-IR1/IR2 and 4000-IR3/IR4 Printers

Table 134 summarizes the printer characteristics for the Infoprint 4000-IR1/IR2 and 4000-IR3/IR4 printers

Table 134. Infoprint 4000-IR1/IR2 and 4000-IR3/IR4 Printer Characteristics

Printer Characteristic	Infoprint 4000-IR1/IR2 Printer	Infoprint 4000-IR3/IR4 Printer
	Characteristic Value	
Print technology	Laser	
Datastreams	IPDS	
Form type	Continuous	
Number of input bins	Up to 16 inch (406 mm) stack of paper (box)	
Number of output bins	Up to 14 inch (356 mm) stack of paper	
Finisher attachments	n/a	

Manual forms feed	n/a	
Envelope printing	n/a	
MICR printing	no	
Duplex printing	yes	
Color	no	
Adjust print-quality levels	yes	
Print resolution	480 dpi 600 dpi	
Maximum printing rates for letter (8.5 x 11 inches)		
inches per second	21.3	32.5
inches per minute	1,278	1,950
Maximum printing rates for letter in pages per minute[1]		
1-up landscape (8.5 inches long) simplex	153	229
1-up landscape (8.5 inches long) duplex	306	458
2-up portrait (11 inches long) simplex	232	354
2-up portrait (11 inches long) duplex	464	708
Maximum printing rates for A4 (210 x 297 mm)		
mm per second	541	825
mm per minute	32,461	49,530
Maximum printing rates for A4 in pages per minute[1]		
1-up landscape (210 mm long) simplex	153	235
1-up landscape (210 mm long) duplex	306	470
2-up portrait (297 mm long) simplex	218	333
2-up portrait (297 mm long) duplex	436	666
Maximum usage in pages per month (duty cycles)[2]		
Letter: 1-up landscape (8.5 inches long)	7,300,000 duplex	8,700,000 duplex
Letter: 2-up portrait (11 inches long)	11,300,000 duplex	17,400,000 duplex
A4: 1-up landscape (210 mm long)	7,500,000 duplex	8,200,000 duplex
A4: 2-up portrait (297 mm long)	10,700,000 duplex	16,700,000 duplex

1. Maximum printing rate is the maximum number of pages of the indicated size and configuration that can be printed at the constant speed of paper movement shown for each printer. Rates for pages of different sizes and configuration can be calculated by dividing the form length into the printer speed. Actual printing rate will be less if the printer cannot reach this rate due to complexity or density of the data or the ability of the system to deliver data at this rate.
2. Maximum usage is based on operating 7 days a week, 24 hours a day, at maximum printing rate with normal maintenance and operations activity. IBM does not recommend reaching this monthly maximum on consistent basis.
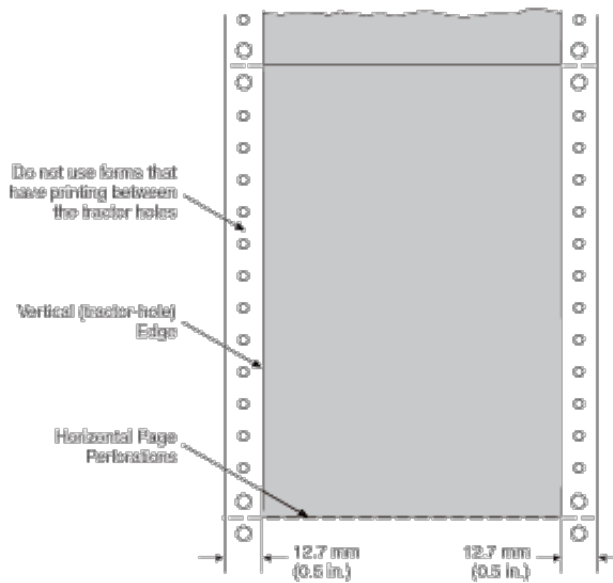
Printable Area

The printer can print to the horizontal page perforations and within ½-inch (12.7 mm) of either vertical (tractor hole) edge of the form. See Figure 36.

Print quality may be degraded when printing near folding perforations, an internal perforation, or any cut in the form. To ensure correct operation and print quality, maintain the following distances:

- From non-folding and internal perforations: 0.05-inch (1.27 mm)
- From folding perforations: for text, OCR, and bar codes: 0.33-inch (8.5 mm); for images and solid-area fill: 0.05-inch (1.27 mm)
- From binder holes and cuts: 0.1 inch-(2.54 mm).

Figure 36. Printable Area on the Infoprint 4000-IR1/IR2 and 4000-IR3/IR4 Printers

Do not use forms that
have printing between
the tractor holes

Vertical (tractor-hole)
Edge

Horizontal Page
Perforations

12.7 mm
(0.5 in.)

12.7 mm
(0.5 in.)

Refer to the *Continuous Forms Advanced Function Printers: Forms Design Reference*, G544-3921.

Media Specifications

The Infoprint 4000-IR1/IR2 and 4000-IR3/IR4 printers accepts the following media:

Media types:

Preprinted or blank fanfold forms, roll-feed paper, some labels

Media widths:

9 inches to 18 inches (225 mm to 457 mm); 17 inches maximum (432 mm) when operating with pinless RPQ

Media lengths:

3 inches to 14 inches (76 mm to 356 mm) with on-board stacker; 3 inches to 25 inches (76 mm to 635 mm) with Post-Processing

Media weights:

16 lb. to 28 lb. (60 gsm to 105 gsm)

Attachments

The Infoprint 4000-IR1/IR2 and 4000-IR3/IR4 supports a maximum of two attachments. These attachments can be:

- System/370 parallel channel
- ESCON channel
- Token Ring (TCP/IP)
- Ethernet (TCP/IP)
- FDDI (TCP/IP)
- Gigabit Ethernet
- FICON

The two attachments may be the same (for example, 2 ESCON channels), or mixed (for example, 1 ESCON and 1 Token-Ring). The exception is that the printer can have only 1 TCP/IP attachment of any flavor. You cannot have 2 Token-Ring or 2 FDDI attachments, or a combination of 1 Token-Ring or 1 FDDI attachments.

When printing in duplex configuration, only one attachment can be active at a time. If both attachments are to the same system, or to a tightly-coupled system, and the attachments are of the same type (example, both are ESCON or

both are parallel channel), then switching between the two attachments can be performed dynamically by the host system. If the attachments or host differ, or the hosts are not tightly-coupled, then the switch must be performed manually by the operator. The printer must be disabled from the current system and attachment before it can be enabled to the other attachment.

System/370 Parallel Channel

System/370 parallel channel attachment is supported on PSF/MVS, PSF/VM, and PSF/VSE printing environments. For S/370 parallel channel attachment, a control unit position on a S/370 parallel block multiplexer channel is required on an IBM 3090 or ES/9000 processor. The following processors are also supported for S/370 parallel channel attachments, S/390 Parallel Enterprise Server, and the S/390 Multiprise 2000 servers. Attachment is also supported via the 9034 ESCON Converter Model 1.

ESCON Channel

ESCON channel is supported on PSF/MVS, PSF/VM, and PSF/VSE printing environments. The IBM Infoprint 4000 may be attached natively to IBM ESCON channels (3090-J, 9021, 9121, 9221, 9672, 2003). Attachment is also supported via the 9032/9033 ESCON Directors and 9036 ESCON Remote Channel Extender model 1 and model 2.

Token-Ring (TCP/IP) Attachment

Token-Ring (TCP/IP) attachment is supported on PSF for OS/2 and PSF for AIX printing environments along with selected RS/6000 and AS/400 models. The 4000 is connected to the host Token-Ring through the IBM Token-Ring cabling via the Token Ring High-performance adapter, which is contained in the AFCCU. The control unit can be attached to either a 16Mbit/sec or a 4Mbit/sec Token-Ring LAN. The TCP/IP Token-Ring Attachment will attach to the following devices:

- 8228 Token Ring Multistation Access Unit attached to an AS/400 or RS/6000 processor
- 8230 Token Ring Network Controller Access attached to an AS/400 or RS/6000 processor
- 8228 Token Ring Multistation Access Unit attached to a 3172, 3174, 3745, 3725, or 3720 attached to a 3090, ES/9000, or 308X processor
- 8230 Token Ring Multistation Access Unit attached to a 3172, 3174, 3745, 3725, or 3720 attached to a 3090, ES/9000, or 308X processor

  The printer may be located at a maximum distance of 100 meters (333 ft) from the 8228 Multistation Access Unit or 8230 Controlled Access Unit.

  The distance between the 8228 Multistation Access Units can be increased with either the 8220 or 8219 Optical Fiber Repeater.

- Installation Instructions are provided with the feature.

Ethernet (TCP/IP) Attachment

An Ethernet Adapter Card (P/N 00G3369) is supplied with Specify Feature 9990 and Special Feature 4161. This is installed in the processor of the AFCCU of the IBM Infoprint 4000 IS1/IS2. The IBM Infoprint 4000 IS1/IS2 may then be attached to an Ethernet LAN via one of the following means:

- Ethernet Thin Coax
    - IBM Supplies a Thin Coax wrap connector (P/N 02G7433)
- Ethernet Thick Coax
    - IBM Supplies the Thick Coax wrap connector (D-shell connector; P/N 71F1167)
- Ethernet Twisted Pair
    - IBM Supplies a Twisted Pair Transceiver (P/N 00G2906)
    - IBM Supplies a Twisted Pair Wrap plug (P/N 00G2380)

FDDI (TCP/IP)

FDDI (TCP/IP) attachment is supported on PSF for AIX printing environments for selected RS/6000 models. The 4000 is connected to the host FDDI through FDDI 62.5/125 multi-mode fiber cabling using SC connectors via the FDDI Single Station adapter, which is contained in the AFCCU. The FDDI (TCP/IP) attachment will attach to the following devices:

- Directly to RS/6000
- 8260 Multiprotocol Intelligent Switching Hub attached to an RS/6000 processor.

The printer may be located at a maximum distance of 2 Kilometers from the 8260 Multiprotocol Intelligent Switching Hub or RS/6000 processor.

Gigabit Ethernet Attachment

The Gigabit Ethernet attachment is supported in Infoprint Manager for AIX printing environments. The Infoprint 4000 printers are attached to the Ethernet LAN by way of a 62.5 mm SC fiber optic cable.

FICON Attachment

FICON channel attachment is supported in the PSF for OS/390 printing environments. The Infoprint 4000 printers may be attached natively to IBM FICON Channels (9672-G5, 9672-G6, and 900Z).

Attachment is also supported by way of the 2032 Director and the 2042 Director, as well as to the remote end of an IBM 2029 Dense Wavelength Division Multiplexor.