Multi-Protocol LAN - Printer Interface

Quick Installation Guide

Supports:
Windows, Novell, UNIX, DEC-LAT,
and EtherTalk (Apple)

Connecting people and information

RINGDALE

Version 3.0 June 2003

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Because of the fast pace of software development it is possible that there will be minor differences between the manual and the program.

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Contents

Introduction

This guide has been prepared to enable you to configure your Ringdale interface for connection to the network, and to provide an overview of the software supplied.

It is advisable that this guide is read in conjunction with the Ringdale Technical Reference Manual, which describes in detail the configuration of the networked environments including the installation of the Ringdale Printset™ utility.

General Installation

1.   Before installing the interface in the printer or to the network, check with the hardware configuration details on the following pages that no jumpers have to be set with the particular interface that is being used.

2a.   If fitting an internal interface, consult the printer documentation for details of installation into the printer.

2b.   If fitting an external interface, connect the parallel cable to the 25-way parallel ports on the interface and the printer. Connect the power supply to the interface and the mains.

3.   Connect the network cable to the appropriate port and power up the printer.

4.   Configure the interface to the network using Printset™ 2000 (see the *Technical Reference Manual* for full details on this).

5.   Wait 1 minute, then press the *Push Button* to obtain a status page (if there is no push button, the status page is printed using the control panel of the printer).

6. Check that the printserver name, IP address etc. are correct (and with Novell networks see if *Total Servers Found* displays any servers. If not wait another minute, and if still none, check Jumper settings, cabling etc.)

7. Print a test page.

In general, interfaces that 'autosense' the network have Flash EPROM installed, and can be upgraded over the network (see the *Technical Reference Manual* for full details).

LED Configuration

Unless otherwise stated, LED configuration on the interface will be as follows:

RX - Green: Blinks on **receipt** of a data packet.

TX - Red: Blinks on **transmission** of a data packet.

LK (link - normally **yellow**): Indicates that the connection is functioning.

IPS-C Compatibility
Some Ringdale printservers (including some for HP and Kyocera printers) have IPS-C compatibility. IPS-C is network printing software which allows large print jobs to be compressed when being sent across the Internet or any network, speeding up data transfer and avoiding jamming up the network. Contact Ringdale for more details.

FollowMe Secure Printing Upgrade
Some Ringdale printservers (including some for HP and Kyocera printers) can be upgraded to incorporate Ringdale's FollowMe Printing System. FollowMe Printing allows a print job to be sent from any Windows PC to a secure designated server (any network PC can be used for the server), which will hold the print job until the user arrives at the printer. The user can then identify themselves by means of an ID card or pin number (even a fingerprint if required), which will then allow the print job to be printed, ensuring confidentiality for sensitive documents.

The Copy Patrol version of FollowMe Printing is for copier/printer multi-function devices (MFD) and allows control of photocopy output as well. Contact Ringdale for more details.

Important Note for installing an interface to an HP Color-Laserjet 8550 only

When connecting a printserver/interface to the 8550 HP printer it is necessary to perform the following procedure whenever the printer configuration is changed using the printer's front panel.

1 Power down the printer and remove the printserver/interface.

2 Power up the printer and make the configuration changes on the printer front panel.

3 Power down the printer again and re-install the printserver/interface. Power up the printer again.

4 Configure the printserver/interface using the Printset™ 2000 software supplied.

External Ethernet Printservers

All printservers support all major protocols unless otherwise stated

RP21 In-Line 10base
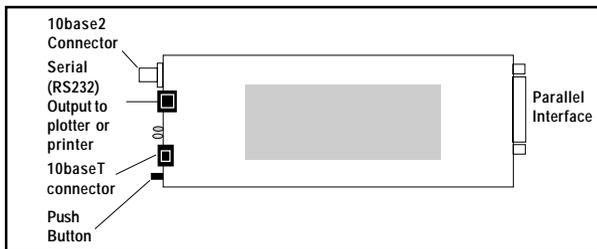
Network: Autosensing UTP/BNC (10baseT/10base2).

Output: Parallel (Bi-dir) or Serial (RS232) - software selectable (Printset™ 2000 will provide the option to select either option on the **General** property page - *Parallel* is the default setting).

Power: 5V (external power supply).

Following are details of the RP21 In-Line serial cabling specifications, if this option is required.

Cabling Specifications for the RP21 In-Line Serial Cable

RJ11 - 9 Way Cable

DTR	1	1,6,8	DCD/CTS
TXD	2	2	RXD
GND	3	5	GND
GND	4	5	GND
RXD	5	3	TXD
CTS	6	4	DTR

RJ11 - 25 Way Cable

DTR	1	5,6,8	DCD/CTS
TXD	2	3	RXD
GND	3	7	GND
GND	4	7	GND
RXD	5	2	TXD
CTS	6	20	DTR
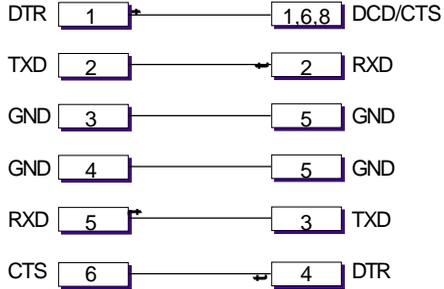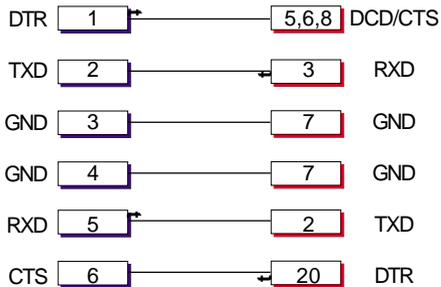
6 way - RS 232 plug pin assignment:

1 - DTR   3 - GND   5 - RX

2 - TX   4 - GND   6 - CTS

AMP 555 177 or 555 176 or
MOLEX 90075-0007

1 2 3 4 5 6
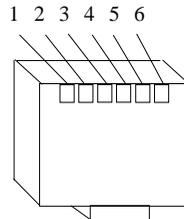
RP21 In-Line 10/100
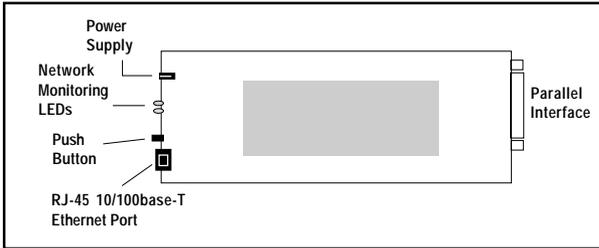
Network: Autosensing 10baseT/100baseTX.

Output: Parallel (Bi-Di)

Power: 5V (external power supply).

RP21 Professional
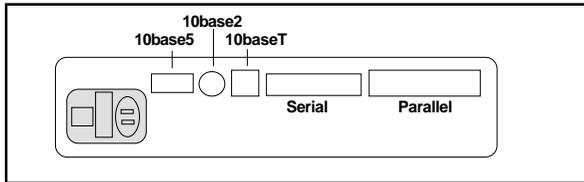
Network: Jumper selection 10base2, 10base5, 10baseT.
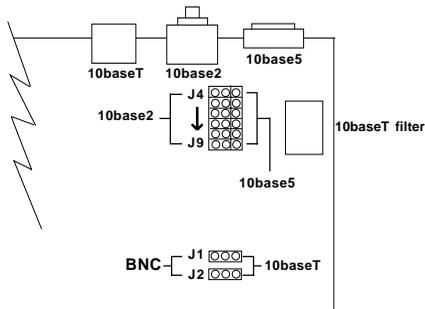
For BNC: J4 -J9 link to side marked 'base 10/2'. J1 & J2 to side marked "BNC".

For AUI: J4 - J9 link to side marked 'base 10/5'. J1 & J2 on BNC setting.

For UTP: J1 on side '10baseT'. J2 move to other position if no LED activity (Goodlink).

Output: Parallel (Bi-dir) or Serial (RS232) - software selectable (Printset™ 2000 will provide the option to select either option on the *General* property page - *Parallel* is the default setting).

Power: 5V (internal mains supply).

For serial cabling specifications, if this option is required, see the RP21 In-Line instructions earlier in the chapter.

PrintPro' 10/100
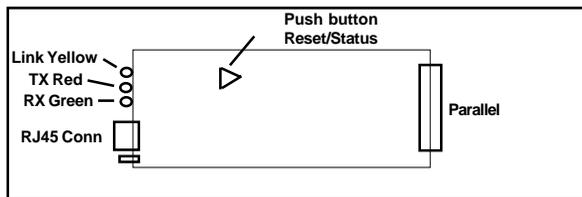
Network: Autosensing 10base T or 100base TX with RJ45 connector.

Output: Parallel (IEEE 1284 and 36 way Centronics).

Power: 5V, 800mA external PSU.

1286 PrintPro'97 & 1305 PrintPro' 99

Push button
Reset/Status

TX Red
RX Green

Parallel

RJ45 Conn

Power supply
5 volts
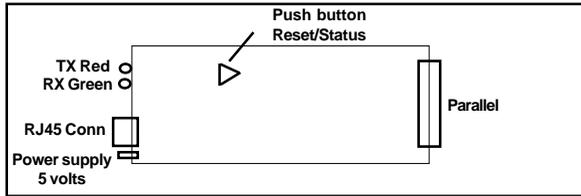
Network: 10base T.

Output: Parallel (Bi-Di).

Power: 5V, 250mA (over PIN 18 of the parallel port), external power supply unit optional.

1306 PrintPro' FL

LEDs - Red (Top) TX   ST Fibre Conn RX

Green (Bottom) RX

Push button
Reset/Status

ST Fibre Conn TX

Parallel Port

Link Yellow LED   Power supply 5 volts
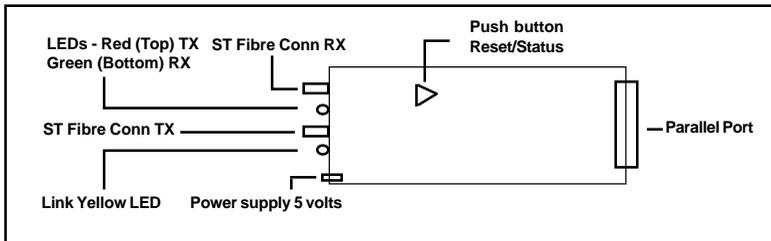
Network: 10base FL.

Output: Parallel (Bi-Di).

Power: 5V, 250mA (over PIN 18 of the parallel port), external power supply unit optional.

Omniprint
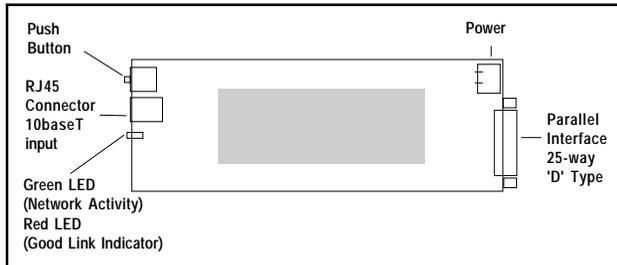
Protocols: Novell, TCP/IP.

Network: UTP only (10baseT).

Output: Parallel (Bi-Di).

Power: 5V (external power supply).

ModuLAN
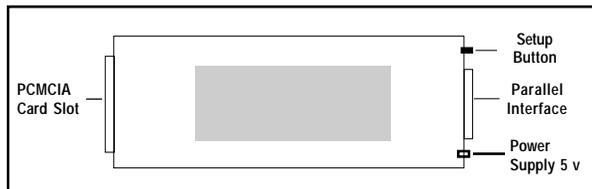
Network: PCMCIA slot.

Output: Parallel IEEE 1284.

Power: 5V (external) power supply.

MultiServ/PrintServ3™
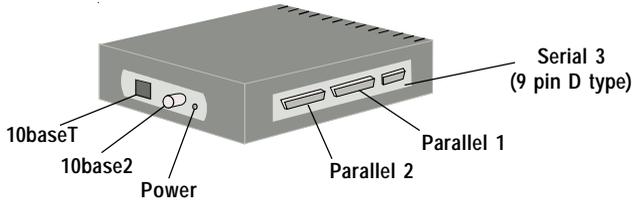
Network: Autosensing UTP/BNC.

Output: 2 x Parallel Centronics Ports IEEE 1284.
1 x Serial Port

Power: External 5V PSU.

Connecting the MultiServ Printserver to the Network and Printers

Serial Cable Specifications

9 (D type)			25 (D type)
1	CD	INPUT	20
2	RD	INPUT	2
3	TD	OUTPUT	3
4	DTR	OUTPUT	5
5	GND		7
6	DSR	INPUT	6
7	RTS	OUT	
8	CTS	INPUT	8
			13
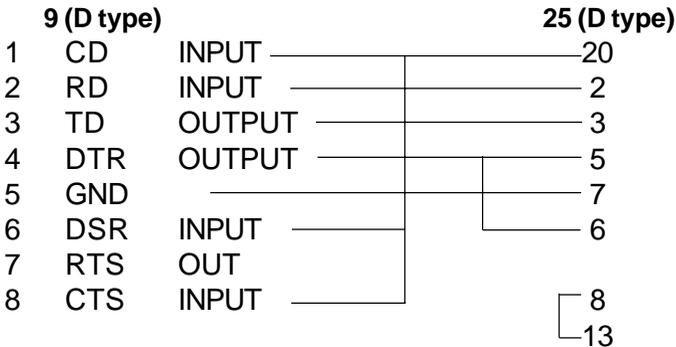
Selecting Output to Printer

The MultiServ Lan Interface has two parallel and one serial port. The default output port is parallel 1 and all prints will come out on this printer unless otherwise specified. The status page also prints on parallel.

Here is the setup to allow printing to the other two ports:

Novell - Printserver Mode
The output port is determined by the queue name, i.e. if the queue name ends in '1' then the print is directed to parallel 1, if the queue name ends in '2' the print is directed to parallel 2 and if the queue name ends in '3' then the print is directed to the serial port. Set up three queues in PCONSOLE:-

For example:-   Accounts_1
                      Accounts_2
                      Accounts_3

Queue   "Accounts_2" will only print to parallel 2
             "Accounts" will print to parallel 1

Refer to the Novell chapter in the *Technical Reference Manual* for more details on setting up a printserver for Novell.

LPR
With lpr printing, the output selection is made by specifying a remote printer name in the printing file. So the remote printer names and their filter actions are as follows:

lp1b	-	no filter, output to parallel 1
lp1a	-	Ascii filter, output to parallel 1
lp1af	-	Ascii filter with formfeed, to parallel 1
lp2b	-	No filter, output to parallel 2
lp2a	-	Ascii filter, output to parallel 2
lp2af	-	Ascii filter with formfeed, to parallel 2
lp3b	-	No filter, serial output
lp3a	-	Ascii filter, serial output
lp3af	-	Ascii filter, serial output

lpxb, lpxa, lpxaf -filters as above, output to first available printer.

FTP
The output port selection is made by specifying one of the following filters after the filename in the port or serial command line.

PRNT_1	-	Direct print to parallel 1
PRNT_2	-	Direct print to parallel 2
PRNT_3	-	Direct print to serial port

PRINT can be replaced by FEED, to add a formfeed to the end of each job:

> For example: send <filename> PRNT_2 will direct print to parallel 2, with no formfeed.

Send <filename> FEED_3 will send the print to the serial port and add a formfeed. For more details on the use of ftp refer to the *Technical Reference Manual* chapter on TCP/IP.

Internal Ethernet Printservers
All printservers support all major protocols unless otherwise stated

HP Laserjet MIO

With the following interfaces for Laserjet MIO printers, the interface can be configured from the front panel of the printer as follows:

Press **Online**, then press **Menu** eight times until the *MIO* menu is reached. Press item to scroll through this menu:

Cancel Job   Press **+** to choose Yes/No. **Enter** to save changes.
Reset Lan   Press **+** to choose Yes/No. **Enter** to save changes.
Remote   Press **+** to choose Off/On. **Enter** to save changes.
PS=   Press **+** to choose **TEST_M1**

> **NETPRINTER 1**
>
> **NETPRINTER 2**
>
> **NETPRINTER 3**
>
> **NETPRINTER 4**

> **Enter** to save change.
> In the following section enter the IP address.
>
> **INTERNET #1=11 +** to increase no.
> **Shift +** to decrease no.
> **Enter** to save change.

INTERNET #2=22 + to increase no.
Shift + to decrease no.
Enter to save change.

INTERNET #3=33 + to increase no.
Shift + to decrease no.
Enter to save change.

INTERNET #4=44 + to increase no.
Shift + to decrease no.
Enter to save change.

For SUBNET follow the same procedure as above i.e.

SUBNET #1
SUBNET #2 etc.

An * indicates saved item. Press **Online** to escape to normal operation.

RP21 MIO/Omni-Jet
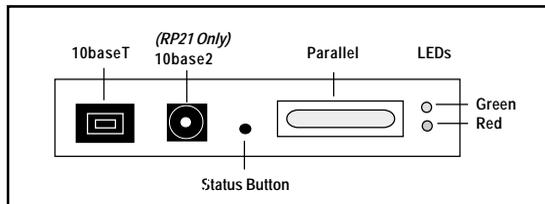
Network: RP21 - Autosensing UTP/BNC (10baseT/10base2).
                 Omni-Jet - UTP (10baseT)

Sharer: Parallel centronics I/P.

Power: Internal from printer.

(See previous notes for *HP Laserjet MIO*)

Fast-Jet MIO
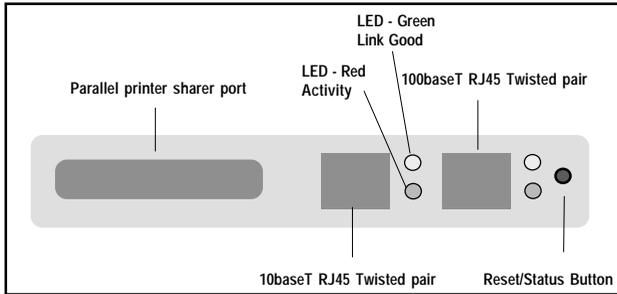
Network: 10baseT (RJ45), 100baseT (RJ45).

Sharer: Parallel Centronics I/P.

Power: Internal from printer.

(See previous notes for *HP Laserjet MIO*)

ModuLAN MIO
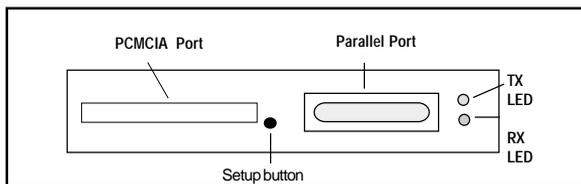
Network: PCMCIA slot.

Sharer: Parallel Centronics I/P.

Power: Internal from printer.

(See previous notes for *HP Laserjet MIO*)

HP MIO FL 1259
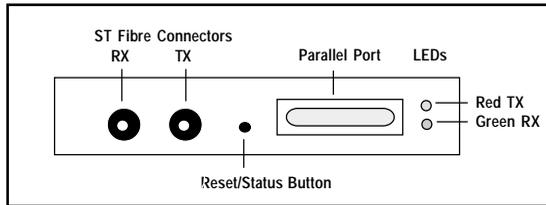
Network: 10baseFL.

Sharer: Parallel centronics I/P.

Power: Internal from printer.

(See previous notes for *HP Laserjet MIO*)

HP EIO 1339
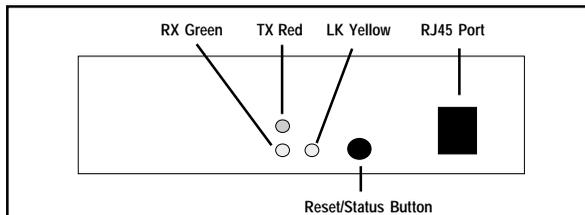
Network: Autosensing 10base T/100base TX.

Output: Direct to printer's internal EIO port.

Power: Internal from printer.

HP EIO 1453
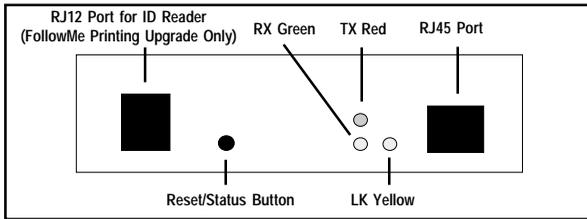
```
RJ12 Port for ID Reader          RX Green    TX Red    RJ45 Port
(FollowMe Printing Upgrade Only)

Reset/Status Button              LK Yellow
```

Network: Autosensing 10base T/100base TX.

Output: Direct to printer's internal EIO port.
                    RJ12 for connection of ID reader (FollowMe Printing
                    upgrade only - For details of this see the introduction).

Power: Internal from printer.

HP EIO FL 1456

```
RJ12 Port for ID Reader          RX Green    TX Red    SC FX Ports
(FollowMe Printing Upgrade Only)

Reset/Status Button              LK Yellow
```
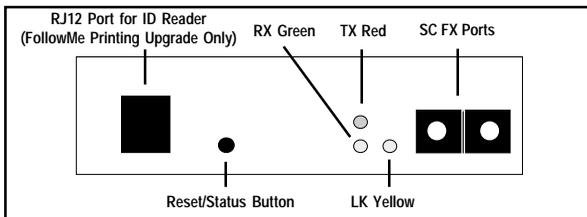
Network: 100base FX (Fibre Optic).

Output: Direct to printer's internal EIO port.
                    RJ12 for connection of ID reader (FollowMe Printing
                    upgrade only - For details of this see the introduction).

Power: Internal from printer.

HP EIO FL 1342
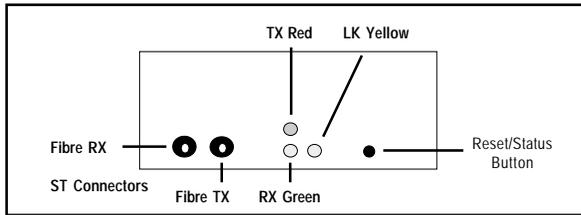
Network: 10base FL (fibre optic).

Output: Direct to printer's internal EIO port.

Power: Internal from printer.

IBM Fibre 1304
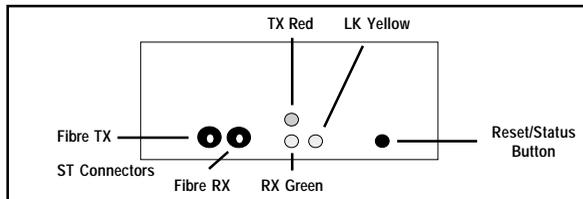
Network: 10base FL (fibre optic).

Output: Direct to printer's internal option card interface.

Power: Internal from printer.

Lexmark Interfaces

Lexmark interfaces have the ability to be configured from the **Front Panel** of the printer. Follow the procedure below to set up the interface by this method (**Note:** for the 1364 FL interface - for use with Optra S printer models and above - see the separate *Front Panel* instructions with the listing).

At power up the LCD display is divided into eight sections, four on the left indicating printer status and four on the right corresponding to the adjacent buttons.

The top right display shows **Menus**. Press the corresponding button to reveal menu options. Four options appear, press the button adjacent to **More** to reveal further options.

Two more options will appear, press the button adjacent to **ITC Ethernet** to reveal options. From this menu, press the button adjacent to **IP Address**. Alterations to the IP address can be made from the control panel. Press the top button to move along to the next number. Press the button adjacent to **+** to increase value. Press button adjacent to **-** to decrease value. Press button adjacent to **Save** to save the changed value.

Press the button adjacent to **Subnet Mask**. Alterations to the subnet mask can be made from the control panel. Press the top button to move along to the next number.

Press the button adjacent to **+** to increase value. Press button adjacent to **-** to decrease value. Press button adjacent to **Save** to save the changed value. Press **Return** button to escape to previous menu without making any changes. Press the button adjacent to **Print LAN Status** to print the status page. Press the **Ready** button to return to normal operation.

Lexmark 1225

RJ45 Conn
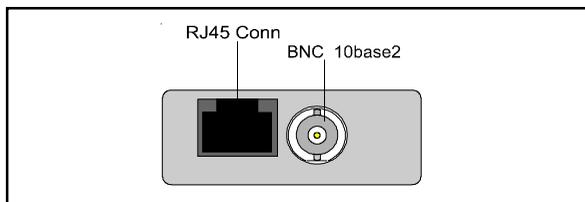
BNC 10base2

Network: Autosensing UTP/BNC (10baseT/10base2).

Output: Direct to printer's internal option card interface.

Power: Internal from printer.

Lexmark FL 1240
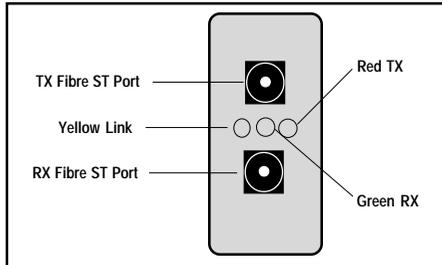
Network: 10base FL Fibre Link.

Output: Direct to printer's internal option card interface.

Power: Internal from printer.

Lexmark 1255
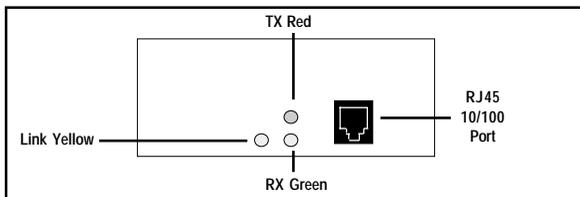
Network: 10base T, 100base TX.

Output: Direct to printer's internal option card interface.

Power: Internal from printer.

Lexmark FL Optra S (and above) 1364
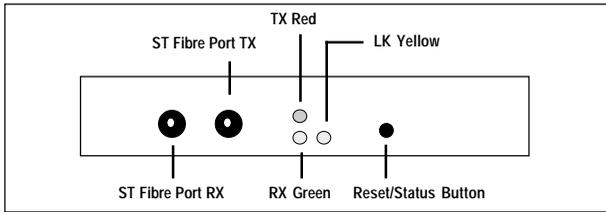
Network: 10base FL (fibre optic).

Output: Direct to printer's internal option card interface.

Power: Internal from the printer.

Configuring the Interface from the Printer Front Panel
The Optra S 1364 interface can be configured from the front panel of the printer as follows:

Using the two arrow keys on the front panel to move through the menu options, choose **Network Menu**. Press the **Select** button twice and **Network Option 1** will appear. Use the arrows to move through this sub-menu to find **NPA Mode**. Press Select again and by using the arrows ensure that the option is set to **Off**.

Press the **Return** button to go back to the Network Option 1 menu and use the arrows to find **Network Setup**. Press **Select** and the **IP Protocol** option will appear with **IP Address** listed. Press **Select** and the IP address will appear. Use the arrows to set the numbers as required (pressing *Select* will choose each number in turn). Press **Return** to exit IP Address and return to the IP Protocol sub-menu.

Using the same procedure from the IP Protocol sub-menu (use the arrows to move through the options), the **Subnet Mask**, **Gateway IP Address**, **DHCP Enabled/Disabled** and **AutoIPSet On/Off** options can be configured.

When the interface is configured as required, press **Return** repeatedly until the front panel display has returned to its on-line position. *Note: configuration changes will not be set until the printer is returned to its on-line position.*

Kyocera 1280
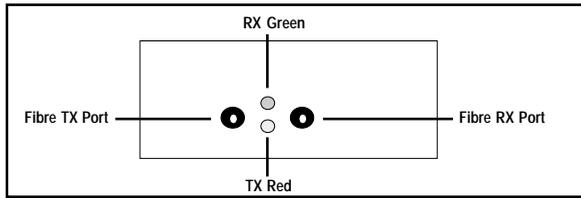
Network: 10base FL (Fibre Link), Double ST (TX,RX).

Output: Direct to printer's internal option card interface.

Power: Internal from the printer.

Kyocera 1265
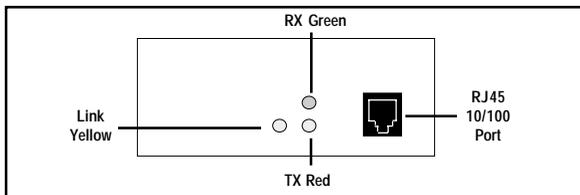
Network: Autosensing 10base T, 100base T.

Output: Direct to printer's internal option card interface.

Power: 5V-DC 300mA (from printer).

Kyocera 1295/1295T
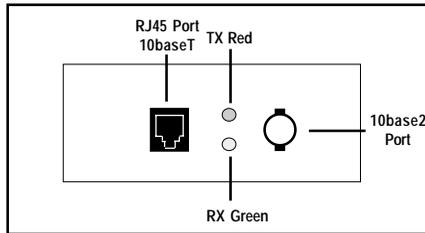
Network: Autosensing UTP 10base T or BNC 10base 2.
           or
           10base T only.

Output: Direct to printer's internal option card interface.

Power: Internal from printer.

Kyocera 1322/1322T KUIO
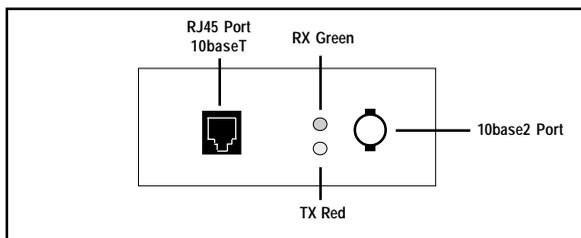
Network: Autosensing UTP 10base T or BNC 10base 2.
           or
           10base T only.

Output: Direct to printer's internal option card interface.

Power: Internal from printer.

Kyocera 1341 KUIO FL
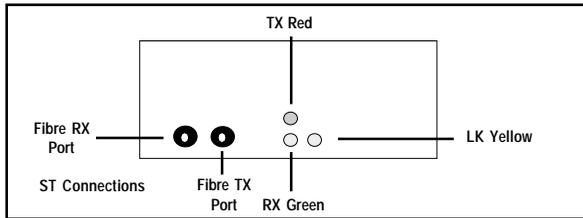
Network: 10base FL (fibre optic).

Output: Direct to printer's internal option card interface.

Power: Internal from printer.

Kyocera 1477 KUIO
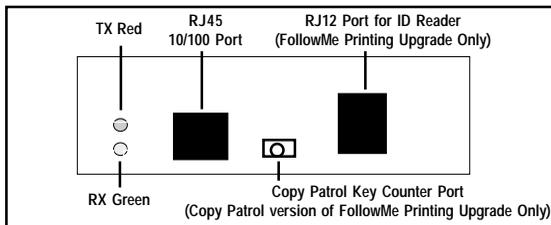
Network: Autosensing 10base T/100base TX.

Output: Direct to printer's internal option card interface.
RJ12 for connection of ID reader and key counter connection port (FollowMe Printing upgrades only - for details of this see the introduction).

Power: Internal from printer.

Epson 1170
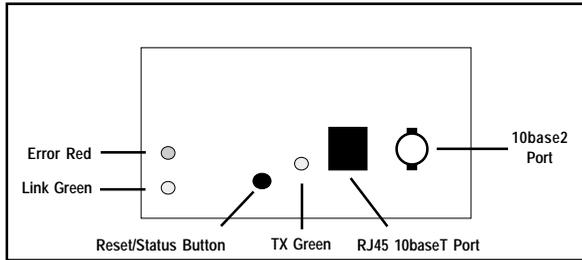
Network: Autosensing UTP 10base T or BNC 10base 2.

Output: Direct to printer's internal option card interface.

Power: Internal from printer.

Epson 1335 & 1308
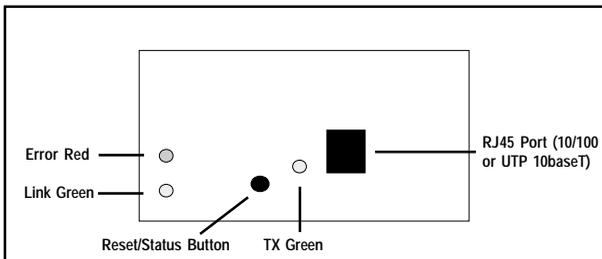
Network: Autosensing 10base T/100base TX (1335).
        or
        UTP 10base T only (1308)

Output: Direct to printer's internal option card interface.

Power: 5V-DC 300mA (Internal from printer).

Brother 1323 X10
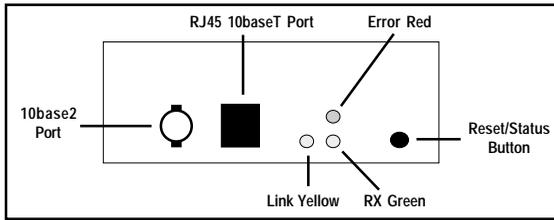
Network: Autosensing UTP 10base T or BNC 10base 2.

Output: Direct to printer's internal option card interface.

Power: Internal from printer.

TOKEN RING PRINTSERVERS

These Token Ring printservers support all major protocols, including TokenTalk

TR31 In-Line/Printserv-T
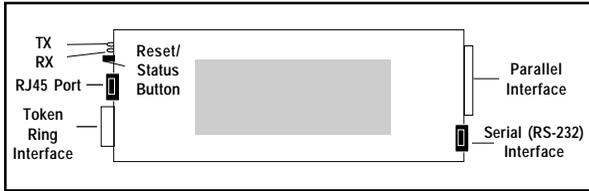
Network: Autosensing Type 1/3 connector & ring speed (Jumpers can be set 4 or 16MBs as marked).

Output: Parallel (Bi-dir) or Serial (RS232) - software selectable (Printset™ 2000 will provide the option to select either option on the *General* property page - *Parallel* is the default setting).

Power: 5V (external power supply).

TR31 MIO
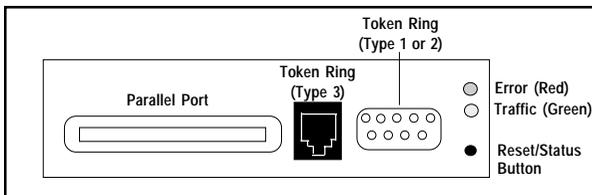
Network: Autosensing Type 1/3 cabling & ring speed.

Sharer: Parallel sharer input.

Power: Internal from printer.

Kyocera 1353
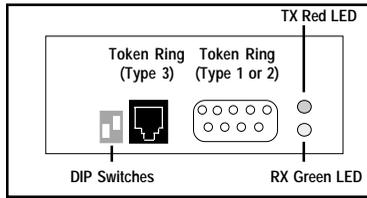
Network: Token Ring Autosensing Type 1/3 connector. Ring speed can be set as follows using the DIP switches:
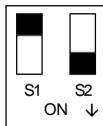
S1	S2	SPEED
OFF	OFF	AUTO
OFF	ON	16 MHz
ON	OFF	4 MHz
ON	ON	16 MHz

Output: Direct to printer's internal option card interface.

Power: Internal from printer.

Kyocera KUIO 1347
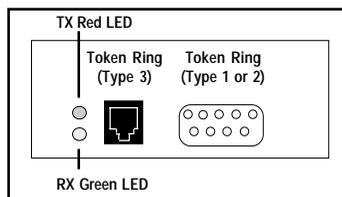
Network: Token Ring Autosensing Type 1/3 connector & ring speed (Jumpers can be set 4 or 16MBs as marked).

Output: Direct to printer's internal option card interface.

Power: Internal from printer.

Printset™ 2000

Printset™ is a set of programs that run on a DOS/Windows PC, UNIX host or Apple Macintosh. It allows the configuration, viewing and management of the LAN printer interface. A different version of the software needs to be installed depending on the operating system. These will be contained on the CD-ROM supplied with the interface. The Printset™ software uses **N**etwork **P**eripheral **M**anagement **P**rotocol (NPMP) to communicate with any printer interface that supports NPMP. Printset™ supports all major transport protocols.

For full details of installing and using Printset™, see chapter one of the *Technical Reference Manual*. Following is a brief overview of Printset™ 2000, suitable for Windows operating systems. Printset™ for other operating systems will be virtually identical to use.

Once installed, open Printset™ from the **Start** menu. The path will be **Programs/Ringdale/Printset2000**. This will display the Printset™ main window as shown following.

Printset™ will automatically search the network and locate all Ringdale network interfaces, which will be displayed in the main window.

A new device that has just been connected will be displayed with the factory default IP address of:

<div align="center">

11.22.33.44

</div>

Click twice on the device to be configured, or highlight the device on the list and click the **Open** button. This will display the property pages for the interface. Use the property pages to configure the interface - the configuration required will be different depending on the specifics of each network.
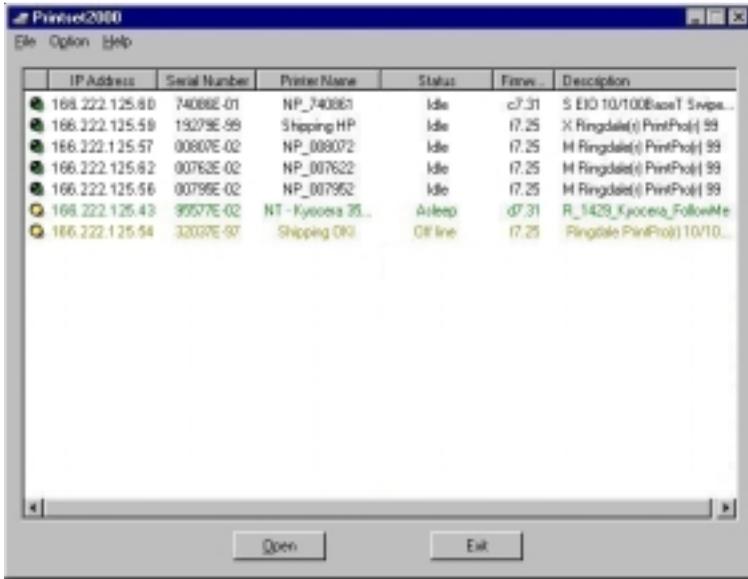
There will be specific property pages for NetWare, Apple and TCP/IP (shown below), amongst others. Configure the interface as required for the network, for example by entering the IP address for the device as shown below:
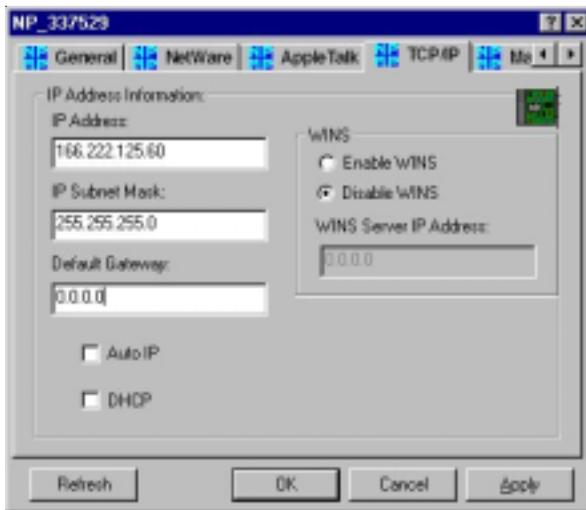
After configuration is complete, print out a status page.

Many Ringdale interfaces have the ability to be set up to receive and print text E-mails and embedded, pre-formatted print files. Similarly, once set up, internet faxes can be sent straight to the printserver's E-mail address to be printed by the printer. The *Mailserver* page will be present within Printset™ 2000 if the device has this capability.

> **Note: to use this facility it is necessary to have the POP-3 protocol installed on your E-mail server.**

Select the **Mailserver** tab to display the following page:
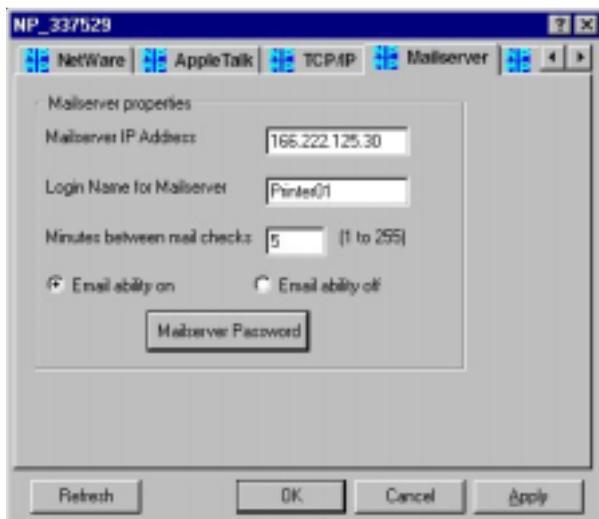
Detailed below are instructions on how to set up the interface to receive E-mails:

Enter the **Mailserver IP Address** into the field (and ensure that the **Default Gateway** IP address has been entered on the *TCP/IP* page).

Enter the **Login Name** for the interface to ensure connection to the mailserver.

 e.g. "e-mailfax".

If a login password has been set on the mailserver, click on the **Mailserver Password** button and enter the password to login.

Note: the login name and password will also have to be added to the **User Accounts** on the mailserver.

Send an E-mail to the interface by entering the E-mail address as you would a normal mail recipient

 e.g. "e-mailfax@####.co.uk

The file will be sent to the attached printer via the mailserver (allow a few minutes).

Enter the frequency required for the interface to check with the mailserver if any new mail has arrived in the **Minutes between mail checks** field.

Once set up, the interface automatically logs on to the mailserver at power-up.

These settings enable the interface to receive internet faxes in the same way.

Turn the E-mail ability of the device off and on as required on this page.

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