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Panasonic WORKiO DP-1820



PROS

- Ethernet printing standard.
- Scanning options can be added without purchasing print upgrades.
- LDAP integration.
- Standard PDF software.
- Flexible scanning options.
- Well laid out control panel.
- User-friendly PC fax.
- High max. paper capacity.
- Double Exposure and Digital SkyShot copy features.
- QWERTY keypad option.
- Powerful PCL/PS processor.

CONS

- No finishing capability.
- Pricy entry level model.
- No color scanning.
- No upgrade path to duplex from simplex model

18ppm Copy - Print - Scan - Fax

Product Overview

The Panasonic WORKiO DP-1820 is an 18ppm monochrome workgroup multifunctional device with standard copying and Ethernet Windows printing out of the box.

The device comes with a 550-sheet universal paper drawer and 50-sheet bypass tray, an additional three 550-sheet paper drawers are available as options, taking maximum paper capacity up to 2,250 sheets.

PCL and PostScript printing can be added as optional items, utilizing the 200MHz main processor board, which comes with 16MB RAM (expandable to 144MB) plus an optional 40GB hard drive.

Extensive network scanning (including scan to email, file, FTP and internet fax) capabilities, plus both walk-up and PC fax, can be added as optional purchases.

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Product Dynamics

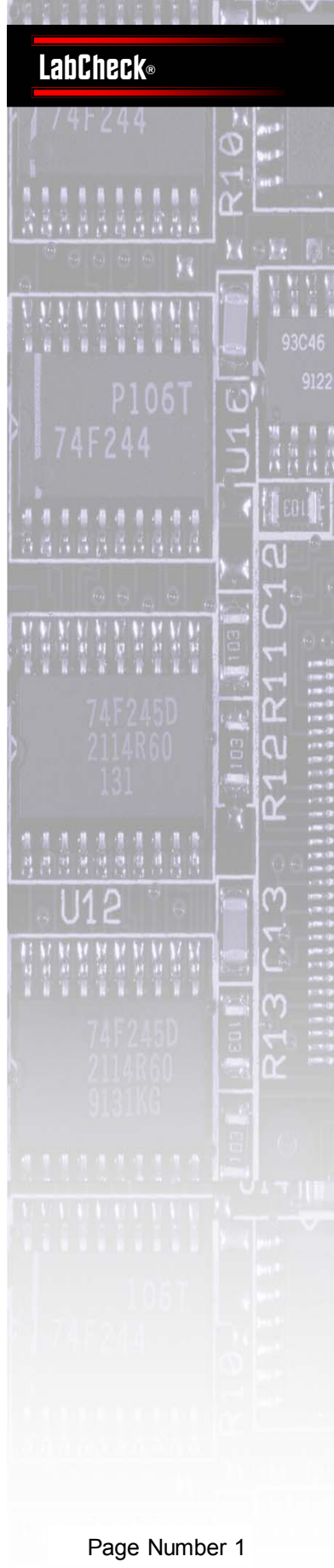
BERTL Brand Survey — ©Data Level June-04

While this BERTL report concentrates specifically on an individual device and is designed to provide the reader with an independent perspective on its relative strengths, weaknesses and value proposition, the decision to buy, or not to buy, is not always “device-specific.” The brand behind the device and how it is perceived in the marketplace is also extremely important. This is where BERTL Brand Surveys come into play.

BERTL speaks to product buyers on a regular basis. In addition, BERTL conducts periodic surveys of the digital imaging marketplace. The valuable feedback we receive from buyers and product resellers is incorporated into our reports, in order to provide our subscribers with a perspective on the manufacturer behind the device.

The table below shows feedback received in BERTL’s latest survey of this manufacturer’s product(s). Note: Survey results change over time—the data level for this survey is shown at top.

| | |
|--|--|
| COLOR: How high do you rate the RELIABILITY of this supplier's color devices? | N/A |
| MONOCHROME: How high do you rate the RELIABILITY of this supplier's black and white devices? | Good (86%) Met minimum expectations (3%) Could be improved (10%) |
| MFP: How high do you rate the RELIABILITY of this supplier's MFP devices? | Good (89%) Met minimum expectations (3%) Could be improved (6%) |
| PRICE: Do you consider this supplier's devices EXPENSIVE when compared to rival products? | Yes (3%) No (90%) No opinion (6%) |
| EASE OF USE: How high do you rate this supplier's MFP devices? | Good (89%) Met minimum expectations (3%) Could be improved (6%) |
| PRODUCTIVITY: How high do you rate this supplier's MFP devices? | Good (86%) Met minimum expectations (6%) Could be improved (6%) |
| IMAGE QUALITY COLOR: How do you rate the color image quality of this supplier's devices? | N/A |
| COLOR RUNNING COSTS: How do you rate your "COLOR" cost-per-page? | N/A |



Product Dynamics

The Panasonic WORKiO DP-1820 joins Panasonic's digital multifunctional range which spans from 15ppm workgroup/personal devices up to 70ppm departmental devices. The 18ppm Panasonic engine is available in two configurations, the WORKiO DP-1820P and the DP-1820E. The only difference between the two versions is the addition of duplex printing capability on the DP-1820E.

The entry-level price of the Panasonic Workio DP1820 is slightly higher than some competition. However within its entry level price Panasonic WORKiO DP-1820 users get:

- Windows/Network printing
- Ethernet Connectivity
- Document management and Acrobat PDF creation tool (using PDMS*)

*Panasonic Document Management System, included standard with the device

These valuable tools are commonly charged as optional items on competing products, so their inclusion in the cost equation makes the Panasonic WORKiO DP-1820 a price-competitive unit.

The Panasonic WORKiO DP-1820 specifications place it among the top two or three workgroup MFPs making it a good bet in a wide range of environments.

More importantly, the device has no major limiting factors—a strong statement in its favor that cannot be attributed to many of the Panasonic WORKiO DP-1820's competitors.

In addition to offering copy and Ethernet Windows printing functionality within its base price, the Panasonic WORKiO DP-1820 also offers upgrades.

These options include:

- PCL5e / PCL6 emulation kit
- Adobe PostScript kit
- Fax Upgrade Kit
- Internet Fax and Scan to Email Kit with LDAP support and an optional QWERTY keyboard
- Scan to File/Scan to FTP Kit
- 3 additional 550-sheet paper tray units
- 50-sheet document feeder
- Hard Drive

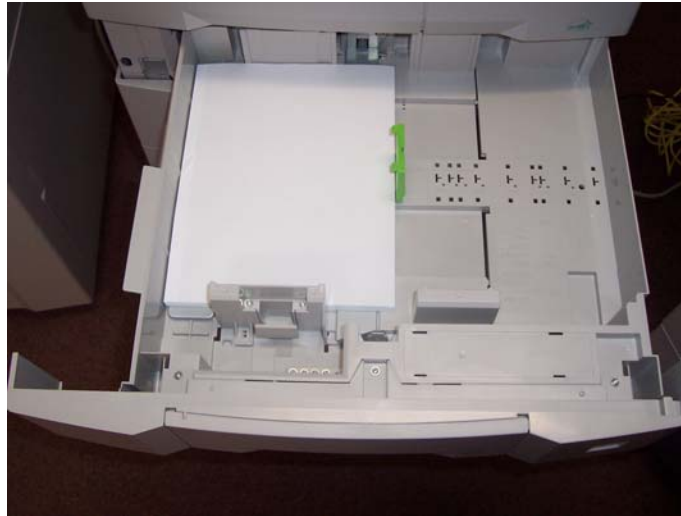


BERTL analyst reviewing the Panasonic WORKiO DP-1820

Product Dynamics

Paper Handling: The Panasonic WORKiO DP-1820's entry-level configuration has a 550-sheet universal paper drawer which can hold paper sizes up to ledger/A3, plus a 50-sheet bypass unit which holds heavier weight paper and envelopes. The universal paper drawers have a sliding guide on one side and a series of pre-defined paper size markers on the other side.

For those who need higher paper supplies, up to three additional paper drawers can be added taking the maximum paper capacity up to 2,250 sheets—well above that offered on most competing units.



Universal Paper Drawer with Sliding Guide and Pre-Defined Guide slots

Duplex:

Duplex is standard on the Panasonic WORKiO DP-1820E model. It is not available at all on the 1820P model, forcing users to decide on Day One if duplex is needed.

Finishing Features:

The Panasonic WORKiO DP-1820 offers no finishing capabilities but by using the bypass or a paper drawer in conjunction with a second paper supply, you can criss-cross sort output, making document separation an easier process. While the majority of ledger/A3 competing units do not offer finishing either, several legal/8.5" x 14" MFP products offered by the printer industry include finishing options.



Product Dynamics

Printing:

The Panasonic WORKiO DP-1820 comes with Windows/GDI printing as a standard feature out of the box.

While this is not a unique function at this level of the market, Panasonic also includes Ethernet connectivity, a feature that is often missing from Windows/GDI-enabled devices. This means that the Panasonic WORKiO DP-1820 can be shared among all members of a workgroup. On some competing devices, users have to buy an expensive printer upgrade kit in order to share the device among a group of users.

Panasonic offers both PCL and PostScript printing as upgrade options. These printing options are handled by the central image processing board, powered by a 200MHz processor with 16MB RAM, which can be upgraded to 144MB. A 40GB hard drive can be added, increasing spooling capacity.

Design and Monthly Volume: One of the big changes that Panasonic implemented on its new 18ppm MFP is to offer a dual component toner system, rather than the mono component toner on its predecessor.

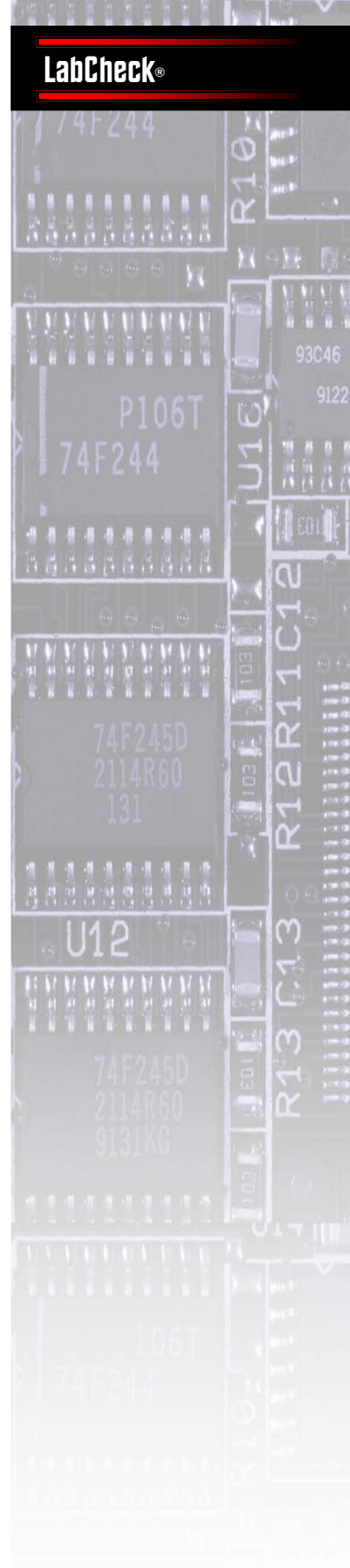
Panasonic's product manager for the DP-1820 told BERTL that this switch offers considerable cost per page (cpc) saving potential.

The toner bottle is easily changed, sitting behind the waste toner bottle.

The Panasonic WORKiO DP-1820 uses a 60,000-page life photoconductor drum and developer units which match the maximum monthly volume quoted by the company, and is considerably higher than the majority of competing units, reducing service downtime.



BERTL analyst changing the toner on the DP-1820



Product Dynamics

Scanning:

The Panasonic WORKiO DP-1820 includes two optional network scanning packages.

The first scanning upgrade package provides Push-type network scanning, including scan to Desktop, FTP, Client, or Server in TIFF and PDF formats. Users achieve this using Panasonic's Document Management System (PDMS).

The second scanning package, which will be available soon after launch, provides the ability to scan and send documents directly to email addresses. LDAP integration with corporate contact databases is included with the scanning upgrade. A QWERTY keyboard can also be added, making adhoc/manual entry of email data entry, file naming and message entry addresses a more user-friendly task. The QWERTY pad also adds a quick search facility when accessing addresses via LDAP. With the optional fax board added, users also have the ability to send documents to internet fax numbers.

Fax:

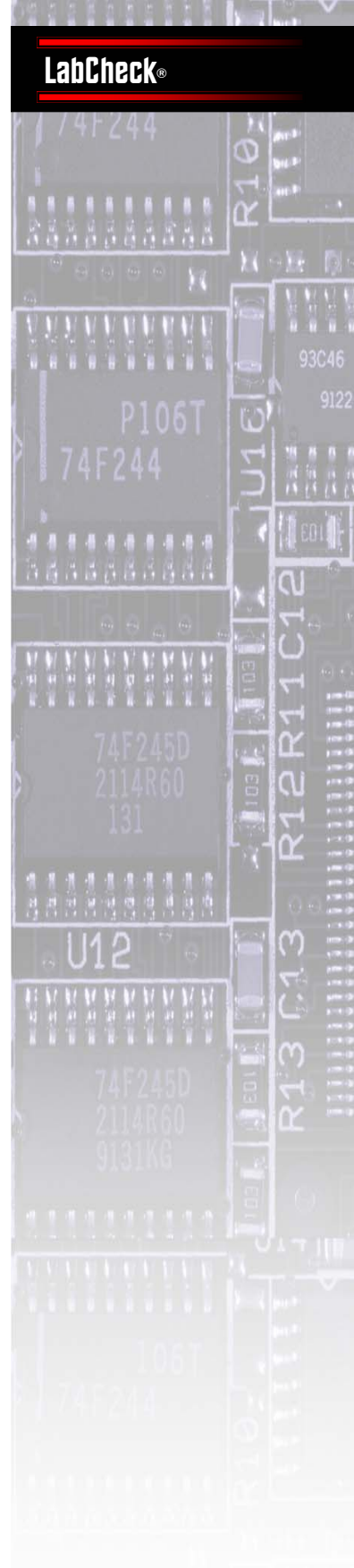
The Panasonic WORKiO DP-1820 can be upgraded to include fax capability as an option. The fax upgrade includes a wide range of fax functions including high 600 x 600dpi resolution sending and JBIG compression as standard, features that some manufacturers charge additional upgrades for (or cannot achieve).

Hard Drive Functionality:

The entry-level Panasonic WORKiO DP-1820 has no hard drive (you can buy it as an optional upgrade). Some functions are not available without the hard drive, including:

- **Next Job Copy Memories:** Adding the hard drive allows 12 copy memories.
- **Secure printing:** Send a job to print with a PIN code.
- **Mailbox printing:** Save to a virtual mailbox on the hard drive.

Printer spooling: Store print jobs as they come off the network, and hold them until processed.



Copy

BERTL analysts liked how the main copy control functions (i.e sort mode, duplex, contrast) were all easy one-press operations.

Electronic collation is a standard feature on the Panasonic WORKiO DP-1820. Some competing units charge extra for this essential copy feature.

Two areas of copy functionality worthy of particular note are Digital SkyShot and Double Exposure.

Digital SkyShot:

When you lift the lid and place an object (book, document, etc.) onto the glass copy platen, the WORKiO DP-1820 detects its size and blocks out the remaining area.

For example, a car dealership's office copying driving license cards will have copies emerge clean with white surrounds rather than showing black edges normally made when copying with the lid up.

An added benefit of the Panasonic WORKiO DP-1820's 'Digital SkyShot' is the reduction in wear on the photoconductor and other mechanical components. The problem with most alternative copy systems is that the areas outside of the copied object prints as black; this requires the imaging drum to be saturated with toner. The extra toner wears out the drum quickly and can cause problems with the cleaning mechanism, which is not designed to scrape off large quantities of toner. Panasonic stressed that their Digital SkyShot feature wraps around any shape, and is not restricted to regular square/rectangular shapes as found on some competing devices.



Control panel on Panasonic WORKiO DP-1820



Double Exposure:

Panasonic's double exposure setting allows users to combine two scans onto a single sheet of paper without reducing the size of the image (unlike 2-up copying). This is a valuable function, for example, in a doctor's office, where insurance cards are copied on both sides. Rather than having to create two outputs of the card, Panasonic's double exposure setting allows users to scan the first side, turn over the card, scan the second side then output the two scans at the same size as the original, on a single sheet.

Push Button Panel:

Overall, BERTL analysts found the menu system easy to use. The copier control panel on the Panasonic WORKiO DP-1820 is predominantly push-button oriented with a small two-line LCD control panel.

Print

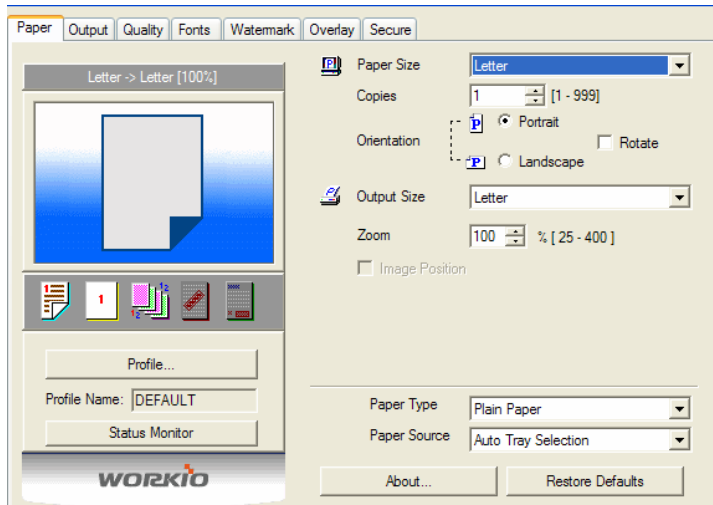
The Panasonic WORKiO DP-1820 comes with Windows printing and a 10/100BaseT network connection within the standard price of the device. This can be upgraded to full PCL6, and genuine Adobe PostScript 3, via separate upgrades.

PCL printing is powered by a 200MHz IBM PowerPC405p customized RISC based processor. A Panasonic Copier and Fax Product Marketing Manager, stressed that the IBM PowerPC405p chip was specially designed for Panasonic for the purposes of handling multifunctional devices, and delivers more image processing power than the general PC chip architecture used on some competing units.

Standard RAM is 16MB, expandable to 144MB. Panasonic also offers a 40GB hard drive for spooling jobs.

Bandwidth: Panasonic's use of network bandwidth was better on PCL printing than the standard Windows printing system. This was especially evident on word processing documents where a 35-page Word file RIPPed into a 448KB PCL print file, versus the 2.29MB Windows/GDI print file.

| PCL6 Printer Productivity | | |
|------------------------------|----------------|-------------|
| Print Job / Test | Bandwidth Used | |
| | PCL | Windows/GDI |
| 35 page Word document | 448KB | 2.29MB |
| 6 page Word Perfect document | 292KB | 767KB |
| 5 Page Acrobat File | 966KB | 2.39MB |

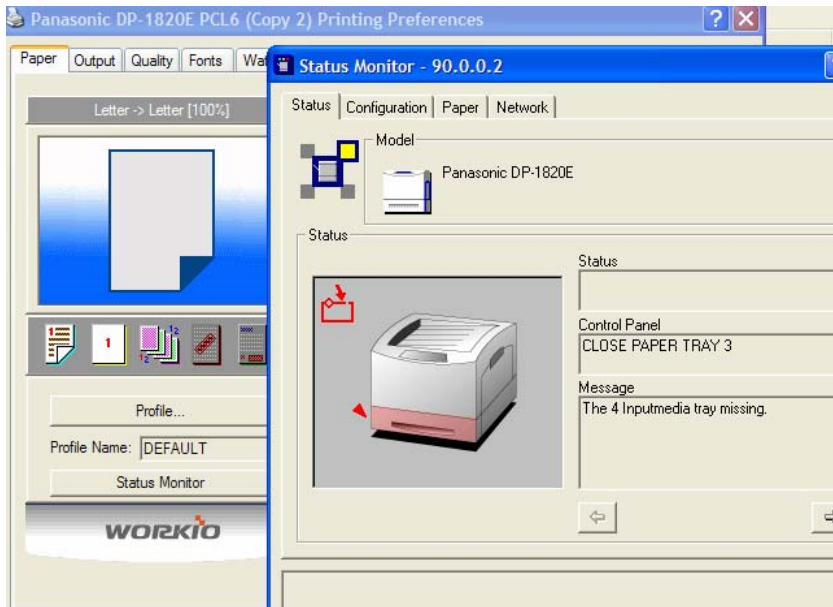


Print

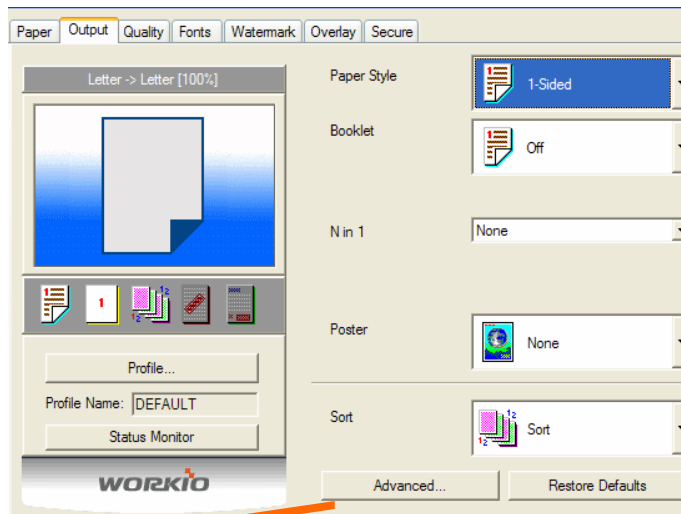
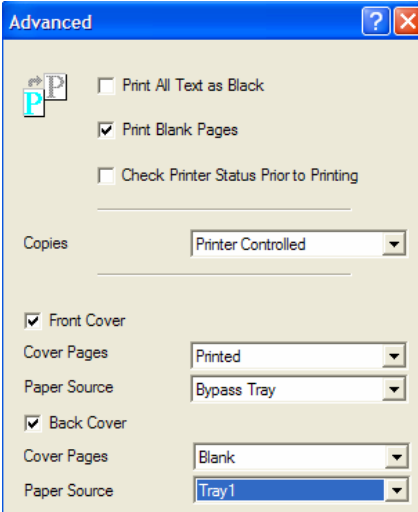
Printer Driver:

A feature BERTL liked on the printer driver was the built-in Status Monitor (see image opposite), which allows users to check that the device is ready, has paper, and can receive the print job before committing to print.

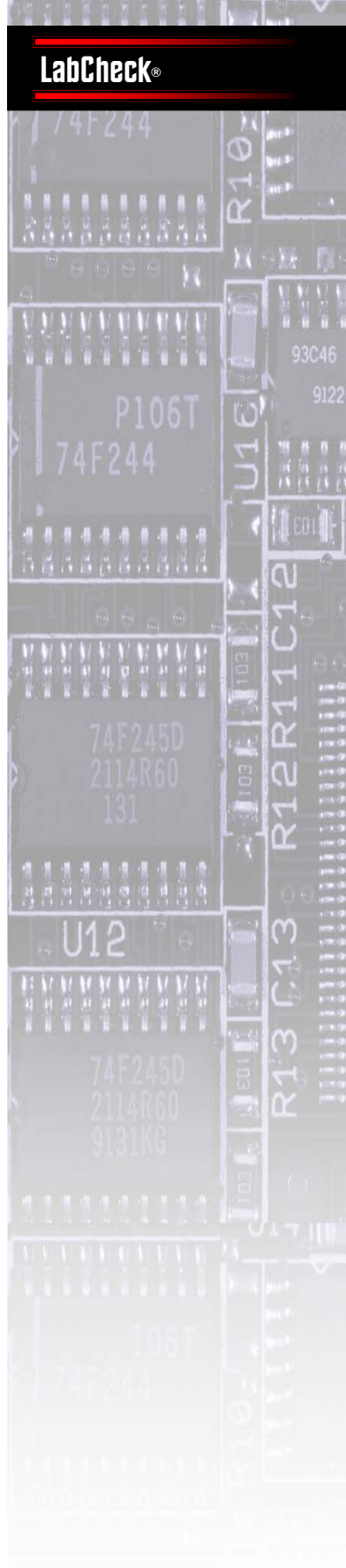
This differs from most competing devices, which use a separate application via a web browser.



Panasonic WORKiODP-1820 printer driver with built in status monitor



Panasonic WORKiO DP-1820 PCL printer driver with front and back cover mode

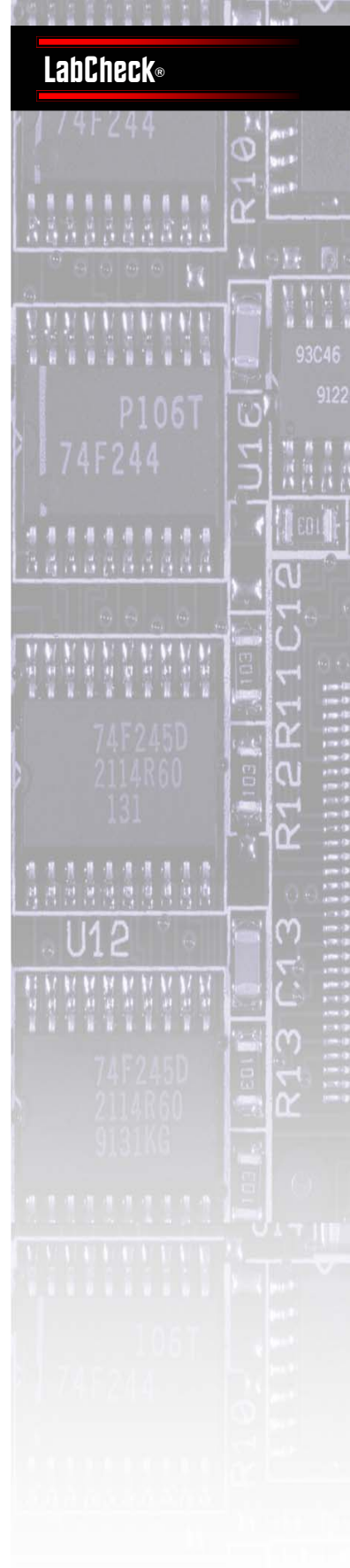
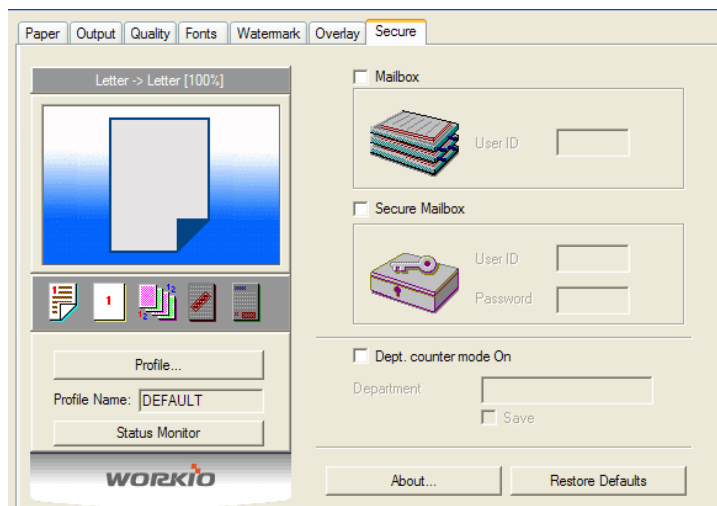
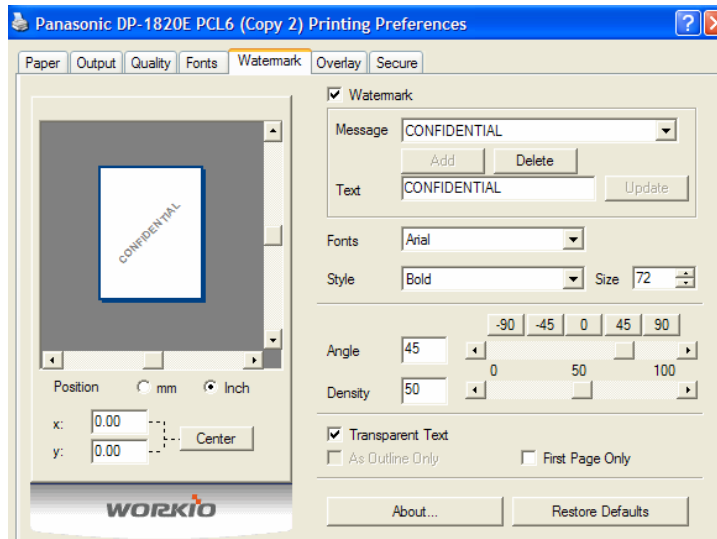


Print

While the general layout of the Windows and the PCL printer drivers were very similar, a number of additional useful features are available in the PCL driver that are not supported in the free Windows printing system, these include:

- Ability to store print job profiles
- Ability to specify front and back cover paper stock
- Ability to add a watermark or overlay
- Poster mode

However, many users will be prepared to sacrifice these features and the increase in bandwidth in exchange for the free Ethernet printing that the device offers.



Scan

Panasonic includes a choice of two optional scanning kits.

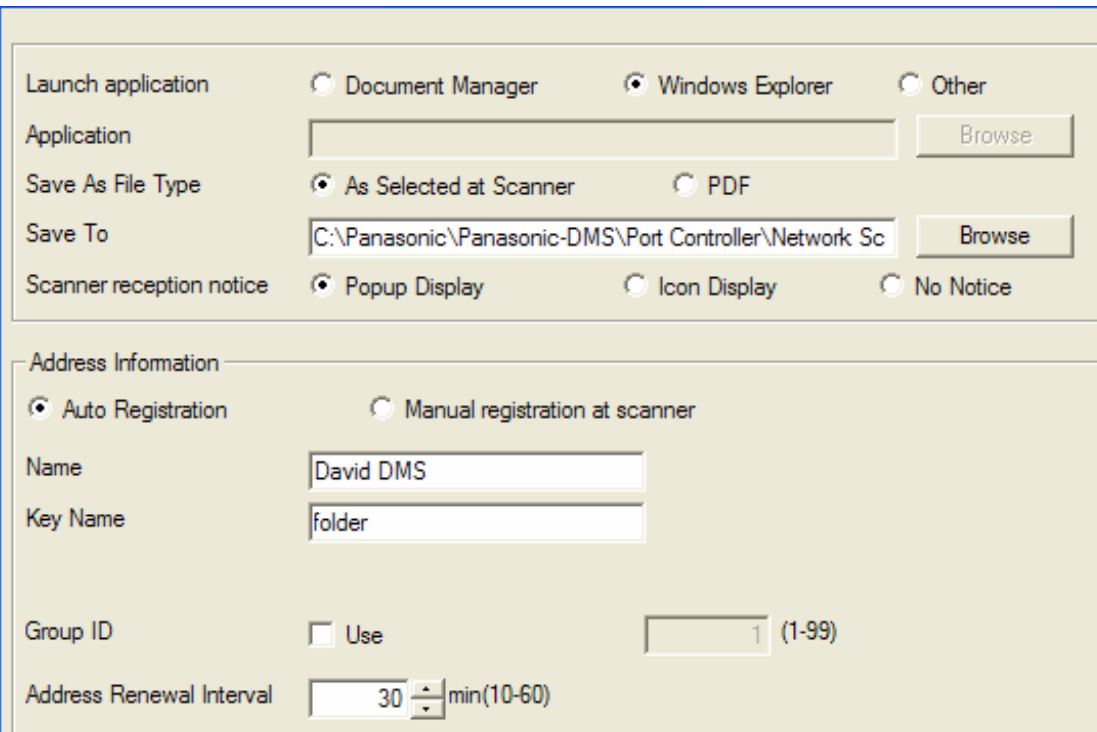
Scan to File Kit:

This utility allows users to send scanned files to a range of folder locations, including server, client, FTP and Panasonic's own desktop document management utility. To set up its network scan to file utility we had to first set up the scanning destination (i.e. where we wanted the Panasonic WORKiO DP-1820 to send scanned files). We did this using Panasonic's Communications Utility. (see screen shot below).

Having set up all the parameters, our scan template was automatically sent to every scanner-enabled Panasonic WORKiO on the network.

The scan address is only accessible while the PC is switched on and the communication utility is running. This meant that when we switched off our PC, our scanning address disappeared from the Panasonic WORKiO.

A way around this for offices who want to set up a file sharing facility is to set up an FTP server with locations allocated to each user. FTP routes can then be stored using the central address book utility (a standard feature on the PDMS suite) and sent to each device around the network.



The screenshot shows the configuration window for network scanning. It includes the following settings:

- Launch application:** Document Manager (unselected), **Windows Explorer** (selected), Other (unselected).
- Application:** [Empty text box] with a **Browse** button.
- Save As File Type:** **As Selected at Scanner** (selected), PDF (unselected).
- Save To:** C:\Panasonic\Panasonic-DMS\Port Controller\Network Sc [Empty text box] with a **Browse** button.
- Scanner reception notice:** **Popup Display** (selected), Icon Display (unselected), No Notice (unselected).
- Address Information:**
 - Auto Registration** (selected), Manual registration at scanner (unselected).
 - Name:** David DMS
 - Key Name:** folder
 - Group ID:** Use [1] (1-99)
 - Address Renewal Interval:** 30 min(10-60)

Setting up a scan to file location using Panasonic's Communication Utility

Scan

I-Fax / Scan to Email Kit:

Panasonic will be introducing scan to email on the DP-1820 shortly.

Panasonic's product manager advised BERTL analysts that the functionality will be the same or better than that on Panasonic's faster WORKiO product range. With that said, we have spent considerable time with Panasonic's scan to email system and regard it as being one of the best we have tested to date. Some of our reasons include:

LDAP address book integration as standard. LDAP (Lightweight Directory Access Protocol) enables the user to dynamically browse central electronic mail address lists, rather than having to rely upon addresses stored in the device.

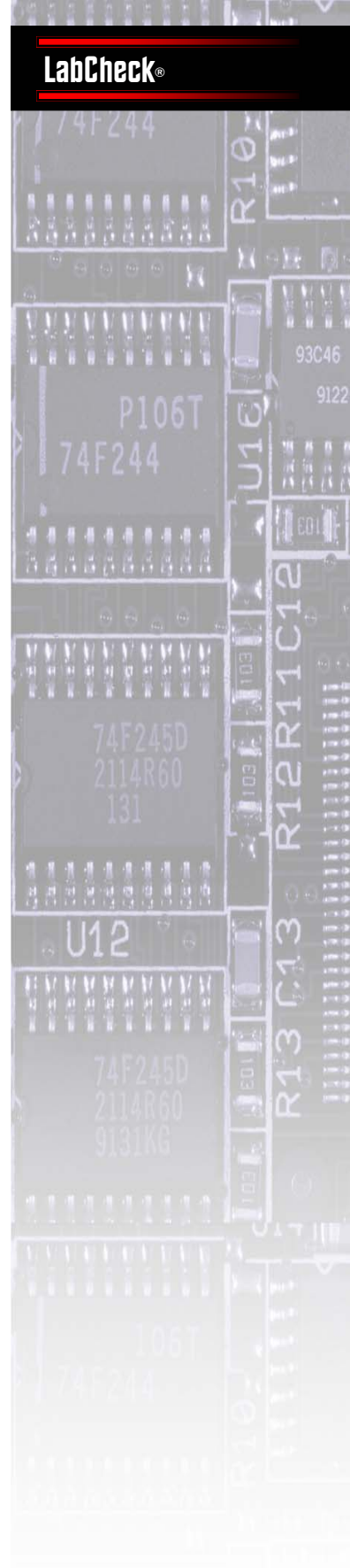
High level of email personalization. The Panasonic WORKiO DP-1820 has a better system for identifying emails than many of its competitors. By combining input from the address book and/or keypad you can include To, CC, BC and give the email a personal subject line. File attachments can be sent as either PDF files or TIFF files.

By typing your own email address where it says 'From,' you show the email's recipient who the email was from, and also provide the reply address to automatically respond to. This means that emails sent from the Panasonic WORKiO DP-1820 are less likely to be mistaken for virus or spam mail.

Panasonic also advised that there will be the ability to name file attachments at the time of sending, a feature missing from some other Panasonic MFP products.



Panasonic WORKiO DP-1820 with optional QWERTY keypad added



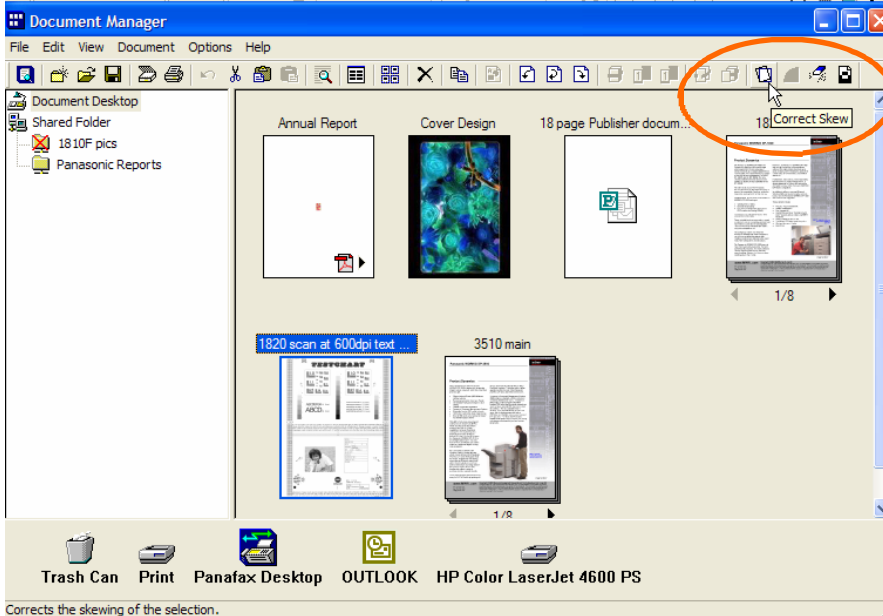
Software Utilities

Panasonic Document Management System (DMS) comes standard, it provides a simple and functional method of managing scanned files, and other files on the desktop.

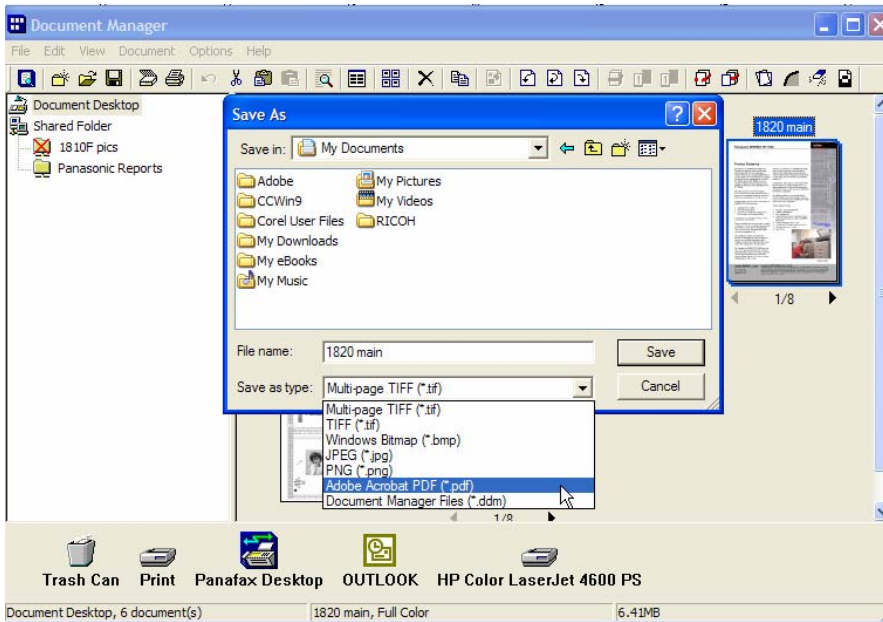
The main display window of DMS shows thumbnail images of files stored in supported file formats (TIFF, BMP, JPEG, PNG and DDM, Panasonic's own proprietary file format used with DMS).

Other file formats such as Office suite documents are displayed as a icon as seen in the Publisher file in the screen shot above.

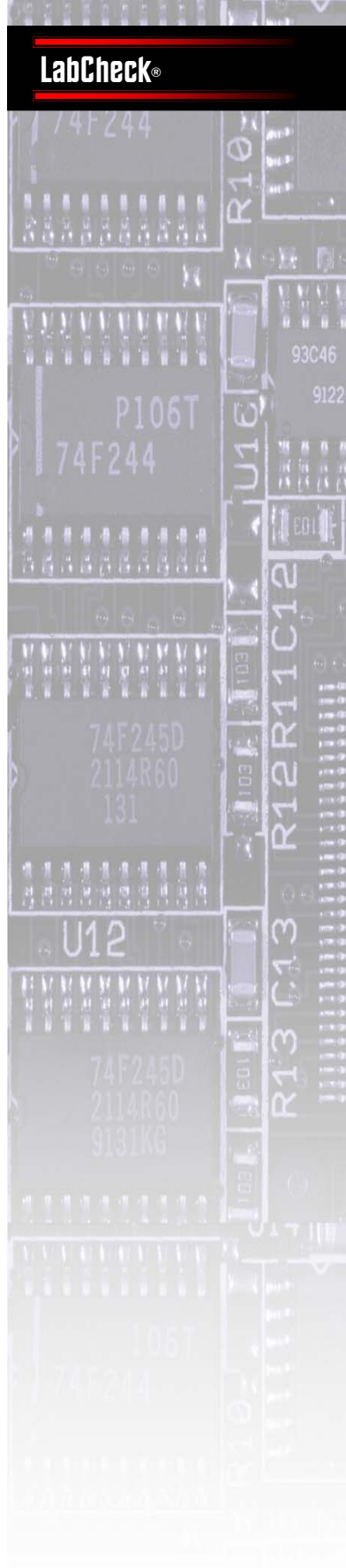
Microsoft Office documents can be converted into DDM files by sending the files to print using the Document Manager printer driver.



Panasonic DMS with de-skew image adjustment option being applied to a scanned file



Panasonic DMS file being saved as an Acrobat PDF file



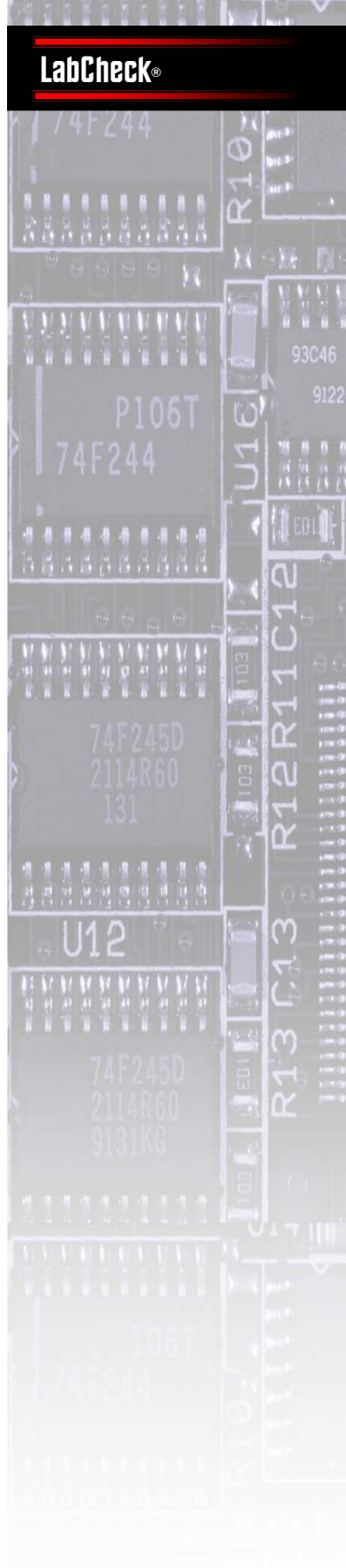
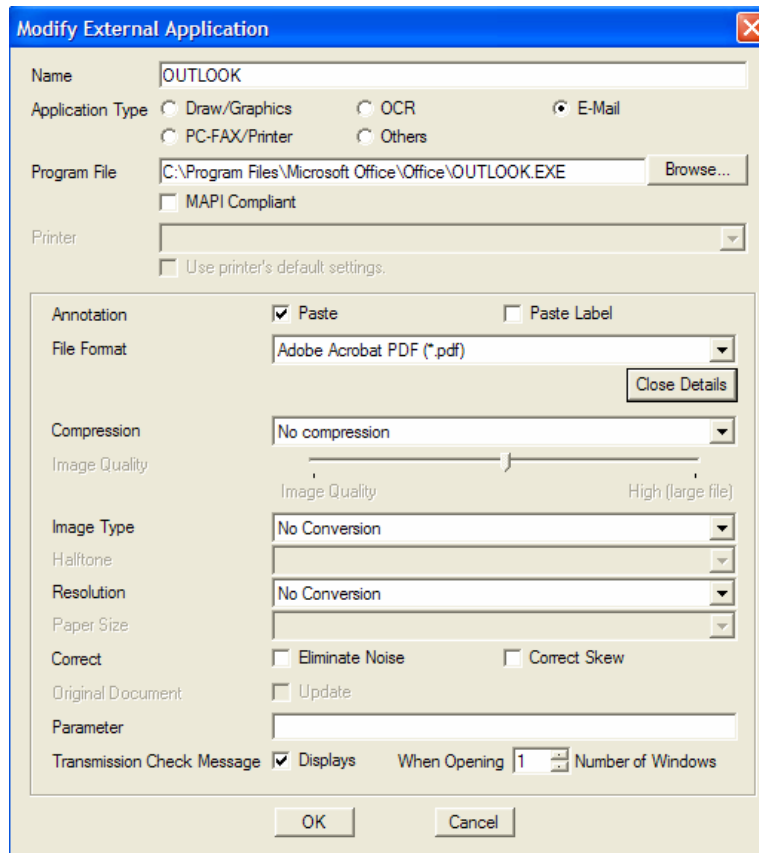
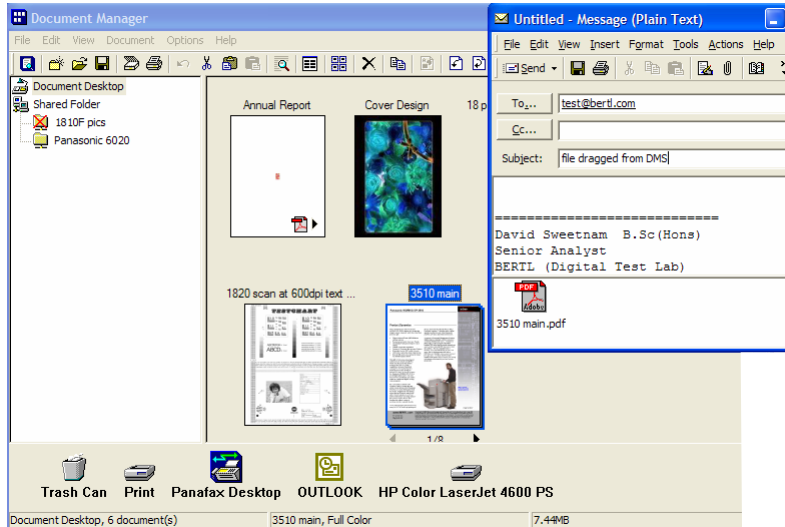
Software Utilities

DMS allows users to manage multiple documents simultaneously, merge files, edit pages, add annotations and offers other useful functions. One of the most valuable features on Panasonic's DMS is the capability to create PDF files as one of the file-save options.

We could send our document directly to different applications by dragging the document icon over an application icon. For example, having converted a Word document into a DDM file and merged it with a scanned file from the Panasonic WORKiO DP-1820 into a single document, we could then drag the file over the Outlook icon. This opened Outlook with our file set up as an attachment.

We could set up the direct link to Outlook, and other third party applications such as OCR, graphic packages, printers, network faxes and other utilities—with a wide variety of file compression and format options, as shown in the screenshot opposite.

In the instance opposite, we set the Outlook link to convert the file into a PDF file before opening application.



Fax

The Panasonic WORKiO DP-1820 can be upgraded to become both a walk-up fax and a PC-fax with the optional fax kit.

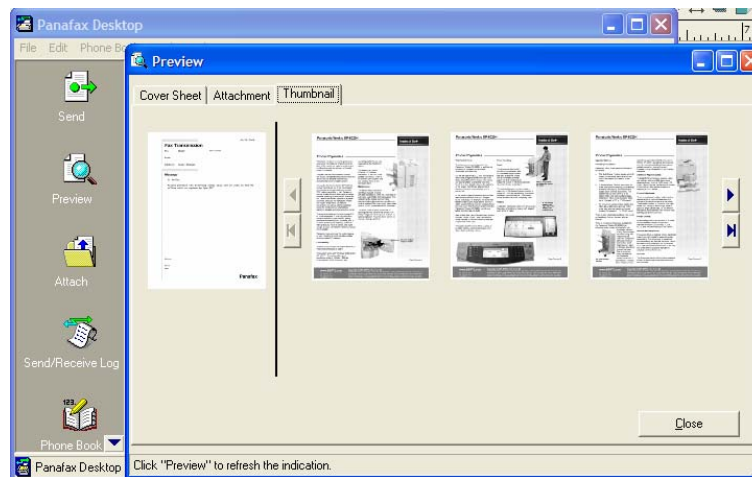
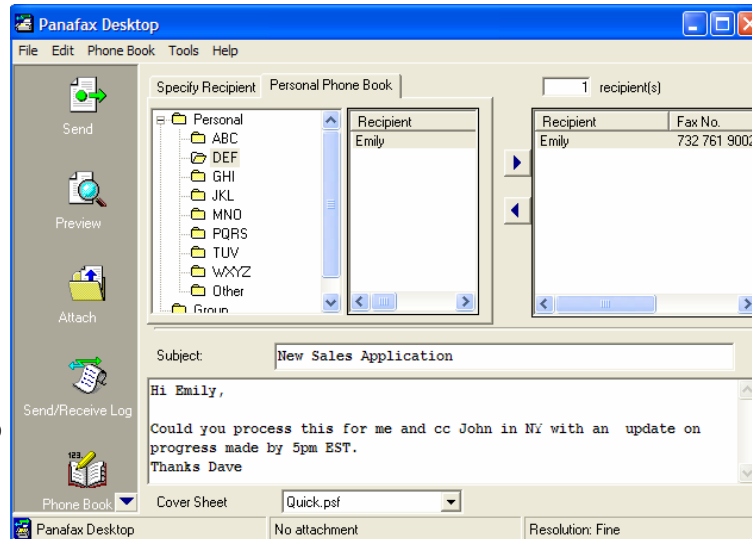
The kit includes a 33.6kbps modem with standard MH, MR, MMR and JBIG compression, 600 x 600dpi file capability for the highest image quality fax transmissions, 200-number address book (expandable to 1,000 numbers with the optional hard drive) and a wide range of fax functions.

With the fax upgrade added, desktop users also gain access to the device as a PC utility, due to its standard Ethernet connectivity and the Panafax software included within the fax upgrade.

Panasonic's Panafax software offers a simple to use but well equipped desktop fax capability, allowing users to add standardized or manually-entered cover page text and graphics, view a preview of the fax, keep a log of received and sent faxes.

Summing Up:

The Panasonic WORKiO DP-1820 offers a high degree of functionality and flexibility for a device in this sector of the market. In its entry-level format the device starts off with network printing, a function most rivals charge for, making it a true workgroup multifunctional out of the box, rather than a



workgroup copier and a single-user printer. For those needing more document handling options Panasonic also offers hardware and software options and a wide range of additional document handling options, including walk up and PC fax, network scanning and additional printing capabilities. Panasonic has left very few holes for rivals to exploit, making it one of the most difficult workgroup devices to beat in this strongly contested section of the market.