FUJIFILM
OFFICIAL IMAGING SPONSOR

2002
FIFA WORLD CUP
KOREA JAPAN

New

DIGITAL MINILAB
Frontier 330

Full-digital Image Quality from a Super-Compact Minilab

The outstanding image quality that you expect from the Frontier name, with flexibility and expandability.

Fujifilm's Digital Minilab Frontier enjoys a reputation around the world for its outstanding quality and high performance, reliability and ease of operation, and expandability. The Frontier is built on proven silver-halide technology integrated into a full-digital system, which includes innovative CCD scanner and proprietary laser exposure systems as well as sophisticated image-enhancement software.

And the Frontier 330, the smallest minilab in the series, offers its users the same true-digital quality and breadth of functionality as every other Frontier does — all in a remarkably small package.

With a footprint of only 1.2 square meters, the Frontier 330 is the ideal solution for placement in a smaller retail space, or tucked into the corner of a larger, multi-use retail setting, or used as an additional unit to supplement existing processing capability. It offers the full range of Frontier services, from standard photo processing in a variety of film sizes to special-format print products such as ID photos, enlargement prints (up to 8RW/ A4 in size), photo greeting cards and many other choices.

The Frontier 330 is also ready with advanced digital options - producing high-quality prints from digital still cameras or from computer-manipulated images stored on various digital media.

FUJIFILM SLP800SC

TRUE DIGITA

and Full Frontier
in a space-sav

COMPACT SIZE

The incredibly small size of the Frontier 330 — just 1.2 square meters in floor area, roughly half the size of the Frontier 350 — allows you to provide in-store print processing services in places where you never could before. Smaller storefronts, kiosks, or corners of larger stores. Even in more spacious quarters the Frontier can help you free up valuable retail space for other uses.

ADVANCED DIGITAL TECHNOLOGY

Fujifilm's renowned digital image-processing technology has visible results — superior print quality and fewer rejects. That translates into more satisfied customers and more business. The Frontier also makes it easy to fix up photos that were taken under less-than-ideal conditions.

SIMPLE OPERATION

The Frontier 330 was engineered to make every aspect of production as simple and automated as possible, so that anyone could create beautiful, optimally processed prints easily without complicated procedures. Day-to-day production is simple and straightforward, and maintenance operations are designed to be as clean and simple as possible.

EXPANDABILITY

The Frontier 330 provides the services that meet the demands of your current customers, and it's also flexible enough to grow into the future. Depending on your needs you can choose from a full range of available services — everything from digital media reading/writing, to printing calendars, ID photos and other special formats.

DIGITAL MINILAB
Frontier 330

L QUALITY

performance
ing package.

# Digital technology for high image quality and compact size

Fujifilm's advanced digital technology has helped to bring the success of Frontier Minilab series worldwide. Innovative technology was also a vital factor in reducing the size of the minilab, enabling a compact configuration that's ideally suited to in-store production. And now the Frontier 330, the smallest of the Frontier series, provides full-digital image quality from a super-compact body. Its super-compact footprint will fit in spaces as small as 1.2 square meters, roughly half the size of the Frontier 350 model.

The Frontier 330 combines the scanning processor and laser printer into a single unit, yet in spite of its size it delivers the same outstanding print quality that Frontier owners and their customers have come to expect. It offers users an extensive range of digital image processing functions — with features such as Scratch and Dust Elimination — that make a visible difference in the photo quality.

1.2m²

Frontier 350 2.2m²

Digital Image Processing (Hyper ACCS)

Scratch and Dust Elimination

Analog/Digital conversion

Image processing board

Color gradation process/ facial skin tone enhancement

Area CCD

Hyper-tone processing

Main Controller Unit

Digital Input

Lens

Hyper-sharpening processing

Color monitor

Film (negative/positive)

Film carrier

Grain control processing

Diffusion box

Image memory

LED

FUJIFILM SLP800SC

DIGITAL MINILAB
Frontier 330

High-performance digital input and output for outstanding print quality

Fujifilm's innovative digital technology contributes in many ways to the Frontier 330's small size and impressive performance. One example is the area CCD scanning unit, a proprietary system developed especially for the Frontier 330. It has a smaller surface area with higher resolution in a reduced space, incorporating large, octagonal photodiodes arranged in an efficient honeycomb pattern. The Frontier also utilizes an exclusive solid-state laser exposure system, to create sharp, high-precision prints with vivid colors.
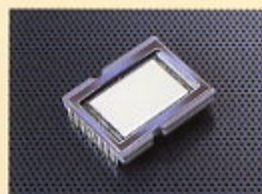
High-speed area CCD
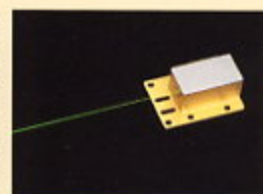
Solid-state laser

Hyper ACCS (Advanced Computerized Color Scanner)
Advanced digital image processing for better prints
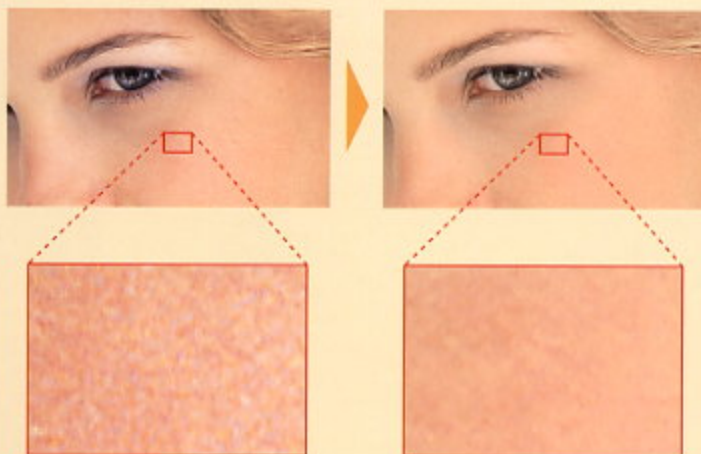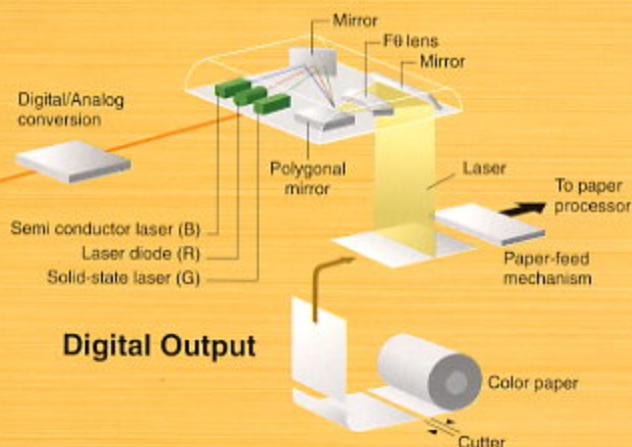
Scratch and Dust Elimination

Photos with surface scratches and dust can now be restored to pristine condition using the Frontier's new Scratch and Dust Elimination feature. Film defects are pinpointed and eliminated, restoring the underlying image and providing exceptionally high-quality restoration.

R.G.B.LED
+
Infrared LED

Dust
Film
Infrared light
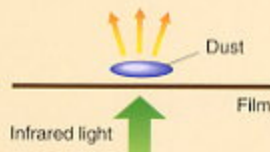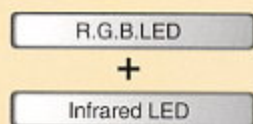
The process uses an infrared light to pinpoint any dust or scratches on the film surface. The infrared light disperses as it passes through dust or any other alien objects, which makes it possible to detect their location.

Hyper-tone/hyper-sharpness processing and Grain Control processing

Fujifilm's digital image processing makes a big difference in final print quality, especially for prints made under difficult lighting conditions. Hyper-tone processing automatically performs density adjustment for high-contrast scenes and overly backlit scenes. Automatic sharpness adjustment creates crisper photos with improved edge definition of objects, shadows and colors. Grainy photos are also compensated with the grain reduction and sharpening function. Other features include automatic color/density correction and under-/over-exposure correction.

Photos...

are masked...

and processed.

Digital/Analog conversion

Mirror
Fθ lens
Mirror

Polygonal mirror

Laser

To paper processor

Paper-feed mechanism

Semi conductor laser (B)
Laser diode (R)
Solid-state laser (G)

Digital Output

Color paper

Cutter

4

Simple operation and expanded functionality.

From the very beginning, Fujifilm's Frontier Minilab series was designed with easy operation in mind. Many procedures on the Frontier 330 are greatly simplified, with the addition of features such as flexible-use film carriers or single-scan digitization. Complicated maintenance tasks have also been made simpler. The Frontier 330 was engineered to make every aspect of production as straightforward and automated as possible, so that anyone can create beautiful, optimally processed prints.

Digital media options, the easy way

With optional software, DI Print Service and Data Writing Service are available. These services, which once required the installation of an Imaging Controller, can now be handled directly from the Frontier 330's main control screen in the same manner as regular film processing operations. *

Frontier 330

DI Print Service

Digital still camera image data → Digital still camera prints

DI Data Writing Service

FUJICOLOR CD

Conventional film → Digital media

* These services require optional media drives, such as a CD-RW drive and PC card reader, etc. They are also available with an Imaging Controller. Processing via an Imaging Controller will increase processing capacity, see specs on last page for figures.

Flexible-use film carriers

The Dual-format Interchangeable Film Carrier NC100AC can accommodate both Advanced Photo System film and 135 film, providing easy film loading and automatic "one-pass" processing. The Semi-automatic Reversal Mount Carrier SC135A (optional accessory, available early 2002) provides increased productivity for mounted slide film.
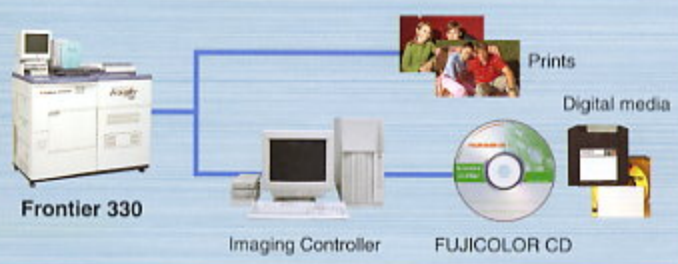
Semi-automatic Reversal Mount Carrier SC135A

Dual-format Interchangeable Film Carrier NC100AC

Single-scan digitization

Image data from film can now be digitized at the same time as prints are produced, so you can create Fujicolor CDs, upload or store images while you're making prints rather than having to scan the film twice.

Prints

Digital media

Frontier 330

Imaging Controller   FUJICOLOR CD

Simple user interface

The Frontier's display monitor shows a simple, user-friendly graphic interface for all processing operations, making it easy for even inexperienced operators to quickly come up to speed without a lot of training. One or six frames are displayed on screen, for fast color balance checking.

Perfect one-channel print system

The Frontier's perfect one-channel print system automatically detects the size and type of the film being processed. It controls all processing, and eliminates the need for the operator to perform manual selection or adjustment operations. There's no need to separate film types (negatives, monochrome film, and reversal film) when printing, and the one-channel operation also handles digital camera prints.

Cross-over rack auto cleaning

While conventional lab systems require the cross-over racks to be cleaned and dried every day, with the Frontier this maintenance routine has been reduced to once a week, thanks to a system that performs automatic cross-over rack cleaning every time the unit is shut down.

Auto calibration

Automatic Calibrator simplifies the daily maintenance and control for print quality. With this feature, color and tone reproduction from the highlight to the shadow area are automatically adjusted.

One-touch chemical replenishment

The Frontier uses Fujifilm's CP-48S Chemical System, in which liquid containers for several processing stages have been combined into a single, compact cartridge. As a result, the chemicals can be replenished simply and cleanly, without ever coming into contact with the operator's hands. And since mixing is automatic, mixing errors are virtually eliminated.

We care...

CP-48S

Fronтier 330

○ COMPACT AND DIGITAL TECHNOLOGY
○ SIMPLE OPERATION
● EXPANDABILITY

Digital image-processing to meet all your customers' needs

As digital imaging technologies proliferate, customers' demands are becoming more diversified and sophisticated in the services they get. Expandability is a key factor in staying abreast of customers' needs, and the flexible system architecture of the Frontier 330 allows you to meet today's needs efficiently and cost-effectively, while assuring that you'll be ready for the future.

The Frontier 330 provides an impressive range of digital imaging services - production of beautiful prints from digital cameras and other digital sources, print-to-print service, CD writing service, and production of appealing special-format prints such as calendars or ID photos. Customers can even order prints up to 8RW/A4 in size. Most of these services can be controlled directly from the Frontier 330 main processing unit. However, Frontier users also have the option of attaching a separate Imaging Controller unit, depending on their needs.

8" x 12" prints

Input sources

Conventional film

IX240 film

135 slide film

135 negatives

120/220 negatives

110 negatives

Digital stil

Digital still camera

Optional software

• Variety Print Service Software
• DI Print Service Software
• DI Data Writing Service Software

Frontier 330

Output

Standard service

C format
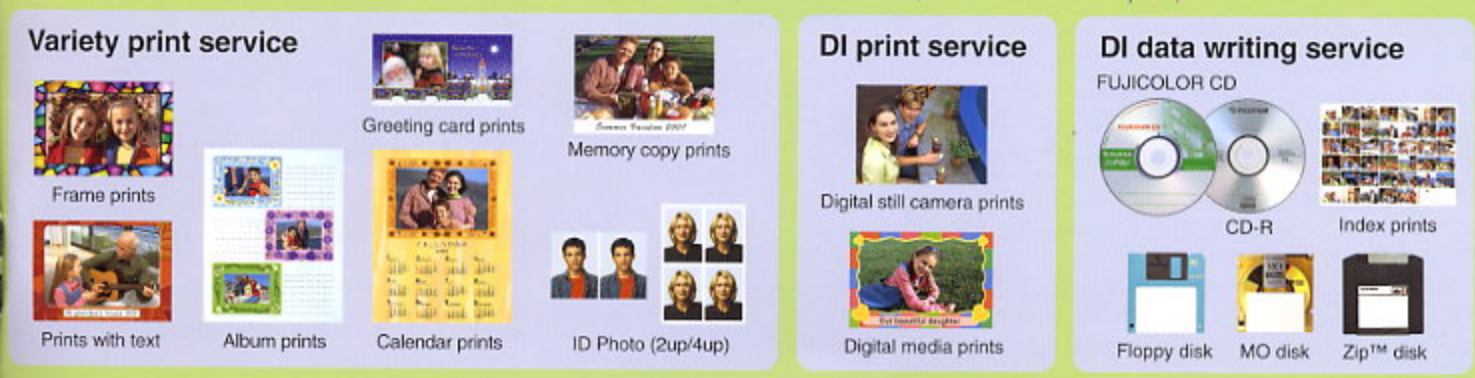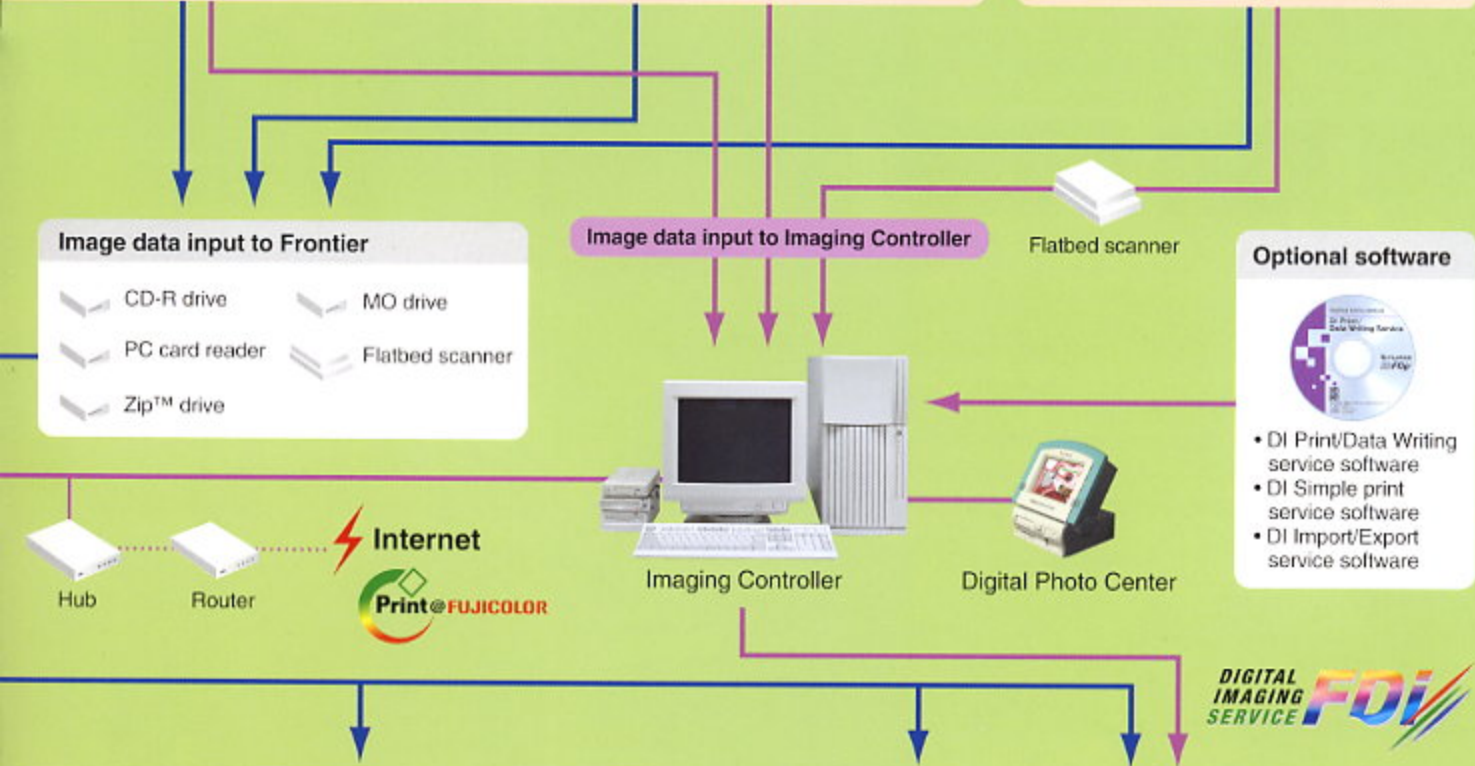
H format

P format

8" x 12" prints

IX240 index prints

135 index prints

cameras

CompactFlash

PC card

SmartMedia

HG-15

Digital media

Floppy disk | MO disk | Zip™ disk | FUJICOLOR CD | CD-R

Prints

Color prints

Instant photos

Monochrome prints

Image data input to Frontier

CD-R drive	MO drive
PC card reader	Flatbed scanner
Zip™ drive	

Image data input to Imaging Controller

Flatbed scanner

Optional software

- DI Print/Data Writing service software
- DI Simple print service software
- DI Import/Export service software

Hub   Router

Internet

Print@FUJICOLOR

Imaging Controller

Digital Photo Center

DIGITAL IMAGING SERVICE FDI

Variety print service

Greeting card prints

Memory copy prints

Frame prints

Prints with text | Album prints | Calendar prints | ID Photo (2up/4up)

DI print service

Digital still camera prints

Digital media prints

DI data writing service

FUJICOLOR CD

CD-R

Index prints

Floppy disk | MO disk | Zip™ disk

When using the DI Print/Data Writing Services from an Imaging Controller, the same services will not be available from the Main Controller. DI Print/Data Writing Services are only available from either the Imaging Controller or Main Controller and cannot be used simultaneously.

Standard software

The Frontier 330 comes with a standard software package that lets you create prints in various sizes, and also performs various types of corrections and adjustments on the photos you print.

Offer your customers a wide range of print sizes

Handy index prints - produced automatically when a roll of film is processed, and they can also be custom-ordered. Standard-size prints and enlargements in a range of sizes are also available.

C format

H format

P format

8" x 12" prints

Advanced Photo System index prints (IX240)

135 index prints

Convenient image-correction features

Backlight correction
Image density adjustment is performed independently for foreground and background areas, so the Frontier is able to automatically compensate for strongly backlit scenes.

Sharpness adjustment
Fujifilm's exclusive HyperSharpness process improves the edge definition of objects while compensating for film grain, to produce crisp, clear photos that look as if they were taken with a higher grade of camera.

High-contrast correction
If an overly intense flash has left the subject too bright and the background too dark, the Frontier automatically adjusts both the subject and the background to achieve smoother gradations and more vivid and natural-looking colors.

Over-/under-exposure correction
When overexposed negatives are detected, density and contrast are automatically adjusted to bring images closer to their proper exposure level. Underexposed shots are compensated for in a similar manner.

Lens distortion correction
The Frontier's image processor is designed to detect various less-than-ideal conditions and compensate for them. For example if a photograph is distorted or has insufficient peripheral light, due to the configuration of the lens, this feature compensates for this condition, brightening the dark areas or correcting distortions on the edges of the photo for a more natural-looking effect.

Backlight correction

Sharpness adjustment

High-contrast correction

Lens distortion correction

Distorted area

(This feature will be available early 2002.) Photos taken at IKSPIARI

Variety Print Service Software

Variety-Print Service Software includes standard functions to handle a number of digital effects for your customers' photos.

Red-eye compensation

Eyes that appear red in a flash photograph can be corrected with this function. Red-eye appearance is corrected automatically after mouse selection; manual retouching is also possible.

Soft-focus

The soft-focus function softens the overall tone of a print, and it can be an effective tool for creating an elegant effect in a particular photograph.

Cross-filter

This function places a 45-degree cross of light on any point on the photo to create a subtly dramatic effect. Light crosses can be added and removed manually.

Cross-filter / soft-focus

This function combines the Cross-filter and Soft-focus effects to create an especially artistic special visual effect.

Free cropping

This feature lets you take any selected area of a photo and make it fill the entire frame - the area can also be rotated at the time of selection.

Variety Print Service Software

In addition to the special visual effects described earlier, special-purpose templates are also available that enable you to create prints in various alternate formats. Many of these formats can be customized further at the time of printing.

Print with Text

Custom text can be printed in text boxes of various designs. The text box position can be adjusted, and a choice of print fonts and colors is available.

Calendar Print

This template produces twelve-month, six-month, two-month and one-month calendar prints, featuring a single frame; numerous styles and sizes are available.

Greeting Card Print

These are custom greeting cards made from a single shot. You can choose the artwork that goes with each shot.

Frame Print

With this template a single image is surrounded by an attractive ornamental frame. Frames of various designs are available.

Album Print

Prints of multiple frames of a common size are arranged on 8" x 10" or A4-size sheets to create an album-like effect. Various configurations are available: three, or ten frames per print. Album prints can have either a plain background or a selected background design.
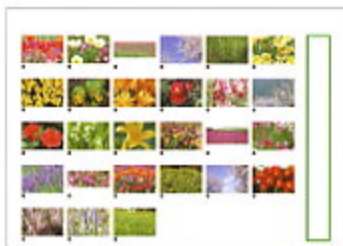

Card Print

With this template, ten prints of a single frame (in card size) are arranged on a A4-size sheet.

✂ Cut out the cards

Large Index Print

Larger-than-standard-size index prints of the frames on one roll of film are printed on a large sheet (8"x10" or A4 size). Frame numbers are printed under each frame.

Memory Copy Print

These are prints with additional text appearing in a set area at the bottom of a frame, perfect for commemorating a special event or occasion. Text size, font and color may be selected.

At the Park, 2001/8/7

ID Photo

These templates produce sets of two, four, or eight prints of the same frame and size, ready for use as ID photos or other purposes.

Other useful features ...

- Package Print
- Auto Rotate Frame Print
- File Print
- Dark Frame Print
- Business Card Print
- CPH Auto Changed Frame Print
- CPH Rotate Frame Print

Optional Software

FDi service software

The FDi service software package is designed to run on the optional Image Controller, handling various functions related to digital input and output on various types of media, so you can offer your customers the digital services they require.
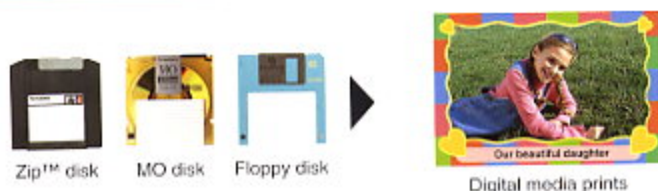
DI Print Service

Digital Still Camera Print Service

This service lets you to process digital still camera images from a variety of file formats. The image data can come directly from a camera or from any of several different types of storage media.

CompactFlash
PC card
Digital still camera
SmartMedia

Digital still camera prints
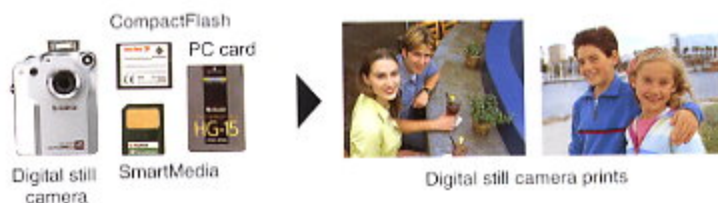
Media Print Service

This software reads, then prints, digital images that were created or manipulated by image-processing software such as Adobe® Photoshop®; the software can read data stored in several different file formats.
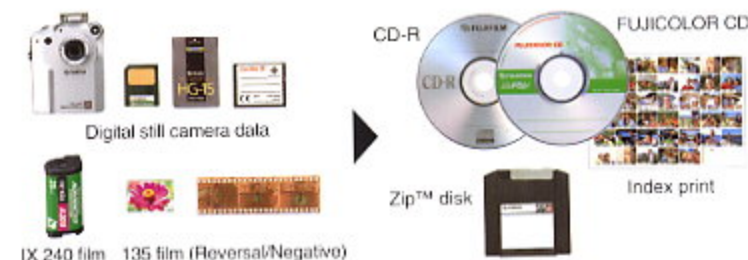
Zip™ disk   MO disk   Floppy disk

Digital media prints

Print-to-Print Service

This function takes images of old prints or other visual materials that have been scanned in from an external scanner connected to the Imaging Controller, then creates new prints from them.

Prints   Instant photos

Prints   Prints

DI Data Writing Service

This function transfers high-resolution image data from film or from digital media onto CD-R or other digital media, such as Zip™ disk and MO disks for storage.
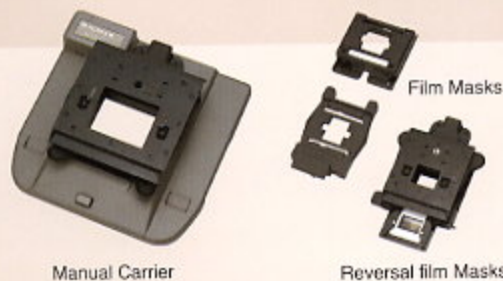
Digital still camera data

CD-R   FUJICOLOR CD

Zip™ disk   Index print

IX 240 film   135 film (Reversal/Negative)

Optional accessories and production materials

This section describes some of the optional accessories and materials that can help you get the most out of your Frontier 330.

Manual Carrier

Film Masks

Reversal film Masks

Semi-automatic Reversal
Mount Carrier SC135A

Reusable paper magazine

Additional paper magazine.

MAG180AC

Film carriers

The Frontier 330 handles a number of different film carriers, each of them designed to simplify the process of film loading and processing while enhancing your operational flexibility.

DI Simple Print Service

Available early 2002

This software brings convenient access to the Frontier's print capabilities to Windows® or Macintosh® computer connected to a local area network. The Hot Folder print function lets users copy an image file into a shared spool folder; this folder is checked at regular intervals, and any new files found in the folder are printed on the Frontier. A Job File print function is also available, allowing users to set the job specifications.

Hot Folder Print Function

Windows®/Macintosh® → Copy to image → Imaging Controller → Frontier 330

Image file — Shared folder — print
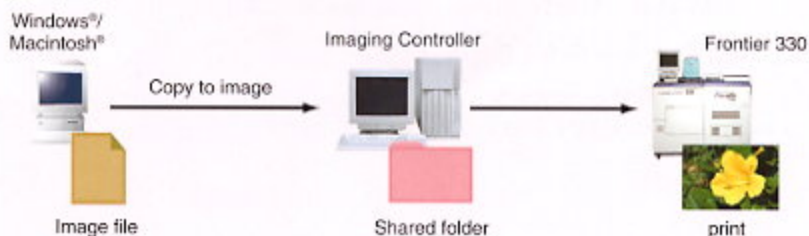
DI File Import/Export Service

Available early 2002

DI File Import Service

DI File Import Service Software lets you take image data files of computer-manipulated images and print them directly on the Frontier printing unit from the Imaging Controller, without going through the regular scanning/printing process.

DI File Export Service

DI File Export Service Software takes digital image data from film that was scanned on the Frontier, and converts it and saves it in BMP format. The BMP file can then be stored on the Imaging Controller and used later to make prints, or the data can be manipulated further.

Available early 2002

DI Print Service Software/DI Data Writing Service Software for Frontier 330 Main Controller.

With these new optional software installed, DI Print Service and Writing Service become available directly from Frontier 330 main controller, without an additional Imaging Controller unit.

(DI Print/Data Writing Services are only available from either the Imaging Controller or Main Controller and cannot be used simultaneously.)

Viewer

Fits into the operation table of the Frontier 330.

GPA22 Board

Improve the performance of single-scan digitizing with the addition two boards.
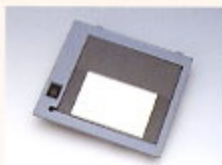
Diffusion Box for 120

Negative Receiver

Fujicolor Crystal Archive Paper Type ONE

Crystal Archive paper Type ONE is recommended as the optimum color print paper for Frontier minilab systems, with superior color gradation and image stability. The paper also gives you well-defined highlights and deeper shadows, which are made possible by emulsions optimized for laser exposure.
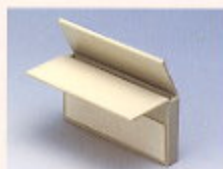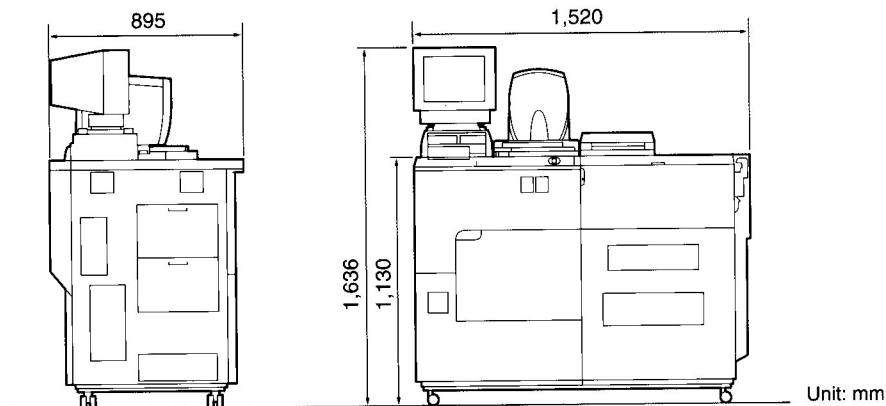
Fujicolor Crystal Archive Paper TYPE ONE

Fujifilm Digital Minilab Frontier 330 (SLP-800SC) Specifications

Type:	Floor-type, normal-light operation (input, laser printer, processor, cutter, sorter in one unit).
Scanning section:	Area CCD.
Film carriers:	• Dual-format Interchangeable Film Auto Carrier (accepts 135F/H color negatives or Advanced Photo System (IX240)). • Manual carrier. • Semi-automatic Slide Carrier SC135A.
Image processing:	Optimal color reproduction processing, color gradation control, hyper-sharpness processing, hyper-tone processing, soft focus, facial expression enhancement, monotone finishing, red-eye correction processing, a variety of compositions (e.g. calendar prints, greeting cards, multi-prints) and others.
Display:	15-inch CRT color display.
Input light source:	LED.
Printable films and sizes: *(using standard or optional film carriers)*	110, 126, 135F/H/full-panorama, Advanced Photo System (IX240), 120, 220.
Acceptable digital media:	Prints from ZIP™ disk, CD-R, MO disk, FD, FUJICOLOR CD, Digital still cameras (selected format), SmartMedia™, PC card, CompactFlash™, SD Memory card, Memory stick.
Exposure system:	Scanning exposure system using RGB lasers (solid-state G and B lasers).
Print sizes:	89 x 89 mm ~ 203 x 305 mm, A4.
Paper:	FUJICOLOR paper (Crystal Archive Paper Type ONE).
Paper magazines:	Single paper magazine (standard accessory).

Expansion capability:	100-base Ether (connectivity to internal PC or from external PC for FDI) port, USB ports, and RS232C port.
Processing capacity: *(actual production)*	135: 3R/127 x 89 mm: Approx. 650 prints/hr. (using 127 mm width paper) 4R/152 x 102 mm: Approx. 570 prints/hr. (using 152 mm width paper) Advanced Photo System (IX240): 15 rolls/hr. (4R C/H/P-mixed-format prints; 25 exp. roll and index print), 16 rolls/hr. (3R C/H/P mixed-format; 25 exp. roll and index print); (using 89mm (for 3R) and 102mm (for 4R) width paper)
Media Prints: *(auto print mode for digital still cameras; using 127mm (for 3R) and 152mm (for 4R) width paper.)*	With main controller: 3R / approx. 530 prints/hr. 4R / approx. 450 prints/hr. With Imaging Controller: (Meeting Fujifilm recommended specs) 3R / approx. 600 prints/hr. 4R / approx. 530 prints/hr.
Fujicolor CD Writing: *(Single-scan digitization)*	With main controller: 9 CDs/hr. With Imaging Controller: (Meeting Fujifilm recommended specs) 18CDs/hr.
Print to print:	Available with optional software.
Processing time:	Dry to dry: 3 min. 40 sec.
Processing chemicals:	Chemical system CP-48S.
Power requirements:	AC200-240V (50/60Hz) 4.8KVA.
Dimensions:	1,520 (W) x 895 (D) x 1,636 (H) mm.
Weight:	Approx. 500kg (550kg during actual operation).
Installation space:	Approx. 1.2 m².

Dimensions

895
1,520
1,636
1,130

Unit: mm

FUJIFILM
FUJI PHOTO FILM CO., LTD.
26-30, NISHIAZABU 2-CHOME, MINATO-KU, TOKYO 106-8620, JAPAN