A high-capacity minilab for the digital world — now easier than ever to use.

The world of digital imaging is here, and today's customers are more demanding than ever before. Keeping them happy is something that the Frontier 355/375 minilab was designed to do. Whether your customers order prints from digital cameras, digital media or regular film, the Frontier delivers the same extraordinarily high image quality that Fujifilm has built its reputation on. And the Frontier's proprietary image-enhancement software creates optimal prints from any input source, maintaining quality with sophisticated features like infrared-scan-based scratch and dust elimination. Even better: it's all so simple to use — the new graphical interface helps you — and your customers — get the most out of your Frontier.

High capacity, high speed

Despite their compact size, the Frontier 375 and 355 both deliver impressive overall speed and high processing capacity.

	3R-size print	4R-size print
Frontier 375	Approx. *1,600* prints/h	Approx. *1,450* prints/h
Frontier 355	Approx. *1,300* prints/h	Approx. *1,050* prints/h

Frontier 375

TRUE DIGITAL QUALITY

Frontier 355

Advanced Digital Technology

Remarkable print quality — Cutting-edge hardware like the Area CCD scanner and the solid-state laser exposure system makes a visible difference.

Digital camera printing — The Frontier 355/375 is tailored to meet the ever-growing demands for prints from digital cameras, with image quality that's been further improved.

NEW **Scratch and dust elimination** — The Frontier's infrared-based system helps to reduce any trace of these film defects from final prints.
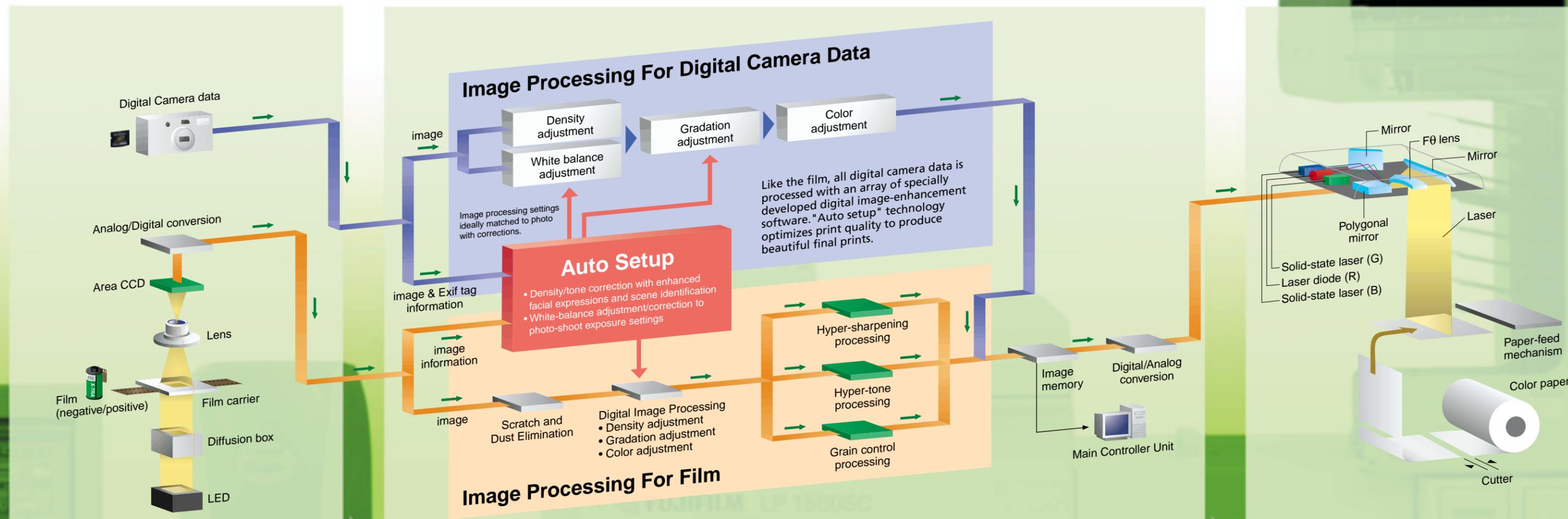
Simple Operation

NEW **Easy-to-use interface and intuitive help** — The new large-icon-based user interface is easier to use than ever, and provides context-specific help.

NEW **Automatic film carriers** — Film loading and processing for IX240 and 135 film is simplified thanks to the Frontier's range of automatic film carriers.

Expandability

NEW **Automatic red-eye compensation software** — This image-processing software has been remarkably improved, and it's been automated so that selected frames can be processed more easily.

Print services for every need — Sophisticated digital media services and an array of appealing print format options give your customers a wider range of print services to choose from.

The technology behind the Frontier's superior image quality

Image Processing For Digital Camera Data

Digital Camera data

image

Density adjustment

White balance adjustment

Gradation adjustment

Color adjustment

Image processing settings ideally matched to photo with corrections.

Like the film, all digital camera data is processed with an array of specially developed digital image-enhancement software. "Auto setup" technology optimizes print quality to produce beautiful final prints.

Analog/Digital conversion

Area CCD

Lens

Film (negative/positive)

Film carrier

Diffusion box

LED

image & Exif tag information

Auto Setup
- Density/tone correction with enhanced facial expressions and scene identification
- White-balance adjustment/correction to photo-shoot exposure settings

image information

image

Scratch and Dust Elimination

Digital Image Processing
- Density adjustment
- Gradation adjustment
- Color adjustment

Hyper-sharpening processing

Hyper-tone processing

Grain control processing

Image memory

Digital/Analog conversion

Main Controller Unit

Image Processing For Film

Mirror

Fθ lens

Mirror

Polygonal mirror

Laser

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

Paper-feed mechanism

Color paper

Cutter

Digital Input

Images are rapidly converted to a high-precision digital format, using Fujifilm's exclusive **Area CCD** system, which incorporates large octagonal photodiodes arranged in an efficient honeycomb pattern. Despite its small size the system delivers exceptional performance – with ultra-high resolution (up to an effective equivalent of 24 mega-pixels), excellent S/N ratio, and high scanning speed. The new special **LED** provides a consistently high-quality light source, lasts longer and consumes less power.
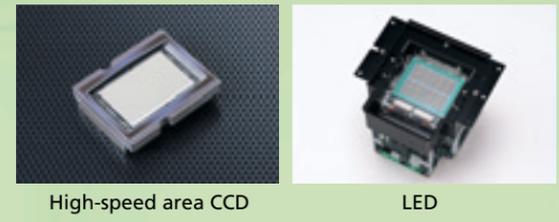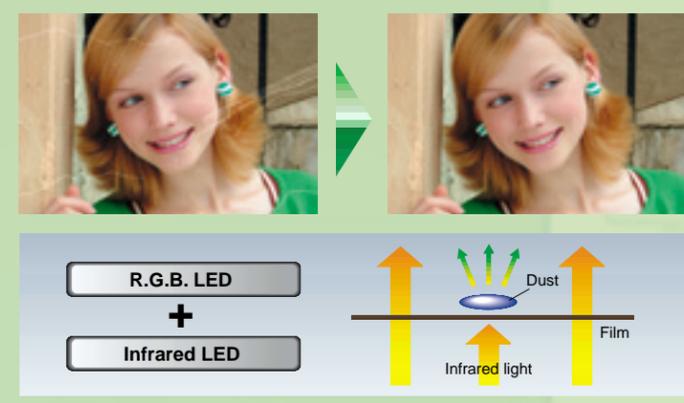
High-speed area CCD

LED

Image Intelligence (Digital Image Processing)

Prior to the printing stage, image data is processed by an extensive array of image-enhancement software that optimizes final print quality while compensating for problematic photographic conditions – correcting poor lighting and enhancing skin tones for more natural-looking digital prints. This proprietary technology is known as "Image Intelligence", and it's the result of Fujifilm's long years of experience in the digital image-processing field.
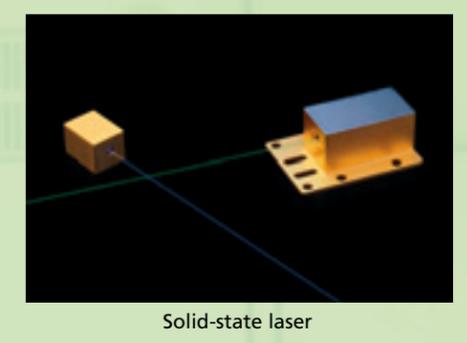
Image Intelligence™

Automatic Scratch and Dust Elimination

This function uses infrared light to pinpoint any dust or scratches that may be on the film surface and – using "Image Intelligence" technology – it automatically corrects the image by extrapolating image data from the surrounding area.

R.G.B. LED
+
Infrared LED
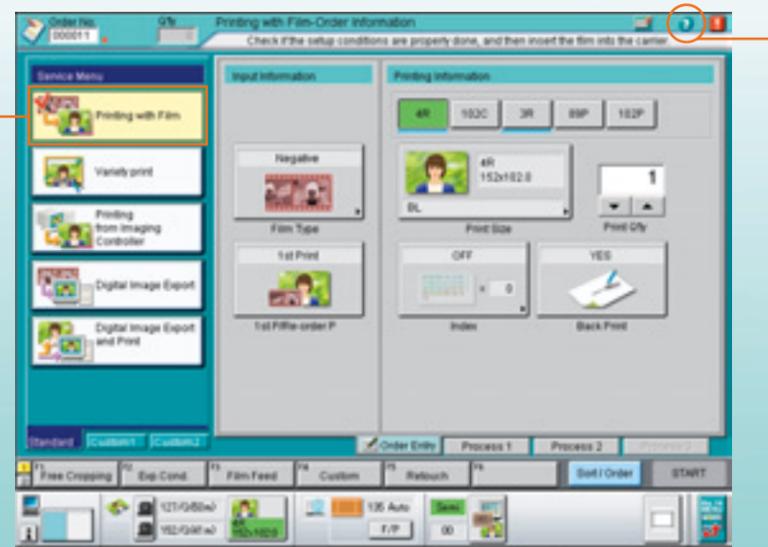
Dust

Film

Infrared light

Digital Output

The high-speed laser exposure unit uses a Fujifilm-developed Green DPSS (Diode Pumped Solid State) Laser and a new Waveguide-type Blue SHG Laser to produce exceptionally sharp, high-resolution images and pure, vivid colors, which result from the laser's tight beam and narrow wavelength characteristics.

Solid-state laser

A perfectly simple icon-based user interface makes operations remarkably easy.

The Frontier 355/375 introduces a new, significantly improved operations system that's easier than ever to use. Procedural steps and optional choices are all clearly laid out on screen, and context-specific help is provided for each screen and for each step of every operation. Run-time messages are precise and informative, pointing out any out-of-the-ordinary situations. The system is clear and straightforward enough that even inexperienced staff can get the most out of the Frontier, without special training.

Order entry screen
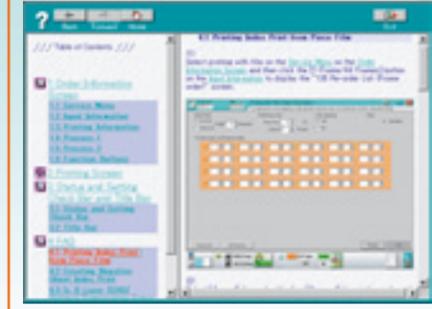Order information is intuitively arranged and instantly accessible using on-screen icons.

Frame screen
All frame operations are clear and concise.

Step-by-step help instructions
On-screen help provides easy to understand information on the topic at hand.

Maintenance screen
Instructions for daily maintenance may be viewed on screen when needed.

More features for simplified operations
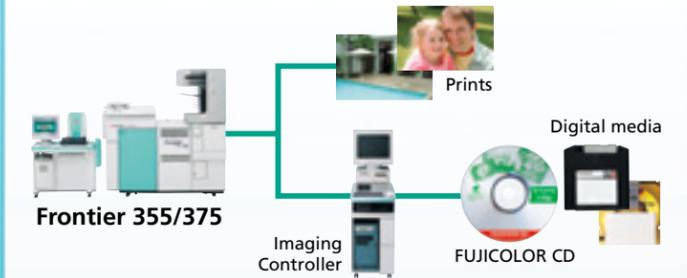
Flexible-use film carrier
NEW

Film loading is easier thanks to a Dual-format Interchangeable Film Carrier that accommodates both Advanced Photo System film and 135 film, allowing automatic "one-pass" processing.

Dual-format Interchangeable Film Carrier NC 100AY

Single-scan digitization

Film needs to be scanned only once, since image data from the film is digitized at the same time as regular prints are produced. Operations like the creation of a FUJICOLOR CD or the storage of image data for later use don't necessitate an extra scanning step.

Prints

Digital media

Frontier 355/375

Imaging Controller

FUJICOLOR CD

Double paper magazines

The two built-in paper magazines can be loaded with paper of different sizes (anywhere from 8.9 to 25.4cm in width) to make it easy to switch back and forth between sizes, and to allow easier auto selection. Automatic loading eliminates paper replacement errors and minimizes paper loss during printing.

One-touch chemical replenishment

Because the Frontier's chemical system is all contained in a single cartridge, operators enjoy the benefits of one-touch loading and automatic mixing. This simplifies the task and virtually eliminates the possibility of mixing errors.

CP-48S

Efficient, time-saving print sorting system

Both the Frontier 355 and 375 models utilize an automatic sorting system to help achieve their remarkably high-capacity output. The 375 includes a 25-order sorter, while the 355 has an 11-order sorter (upgradable to 25-order). Each unit sorts and stacks prints by order for easy filing and delivery. Prints larger than 152mm are fed to a stocker for separate handling.

11-order sorter

25-order sorter

Perfect one-channel print system

This system automatically detects the size and type of film, controlling all processing while eliminating the need for time-consuming manual adjustment of scanning-unit settings by the operator. Different film types (negatives, monochrome film, reversal film, and even digital camera prints) are all handled together, so there's no need to separate different kinds of film.
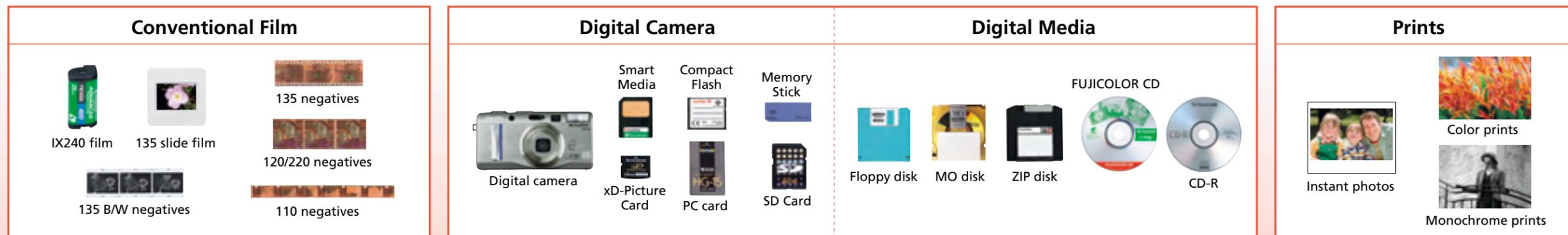
Auto calibration

The Automatic Calibrator (AD200), located on top of the Frontier, simplifies daily maintenance by automatically adjusting color and tone reproduction to a specified standard, for print quality that's consistent from one day to the next.

A flexible setup that's ready to meet your ever-changing digital-imaging requirements.

As digital technologies evolve and grow, the Frontier 355/375 allows you to adapt your business to growing consumer demands. The Frontier handles a full range of digital camera storage media and other digital media, using various image-data formats. And output options are just as varied, with special print formats such as calendars and decorative album prints.

INPUT

Conventional Film

IX240 film
135 slide film
135 negatives
120/220 negatives
135 B/W negatives
110 negatives

Digital Camera

Digital camera
Smart Media
Compact Flash
Memory Stick
xD-Picture Card
PC card
SD Card

Digital Media

Floppy disk
MO disk
ZIP disk
FUJICOLOR CD
CD-R

Prints

Color prints
Instant photos
Monochrome prints

Flatbed scanner

Image data input to Imaging Controller

Digital Photo Center

DIGITAL MINILAB Frontier 355/375

Image data input to Frontier

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

Imaging Controller

Optional software

B1 Variety Print Service Software (Standard) P10
B1 Variety Print Service Software (Template) P11
B7 Professional Scanning Software P12
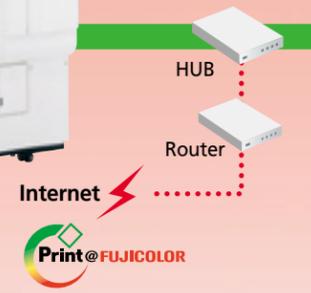B8 Hyper Reorder Software P14
B9 Tone Selection Software P14

HUB

Router

Internet

Print@FUJICOLOR

PC

Optional software

E1 ID Photo Print Service P12 Software
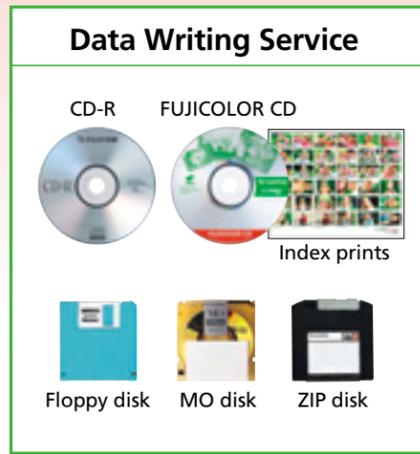
Optional software

C10 Variety Print (for Digital Image) P10 Service Software (Standard)
C10 Variety Print (for Digital Image) P11 Service Software (Template)
C11 Hyper Retouch Software for Digital Images P10
C4 C5 DI Print/Data Writing Service Software P13
C8 DI Simple Print Service Software P14
C2 DI File Import/Export Service Software P14

FUJIFILM DIGITAL IMAGING FDi

OUTPUT

High-Quality Print Service

Digital camera prints
Digital media prints

C format
H format
P format
10" x 15" prints

Advanced Photo System index prints (IX240)
135 index prints
Print to Print
Monochrome prints

Variety Print Service

Prints with text
Greeting Card Prints
Album Prints
Frame Prints
Calendar Prints

ID Photo Print Service

2up
4up
Mixed ID

Data Writing Service

CD-R
FUJICOLOR CD
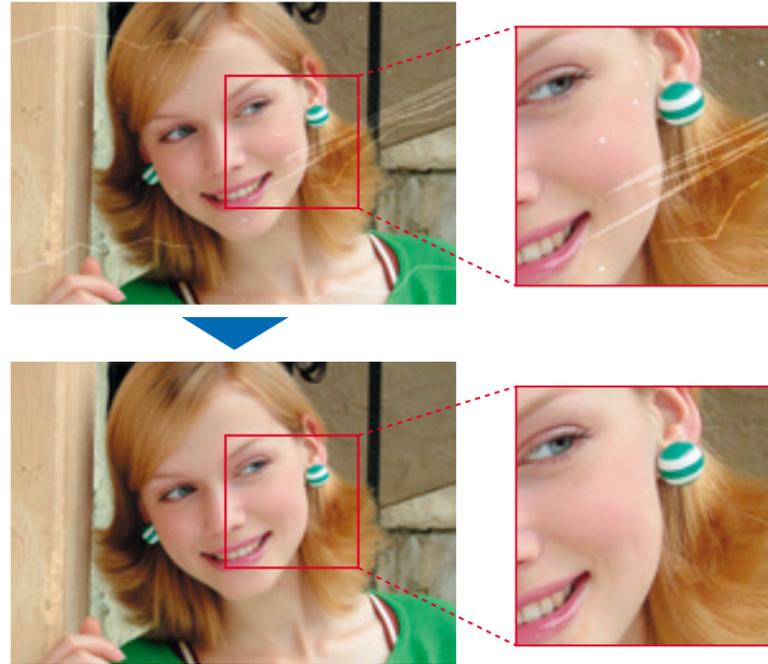Index prints
Floppy disk
MO disk
ZIP disk

High-quality Prints

Services to optimize the print quality of your customers' photos

Automatic scratch and dust elimination — NEW

Standard Software

Imperfections caused by scratches and dust on the original negative are especially noticeable in extra-large-size reprints, but the Frontier 355/375 cleans up these flaws using an exclusive correction technology. First, the film is exposed to infrared light during the scanning step - infrared rays pass straight through the color dyes on the film (which form the image), but are deflected by scratches and dust particles. Once blemishes are detected in this way, the resulting streaks or spots are corrected using extrapolated image data from surrounding areas of the film. The result is a natural-looking final image. Scratch and dust elimination can be applied automatically to all frames during the initial print processing run.

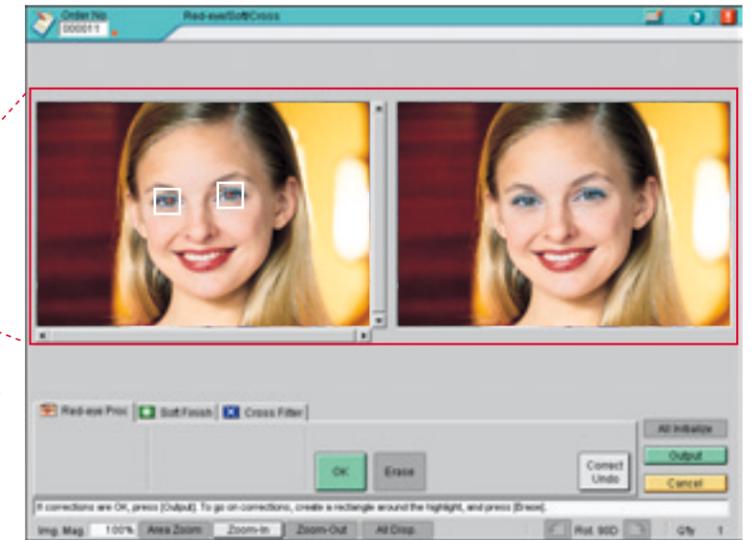### Automatic red-eye compensation feature — NEW

Optional
B1 Variety Print Service Software (Standard)
C11 Hyper Retouch Software for Digital Images

The distracting appearance of red pupils due to a bright flash can be corrected easily with this function. Operator-selected frames displayed on the monitor can automatically have red-eye appearance detected and corrected. Operations can be performed on the first pass, reducing the need for manual selection or adjustment steps by the operator. For more flexibility, manual retouching is also possible.

Standard image-correction features

Standard Software

Sophisticated image-correction technology is built into the Frontier 355/375 system as a standard.

■ Backlight correction
Independent image density adjustment is performed on overly bright background areas and overly dark foreground figures, automatically adjusting their relative brightness within the photo.

■ Sharpness adjustment
Fujifilm's proprietary HyperSharpness process enhances the edge definition of objects, colors and shadows while compensating for film grain, to produce photos that are crisper and clearer.

■ High-contrast correction
In flash shots against a dark background and in shots using too bright a flash, the foreground figures can appear too light and washed out while the background is dark and murky. High-contrast correction adjusts the relative brightness of foreground figures and background.

■ Over- / under-exposure compensation
When an underexposed or an overexposed negative is detected, the density and contrast of the image can be adjusted automatically to bring the image closer to its proper exposure level.

Backlight correction

Sharpness adjustment

High-contrast correction

Further image-enhancement features

Optional
B1 Variety Print Service Software (Standard)
C10 Variety Print (for Digital Image) Service Software (Standard)

Optional image-enhancement features are available for various special purposes.

■ Soft-focus
The soft-focus function softens the overall tone of a photographic image. It can be an effective method for creating elegant portrait shots.
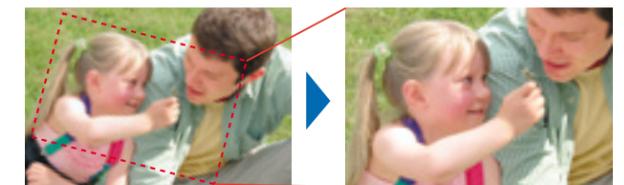
■ Cross-filter
The cross-filter function places a 45-degree cross of light on any point in a photo, to add a subtly dramatic effect. Making light crosses brighter increases the area they cover, and crosses can be placed and removed manually. This feature can be combined with soft-focus to create a particularly artistic visual effect.

■ Free cropping
This feature allows you to perform custom cropping, taking any section of the original photo and rotating and magnifying it until it fills the entire frame.

■ Lens distortion correction
Certain types of lenses can cause some degree of image distortion around the edges, or they may allow insufficient peripheral light. The Frontier's image processor detects these problematic conditions and compensates automatically, by brightening the darker corner areas and correcting distortion around the photo's edges.

Soft-focus

Cross-filter

Free cropping

Variety Print Service

Extend your services with special print formats, available for both conventional film and digital cameras

Prints with Text

Chad, Age 3

At the beach, 29/07/2003 · Little John's Football Fun · Uptown Family Trip 25/9/2003 · Summer Vacation – Bahamas 2003 · Graduation Trip 26/06/2003 · Cassandra, 2/4/2003

Custom text turns any photo into a commemorative document. The operator can select from a number of text box designs and can adjust the text box position. A choice of fonts and colors is available, and vertical text and multiple lines are supported.

Calendar Prints

Turn any photographic image into an attractive calendar, covering one month, two months, six months or twelve months. Customers can choose from among numerous different styles and sizes.

Greeting Card Prints

Custom greeting cards can be made from a single shot, and customers can select the artwork that goes with each shot.
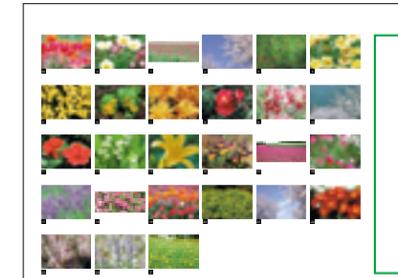
Frame Prints

This template takes a single image and places it within an attractive ornamental frame. Various frame designs are available to choose from.

Album Prints

Multiple shots of the same size can be arranged on a single large sheet (8" x 10" or A4-size) to create an album-like effect. Different configurations are available, with either three or ten frames per album print, and frames may be freely chosen from more than one roll of film (or even from digital media). Various background designs are available, or a plain background may be specified.

Large Index Prints*

Larger-than-standard-size index prints of the frames on one roll of film can be printed on a large sheet (8" x 10" or A4-size), with frame numbers printed under each frame.

* This service is not available for digital images.
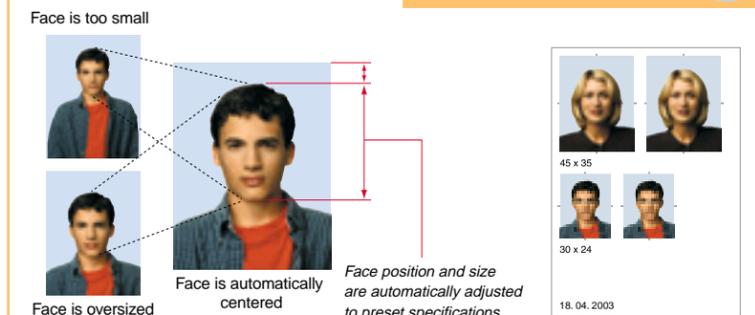
Other attractive variations

- Package Prints
- Auto-rotate frame prints*
- File prints
- Dark frame prints
- Business-card prints
- CPH auto-changed frame prints*
- CPH-rotate frame prints*
- ID photos

*These services are not available for digital images.
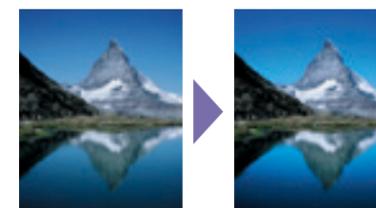
ID Photo Print Service

This software produces high-quality ID photos using either conventional film or digital camera data as the input source. The software incorporates automatic sizing and trimming functions so that the size of the face within the final ID photo meets preset specifications, regardless of the face size in the original photo. Several different sizes of ID photo, or photos from several different individuals, can be laid out on a single print, for more cost-efficient use of color paper. And for more convenient reordering, the original images and processed ID photos can be stored on digital media for later use.

Automatic Sizing

Face is too small
Face is oversized
Face is automatically centered
Face position and size are automatically adjusted to preset specifications.

45 x 35
30 x 24
18. 04. 2003

Professional Photography Service

Frontier Pro Digital Imaging

Professional Scanning Service

An optional software package gives you access to several features suitable for professional use - including gradation adjustment, color saturation adjustment, and Base-Color Reproduction Mode.
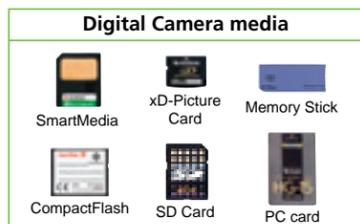
Digital Imaging Print Services

Additional Support Services

Complete services to answer your customers' digital-imaging requests

DI Print Service

Digital Camera Prints

Image Intelligence™
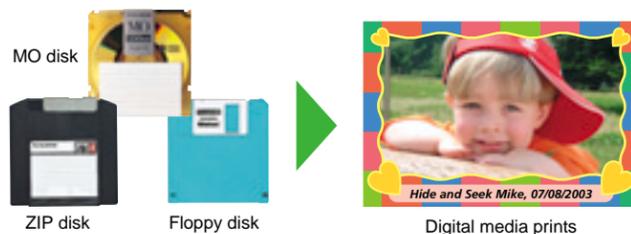
Digital camera photo images stored in various different file formats can be processed by the Frontier to create beautiful prints. The image data can be input directly from the digital camera media. The software automatically optimizes print quality – correcting density, color saturation and gradation – and also allows manual correction, to create natural-looking prints to match a wide range of customer needs.

Digital Camera media

SmartMedia   xD-Picture Card   Memory Stick
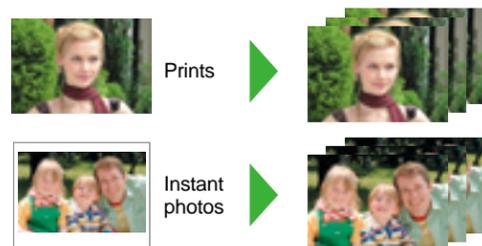
CompactFlash   SD Card   PC card

Media Print Service

Digital images created or manipulated by image-processing software such as Adobe®Photoshop® can be used to create prints. Various file formats and storage media are supported.

MO disk

ZIP disk   Floppy disk   Digital media prints
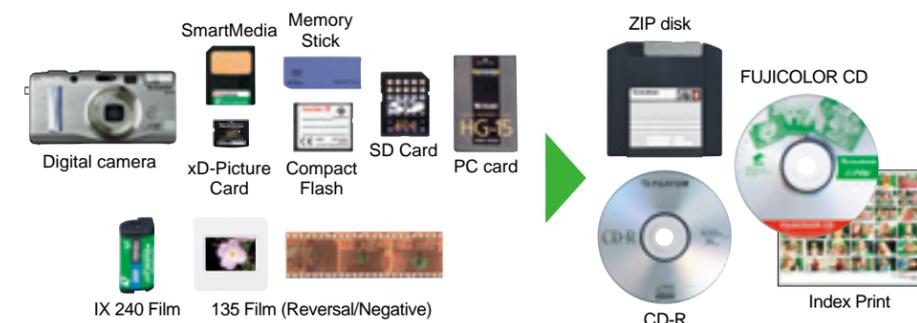
Hide and Seek Mike, 07/08/2003

Print-to-Print Service

Old photos, instant photos or other visual materials may be scanned in from an external scanner, either directly to the main unit or through an optional image controller. These images can then be used to create brand-new prints in various sizes and formats.

Prints

Instant photos

DI Data Writing Services

SmartMedia   Memory Stick

ZIP disk

FUJICOLOR CD

Digital camera   xD-Picture Card   Compact Flash   SD Card   PC card

High-resolution image data from film scanned by the Frontier, or from digital media, can be transferred onto FUJICOLOR CD, regular CD-R, or other digital media (such as Zip disk or MO disk) for storage and later use.

IX 240 Film   135 Film (Reversal/Negative)

CD-R

Index Print

Hyper Re-order Service

Save print image and correction data, to ensure that reprints are identical to original prints in quality and color reproduction.
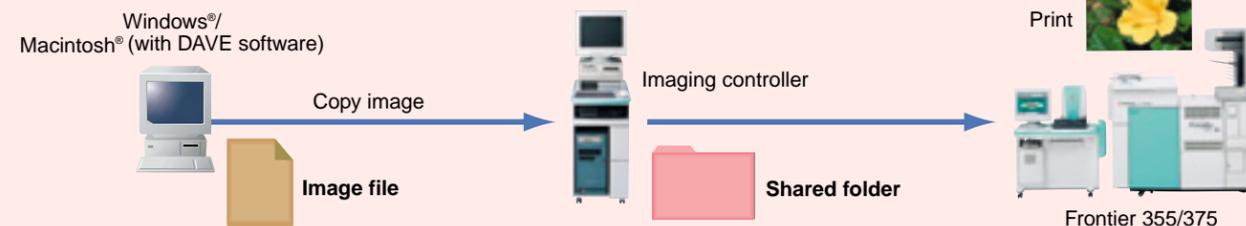
Tone Selection Service

Easily adjust color intensity and image contrast (gradation) directly from the Frontier's main controller unit. Tone selection for monochrome photos is also possible.

DI Simple Print Service

This software lets you take advantage of your existing local area network, giving Windows or Macintosh computers on the network easy access to the Frontier. With the Hot Folder print function, users simply copy an image file into a shared spool folder. This folder is checked at regular intervals, and any new files are printed on the Frontier. The Job File print function works in a similar way, but allows more detailed job specifications to be set.

Hot Folder Print Function

Windows®/ Macintosh® (with DAVE software)

Copy image

Image file

Imaging controller

Shared folder

Print
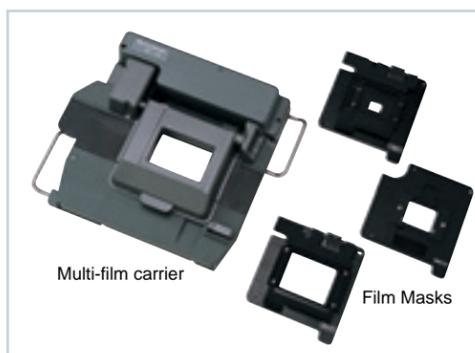
Frontier 355/375

Hyper Retouch Service

This service makes it easy to retouch an image, correcting scratch marks and dirt and even eliminating overhead wires and date stamps.

DI File Import/Export Service

● **DI File Import Service**
● **DI File Export Service**

Optional accessories and production materials

Multi-film carrier   Film Masks

Standing Operation Base
Designed to fit beneath the scanning unit for convenient standing operation.

Negative Receiver
Diffusion Box for 120
Viewer
Pricing unit PU800B
LCD Monitor

Fujifilm Digital Minilab Frontier 355/375 Main Specifications

Input unit

SCANNER & IMAGE PROCESSOR
Frontier 355 / Frontier 375 (SP-3000)

Type: Floor-type, independent scanner.
Scanning section: Area CCD with precision pixel shifting system
Film carriers:
- 135/IX240 automatic film carrier (standard); 135F/P/Hv/135H (optional); Color/black-white negative, color/black-white reversal; piece and strip film. IX240: Color/sepia negative, color reversal; cartridge and strip film.
- Multi-film carrier MFC10AY (optional) 110, Advanced Photo System (IX240), 135F, 135P, 135 half, 135FP, 120/220 (6 x 4.5, 6 x 6, 6 x 7, 6 x 8, 6 x 9), 135 reversal mount.

Image processing: Optimal color reproduction processing, color gradation control, facial expression enhancement, hyper-tone processing, hyper-sharpness processing, monotone finishing, retouching function (dust or scratches on film can be erased automatically in printing), soft focus, red-eye correction processing, and others.
Display: 17-inch CRT or LCD color display Multi-frame display capability (standard 6-frame display, can be set to display single frame or six frames).
Input light source: LED
Power requirements: AC100-240V (50/60Hz), 1.0KVA
Dimensions: 890 (W) x 770 (D) x 1,208 (H) mm
Weight: Approx. 118kg (with NC 100AY and 17-inch CRT display).
Installation space: Approx. 0.66 m^2

Output unit

LASER PRINTER/PAPER PROCESSOR
Frontier 355 (LP1500SC) / Frontier 375 (LP2000SC)

Type: Floor-type, normal-light operation (laser printer, processor, cutter, sorter in one unit).
Exposure system: Scanning exposure system using RGB lasers (solid-state G and B lasers).
Paper magazines: Two switchable paper magazines (standard accessory).
Paper: FUJICOLOR paper (silver-halide).
Paper widths: 8.9, 10.2, 11.7, 12.7, 15.2, 20.3, 25.4 cm.
Back printing: Two 40-character lines in backside print of information.
Front printing: Time and date of photograph in black characters in lower-right corner on prints from Advanced Photo System (IX240) cartridge film.
Index print: Color index print and normal prints can be printed from Advanced Photo System/135 (color negative and sepia) film in one pass (by RGB laser exposure).
Printer sorter: SU1100Y; sorting capacity: 11 orders of C/H/P-mixed-format prints. (25-order sorter is also available for the Frontier 375)
Printer condition setup: Semi-automatic calibration by AD200 calibrator.
Processor carriage: Multi-line, sheet carriage.
Processing time: Dry to dry: 4 min.
Power requirements: AC200-240V (50/60Hz) Single-phase 24A, Three-phase four-wire, 17A approx. 4.8KVA.
Dimensions:
355 (with 11-order sorter): 830 (W) x 1,708 (D) x 1,850 (H) mm.
375 (with 25-order sorter): 850 (W) x 2,073 (D) x 1,850 (H) mm.
Weight:
355 (with 11-order sorter): Approx. 470kg (530kg during actual operation).
375 (with 25-order sorter): Approx. 480kg (550kg during actual operation).
Installation space: Approx. 1.40 m^2.

Processor capacity: (actual production)
355: •135: 3R/ 89 x 127 mm: Approx. 1,300 prints/hr. (using 89 mm width paper)
4R/ 102 x 152 mm: Approx. 1,050 prints/hr. (using 152 mm width paper)
254 x 305 mm: Approx. 200* prints/hr.
•Advanced Photo System (IX240): 36 rolls/hr. (3R C/H/P-mixed-format prints; 25 exp. roll and index print), (using 89 mm width paper).
•Media Prints: Approx. 1,300** prints/hr. (for 3R) (auto print mode for digital still cameras with 2 million pixels; using 89 mm width paper) Approx. 1,050 prints/hr. (for 4R) (auto print mode for digital still cameras with 2 million pixels; using 152 mm width paper.)
375: •135: 3R/ 89 x 127 mm: Approx. 1,600 prints/hr. (using 127 mm width paper)
4R/ 102 x 152 mm: Approx. 1,450 prints/hr. (using 152 mm width paper)
254 x 305 mm: Approx. 270* prints/hr.
•Advanced Photo System (IX240): 40 rolls/hr. (3R C/H/P-mixed-format prints; 25 exp. roll and index print), (using 89 mm width paper).
•Media Prints: Approx. 1,300** prints/hr. (auto print mode for digital still cameras with 2 million pixels; using 89 mm (for 3R) and 152 mm (for 4R) width paper.)

Printable films: (using standard or optional film carriers)
Color negative film: Advanced Photo System (IX240) and 135 (standard);.110, 126, 120, 220: optional; Color positive film: 135 strips, piece and mounting (optional); Advanced Photo System: cartridge and piece (standard); mounting (optional) 120, 220 (optional), sepia (Advanced Photo System)/135 black and white film (standard).
Print sizes: 82.5 x 117 mm ~ 254 x 381 mm.
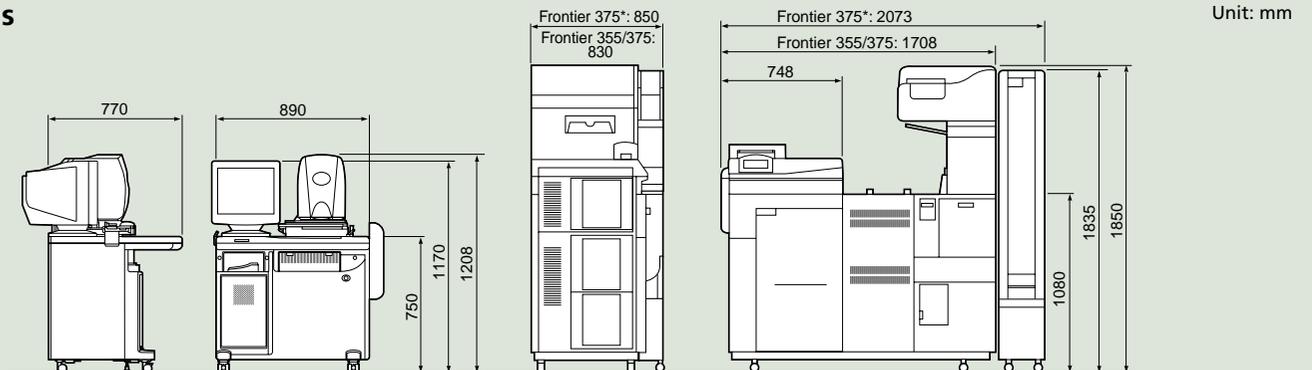Processing chemicals: Chemical system CP-48S.

*When two GPA23 Boards are installed. **Performance varies depending on processing capabilities of the Imaging Controller.*

The Frontier 355/375 has received the UL/CUL/CE Marks for meeting high safety standards.

Specifications are subject to change without notice. All brand names or trademarks are property of their respective owners.

Dimensions

Unit: mm

Frontier 375*: 850
Frontier 355/375: 830
Frontier 375*: 2073
Frontier 355/375: 1708
748
770
890
750
1170
1208
1835
1850
1080

*With SU2500Y 25-order sorter

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