1. FEATURES AND USES

FUJICOLOR CRYSTAL ARCHIVE PAPER TYPE II is a silver halide color paper designed to produce high-image-quality color prints on both analog and digital printers. In addition to the many superb features of the current FUJICOLOR CRYSTAL ARCHIVE PAPER TYPE ONE, this new paper incorporates new silver halide emulsion technology, coupler technology and layer design technology to deliver enhanced color reproduction, white purity, image stability and handling. Furthermore, when used in conjunction with the newly developed digital minilab Frontier 570, it enables the realization of super-fast processing, resulting in a dramatic improvement in productivity.

Features

- More Vivid Color Reproduction
  Retains beautiful colors such as subtle shades of green, vivid blues and reds.

- More Brilliant Whites plus Improved Highlight Details
  Further improved whiteness, with clearer and more distinct highlight details.

- Excellent Image Stability
  Exhibits high image stability during long-term dark storage and excellent light storage stability, as well as sharply improved storability with respect to nitrogen oxide, ozone and other gases.

- Improved Handling Characteristics
  Improved tolerance for processing unevenness and pressure-induced density variations that sometimes occur.

- High productivity
  Realizes high productivity when used in conjunction with the Frontier 570.

2. SAFELIGHT

Handle in total darkness. If safelight use is unavoidable, observe the following precautions.
- Expose paper no longer than 1 minute to light emitted through two Fuji Safelight Filters No. 103A (or Wratten Safelight Filters No. 13) in a 10-watt tungsten lamp safelight located at least 1 meter from the work area.
- Safelight filters fade with extended use and need regular checking. Replace when paper fogging is detected.
- Exposed paper is susceptible to safelight-induced sensitivity increases in the exposed area. For this reason, exposed paper should be subjected as little as possible to safelight illumination.

3. PRE-PROCESSING PAPER HANDLING/STORAGE

- The higher the temperature and humidity, the more paper, whether unused, unexposed or exposed, is susceptible to adverse changes in speed, color balance, physical characteristics and other properties. Unprocessed paper is best stored at low temperatures. Specifically, the following conditions should be used for paper storage.
  - Short-term storage: Store in a cool and dark location, away from direct sunlight or high temperature and humidity.
  - Long-term storage: Below 10°C (50°F).

- Raw paper which has been stored at a low temperature (by refrigeration) should be set aside and allowed to warm to room temperature prior to being opened. If the paper is taken out of its packaging immediately after being removed from refrigerated storage, condensation will form on the paper surfaces, resulting in print color changes and easily damaged surfaces.

The shortest periods required to return freezer- or refrigerator-stored paper to room temperature (minimum temperature equalization periods) are as follows.

<table>
<thead>
<tr>
<th>Paper Size</th>
<th>Storage Temperature (-20 °C (-4 °F))</th>
<th>0 °C (32 °F)</th>
<th>10 °C (50 °F)</th>
</tr>
</thead>
</table>
| 10.2 cm × 185.9 m  
(4 in. × 610 ft.) | 6 | 5 | 3.5 |

NOTES

- Do not heat paper in order to equalize temperatures.
- Remove paper from refrigeration on day before use.
• If exposed paper remains unprocessed for extended periods of time under normal room conditions or is subjected to high temperature and/or high humidity, changes in the color balance and other properties may occur.

• The time between exposure and development should be fixed in order to obtain consistent quality. Avoid waiting until the next day to develop the exposed paper. Rather than holding the paper for processing the next day, initiate processing as soon as possible.

4. PROCESSING

This paper is designed for use with FUJICOLOR Paper Process CP-40FA, CP-43FA, CP-47L, CP-48S, and CP-49E, or RA-4 type processes.

5. POST-PROCESSING PAPER (PRINT) HANDLING/STORAGE

Since prints are usually used for the long-term recording of images, as much effort as possible is made to use materials that exhibit the least amount of change over time, but the effects of light, heat, oxygen in the air, contaminating gases, humidity and mold cannot be completely avoided. It is possible, however, to minimize the change in the photographic image or base material by maintaining the appropriate storage conditions for prints, such as those used by museums and art galleries. Temperature and humidity control is the most important key to minimizing the change that occurs in prints. Prints stored in the dark under the following conditions may be expected to show almost no change over time.

<table>
<thead>
<tr>
<th>Storage Period with Almost No Change</th>
<th>Temperature</th>
<th>Relative Humidity</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than 20 years</td>
<td>Below 10°C (50°F)</td>
<td>30% — 50%</td>
</tr>
<tr>
<td>10 — 20 years</td>
<td>Below 25°C (77°F)</td>
<td>30% — 50%</td>
</tr>
</tbody>
</table>

6. LIGHT SOURCES FOR VIEWING

When inspecting finished color prints, it is essential that an illumination source be used that has superior spectral characteristics, adequately high color temperature and sufficient brightness. This is because results can appear different, depending on light quality. For precise results, prints should be examined under the conditions designated by ISO 3664-2000. As a general guide, the following conditions are recommended.

- Color Temperature : 5000±300 K
- Average Illumination : 500 Lux or more
- General Color Rendering Index: Ra 90 or more*

* To attain these values, special fluorescent lamps designed for color evaluation (e.g. EDL type) should be used.
7. USE WITH FRONTIER 330/340/350/355/370/375/390/570

It is necessary to adjust for the paper type for each paper magazine by changing the paper "Type" specification in the "Paper Magazine Registration" menu.

①Log in to the "4 Setup and Maintenance" menu with "SE2" for the user name, and a password of "7777".
②Select "5 Printer Adjustment/Maintenance" – "1 Paper Magazine Registration" (Menu 451) and change the paper type to "H" as shown in the table below.

<table>
<thead>
<tr>
<th>Paper</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRYSTAL ARCHIVE PAPER TYPE II</td>
<td>H</td>
</tr>
<tr>
<td>CRYSTAL ARCHIVE PAPER TYPE ONE</td>
<td>C</td>
</tr>
</tbody>
</table>

③Select "2 Print Condition Setup and Check" – "1 Paper Condition Setup" (Menu 421) and perform a paper condition setup for all magazines for which the paper types were changed.
* It is important to click the "Initialize" button to initialize the settings before making the paper condition setup. After initialization, the first paper condition setups will deviate by a great degree, but this will be balanced after the second or third attempt. (Please note that clicking the "Initialize" button will not be possible if you do not log in with a user name of lab administrator or higher.)

①Log in to the "Setup and Maintenance" menu with the password "7777".
②Click the [Setup and Maintenance] – [02 Print Condition Setup and Check] – [0221 Paper Magazine Registration]. Change the paper type to "H" as shown in the table below.

<table>
<thead>
<tr>
<th>Paper</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRYSTAL ARCHIVE PAPER TYPE II</td>
<td>H</td>
</tr>
<tr>
<td>CRYSTAL ARCHIVE PAPER TYPE ONE</td>
<td>C</td>
</tr>
</tbody>
</table>

③Click the [Setup and Maintenance] – [02 Print Condition Setup and Check] – [0200 Paper Condition Setup] buttons and perform a paper condition setup for all magazines for which the paper types were changed.
* It is important to click the "Initialize" button to initialize the settings before making the paper condition setup. After initialization, the first paper condition setups will deviate by a great degree, but this will be balanced after the second or third attempt. (Please note that clicking the "Initialize" button will not be possible if you do not log in with a user name of lab administrator or higher.)

8. USE WITH FA/FA COMPACT SERIES

Since cyan forming dye has been modified in CRYSTAL ARCHIVE PAPER TYPE II, a problem may arise when this paper is used on the printing condition settings made using the densitometer (QT-600) built into Fuji Minilab FA/FA compact series. When CRYSTAL ARCHIVE PAPER TYPE II is used with FA/FA compact series of Minilabs, it is necessary to set the printing conditions using the "ring-around print" method or another densitometer.

9. PAPER SURFACE AVAILABLE

Glossy, Lustre and Matte

10. SIZES AVAILABLE

<table>
<thead>
<tr>
<th>Rolls</th>
<th>Length</th>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>83.8 m (275 ft.)</td>
<td>10.2 cm (4 in.)</td>
</tr>
<tr>
<td></td>
<td>185.9 m (610 ft.)</td>
<td>12.7 cm (5 in.)</td>
</tr>
<tr>
<td></td>
<td>533.4 m (1750 ft.)</td>
<td>15.2 cm (6 in.)</td>
</tr>
<tr>
<td></td>
<td>20.3 cm (8 in.)</td>
<td>25.4 cm (10 in.)</td>
</tr>
<tr>
<td></td>
<td>27.9 cm (11 in.)</td>
<td>30.5 cm (12 in.)</td>
</tr>
</tbody>
</table>

NOTES
1. The length of one roll has been changed from 175.3 m (575 ft.) to 185.9 m (610 ft.). For Fuji Minilab SFA series such as SFA238/248/258, the maximum roll length setting is 180m. Please note that about 6 m of paper for printing is still available with these Minilabs, even if the paper remaining indicator designates "0".
2. Size availability may change without prior notice.

11. CONTROL STRIPS

Processing control can be provided through the use of FUJICOLOR PAPER CRYSTAL ARCHIVE Control Strips - Process CP-40FA/43FA/47L/48S/49E.
* When using CRYSTAL ARCHIVE PAPER TYPE II, the LD value may slightly increase in control strips with some processing chemicals. However, there is no problem in processing performance.
12. MARKINGS (BOX/BAG/EMULSION NUMBERS)

12-1 Box Markings

![Box Markings Image]

12-2 Bag Labeling

![Bag Labeling Image]

12-3 Emulsion Numbers

Emulsion numbering will be in ascending order from 201 at introduction.

**NOTE** FUJICOLOR paper is marked with a three-digit emulsion number followed by an additional three-digit number, which is provided for production control purposes only. Should any problems arise with FUJICOLOR CRYSTAL ARCHIVE PAPER TYPE II, the additional three-digit number suffix to the emulsion number should be indicated on any claim.

13. BACKPRINTING

![Backprinting Image]

14. PAPER STRUCTURE

![Paper Structure Diagram]

- Protective Layer
- Red Sensitive Layer (Containing Colorless Cyan Coupler)
- Interlayer
- Green Sensitive Layer (Containing Colorless Magenta Coupler)
- Interlayer
- Blue Sensitive Layer (Containing Colorless Yellow Coupler)
- Resin-coated Paper
- Cyan Dye Image
- Magenta Dye Image
- Yellow Dye Image
- Silver Halide
- Coupler
- Processing-induced Dye
15. SPECTRAL SENSITIVITY CURVES

![Graph showing spectral sensitivity curves for Red, Green, and Blue sensitive layers.]

- **Process:** CP-48S
- **Densitometry:** Status A
- **Density:** 1.0 above Dmin

Wavelength (nm) vs. Relative Sensitivity

* Sensitivity equals the reciprocal of the exposure (J/cm²) required to produce a specified density.

16. SPECTRAL DYE DENSITY CURVES

![Graph showing spectral reflection density for Yellow, Magenta, and Cyan.]

- **Process:** CP-48S

17. IMAGE STORAGE CHARACTERISTICS

- **Estimated Dark Storage Stability at 25°C (77°F)**

![Graph showing color dye fading and stain over years.]

- **Color Dye Fading**: (Y, M and C Patches at Density of 1.0)
  - Recommended Long-term Storage Condition** (40% RH)
  - High Humidity Storage Condition** (70% RH)

- **Stain***

- **Estimated Light Storage Stability under 500 Lux Intermittent Illumination Conditions***

![Graph showing color dye fading and stain over years.]

- **Color Dye Fading**: (Color Patch at Density of 1.0)
  - Average light exposure: 500 Lux, 12 hours/day***
  - Process: CP-48S

* Time-induced white background staining (yellowing) is as important as dye image fading in affecting image quality.

** In regard to color image dark storage stability, the level of humidity is just as important as temperature. For this reason, more accurate evaluations can be made by using the two humidity standards — one for high humidity storage conditions (70%RH) and that recommended for long-term storage (40%RH).

*** Since in common domestic situations sunlit areas may be bright as 1,000 lux or more during the day and drop to 300 lux in the evening and at night, storage conditions are usually designated to be at an average of 500 lux of light exposure for 12 hours per day.
NOTICE The data herein published were derived from materials taken from general production runs. However, changes in specifications may occur without prior notice.