

# Using KODAK EKTACOLOR Processing Cartridge 92/110

**CAT No. 144 0775, for Professional Color Papers in KODAK PROFESSIONAL RP 30 and SRP 30 Laser Printers**

The KODAK EKTACOLOR Processing Cartridge 92/110 is designed for use with the KODAK PROFESSIONAL RP 30 Laser Printer and the KODAK PROFESSIONAL SRP 30 Laser Printer.

**The EKTACOLOR Processing Cartridge 92/110, CAT No. 144 0775, replaces KODAK EKTACOLOR Processing Cartridge 75, CAT No. 528 5887.**

The drop-in cartridge of paper processing chemicals will process 92 square metres (990 square feet) of color papers, such as KODAK PROFESSIONAL PORTRA ENDURA, SUPRA ENDURA, ULTRA ENDURA, and ENDURA Metallic Papers. The cartridge will produce prints with rich, bright colors and excellent shadow detail. It provides production efficiency that will satisfy even the highest-volume lab operations.

**Note:** The KODAK EKTACOLOR Processing Cartridge 92/110 can also process 110 square metres (1184 square feet) of KODAK EKTACOLOR EDGE, ROYAL Digital, and KODAK PROFESSIONAL PRO IMAGE and PROFOTO Color Papers.\* For information on using the 92/110 processing cartridge with these color papers, see Publication CIS-280, *Using the KODAK EKTACOLOR Processing Cartridge 92/110, CAT No. 144 0775, for Processing KODAK EKTACOLOR EDGE, ROYAL Digital, and KODAK PROFESSIONAL PRO IMAGE and PROFOTO Color Papers.*

EKTACOLOR Processing Cartridge 92/110 will be offered worldwide. It will be available in the U.S. and Europe in spring 2007, and worldwide during the summer 2007.

\*Not available in all countries

## CARTRIDGE DESCRIPTION

Each cartridge case holds two processing cartridges. Each cartridge contains concentrates to make 4.5 litres (1.2 gal) of developer replenisher, 7.5 litres (2 gal) of bleach-fix replenisher, and 4.5 litres (1.2 gal) of stabilizer replenisher to process 92 square metres (990 sq feet) of paper.

KODAK PROFESSIONAL RP 30 and SRP 30 Laser Printers will prepare the replenisher solutions directly in the replenisher storage tanks of the printer processor. The printers will automatically signal when a replacement cartridge is needed.

## CONVERTING TO KODAK EKTACOLOR PROCESSING CARTRIDGE 92/110

To convert to the PC 92/110 cartridge follow these steps:

- 1) Before converting, make sure you use up all remaining inventory of KODAK EKTACOLOR Processing Cartridge 75, CAT No. 528 5887.
- 2) Change replenishment rate settings: When loading your first 92/110 processing cartridge, CAT No. 144 0775, make the following changes to the replenishment rates in the RP 30 or SRP 30 printer software. Follow the procedure listed below:

### Rates for 92 m<sup>2</sup>: (for RP 30 and SRP 30)

To change replenishment rates:

- Touch: **Settings  
Machine settings  
PP Replenishm.**

The replenishment settings part of the screen should look as follows (note that new replenishment rates are shown):

Chemicals	Normal replenishm.	
	Chemicals [ml/m <sup>2</sup> ]	Water [ml/m <sup>2</sup> ]
DEV	49	11
BX	82	0
STB	49	151

To set new Paper Processor replenishment rates:

- Touch the first button next to **DEV** and enter **49**. (BX and STB will automatically change.)
- Touch the second button to the right of **DEV** (**DEV Water**) and enter **11**.
- Touch the second button to the right of **STB** (**STB Water**) and enter **151**.
- Touch **OK** to save the new values.

Caution: Do not press the Reset to default button.

Reset to  
default



If you press the button, the replenishment settings will be set back to the PC-75 rates and over-replenishment will occur. You must then re-enter the above values.

## PROCESSING STEPS AND CONDITIONS

The steps and conditions of the process cycle in the KODAK PROFESSIONAL RP 30 and SRP 30 Laser Printers follow.

Table 1 Processing Steps and Conditions

Solution/Step	Time* (sec)	Temperature	Replenishment Rate† mL/m <sup>2</sup>
Developer	33	40.0 ± 0.3°C 104.0 ± 0.5°F	49 replenisher 11 water
Bleach-Fix	33	38 ± 3°C 100 ± 5°F	82
Stabilizer	69‡	37 ± 3°C 99 ± 5°F	49 replenisher 151 water
Dry		Not over 70°C (158°F)	—

\*Immersion time plus crossover time to the next tank.

†The replenishment rates are starting-point recommendations.

‡Four stabilizer tanks plumbed for countercurrent flow.

**Note:** All solutions and tanks are automatically circulated and filtered.

### Replenishment Rates

The rates in Table 1 are starting-point recommendations. Your replenishment rates will also depend on these factors:

- type of paper processed
- exposure level of the paper and resulting print density
- other variables of the processing system, such as production volume

If you change any one of the three replenishment rates in the Chemicals column, the other two will automatically be changed so that all replenisher chemistry will run out at the same time. We recommend that changes be made only to the developer rate. Changes can be made to any one of the three water rates without changing the other two.

**Note:** We do not recommend operating at replenishment rates lower than those given in Table 1.

**Developer.** If necessary, adjust the replenishment rate according to your control plots (see “Using Control Strips to Monitor the Process”).

**Bleach-Fix.** The bleach-fix replenishment rate assumes minimum carryover of developer. If developer carryover is greater than normal, problems such as retained silver may occur. If you detect retained silver, verify that the replenishment rate is set correctly and that the processor rollers are adjusted to minimize developer carryover. See the printer manual for specifications and adjustments for squeegee rollers.

### Filtration

Processing solutions and wash water may contain some insoluble materials. If these materials aren't filtered out, they can stick to the paper, tank walls, rollers, and lines, and may damage the paper. Change the filters regularly as a part of routine maintenance.

### Drying

The maximum drying temperature setting in the software of KODAK PROFESSIONAL RP 30 and SRP 30 Laser Printers is 70°C (158°F).

### Low Utilization

The number of prints that you produce each week determines the utilization of the printer processor. If your utilization is low, oxidation and evaporation will affect the activity of the processing solutions and may increase the D-min of the paper.

During periods of low utilization, be sure to turn off the processor when it's not in use to avoid oxidation and evaporation. In extreme cases of low utilization, you may need to discard the chemicals in the processor and replace them with fresh tank solutions.

## SAFE HANDLING OF PHOTOGRAPHIC CHEMICALS

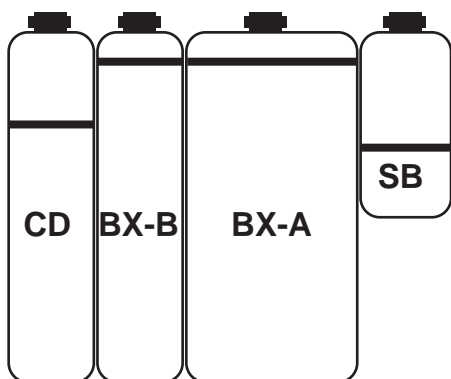
Handle all chemicals carefully. When you mix solutions, wear goggles or a face shield, a protective rubber apron, and protective gloves made with neoprene or nitrile rubber. Clean protective clothing after use to remove any chemical residue that can cause contamination. For more information about potential health hazards and safe handling of specific KODAK Chemicals, see the label and the Material Safety Data Sheet (MSDS) for the chemical. Consult the MSDS for regional contact information. MSDS copies are available at [www.Kodak.com/go/photochemicals](http://www.Kodak.com/go/photochemicals).

## PREPARING FRESH TANK SOLUTIONS

Follow these instructions to prepare developer, bleach-fix, and stabilizer working tank solutions for the KODAK PROFESSIONAL RP 30 and SRP 30 Laser Printers from the concentrate solutions in the KODAK EKTACOLOR Processing Cartridge 92/110.

### Preliminary Steps

- Before removing bottles from the cartridge, identify the concentrate bottles needed by looking at the cartridge diagram on the front label of the 92/110 processing cartridge. Note the order of each different concentrate bottle, and what each is. Also note that the CD and BX-B have the same size bottle, but can be identified by the order in the box and by the fill volume noted in the diagram. The diagram on the label will appear as follows:



You will need two bottles of each part to prepare the working tank solutions.

- To prepare the developer tank solution, you will also need KODAK EKTACOLOR RA Developer Starter. CAT numbers vary by regions and are as follows:

Region	CAT No.
US&C, Latin America (Northern)	102 6681
Europe, Africa, Middle East	527 8957
Latin America (Southern)	632 0238
Greater Asia Region	444 5839 403 6596

- Assemble the following equipment for accurate measurement of the concentrates and water:
  - graduated cylinder that can measure volumes up to 1 litre
  - container to measure volumes of water up to 10 litres
- Remove the racks from the processor tanks and rinse the tanks with water. **Be sure to close the drain valves again before adding the fresh solutions to the tanks.**

### Mixing the Tank Solutions

Mix the working tank solutions for the stabilizer, bleach-fix, and developer as follows:

**Stabilizer.** Identify the two stabilizer concentrate bottles from the two EKTACOLOR Processing Cartridge 92/110 cartons. To mix solution for the four stabilizer tanks, you will need to split the volume of concentrate in each bottle in half.

Use the stabilizer concentrate to mix the working tank solution for **each** tank as follows:

For Each Stabilizer Tank	Volume
Add water to each stabilizer tank	10.9 litres
Add one-half bottle of stabilizer concentrate (labeled <b>SB</b> on diagram)	Approximately 87 mL
Total volume per tank	11 litres

**Bleach-Fix.** Identify the bleach-fix Part A and Part B concentrate bottles from the two EKTACOLOR Processing Cartridge 92/110 cartons. **Be very careful to avoid contamination of the developer with bleach-fix.**

For Bleach-Fix Tank	Volume
Add water to bleach-fix tank	12.4 litres
Add contents of two bottles of bleach-fix concentrate, Part A (labeled <b>BX-A</b> on diagram)	Entire contents of two bottles
Add contents of two bottles of bleach-fix concentrate, Part B (labeled <b>BX-B</b> on diagram)	Entire contents of two bottles
Total tank volume	18.4 litres

**Developer.** Follow the procedure below to prepare the developer working tank solution. To ensure good performance, take special care in mixing the developer.

For Developer Tank	Volume
Add water to developer tank	15.7 litres
Slowly add contents of two bottles of developer concentrate (labeled <b>CD</b> on diagram)	Entire contents of two bottles
EKTACOLOR RA Developer Starter	1100 mL
Total tank volume	18.4 litres

## Reinstalling the Racks and Bringing the Tank Solutions to Temperature

When you fill the tanks with the new mixes, they will appear only partially filled. When you reinstall the racks in the tanks, the racks will displace more solution volume to fill the tanks.

Install the racks by slowly lowering them into the tank. When you have reinstalled all the racks and have verified that all the tanks are filled with solution, turn on the recirculation and heater system and bring the solutions up to operating temperature:

Solution Tank	Temperature °C
Developer	40.0 ± 0.3
Bleach-Fix	38 ± 3
Stabilizer	37 ± 3

**Note:** After mixing, rinse the concentrate bottles and dispose of them in an approved manner. See “Managing Empty Cartridges.”

## Maintaining Stabilizer Tank Solutions

All photographic processing equipment requires ongoing maintenance to ensure that wash tanks and stabilizer tanks remain clean and provide proper washing of photographic materials. This is true for traditional “plumbed” running-water wash systems as well as “non-plumbed” stabilizer wash systems commonly used in minilab processors. Without occasional tank and rack cleaning and replacement of the stabilizer, you may experience dirt and precipitate buildup in the tanks.

We recommend that you clean stabilizer tanks and racks and replace the stabilizer solution if you experience an increase in D-min—typically seen as yellow stain—or whenever you see excessive dirt on print surfaces.

The need for stabilizer tank maintenance will vary with factors such as water quality and the production volume of the processor. Most labs find that they need to change stabilizer at intervals ranging from once every few weeks to once every few months. Replacement of solution in the first tank or the first two tanks following the bleach-fix tank may be sufficient to resolve problems.

The following procedure for replacing the stabilizer tank solution recommends the use of KODAK EKTACOLOR PRIME Stabilizer and Replenisher LORR. When you use this stabilizer, you avoid having to use a portion of the chemicals in the KODAK EKTACOLOR Processing Cartridge 92/110.

**Note:** For all maintenance steps, observe the precautions given under “Safe Handling of Photographic Chemicals.”

To change the stabilizer:

1. Drain the existing tank solution and save it for silver recovery.
2. Remove the racks and clean them thoroughly with a soft sponge or brush under running water. Also brush any dirt or residue from the sides of the stabilizer tanks, and flush them with warm water.
3. To refill the tanks with fresh stabilizer, add 10.9 litres of water to each of the stabilizer tanks. If you are using stabilizer supplied in a dispenser bottle (European CAT 527 0863), then start with 10.8 litres of water.
4. To each tank, add the contents of one bottle of the 10-litre size of KODAK EKTACOLOR PRIME Stabilizer and Replenisher LORR. If you’re using a stabilizer unit that makes a larger volume of solution, measure 100 mL of the concentrate and add it to each tank.  
  
If you are using dispenser bottle\* CAT 527 0863, then add the quantity 2x the level A mark. The tank will appear partially filled.  
  
\*Not available in all countries
5. Slowly insert the stabilizer racks in each tank; the solution will mix and the tank will fill.

## USING CONTROL STRIPS TO MONITOR THE PROCESS

You can use KODAK PROFESSIONAL Pro Strips Color Negative Paper Control Strips, Process RA-4 (box of 50, CAT No. 129 8587) to monitor and help maintain process performance. For instructions on processing control strips, see the user’s manual for the printer. For information on the use and diagnostic features of the control strips, see KODAK Publication No. Z-130, *Using KODAK EKTACOLOR Chemicals*, Section 8, “Process Monitoring and Troubleshooting with KODAK PROFESSIONAL Pro Strips.” Kodak publications are described and available from [www.Kodak.com/go/photochemicals](http://www.Kodak.com/go/photochemicals).

To calculate control-strip aim values for process monitoring with the EKTACOLOR Processing Cartridge 92/110 in the RP 30 or SRP 30 Laser Printer, you will need to apply process adjustment factors. Use the adjustment factors in addition to the correction factors that are supplied with the Pro Strips.

After reading the densities of the supplied reference strip on your densitometer, first apply the correction factors packaged with the reference strip. Then add the values from the following table. The corrected density values are the aim values for your batch of control strips. You will need to apply the adjustment factors each time you switch to a new batch of control strips.

**Table 2 Process Adjustment Factors**

Measurement	R	G	B
BP	+0.07	+0.04	+0.05
HD	+0.15	+0.15	+0.11
LD	+0.10	+0.10	+0.08
D-min	+0.01	0	0

## SILVER RECOVERY

The overflows from the developer and bleach-fix tanks are collected in a common tank on the KODAK PROFESSIONAL RP 30 and SRP 30 Laser Printers. The stabilizer overflow is collected in a second tank. The two effluent tanks are connected at the top. If one is full, it will overflow into the other tank. Typically, silver concentrations in the developer/bleach-fix effluent tank will be 2 to 4 g/L of silver. The stabilizer effluent tank will have a typical silver concentration of 0.4 to 0.7 g/L.

You can effectively use common silver-recovery methods with the combined effluent from both effluent collection tanks. If your lab has other processors, you can combine the effluent from the RP 30 and SRP 30 Printers with the other effluent solutions and use your current silver-recovery methods.

Publications on silver management that include recommendations and descriptions of silver-recovery options are available in the Silver Management section of the Kodak Environmental Services Publications Center at [www.Kodak.com/go/KES](http://www.Kodak.com/go/KES).

## MANAGING EMPTY CARTRIDGES

In most regions, it should be possible to participate in a local community recycling program. Check with program authorities to determine if these packaging materials are eligible for local recycling. If they are accepted, disassemble the package and place the bottles and corrugated material in your recycling bin. Follow all material preparation instructions from the recycler.

See KODAK Publication No. CIS-148, *Recycling KODAK Photochemical Containers*, for more information on preparing the empty bottles for recycling. CIS-148 and other publications on waste management are available from [www.Kodak.com/go/KES](http://www.Kodak.com/go/KES).

If local recycling is not an option, dispose of the empty bottles and the package with your normal solid waste.

## MSDS INFORMATION

Kodak will provide Material Safety Data Sheets (MSDSs) with the first delivery of the cartridges. MSDSs are also available from [www.Kodak.com/go/photochemicals](http://www.Kodak.com/go/photochemicals).

In the United States, OSHA Warning Labels for printer processor tanks are available at [www.Kodak.com/go/KES](http://www.Kodak.com/go/KES). These warning labels for chemical working tank solutions can assist you in complying with the OSHA Hazard Communication Standard. When combined with the use of Material Safety Data Sheets, they'll help ensure that users are informed about chemicals in the workplace.

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