

Trouble Shooting

The following may be of assistance to identifying a problem

Fault	Cause	Remedy
Spots or irregular colours	<i>Not enough agitation</i>	Agitate the paper more
The blacks on a dry print look blue	<i>Developer too dilute</i> <i>Development time too short</i>	Mix developer correctly Lengthen development
A blue or purple hue to the print	<i>Developer contaminated by bleach-fix</i>	Check vessels for cleanliness if drum processing wash drum well after bleach-fix
Grey mask on the print especially in the highlights	<i>Bleach-fix time too short</i> <i>Bleach-fix too dilute</i>	Re-bleach-fix the print Re-mix the bleach-fix
Blue-green cast even on unexposed borders	<i>Colour safelight too bright</i>	Move safelight further away or reduce brightness
Print is bright purple/violet	<i>Yellow/green B&W safelight was on</i>	Switch off safelight
Print is bright blue/green	<i>Red B&W safelight was on</i>	Switch off safelight
Purple streaks	<i>Light turned on too soon after Stop bath or Bleach-fixing</i>	Turn light on later

HEALTH, SAFETY AND ENVIRONMENT

General safety instructions: Avoid contact to skin. Wear protective gloves and an apron when mixing chemicals. In case of skin contact flush with plenty of water.

Developer contains:

- 1.2 - Ethandiol <50%
- p-Phenylene derivative <5%
- Potassium carbonate <25%

Harmful if swallowed. Irritating to eyes and skin. May cause sensitization by skin contact. Keep out of the reach of children. Avoid contact with skin. Wear suitable gloves. If in contact with the eyes or skin flush well with plenty of water and seek medical advice

Bleach-fix contains:

- Phosphoric acid <5%
- Ammonium iron EDTA <25%

Keep out of the reach of children. Avoid contact with skin. Wear suitable gloves and eye/face protection. If swallowed seek medical advice immediately and show the container or label. May cause sensitization by skin contact

ENVIRONMENTAL INFORMATION

Compared to other RA4 chemistry products Nova Multispeed RA4 has a much higher capacity. This reduces chemical waste due to the higher capacity. The monoconcentrates allow the preparation of small amounts of working solution very simply. The loss by oxidation is therefore very small. If used in dishes or drums the solutions may be used to exhaustion. This again reduces chemical waste. In addition, because of the monoconcentrate technology there are fewer bottles to throw away.

INSTRUCTIONS FOR USING MONO RA4 CHEMISTRY

NOVA
MULTISPEED

Nova Mono RA4

600ml concentrate makes **3 litres** of working solution

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Nova Mono RA4

Nova Multispeed RA4 is a monoconcentrate chemistry for the processing of all RA4 colour papers. Developing and bleach-fixing each takes 60 secs at 20°C (68°F).

High speed processing in roller transport machines and Nova slot processors at 22°C (72°F) 45secs and 24°C (75°F) 30secs makes this chemistry unique.

Nova Multispeed RA4 is a fast and productive process for RA4 colour paper and display film. Prints developed in Nova Multispeed RA4 show an extraordinarily high colour saturation.

Monoconcentrates simplify mixing of colour chemistry. It is recommended for dishes, drums and slot processors and roller processors. When used in roller processing machines the quick acting bleachfix means that the time and temperature is the same for development as for bleach-fixing. The bleach-fix is odour free.

Preparation of developer

Before starting, the bottle must be shaken well until the sediment on the bottom is in suspension in the liquid. This can take a minute of vigorous shaking, preferably with the bottle inverted. Check that the cap is on tightly before shaking! Dilute 1+4 with water to make the volume required. To make 1 litre of developer mix 200ml concentrate with 800ml of water. Add the concentrate to the water, stir well until the solution becomes clear and shows a light yellow colour. During use the colour of the developer darkens by dyes taken from the photographic emulsion. This is normal and no indication of exhaustion.

Preparation of bleach-fix

Before starting, the bottle must be shaken well until the sediment on the bottom is in suspension in the liquid. This can take a minute of vigorous shaking preferably with the bottle inverted (check that the cap is on tightly before

shaking!). Dilute 1 + 4 with water to make the volume required. To make one litre of developer mix 200ml concentrate with 800ml water. Add the concentrate to the water. Stir well until the solution is an even dark red colour.

Usage

The processing times of this product are similar to those of black & white processing. The times shown in Table 1 are suitable for processing in dishes, colour drums and slot processors at continuous agitation. The developing time may be extended up to 50% with no loss of quality. If a stop bath is not available, a wash in running water for 30 secs is recommended. The times for stop bath and bleach-fix may be extended by up to 100%. The washing times can also be extended if necessary.

Please note that the blacks in wet colour prints show a bluish cast until dry.

Processing in dishes

Put the exposed paper with emulsion side up into the developer, ensure that the developer covers the paper evenly and quickly. Agitate continuously. When the time is up transfer the print to the stop bath and leave it there for 15 secs. Transfer to the bleach-fix dish. Agitate continuously. The white light may be switched on after 15 secs. Teststrips can be inspected after one minute. For true colour rendition final wash and drying are required.

Processing in drums

Once the exposed paper is in the drum the white room light can be switched on. We recommend that the drum is pre-heated in the water bath for 1 minute before the processing starts. The developing step starts when the drum is in its horizontal position. Pour out the developer after the recommended developing time. The developing time may be exceeded by

15 secs. Always try to standardise your processing. The used solutions are poured back into measuring beakers and filled up to the original volume with fresh solution. This enables you to reuse the solutions through replenishment.

Processing in slot processors

The construction of the slot processors minimises oxidation of the working solutions. Therefore the chemistry can remain in the processor for at least 3 months. When working, small amounts of developer are carried over to the stop bath. Replace this loss occasionally by adding fresh solution. In order to control the exhaustion of the bleach-fix replace the same amount of solution as for developer however this will require you to remove the same volume from the bleachfix before adding the replacement. Recommended replenishment being 10mls per 25x20cm (8 x 10-) print for both developer and bleach-fix.

Replenish every 10 prints (100mls). With replenishment your Nova Multispeed RA4 will keep going for months in a Nova processor. Developer replenishment basically replaces the developer carried out by the print. Bleachfix replenishment is achieved by removing 200ml and replacing 200ml of fresh bleach-fix every 20 prints 25x20cm (8 x 10-) or equivalent. By setting your Nova to 22°C (72°F) you can give 45 secs development and 45 secs bleach-fix however this assumes the use of a stop bath between developer and bleach-fix. If you want to use your Nova slot processor unplugged (room temperature), or use the Nova Print Pod, then follow the time/temps in Table 1 to the left.

Processing in roller transport machines

DURST Printo: Set speed of modules to Position 2 (= 45 secs). Temperature settings according to the following table. They apply to both developer and bleach-fix.

Fresh chemistry	up to 3m2	22°C (72°F)
	3m2 - 5m2	24°C (75°F)
	5m2 - 7m2	26°C (79°F)

THERMAPHOT ACP 200/302: Settings for temperature and speed are 25°C (77°F) and 45 secs or 27°C (80.5°F) and 30 secs. Replace carry over of developer by adding fresh solution. After processing 6m2 of paper replace 500ml of bleach-fix,

Transparent materials

Display films such as Fujitrans, Fujiclear,

Agfatrans XA, Agfaclear XA, Kodak Duratrans etc. can be successfully processed in Multispeed Mono RA4. Please note that it is important to double all the processing times compared to the processing of paper.

Capacity

The capacity of Nova Multispeed RA4 is very high. There is no need for replenishment or time compensation when using the chemistry to exhaustion. We guarantee a capacity of at least 3m2 per litre for the developer - (130 sheets 13x18cm or 60 sheets 20x25cm). The capacity can be extended by either raising the temperature or prolonging the development time. The capacity of the bleachfix is 5m2 per litre. In order to make full use of the capacity a stop bath or a water bath is necessary between developer and bleachfix.

Storage

The concentrates in the unopened bottles will keep for two years if stored at temperatures between 10°C (50°F) and 20°C (68°F). Working solutions should be stored in air free containers - preferably glass and in this way will keep for up to 3 months. After use store the working solutions in brown glass bottles. The partly used concentrate solutions will keep for 6 months if protected against oxidation by squeezing the bottle to evacuate the air before tightening the cap. In dishes the working solutions keep for 24 hours

PLEASE NOTE

If stored for several months the developer and the bleach-fix monoconcentrate tends to become thick. If you have any problems getting the sediment into suspension when shaking the bottle try one of these methods:

- Remove 100ml of the liquid to give more room in the bottle and shake into suspension. Add the 100ml you removed back to the bottle and shake again.
- OR turn the bottle upside down and leave for 24 hours.
- OR Warm up the contents by putting the bottle into hot water.
- OR open the bottle by cutting off the upper part and take out the complete contents by a plastic spoon. Prepare the working solution by adding warm water. The thickening of the concentrate has no influence on the quality of the working solution.

Table 1

PROCESSING AT	18°C 64.5°F	20°C 68°F	22°C 72°F	24°C 75°F
DEVELOPMENT	90 seconds	60 seconds	45 seconds	30 seconds
STOP BATH	15 seconds	15 seconds	15 seconds	15 seconds
BLEACH-FIX	90 seconds	60 seconds	45 seconds	30 seconds
FINAL WASH	4 minutes	3 minutes	3 minutes	2 minutes