Setting up a home darkroom

Photographer **Steven Taylor** shares his advice on how to create your own darkroom and **Andrew Sanderson** then shows you how to make your own prints

Almost every photographer has their own story of when they got hooked on developing their own prints. For me, and many others of my generation, it was the moment I first saw an image slowly emerge in the red safelight of the darkroom. Back then I found it, and still do 40 years later, magical. Silver-gelatin prints from film negatives have an aesthetic that is separate from any digital process. Yes, you could buy the film-simulation software and have inkjet prints made on fibre-based papers. That will get you close to the silver-print look, but the magic isn't there. Photographers are increasingly returning to the darkroom. Even those who have never used film before are finding a craft new to them that can fulfil their creative urge.

You don't have to invest in all the paraphernalia immediately. Try it first to see if it suits you. There are a number of public darkrooms, and courses and classes that will allow you to give it a try. See our guide on pages 20-21 or have a look at Harman Technology Ltd's local darkroom site to find one near you (www.localdarkroom.com).

As a young art student, my first darkroom was my bedroom. It was probably not ideal, but it was the only space I had. I have known people who have set up great darkrooms in spare rooms, bathrooms, garden sheds, garages, barns and outside privies. If there are a few of you, you might also consider clubbing together to rent a workshop space.

As you're working with a variety of chemicals, good ventilation and fresh-air breaks are a must

The space
Please remember to read the safety advice on chemical packs, although the chemicals we use in the darkroom are generally no more dangerous than cleaning chemicals used in the kitchen. You'll need to take a few precautions, though. It's probably not a great idea to ingest any of the chemicals. If you get any on your hands you should wash with hot water and soap before you eat. I wouldn't recommend bringing food and drink into the darkroom for the same reasons, and I'd say the kitchen isn't the best space to set up you equipment in the first place.

If your skin is sensitive it's recommended that you avoid contact with the chemicals. Instead, buy a pair of tongs or wear latex gloves.

The working solutions will be very diluted, but at full strength some can catch your breath a little. Good ventilation and regular fresh-air breaks are important. The acid stop bath and fixer can be a little smelly (although some of us rather like the odour), which means a bedroom that you're going to spend the night in may not be ideal.

You'll also need a water supply and drainage. At the end of the process your prints will need to be washed in running water. If your space doesn't have a water supply, but is near to one – for example, a spare room with access to a bathroom – you can collect your fixed prints in a holding bath and move to the water supply periodically. You'll also need a supply of electricity to feed the enlarger and safelights, and for this an extension lead into the garden shed will do.

You should keep the wet process separate from the enlarger as much as possible. After each wet process you should rinse and thoroughly dry your hands before handling dry paper and electrical equipment.

Enlarger
If you're going to make prints bigger than the negative you'll need an enlarger. Durst is probably the most common brand available in the UK, and while it's not manufacturing any longer, a search on eBay will bring up a lot. If you'd prefer to buy brand new, Bessler and Kaiser are still making enlargers.

There are generally three types of enlarger head: condenser, cold cathode and diffuser. Colour enlargers, which work just as well for black & white, are usually diffuser heads and have three filter dials in cyan, yellow and magenta. Some printers swear by cold cathode, while others like condensers. I use colour enlargers. You can also sometimes find enlargers with a multigrade head, which are very similar to colour heads but with a dedicated filter system designed to control print contrast.

The other consideration is the size of negatives you want to print from. Most enlargers will also handle negatives smaller than the largest they're designed for, so a 6x6cm

Creating and working with your own negatives is an endlessly rewarding experience

enlarger will also work for 35mm but not 6x7cm. As with camera work, you should use the best lens you can afford. Schneider, Rodenstock and Nikkor are all good makes. You'll need a lens that has sufficient coverage for your negative size. So 50mm covers 35mm, 80mm for 6x6cm, 90mm or 105mm for 6x7cm and 150mm for 5x4in, then negative carriers for the size of negative as well.

The enlarger will have a bulb that supplies the light to project through the negative onto the baseboard of the enlarger. The light will expose the light-sensitive paper, with the darker parts of the negative blocking the light so the paper receives less exposure and an image is formed. The enlarger works like a vertical projector.

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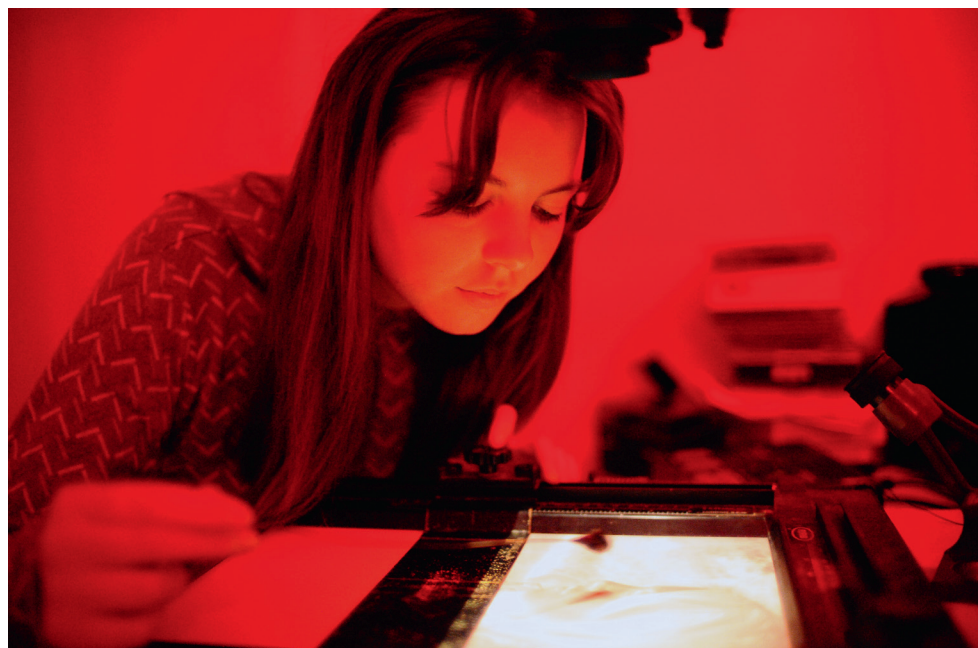
The exposure is controlled using combinations of intensity and time. The intensity is controlled by the aperture size in the lens. We tend to work at about 3 stops down from wide open (f/8 or f/11), as that's the most efficient centre of the lens and gives an exposure that's neither too quick to work the image, nor too slow and keeps you waiting all day. The enlarger light will stay on for a predetermined period and then switches out, although you could just use a switch and manually time the exposure.

Timers can range from simple, like a kitchen timer, to very advanced – like the RH Designs f-stop printing timer that, as the name suggests, times the print in f-stops rather than seconds.

Easel
To keep the printing paper in place you should use an easel. RR Beard made what many consider to be the best for years. I have one that takes 20x24in, one that takes 20x16in and one that takes 14x11in paper. You can set a border between ¼in and 2in. Probably the most common make you see second-hand is LPL.
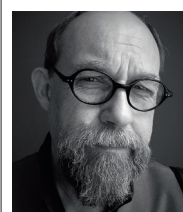
Safelight
Because the printing paper is only sensitive to the blue end of the spectrum, you can work under a red or orange safelight. The most common make is Paterson, which uses a 15-watt pygmy bulb that can be plugged into a household plug socket. I suggest you keep them around 4ft (1.2 metres) away from the light-sensitive paper. You'll definitely need one over the developer tray.

The wet side
In my first bedroom-based darkroom, I placed my enlarger on the dressing table and on the opposite side of the room I erected a wallpaper-pasting table that held four trays – one with developer, one with stop bath, one with fixer and the final one with a holding tray of plain water. Every now and then I'd take the holding tray to the bathroom where I washed my prints under running water in a tray sitting in the bath itself.

The trays should be a little larger than the paper size you want to work with. Often they're listed on eBay in sets of three – dev, stop and fix – but clearly you'll need a washing system. The simplest ones are trays just like the dev trays, but under a tap. There are a number of other systems, including archival slot washers, to choose from.

Consumables
Harman Technologies Ltd makes and distributes the Ilford and Kentmere range of black & white materials. Ilford papers are available as fibre-based or resin-coated. The resin-coated papers are easier to handle, because the emulsion sits on the surface and the chemicals act quickly. Drying can be forced with a hairdryer or fan heater.

The fibre-based papers give a richer, deeper image. The emulsion sinks deep into the fibres, so the physical depth alludes to an intense visual depth in the shadows. If properly handled and treated, these papers have empirically tested archival permanence like no other photographic or digital printing material or process. The pay-off though, is that it takes a lot more careful handling and is much slower to work with. Drying has to be done overnight. Some lay the prints flat on fibre-glass screens or tape them to glass. I peg them back-to-back from a line. Either way, they'll curl as they dry. They then have to be pressed (I pile books on top of them) to flatten them again.

Paper developer is not the same as the film developer. It's much faster working. Ilford's standard paper developer is called Multigrade and is diluted 1:9 for working strength. Ilford makes a stop bath, Ilfostop, which is designed to arrest the development process. It's advisable to use Ilfostop if you plan to use the fixer for a long session. Ilfostop is used at 1:19 dilution. You can do without it and just use water if you're only going to keep the fixer for five or six 10x8s or smaller. I use Ilford Hypam fixer at 1:4 to fix my prints. **AP**

> **A safelight in the darkroom is of paramount importance to avoid fogging your prints**

Steven Taylor has been a professional photographer for all his working life, and has maintained a fine-art practice using black & white film and darkroom processes throughout. He has an MA in fine-art photography and has taught fine art, documentary and darkroom photography at all levels, including degree and professional level. He is a knowledgeable teacher and imparts an infectious enthusiasm for the craft. **www.steventaylor photography.co.uk**

THE ALCHEMIST'S WORKSHOP

THE LAKE District is a great location to photograph or just visit, to appreciate the sheer beauty of the landscape. Photographer Steven Taylor has set up a two-day course in the area to take you through all things SLR and darkroom. One of the days will be spent in the darkroom getting the best from your negatives to make beautiful black & white silver-gelatin prints for you to take away. Handily, Steven will also give you a step-by-step guide to exactly what you'll need to set up your own home darkroom. The two-day course costs £150. Visit **www.thealchemistsworkshop.co.uk** for more information.

ANDREW SANDERSON'S STEP-BY-STEP GUIDE TO MAKING A PRINT

Making your own prints in the darkroom has to be one of the most rewarding things a photographer can experience. Here Andrew Sanderson offers a quick and easy guide to making photographic prints
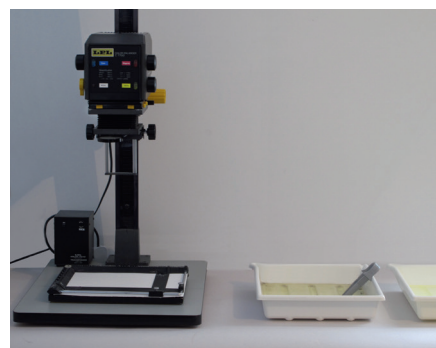
1 Using the enlarger
Once the chemicals have been measured out, place the negative in the enlarger carrier with the shiny side upwards and the numbers away from you. Set the enlarger at the correct height to give a projected image big enough for the chosen print size. Each time you alter the height, refocus the image.

2 Positioning
Turn on the enlarger and alter the aperture ring of the lens until the brightest image is projected onto the baseboard. Focus the image on the masking frame. Turn the lens's aperture ring until you feel two clicks and see a darkening of the projected image. This should be 2 stops darker than the lens's maximum aperture.

3 Check sharpness
Check for critical sharpness by using a focus finder if you have one, but remember to set it for your own eyesight first. Turn off the enlarger until ready for exposure. Now remove a sheet of paper and cut it up to use for test strips. You should be able to get roughly ten 10x5cm pieces from a 10x8in sheet.

4 Make a test strip
Place a Grade 2 filter into the enlarger, then place one of your cut pieces of paper on the masking frame. Expose for 5secs. Cover a 1cm strip of the paper with card and expose for another 5secs. Repeat until the last strip of paper has been exposed. Make sure you don't move the test paper as you move the card.

5 Developing the image
Place the exposed paper into the tray of developer and gently rock the solution back and forth, trying to get the paper submerged all at the same time. Timing is important – 1min for RC paper, but this will need longer in cold conditions. Avoid poking the paper with tongs as this can leave marks on the image.

6 Stop and fix
Remove the paper from the developer after the allotted time and drain briefly. Slide the paper into the stop bath and gently rock the stop bath tray for 10secs. Remove, drain and slide it into a tray of fixer, gently rocking again (10secs for test strips and 1-2mins for finished prints).
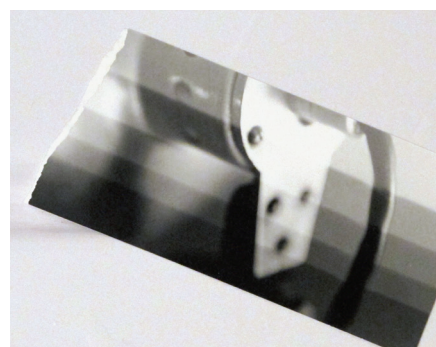
7 Review
Remove the test from the fix and view by white light (make sure your box of unexposed paper is closed). Counting from the lightest end of the test in fives, look for the first exposure that looks correct, and this will be your exposure time for the full print. This method will produce good 'beginner' prints.
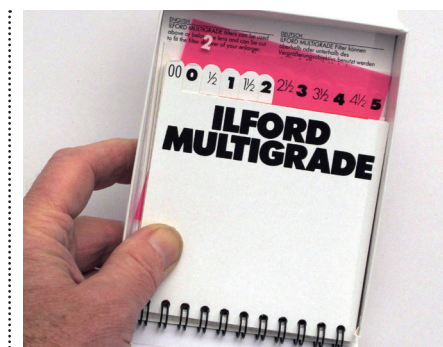
8 Adjusting contrast
If the print is too high in contrast, replace the Grade 2 filter with a Grade 1 and re-test. If the improvement is only slight, move down to Grade 0 and re-test. However, if the print is grey and flat, replace the Grade 2 filter with a Grade 3 and re-test. If the improvement is only slight, move up another grade to 4 and re-test.

9 Final print
When the correct exposure and contrast grade have been established, place a sheet in the masking frame and expose. Develop and stop as you did for the test, fix for 1min and wash for 5-10mins. Don't leave prints in water for more than 30mins. Hang the fully washed print up to dry or lay it out on blotting paper.