Loan Box

35mm Cameras

THE BOX
Museum
Gallery
Archive

The Box is Plymouth's new multi-million pound museum, gallery and archive. With brand new exhibition spaces alongside state-of-the-art facilities for research and learning, it's the perfect place to teach, inspire and engage students of all ages.

Loan Box Contents
1 x 1960s Etsumi Camera Bag
1 x 1970s Olympus Trip 35
1 x 1960s Voigtlander Vito C Deluxe
1 x 1950s Agfa Ambi Silette
1 x 1960s Agfa Optima III
1 x 1950s Weston Master III Exposure Meter
1 x Fuji 35mm film - exposed
1 x pack of photographs and 35mm negatives

Risk Assessment
Please conduct a risk assessment of these objects before using them with your class. Some of the objects included within this box could be harmful, including small metal levers and buttons. The door mechanism could trap little fingers if not closed properly.

Lost/ Damaged Items
If you have lost or damaged any items, please inform us as soon as possible, using this email:
theboxlearning@plymouth.gov.uk

Contents

About this resource

OK, first things first. Don't expect to take great, professional looking images with our cameras. If you're a fan of late 1980s indie LP covers, this is the loan box for you...

As you will see from our own efforts in this resource, using the cameras is not as straightforward as using a modern digital point-and-click or DSLR. Our photos on pages 30-32 were generally under-exposed, shaky or out-of-focus, but that's part of the fun in playing with vintage cameras (and secretly its really why you wanted to borrow them in the first place, isn't it?).

Most young people today will have never used a film-based camera and possibly never handled one before. Their experiences of photography are likely to be the fast-paced, instant and easily shareable images through mobile phones and apps such as Instagram. These cameras are the opposite of this approach - slow, methodical and mechanical.

This resource offers a brief introduction on how to load and unload film from the camera and prepare them for shooting. Rather helpfully, various people have added excellent content about these cameras online, including pdf manuals and filmed tutorials.

For the more technically minded of you, we have included an exposure meter in the box to help you and your pupils estimate the correct settings the camera should be set to for each environment you're shooting in.

We haven't included a flash for interior use as they require batteries, but feel free to use your own with our cameras if you have access to them.


CARL ZEISS
f:4,8/400 mm
247019

Olympus Trip 35

The Trip 35 was manufactured in Japan by Olympus. It was first introduced in 1967 and discontinued in 1984.

The Trip 35 got its name because of its intended market – people who wanted a compact, functional camera for holidays. It certainly reached the masses, with over 5 million metal-bodied versions and a further 5 million plastic-bodied versions sold.

Despite the huge production run, these cameras take great photos! This said, it certainly feels like a cheap camera when compared with the others included in the box.

How to: Olympus Trip 35

To open the back, pull the small silver lever on the side downwards. To load the film, flip the silver level on the left-hand top of the bod upwards (the rewind lever) and pull the whole rewinding knob upwards. If the whole rewinding knob inside the body doesn't lift up with it, push it upwards. Insert the film cassette and push the rewind knob back down, securing the film in place. If it doesn't push in completely, rotate the lever a little.

Hold the camera firmly with your left hand and hold the film cassette with your left thumb. Pull the film out slightly towards the take-up spool and insert into one of the slots on the take-up spool. This can be a little tricky, so dont worry if you dont get it right first time.

Make sure the gear teeth on the sprocket spool engage the small perforations on the film and wind the film on slightly. Close the back cover, wind the film on and press the shutter buttons until the the film counter shows the number 1.

Voigtländer Vito C

The Vito C Deluxe was manufactured in Germany by Voigtländer. It was introduced in 1960 and discontinued in 1967.

Although relatively inexpensive at the time, the Vito C Deluxe boasts an impressive heavyweight body and equally impressive 'Color-Lanthar' lens.

Ths camera has the most satisfying viewfinder of all our cameras. It worth testing how these cameras look and feel different to each other before putting a film in them - there is a marked difference between this camera and the others in the box.

How to: Voigtländer Vito C

To open the back, press the two silver buttons on the side of the body. Push the rewinding lever to the left and pull the rewinding knob upwards. Push the film leader into the slit of the take-up spool and anchor it to the hook with a perforation hole. Insert the film cassette and fully push back the rewind knob into the camera body.

Close the camera back.

Set the film counter by turning the small black knob on the bottom until the diamond mark is opposite the red dot.

When you've finished shooting the film, push the rewinding lever to the left, so the rewinding knob pops up. Turn the knob until you get back to the diamond mark. You should feel a slight change in pressure. To remove the film cassette, pull the rewind knob out fully.

Agfa Ambi Silette

The Ambi Silette was manufactured in Germany by Agfa. It was introduced in 1957 and discontinued in 1961.

The Ambi Silette is often called 'The Poor Man's Leica'. Leica produced top-of-the-range, expensive cameras – they remain hugely desirable and very expensive today.

As you will see from our own photos on pages 30-32, this camera will benefit from making use of the Universal Exposure Meter included within the loan box. Perhaps we should rename it the 'Bad Photographer's Leica'?

How to: Agfa Ambi Silette

To open the back, slide the latch plate on the side downwards. Pull out the rewinding knob so the film cassette can be inserted. Pull a small length off the film across and anchor the second perforation to the small hook on the take-up spool. Turn the milled metal disc until the film is pulled tight, then close the camera.

Set the exposure counter to zero. Press the inner milled ring and turn until the green triangle meets the 'index' line engraved on the edge of the disc. Remember to open the viewfinder cover before shooting by gently sliding the lever across the camera body.

When you've finished shooting the film, press and hold the release button on the bottom of the camera, pull out the rewinding knob and turn until the film detaches itself from the take-up spool. You'll feel a slight change in pressure.

Agfa Optima III

The Optima III was manufactured in Germany by Agfa. It was introduced in 1960 and discontinued in in the mid-1960s.

Although an amateur-level camera, this hefty-bodied camera was top of Agfa's range.

When shooting our own test rolls, this camera produced the best quality photographs by some distance. Whether we were lucky and managed to set it up perfectly first time or whether the camera's previous owner actually knew what they were doing is open to debate.

How to: Agfa Optima III

To open the back of the camera, slide the silver lever downwards. Slide the small silver locking button next to the rewinding knob to unlock itand then pull it out as far as you can.

Insert the film cassette and push the rewinding knob back in. Turn the take-up spool until the broad slit and hook are visible. Draw out the film and anchor the second perforation hole to the hook. Wind the take-up spool forwards until a small length of film is pulled out of the film cassette. Close the camera back.

Turn the film counter wheel on the lower edge of the camera back until the green triangle just before the 36 or 20 is in line with the fixed mark on the body.

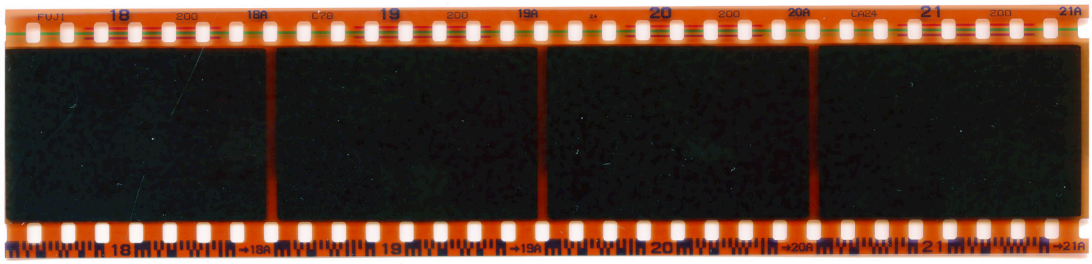
35mm Film

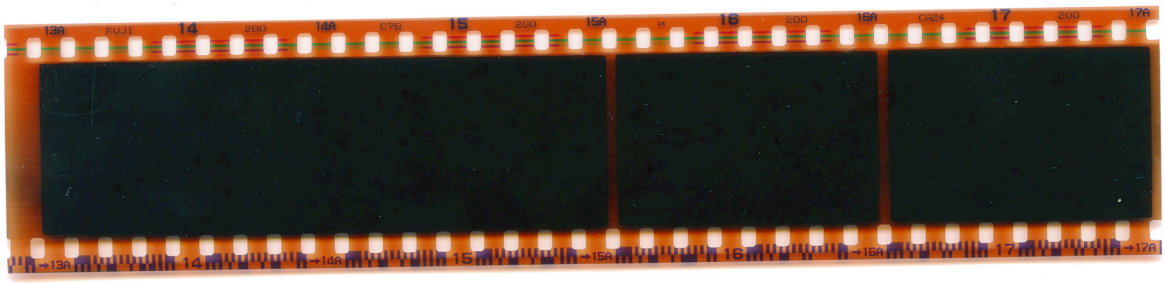
35mm film is a flexible, nitrocellulose strip coated in photographic emulsion.

The emulsion includes millions of light-sensitive silver halide crystals. Each crystal is a compound of silver plus a halogen (such as bromine, iodine or chlorine) held together in a cubical arrangement by electrical attraction.

When the crystal is struck with light, free-moving silver ions build up a small collection of uncharged atoms. These small bits of silver are the beginning of a latent image. Developing chemicals use this latent image to build up density, gradually accumulating enough metallic silver to create a visible image.

Colour films have multiple layers of silver halide to separately record the red, green and blue thirds of the spectrum, with a matching colour coupler grain to add a colour dye along with the metallic silver.





Universal Exposure Meter

The Master III exposure meter was manufactured in England by Weston. It was introduced in 1956 and discontinued in 1960.

The third of Weston's Master series of exposure meters, these were the first to use the then newly introduced 'exposure values' and ASA/ DIN ratings instead of Weston's own speeds. Because of this, these are probably the oldest in the Master series still being used actively today.

Rather than explain how to convert ASA to ISO (its modern equivalent) here, there are plenty of guides available online, along with guides on how use this exposure meter.

If you choose to use this meter you may find your photos are less likely to be over- or under-exposed. Even if you don't use the meter (you may guess that we didn't for our example photographs), you can still marvel in the beauty of its design.

Processing

After using the cameras, rewinding your films and removing them from the camera, the next step is to get them processed.

There are a few options for processing: either process them yourself in a darkroom, buy yourself a home-processing machine, or take them to a shop with a lab that processes film. We don't have a darkroom and can't afford a home-processing machine, so we took our rolls to Sarah, Chris and Adam at MyPhoto.

Over the next few pages we'll show you some of what happens to your film when they are being processed, scanned and printed.

Processing

First, all rolls brought into the shop are double-checked and numbered to ensure that they don't get mixed up.

The lab often process up to fifty films a day, so if they are not handled properly, someone might end up with the wrong photos.

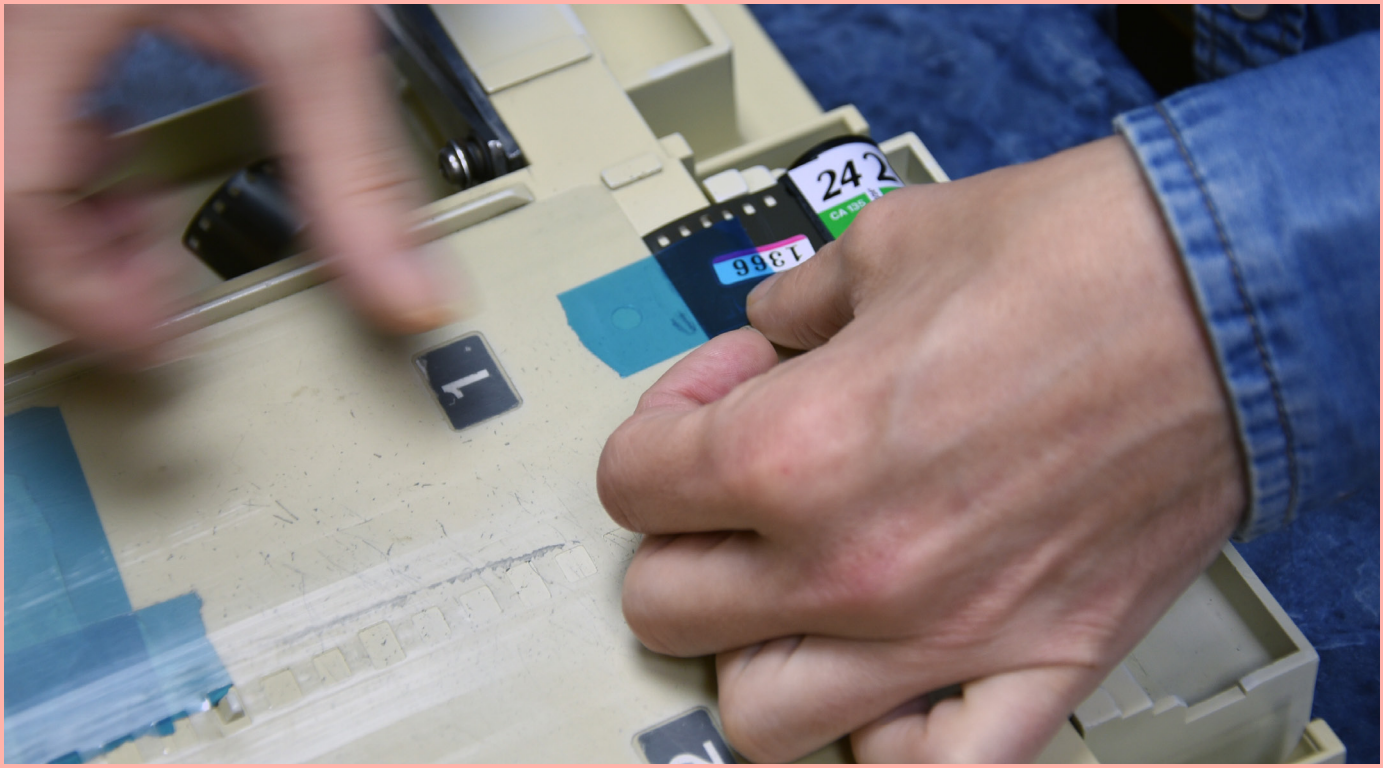
In the photo, the machine is used to draw the film leader out from inside the film cassette. It is then manually wound to prepare it for printing.

Processing

Once the film leader has been drawn out of the cassette, it is removed by slicing the end off.

The film has already been numbered with a sticker and is then securely fastened to a plastic leader card.

This needs to be stuck down securely on both sides to ensure that the film doesn't come loose in the proccessing machine. If it comes loose in the machine, its unlikely that you'll be able to process the film.



Processing

The plastic leader and the film cassette are then carefully loaded into the processing machine.

Two films can be put through the machine at the same time.

Because of the decline of traditional film use over the last few years, these machines are becoming harder to find and increasingly expensive to maintain.

Processing

The internal mechanism of the processing machine draws the leader card through a series of rollers into different types of ‘chemistry’.

This ‘chemistry’ comes pre-mixed for the processing machines, including solutions for bleaching and building image density.

The solutions used in this process are sent away after use for ‘silver-recovery’ - silver is obviously a valuable element and can be reused in the film-processing industry.

Processing

During the processing, the ‘chemistry’ in the printing machine needed to be replaced.

The machines use pre-mixed ‘chemistry’ that can be easily slotted in without any need to mix chemicals by hand.

In fact, the machines draw exactly what chemicals are required, mixes them automatically and even rinses the containers once they are empty.

Processing

Another important element is to calibrate the machines.

If they are not checked and calibrated daily, there is a chance the colour balance and contrast will not be correct.

Each morning a calibration test is run through the machines so that they can be tested against the manufacturers specifications. This would also need to be run with every change in photographic paper batch, so if you change your paper to a different batch part way through a day, another calibration test will need to take place.

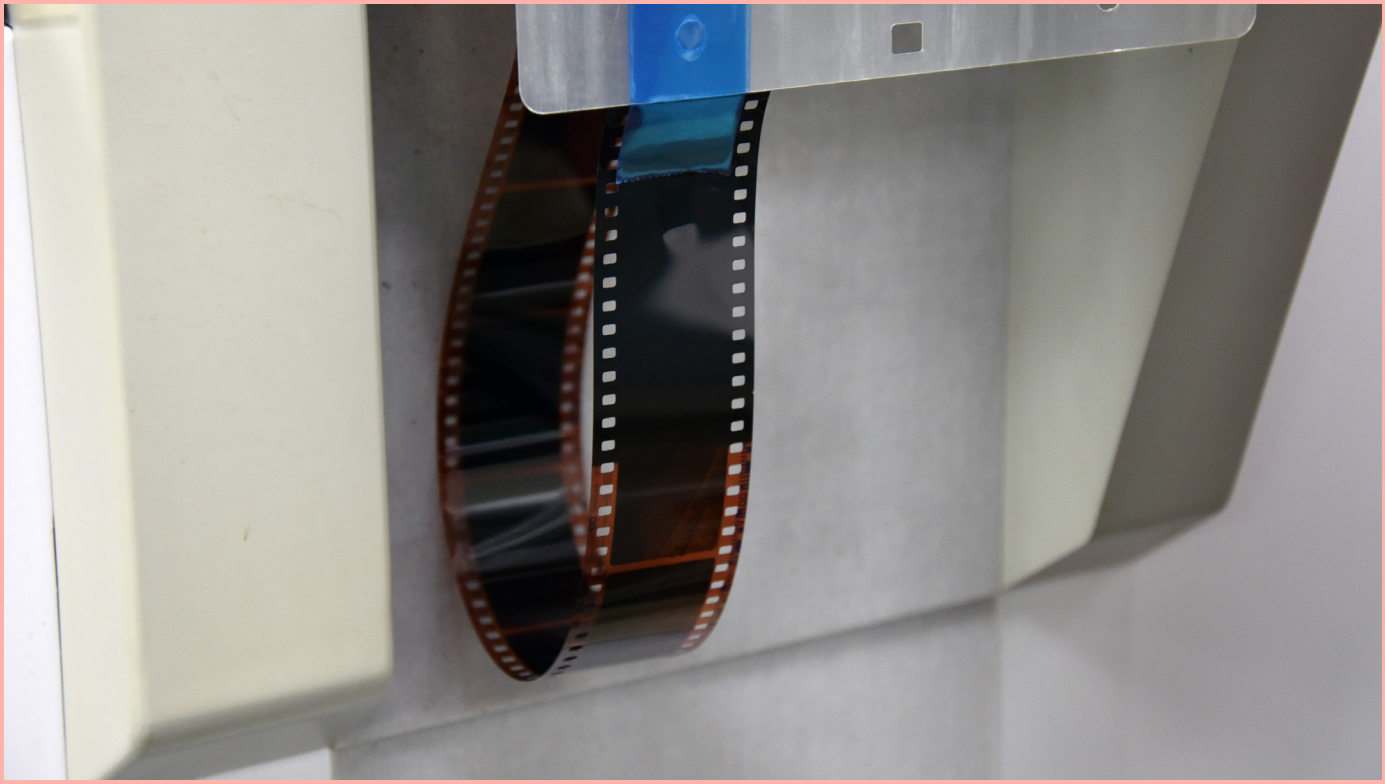
Processing

Our film has now passed through all of the 'chemistry' and is being fed out of the end of the machine to dry.

At this stage you can see if the images taken with the camera have made it onto film.

Amazingly, ours did!

This roll was taken with the Agfa Optima III and even more amazingly, some of them were in focus, not shaky and exposed quite well.

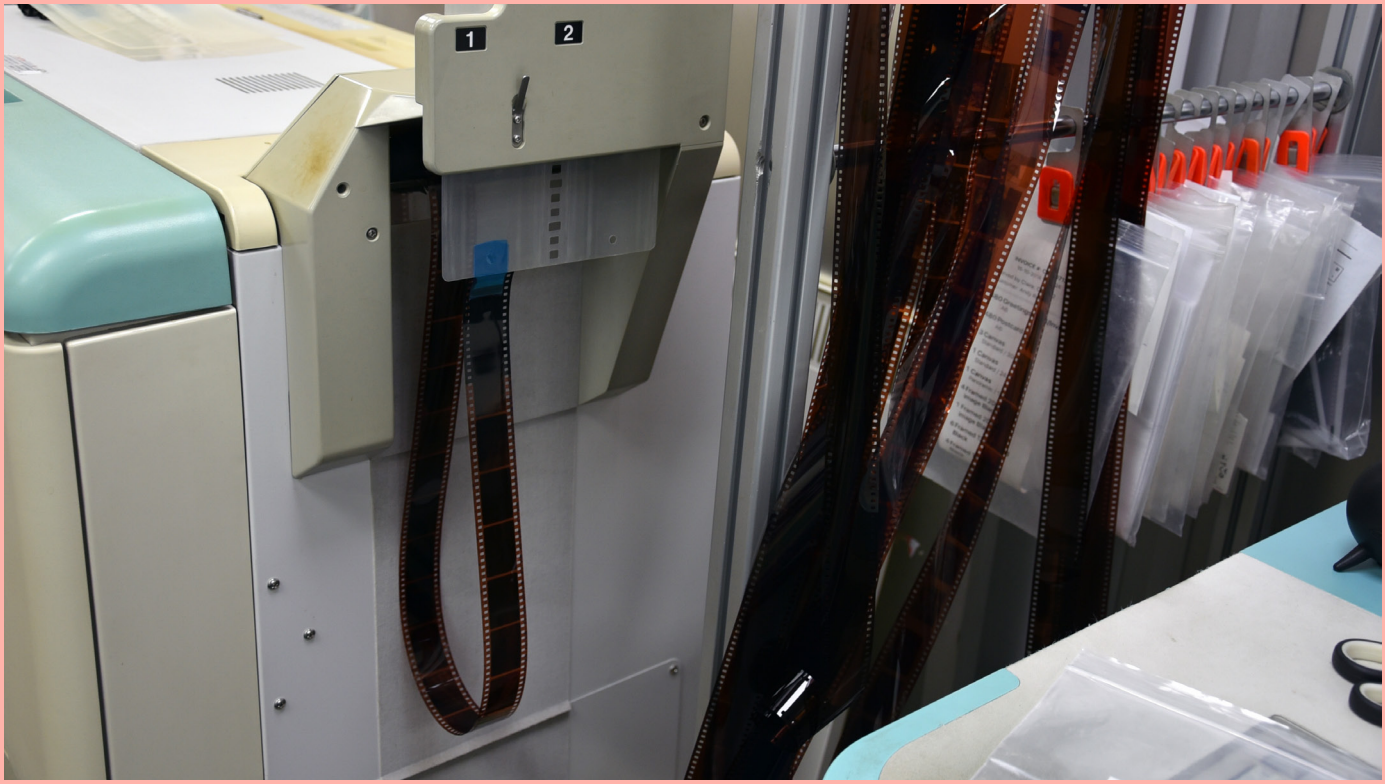


Processing

You can see our film slowly appearing from the machine alongside other films that have been processed and hung, ready to be hand-finished.

These films are sent from across the country and batch-processed in the lab.

MyPhoto receives a sack of these films to process and send back each day.

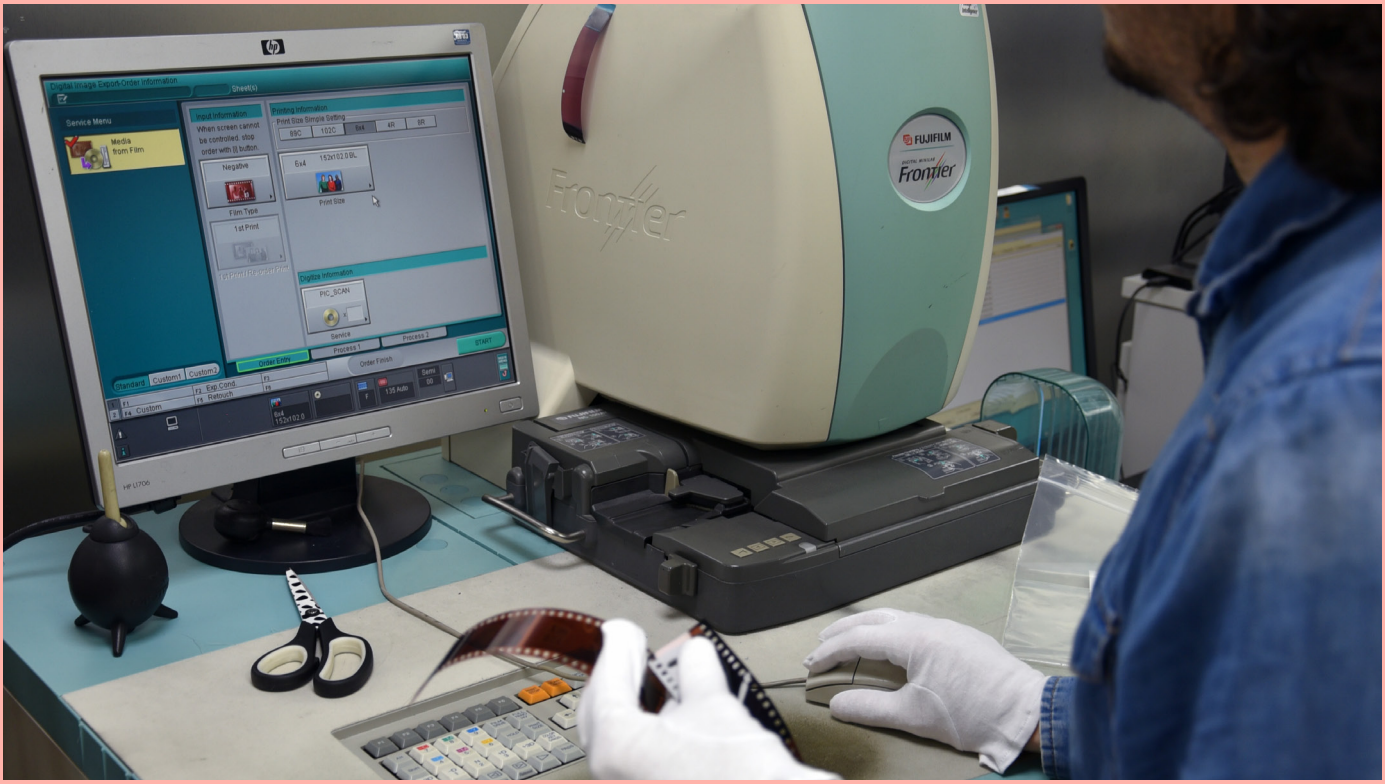


Processing

Now the film has been processed, the next stage is to scan the negatives into the computer.

This computer allows staff to choose from a huge number of size and print options, from keyrings to canvas-bonded prints.

A suite of computers are used to manage the complete printing process.

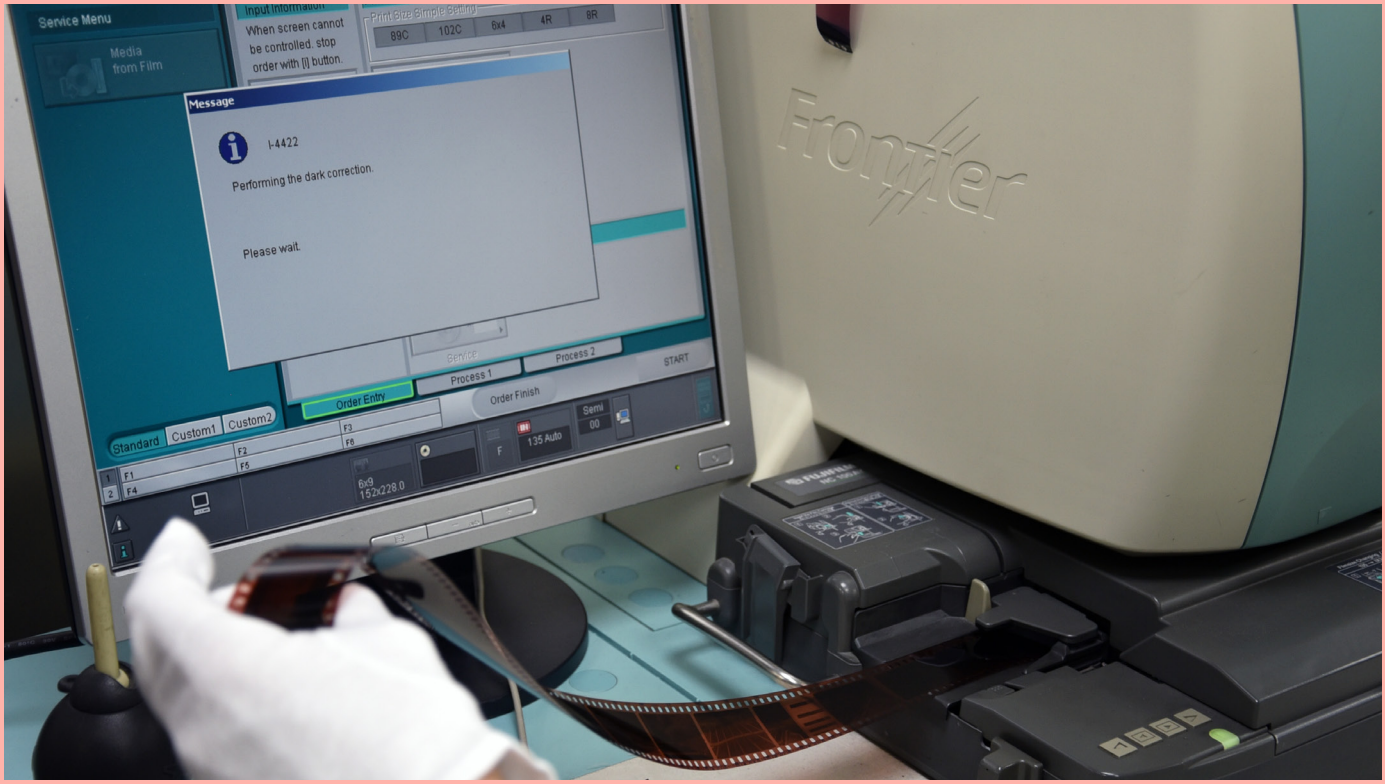


Processing

The negative strip is manually fed into the scanner and then mechanically drawn through the machine.

Each image is scanned individually and can be edited on the computer. For example, most of our photos needed to be darkened (they were a little underexposed) and all had a small amount trimmed off each edge for printing.

If you elect to just have your photos scanned, at this point they could be burned to CD and would be ready for collection.

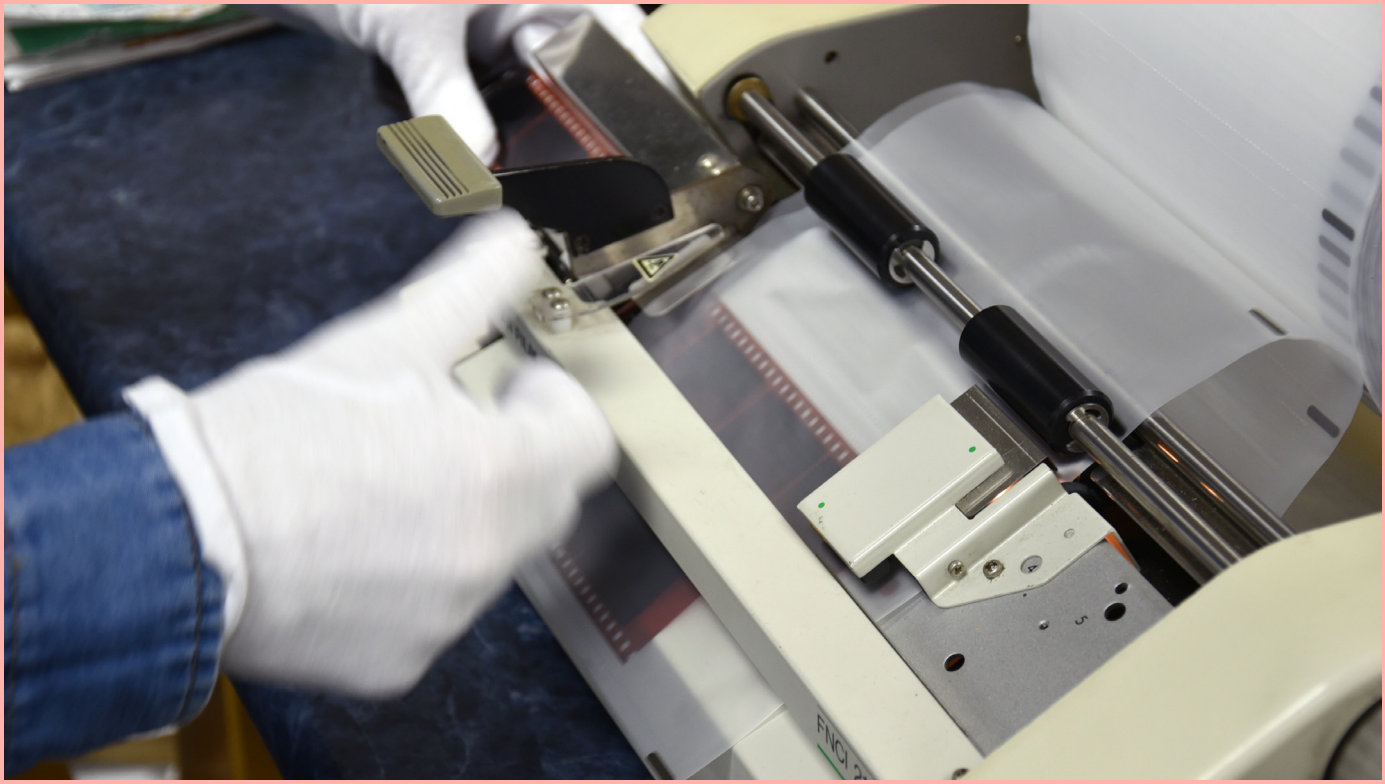


Processing

The negative strip is then cut and automatically placed into the negative bag by the negative cutting machine.

This is to ensure that the negatives are safe and ready to store. Negatives can be reprinted if required, so ensuring they are safely stored is important.

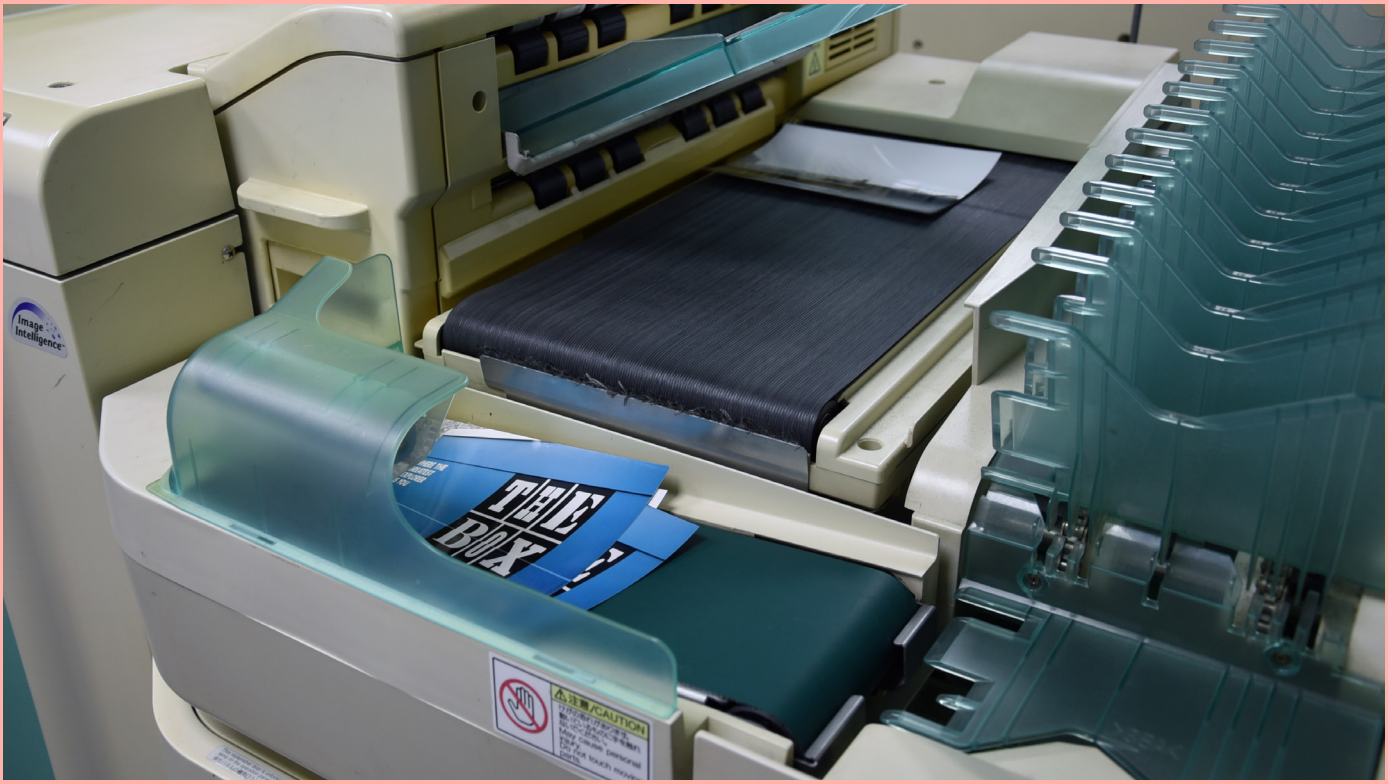
Our collections contain thousands of negatives, including glass-plate negatives, paper negatives and film negatives. They have to be very carefully stored and catalogued to ensure we can identify them easily and reprint or scan them when required.



Processing

Once the scanned images have been prepared by the computer and checked by a member of staff, they are sent to the printing machine.

You can see our images being ejected from the machine onto a small conveyor belt and then collected safely together.



Processing

Our finished photographs. In all, the process takes around 45 minutes to an hour to process one film cassette.

This photo wallet contains our negative strips cut and placed into a negative bag, a CD of scanned images including a printed contact sheet, another printed contact sheet, our receipt and most importantly, our photographs.

You will find all of these (except the receipt and CD) in the loan box, so you can marvel at our 'interesting' photographs.

For more information on processing your films at MyPhoto, why not visit their website - www.myphoto.co.uk

Example - Test Rolls

On these pages you will see the outcomes from some test shots using each of the cameras - we took the same photo on each camera to demonstrate the differences between them. You can even see some shots of The Box as it was being built.

Olympus Trip 35

Voigtländer Vito C

Agfa Ambi Silette

Agfa Optima III

Example - Test Rolls

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