



# ChromaFlex & LiteRing

Ged Yeates test drives this superb portable green/bluescreen location kit



The use of keying a foreground image over a background image to form a composite is an established and widely used technique in film and TV production. For most cameramen this will usually involve them in shooting a subject against a coloured background, typically green or blue. Sounds simple but reality can be far from it, anecdotes abound of nightmare green/blue screen shoots and often much time is spent tinkering with the task of lighting the coloured screen as poor illumination can ruin any chance of a clean key being achieved. These kind of shoots can be a source of frustration but there are products out there that actually achieve clean keying every time and take only minutes to set up, welcome to the hassle free world of 'Chromatte' and 'LiteRing'.

Reflecmidia manufacture products that take the pain and hassle out of chroma key shoots and can enable the previously impossible to happen. The basic components of their system are 'Chromatte' fabric and the 'LiteRing' LED fixture.

'Chromatte' is the specially designed reflective fabric for use as a background in chroma key production. On first seeing it the biggest surprise being it is grey! Previously green or blue backdrops were the norm so how can grey possibly work?

The 'Chromatte' fabric is covered in literally millions of tiny reflective beads and has the advantage of allowing acute angles from the camera lens to be used and they also work in low lighting conditions. Conventional green or blue screens absorb light rather than reflect and as a consequence require a large amount of lighting to provide enough illumination



to perform a key against. Getting this illumination right is a tedious and rather finicky process.

The 'Chromatte' fabric reflects the light falling upon it rather than absorbing it, which is why low level screen illumination is all that is required. This low level illumination comes from the 'LiteRing', a circular casing featuring Light Emitting Diodes (LEDs). "LiteRing" comes in two versions, green or blue.

So that's basically it, a grey fabric backdrop and some low output LEDs and successfully keying is all yours, no more headaches or frustrations, can it really be true?

The kit I tested was the portable version utilising a 2.1m x 2.1m square fabric backdrop known as "ChromaFLEX" and the green and blue 'LiteRings' as I wanted to

use a kit in a way I used my current setup of lightweight reversible green/blue screen.

Often when shooting green/blue screen on location the environment is less than ideal with lots of ambient light spill. This all adds complications and typically results in lots of adjustments to lighting levels and positioning and often adding compensating gels to balance colours...okay...it's a real pain!

Distance between

camera, subject and the backdrop is crucial to ensure a successful key can be achieved but often the space does not exist at a location and even more effort is required to make things work. This can take a lot of time and often if the subject is a person they are totally bored by the time everything is ready. All through the shoot I often worry that the key will not be good so I'm constantly tweaking the screen lighting. Worse, if daylight is present the light levels can change dramatically if the Sun goes in or out. It is a constant process of adjustment. The only way to avoid this is to block out all of the ambient light but in the real world this is not always possible. Shooting green/blue screen on location is always a compromise but using the 'Reflecmidia' kit wiped out most of these issues even the one of ambient light spill.

Before the 'Reflecmidia' kit arrived I confess I was intrigued especially as I had just completed a green screen shoot and had another one coming up. Unpacking the kit revealed a circular soft case with a 90cm diameter and a small black bag and that was it, the full chroma keying kit for location shooting!

Unzipping the circular case the 2.1 sq.m 'ChromaFlex' backdrop is revealed in its storage position forming a 90cm circle. When opened out the square backdrop has four rounded corners and is actually quite weighty and strong enough to stand up fully supported on its own if placed against a wall. It does have some ties allowing it to be tied onto and suspended from a support if required.

It was definitely grey, very grey and it had a seam across the middle, how could this





possibly work? Highly intrigued at this point I set up the 'LiteRing' on my camera.

I used a PAL SD Sony DVW-709 Digibeta camera, which is useful on chroma key shoots as it uses 4:2:2 colour sampling, this aids keying greatly. DV compression is so poor that a lot of colour information is lost requiring some extra effort at the actual post production stage.

The small black bag contained two 'LiteRings', green and blue and some lens ring adapters as well as a mounting for use on matte box rails. The adapters enable mounting on most cameras from big movie cameras, broadcast cameras through to DV cameras. Also in the bag was a controller unit for regulating the amount of light output from the 'LiteRing', this unit is essential to the whole process and is the one part one needs to master and get a feel for.

The kit I was using was Reflecmidia's demo stock so I should clarify that the retail basic kit includes one coloured 'LiteRing' and one lens adapter. I was fortunate enough to have two 'LiteRings', green and blue, as well as several adapters to try out so be aware these are extra purchases if required.

On this test I used the 82mm adapter on a Canon broadcast lens, this was simple to fit and in less than a minute the 'LiteRing' was mounted on the camera. I plugged the controller into the mains, switched it on and to my amazement a bright evenly lit green screen appeared in front of me. As I moved sideways away from the camera the screen went grey, I moved back towards the lens and everything went green again...a well strange experience.

The LED light reflects back perfectly to the lens and the controller has a surprising amount of control over the screen illumination level, it is very versatile and fine tuning is a piece of cake.

The LEDs are strong enough to illuminate the screen but too weak to cast light onto your subject. Also, spill from the screen onto the subject was non-existent, all very impressive and all after less than a few minutes of set up time; it actually took me longer to set up the tripod and camera. Obviously lighting the subject will take some time but you genuinely do not have

to concern yourself with lighting the screen, the LED's do this effortlessly.

Changing to blue screen literally took me two minutes, as it was a case of swapping over the green 'LiteRing' to the blue one and plugging it into the controller. It doesn't get any easier than that, no reversing the screen and re-lighting involved, hassle free shooting.

The user manual recommends the camera be 4 metres from the backdrop and the subject at least 1 metre from the backdrop and reasonably powerful lights are used to illuminate the subject. Using these distances and lighting set ups will ensure a perfect key every time. However, some locations are not going to co-operate with such ideals and force compromise scenarios upon you.

Ambient light spill is one of the more common problems so I had a few goes at setting up such situations. My first scenario involved getting a subject for keying but using only the available room light. There was a window right behind the camera that I could see was reflecting back from the screen and the subject was posed a few inches from the screen. This is what I would call a green screen disaster zone and would ensure no possibility of a key. I powered up the green LED ring and looked at the monitor. Unbelievably the screen was nearly evenly lit with just a hint of the window reflection lighting up part of the screen. I used the controller to achieve as even

in a studio so I could have total control over the lighting. Unfortunately, the studio was being made available to me as a wee favour and inevitably it was in use when I planned to use it. Rapidly trying to find a new location I was offered a tiny room at the studio where there colour grading suite was located. Having no choice I accepted it.

I propped the backdrop against a wall, set up the camera and used low powered 100 Watt Dedo lighting to light the interviewees. The result was the interviewee was four feet from the front of the lens and one foot from the backdrop. Each interview was being shot as a single and despite my best efforts with



the Dedo lights there was a shadow from the interviewee cast onto the screen. As they were so close to the camera I feared the LEDs would cast a colour onto them. I saw a few of the studio's staff shaking their heads and looking far from encouraging as they watched me set up but I had to get on



an illumination as possible and the green began to dominate the window reflection but some was still there. I recorded a few minutes to see how well this would key later.

My next scenario came about unwillingly as I had arranged to shoot five interviews

with these interviewees as the five people were only available for a couple of hours.

Nervously looking at the monitor I was surprised to see an evenly lit green screen, no colour cast on the interviewee. No spill from the screen onto them, my only concern





was the shadow on the screen. Biting the bullet I just got on with the job and hoped things would be okay.

Getting the recordings ready for keying I was not feeling too confident I was concerned about the interviews as this was real fee paying job and it could all be ruined.

I loaded the first clip into 'After Effects 7' and applied the 'Keylight' filter and it was evident from the start that the footage was going to key no problem, I experienced relief and delight. In fact I used less tweaks in 'Keylight' than I typically use on my traditional green screen shoots and they didn't have the shadow to contend with. The 'Chromatte' fabric and 'LiteRing' do an excellent job and remove the grief usually encountered when fine tuning a key in post



production. For the record I captured the footage from DigiBeta using SDI into the edit computer and a 10-bit uncompressed QuickTime codec so I was preserving the colour space and maximising the potential for clean keying. DV captures would not have been as successful but personally I always hate the look of DV keys anyway so I'm probably biased.

Having got the fee paying job completed successfully I decided to try out the initial footage I shot which had no subject lighting apart from available ambient light and the window reflection interfering with the screen. Again first set up in 'Keylight' rather shocked me by keying rather well. After a few tweaks

it was a perfect key, I was very surprised that this worked. Despite the window reflection the LEDs green illumination was enough to counter it.

I undertook a few more shooting tests in better conditions and this enabled effortless keying. I never used lighting anywhere near the power recommended in the user manual and the distances between camera, subject and screen were always much closer than suggested in the manual and I always achieved a perfect key. In fact typically I used a 'Kino Flo' Divalite 400 and two 100 watt Dedo lights. Set ups for a green or blue screen shoot now take under ten minutes and always work.

There was a CD inside the small black bag holding the 'LiteRings', controller and adaptors that contained the user manual in pdf format and a trial version of some keying software called 'Mattenee'. Naturally I could not resist giving this a go and initially installed it in 'After Effects'. It worked okay but was a touch clunky. However, I was soon enlightened by 'Reflecmedia' that the latest version was now purely a plug in for 'Premiere Pro 2' and 'Final Cut Pro'.

This is simple bit of software and works surprisingly well. When applied to a clip in the timeline of either program it does a pretty good key and allows a bit of fine tweaking to improve it. I reckon most of the time this will give a reasonable result but it did run out of options on the more troublesome footage I shot but I was impressed with the ease of it. If footage is shot avoiding problems then this software may be all you will ever need and avoid the in depth tweaking and render times involved in programs such as 'After Effects', 'Motion' and 'Shake'.

The whole kit is highly portable and I liked the carrying cases they came in. The cases are very robust being well constructed and are manufactured by KATA and customised for 'Reflecmedia'. The background fabric fits into the 90 cm circular case and has a comfortable carrying strap as well as some useful and convenient handles making it easier to stow and retrieve from a vehicle or storage space. The small black case also has a comfortable shoulder strap as well as a carrying handle and a handy zip compartment for any extras you may wish



to carry along with the 'LiteRings' and their adaptors. It's also very strong with a hard tough base and front despite being mainly fabric construction.

The blue LED lighting worked as well as the green one and presented no noticeable delays in set up if a background colour change is required. In fact setting up this kit takes minutes and one soon feels comfortable with it. After a few sessions you will develop the knack of getting the screen illumination just right using the controller but even if you are a wee bit off the mark a successful key is usually possible, it is very forgiving allowing a fair degree of latitude.

If I had any moans and this is nitpicking, I would have liked more cable length from the 'LiteRing' to the controller.

For me, this combination of 'ChromaFlex' backdrop and 'LiteRing' was a winner. It made chroma key shooting an enjoyable experience and even enabled filming in tight locations which would be impossible with a traditional chroma key setup. The bottom line is you are pretty much guaranteed a result and if used in ideal conditions that result will happen with minimal effort. For bigger shots there are large drapes of 'Chromatte' fabric available along with floor tiles.

I would be happy to use it all of the time for future chroma key shoots as it works so well and with such ease. I liked this kit a lot and can best sum up by saying say it is a cameraman's dream.

**Chromaflex Standard kit (flex+litering+controller+psu+adapter+bags) £1295 + vat**  
**Extra LiteRing (green or blue) £345 + vat**  
**Details visit: [www.reflecmedia.com](http://www.reflecmedia.com)**



# Case Studies

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# Big Picture Learning using Chroma Key

## Relevance

Key Stages 3 and 4 plus PHSE. At the BETT show young visitors from King Harold School rapidly and fully engaged in learning using skills through new technology. The curriculum areas covered included developing successful learners, confident individuals and becoming a responsible citizen

## Brief description

It took year 9 and 10 students just 15 minutes to master Reflecmedia's Chromakey kit before creating and editing their own movies and setting them up as pod casts on the Digital Teacher Network



Incorporating technology across the curriculum

Reseller:

Planet PC  
www.planetdv.net  
T: +44 (0)1274 713400

Set up / kit list:

Chromaflex portable screen  
LiteRing controller and power supply  
BaseMatte floor tile  
Ultimate DV hardware keyer  
iZtac low energy soft light on stand

## Main features

- The ease and effectiveness of Chroma Key gave all students a sense of achievement as they mastered new technological skills
- Development of their own short films, plus editing, led to a genuine sense of achievement
- Quick, high quality results ensured students were fully engaged and interested in learning new skills.

"All students wanted to continue to use this technology so the school is now developing this technology to use within the day-to-day curriculum. It's giving our students a real sense of achievement and is encouraging greater participation and contributions to work."

'Brilliant' 'great fun' 'real' and 'why can't we use this everyday?' were just some of the responses from enthusiastic youngsters.

Use of Reflecmedia technologies provide a 'holistic' approach to learning. Not only can it be incorporated within all elements of the curriculum, the engaging and entertaining side of using it builds the softer skills of confidence, teamwork and contribution through achievement.





# School assembly and multi-subject learning

## Relevance

Key stages 3, 4 and 6th form. Bushfield Community College in Peterborough incorporates its media studio into a wide range of subjects for 11 to 19 year-olds to enhance curriculum-based learning and creativity, from news reports to music chat shows.

## Brief description

Bushfield's studio not only allows students to produce their own news reports, programmes and packages for their coursework, it has also allowed the college to develop a virtual assembly which enables all-school assemblies to be streamed into class rooms.



### Reseller:

Planet PC  
www.planetdv.net  
T: +44 (0) 1274 713400

### Set up / kit list:

Small Studio  
Chromatte Curtain  
LiteRing, controller and PSU  
iZtac low energy soft light

## Main features

- GCSE Media Studies students have created their own music chat shows as part of their coursework and are gaining hands-on experience of media technology.
- Drama students are now able to create their own television productions.
- Bushfield's studio is adding a new dimension to learning across a full range of subjects including geography and science.

"The studio is proving very popular with students and staff and has added a new dimension to learning. We are rapidly finding more and more applications across all subject areas and age ranges and this will undoubtedly continue.

It has enabled us to develop a 'virtual assembly' by allowing us to stream assembly into classrooms so that all students can 'attend' assembly at the same time."

*Chris Parker, Media Technician*

This resource is suitable for ages 11 to 19 and supports QCA schemes of work.







# John Lennon Educational Tour Bus

## Relevance

The John Lennon Educational Tour Bus is an exciting technological touring educational facility currently taking the USA by storm. The bus is a mobile recording studio with traditional musical instruments as well as current technological advances.

## Brief description

Working with some of the biggest names in music, the John Lennon Bus encourages students to play music, write songs, engineer recording sessions and produce music videos using all the new technology.

## Main features

The interior of the bus is divided into two separate recording environments - one of which provides a fully equipped audio and visual recording studio. Using Reflecmedia products students have the chance to try hands-on multi-media recording and editing. The back of the bus is entirely clad in Chromatte fabric - walls, ceiling and BaseMatte on the floor. ChromaFlex is always on hand for shooting outside the bus.

*"Reflecmedia's products are fantastic! We're able to take a world-class recording and video production facility direct to high schools, colleges and youth organisations. One challenge we have always faced is making every project unique. Because most of the work is done inside the bus it's easy to fall into the trap of always using the same shots - which is why we were so excited to find Chromatte. It allows us so much flexibility and creativity."*

*"It's rare to find a technology that opens up a world of creative opportunity without taxing our extremely limited production time. Reflecmedia's suite of products is the best example of technology that adds immense creative possibilities yet requires virtually no time to implement. It's the ideal solution for our needs."*



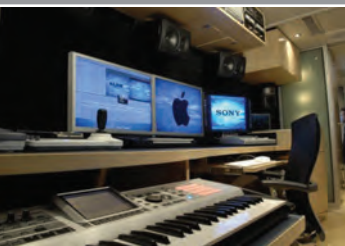
**The John Lennon**  
**EDUCATIONAL TOUR BUS**

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### Set up / kit list:

- Chromatte cloth
- ChromaFlex portable screen
- LiteRing controller and power supply
- BaseMatte floor tile





## Relevance

Nottingham Trent University's Jonathan Hamilton, senior lecturer in Graphic Design, and contemporary dance colleague Michele Danjoux joined forces for an amazing research project combining Chromatte fabric, contemporary dance plus graphic and fashion design to create a groundbreaking Screen Dress.

## Brief description

Using Chromatte fabric to create the dress, a variety of graphics were keyed onto the fabric to allow changing graphic motions during a dance performance. Using Chromakey, LiteRing and the fabric, the full stunning results of the work are either seen by the audience on a screen or live mixed DJ-style during the performance.



## Main features

The flexibility of the Reflecmedia products allowed dress creators Michele and Jonathan amazing control over the final result including everything from spectacular and dramatic lighting to silhouettes.

The fabric is robust enough to allow for huge creativity but with such amazing properties that it allows for graphic experimentation with impressive results.

*"I first saw Chromatte at an exhibition five years ago and in the back of my mind knew there must be other uses for it. As soon as the chance to work with Michele on Screen Dress came along I was certain it would be an ideal way forward."*

*"Our first public performance 'Sunna No Onna' was at the international performance festival Intimacy held at Laban – Europe's leading conservatoire for contemporary dance. Everyone was amazed and it was a huge success."*

*Jonathan Hamilton, Senior Lecturer and Researcher, Nottingham Trent University*

Jonathan Hamilton is currently preparing a bid to further research and develop using motion graphics on non-rectangular bodies. He believes the techniques they are developing will have huge potential in film, theatre and advertising.

Photo credits for  
ScreenDress tryptic.jpeg  
Copyright Jon Hamilton and Michèle Danjoux.Dancer; Nam Eun Song

ScreenDress animated lace 2.jpeg  
Copyright Jon Hamilton and Michèle Danjoux.Dancer; Nilufer and Nam Eun Song

Set up / kit list:

Chromatte fabric

LiteRing controller and  
power supply







# Aspect Pictures using Chromaflex

## Relevance

Aspect Pictures is a leading production studio specialising in corporate and educational photography and video for a wide range of public and private sector clients. Whether in the studio or on location, Aspect is always keen to use the latest technologically advanced techniques.

## Brief description

The client's requirement was for effective marketing images for their products, without the expense and time associated with location photography or complex post-production work.

## Main features

Aspect's studio features a Chromaflex as its backdrop. With the product bottle in place it was lit as required. The LiteRing was attached to a Canon 5D and the images were captured directly to an Apple Mac, which were quickly and very easily imported into FX Home PhotoKey software, producing an almost instant result for the client to approve. This was then placed, cropped and masked to achieve the best results.

"We've been using the Chromaflex with either green or blue LiteRings in our video projects for several years with fantastic results. The ease, speed and effective results achieved by using Reflecmedia's products are now also proving very useful in some of our photographic projects, especially with product shots where the client wants to see 'instant' results. There's also a considerable saving in terms of post-production time. The whole process couldn't be easier, quicker or more cost-effective."

Sauvignon wine and glass shot information:

- Exposure [manual](#)
- Shutter speed [2.5 secs](#)
- Aperture [F22](#)
- ISO [100](#)
- Camera & lens [Canon EOS5 EF24-105](#)
- Focal length [80mm](#)



Reseller:

Planet PC  
www.planetdv.net  
T: +44 (0)1274 713400

Set up / kit list:

Chromaflex  
All-in-One Bundle  
(RM7221)



# AV8 Media using Chromaflex

## Relevance

Singapore-based digital content systems integrator AV8 Media - Reflectmedia's representative in SE Asia - and the new Marina Bay Sands Hotel put together an innovative photography project that combines learning and business enterprise. AV8 Media provided all the equipment used by the Republic Polytechnic students and brought the project to the attention of the Marina Bay Sands Hotel.

## Brief description

Marina Bay Sands Hotel is Singapore's highest tourist attraction. For their final-year interactive and digital media assignment, four Republic Polytechnic students created a project that allows visitors to MBS to take photos without physically being on the Sky Park. The project, which started in May 2010 and took eight weeks to complete, was originally intended to have been a temporary setup. However, MBS was so impressed that it has now been made a permanent fixture and now each day, more than 100 pictures from the photo booth are sold for \$25 a time by the hotel. "Thousands of guests have enjoyed the photo service and are able to take home sweet memories of their experiences on the Sands Sky Park," said an MBS spokesman.

### Reseller:

Reflectmedia SEA  
www.reflectmedia.com  
T: +65 6339 1321

### Set up / kit list:

DSLR Camera with Lights,  
Background and Flooring  
Material. Space needed is  
only about 3 to 4 sq metres.



## Main Features

The photo booth uses a Chromaflex All-in-One kit. Pictures shot are superimposed onto images depicting the Sky Park, MBS and its surroundings. Visitors can also pose for creative shots - for instance, shots that make them look like Superman flying through the clouds. Guests who do not want to go up to the Sky Park can have their pictures shot at a similar photo booth on the ground floor of the hotel. The students put together the software, wireless network, network-attached storage system and printer that enables the photo booth operator to edit, transmit and print the photos.

## Process

1. Subject poses against background and photo is taken.
2. Image is wirelessly transmitted to an editing system.
3. Trained staff member uses software to replace background and optimise the image.
4. Client previews the image.
5. A high quality print is obtained.

From taking the picture to getting a print, the time taken is about 1 minute.

Spare pieces of material can be used creatively to make parts of the subject 'disappear'. The software can also be used to resize the subjects, making them appear much larger or smaller.

Photo background templates can also be created and props used to customise the experience.





# Steve Atterton using Chromaflex



## Relevance

Steve Atterton is a photographer and illustrator with over 25 years experience specialising in event, children, occasion and pet photography and producing creative still images for clients throughout America.

## Brief description

Steve's aim has been to create a commercial mobile studio that combines the latest technology with the demand for innovative educational, entertainment, corporate and social applications. The studio itself is completely self-contained, easy to transport and quick to set up in different locations. Photographs can be taken and combined with an infinite numbers of effects and backgrounds, with the flexibility, quality and fast turnaround that make it ideal for a huge range of events, from a day in a school to part of the entertainment for a social event. The interest generated in the commercial advantages has meant that Steve has now started franchising the system.

### Reseller:

Virtual Networks  
[www.chromakey.tv](http://www.chromakey.tv)  
T: +1-702-989-9090

### Set up / kit list:

Chromaflex All-in-One  
Bundle (RM7221)

## Main Features

"We have taken Reflecmedia's Chromatte technology and applied it to our application. We use only the highest resolution in our computerized imaging devices so the client can enjoy original artwork from wallet size to 8'x12' prints. Then, with custom designed illustrations, our subjects become part of the image - or as we like to think, "part of the magic".

"This is the most fun I've had in years. Having created a system that allows me to work on location with parents and their children, this gives me the opportunity to use today's technology and our imagination to create scenes that have not been available before. My inspiration stems from seeing the awe and wonder in a child's eyes as they see themselves become part of a magical image. It's not magic, but it certainly feels and looks magical!".

