

Some Words About Followspots

By Herbert Bernstädt

A followspot is one off the most important lighting tools, as it enables a lighting designer to 'lift out' the actor from his surroundings exceptionally well. For this reason it is very important to have a followspot that fits all your needs. These are some of the main points you need to consider when choosing a followspot:

The Lamp

First choose your light source: tungsten or discharge? Tungsten has the same colour-temperature as conventional lights so will not give the typical 'lift out' of the actor. However, one of the disadvantages of tungsten is its low light output, so you may prefer to use a discharge source such as the very popular HMI or the less-used Xenon.



Old "Supertrouper" with carbon sticks as lightsource

A discharge lamp has a colour temperature of approximately 6000K making it appear "brighter" and whiter than the surrounding light. The HMI discharge lamp is the most commonly used and is easy to handle. A Xenon lamp, also gives a stable colour temperature

of 6000K with a good light output, but the lamp, even in cold conditions, is under high pressure, making handling is very difficult. Contrary to HMI, Xenon lamp must be removed during transport and must be handled using safety gloves, visor and waistcoat, because of the danger of explosion.

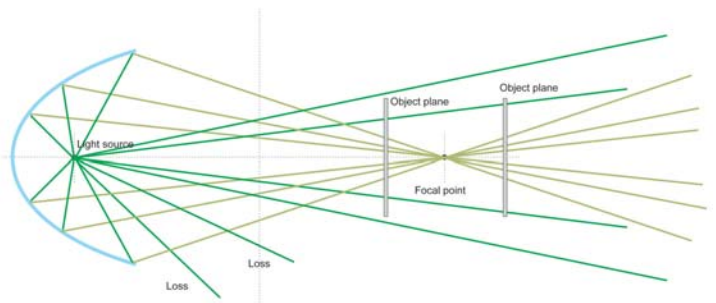


Modern followspot with double side HMI Bulb (4KW HMI from Robert Juliat)

Lamp Optics

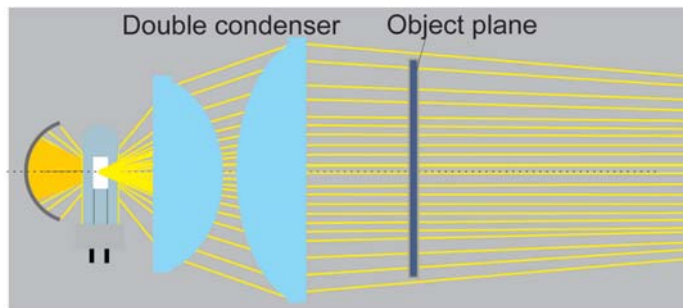
Next choose the most efficient lamp optics....

To make a sharp-edged beam, you must choose between an elliptical or a condenser-optic system. An elliptical system uses a mirror which encloses the lamp and draws the light into a second focus point. This is very effective but creates a problem with a really bright 'hotspot' with the light visibly disappearing at the edge. This can have very unpleasant effects if you are using the followspot in archtainment to project a gobo as the information away from the gobo centre is very weak.

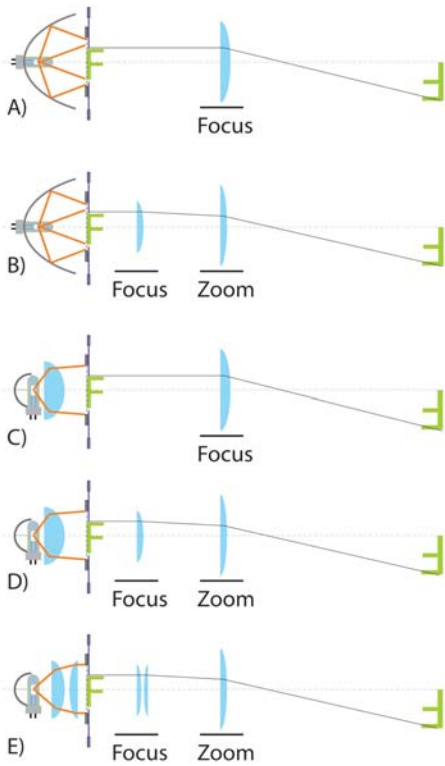


The Elliptical system is effective but regularly causes a hotspot

For sharp gobo or iris projection with no loss of brightness at the edge of the beam, you should choose a condenser-system. Modern technology has created an effective condenser-system, with reflector, condenser and additional lens to maximize the amount and quality of projected light, what gives a flat, even beam and good gobo projection. So if you need a followspot for rental, theatre, TV, musical or archtainment purposes, choose a double condenser-system such as those found in the followspots from Robert Juliat.



Choosing the right condenser-system wins you a lot of light AND an even beam



Zoom or fixed Focus System is also dependent on the Lamp Optics

Projection Optics

It's not all about the reflector...

Of course there are different optical systems to project light. A simple system is composed by a single lens which gives a sharp or unfocused image. However, the size of image will always remain the same and can only be made smaller using an iris, which in turn reduced the amount of light. By using two lenses to create a 'zoom' system, the diameter of the image can be changed in order to optimize and concentrate the light in a smaller beam, what can be an essential design point for the Lighting Designer. Quantity of light can be improved by lens coatings which avoid reflections – this 'halo' effect that appears with uncoated lenses –

Dimmers-

Controlling the light level is the most important function for a lighting tool. Whatever the light level, the light beam has to keep the same flatness. Ability to control the dimmer is as important as the light quality. That's why Robert Juliat has a very ergonomic control system and the possibility to control the dimming from the console via DMX for smooth and perfect synchronisation of fades and blackouts.

Iris

Lighting Designers often favour a 100% closing iris as it allows him to reduce the followspot beam from a big circle right down to complete blackout in one even movement. But irises can be problematic as the blades can become distorted by the heat; problem solved on Robert Juliat followspots with the addition of 2 protective blades when iris is closed. Moreover the iris is mounted on a no tool interchangeable module



Easily changeable Iris with two protective heat shields to increase iris life

Colours

Followspots are often required to change colour and two systems are usual. The Boomerang System works with gravity using just one handle to insert a colour frame whilst automatically cancelling any existing colour.



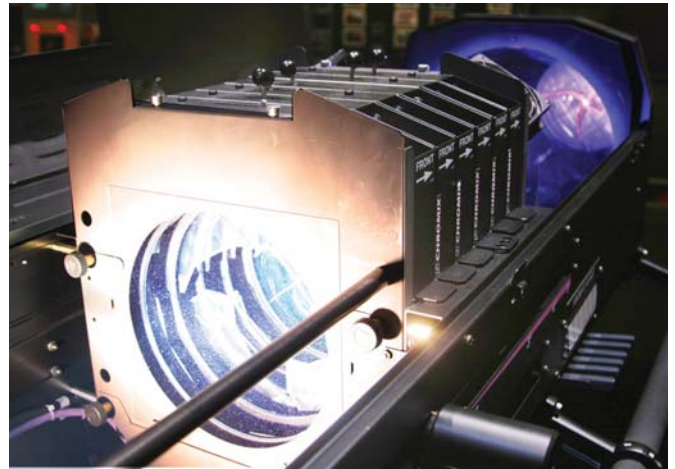
A typical Boomerang System

For truss spot use, a Push-Pull Colour-changer is more efficient and gives the added advantage of giving more room to tip the followspot down as the colour frames are mounted to the side.

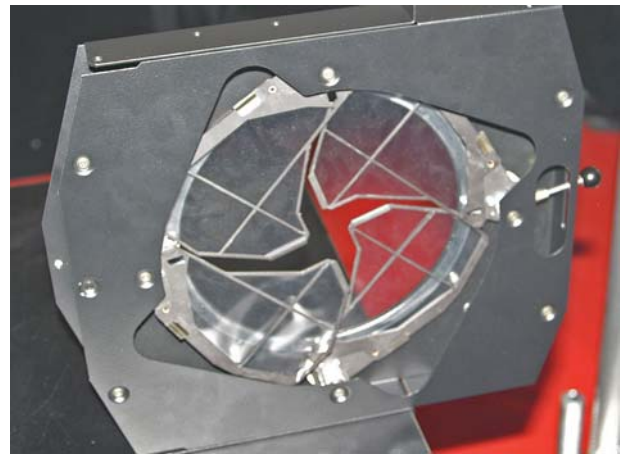


Push Pull is used for truss spots

There is now a third way of using colour into followspots. In 2006 Robert Juliat had a new, revolutionary idea and introduced a 4KW HMI 2° - 5° Zoom followspot with a modular colour changer system. This uses gel in different modules which can be operated either manually or via DMX 512. Any colour gel can be used and a full CMY Colour mixing system can be created using modules that correspondent with the CMY colour of moving lights.



Follow spot with modern modular gel system including motorized CMY colour mixing



Detail 1 of Gel Colour mixing System (Robert Juliat Lancelot) now fitted with a Frost

Ergonomics

Ergonomics are important in a followspot since the operator spends several hours standing beside a hot piece of



"Le Réve" show au WYNN RESORT & Las Vegas - 08/2005

equipment. It must therefore be comfortable and safe to use regardless of what position it is operated from. A wrap around handle with all followspot functions within easy reach is paramount, whether you are operating a truss spot or a stand spot.

Reliability

Finally, your followspot must be a reliable piece of equipment as it is a major highlight in any show and a good workhorse in the rental environment. It must be easy and quick to maintain for maximum cost effectiveness so check how easy it is to clean and refit lenses, change the lamp and fit gels. Mechanical parts such as handles, lens fixings and guides (which should at least be Teflon) and stands should be durable



Double condenser lens set – easy to remove for cleaning

and reliable. If all these fit the bill, then your operators and technicians will be able to keep them in top condition and you will get a good return on your investment.

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Pictures: Herbert Bernstädt & Robert Juliat

About the Author

Dip.- Ing. (FH) Herbert Bernstädt studied electrical engineering. In 1987, he gained his first experience in event technology when he joined the “Freie Schauspiel” in Frankfurt and Saalbau GmbH also in Frankfurt. During his career, he worked as a studio and stage manager and a master electrician, later he became technical director. In 1998, he developed a scaleable control system for lifting gear at Batalpha Bobach GmbH and in 2002 he joined Lightpower GmbH as Product Manager for Lighting Technology. Since 2009 he works for dB-technologie as Product Manager. He also writes articles for the magazine Production Partner and lectures on current issues in event technology.

For more info about Robert Juliat Followspots, please visit www.robertjuliat.fr