#Ayrton live

ISSUE 4 _ MARCH 2013

RENAULT *at the "Mondial de l'Automobile"*

WILDSUN 500 K7: 20.000 Lumen for 300 W

THE GREEN CHALLENGE

TRYO *on the roof of the Olympia*

GAGGIONE *shaping your lights*

ROLLAPIX 100 *by SoundLightUp*

madesign

MADESIGN VERSATILE ARCHITECTURAL LUMINAIRE

MADesign is a versatile interior architectural luminaire that has been developed for lighting both objects or people, it combines an original conception with a sleek design. Five adjustable individually controllable spotlights can accurately fullfill all needs. Equipped with a wireless DMX/RDM LumenRadio receiver MADesign is designed for fast implementation and effective service for the most demanding of users.
WAZUMA V8F By Lazareth. www.lazareth.fr

AYRTON
Light in action

Le parc de l'Événement - 1, allée d'Effiat - F91160 Longjumeau - France • Tél.: 33 (0) 1 69 10 33 90 • **www.ayrton.eu**

Editorial

Dear Reader,

Renault Stand, Tryo Tour…. two different fields of our business with the same idea: reaching for lighting perfection whatever the constraints.
It's a real pleasure and an honour to collaborate with lighting designers and rental companies who always push the envelope.
After introducing the very first LED moving-head and the LED floor to the market some years ago, Ayrton still continues to innovate today.
The MagicPanel 602 is a radically new concept that involved mixing a moving-head with an LED screen in order to create new effects that will surprise and please audiences all over the world.
You will discover all the features (7° narrow beam angle, continuous pan & tilt rotation...) of this new release by reading the following pages.
The DreamPanel Floor HD is the first HDMI connected video panel and you will be able to send it 1080P video thanks to the DV 1080P video processor.
Be assured, you will forget all about RJ45 connections as soon as you use our technology!
The Nando Beam 302 is a very compact and ultra fast moving-head which allows you to create everything from a narrow & very intense 8° beam to a large 40° beam for wash applications.
Equipped with a state of the art LED and optical system, Nando Beam 302 will democratize the use of quality LED moving-heads.
More new products coming in 2013 – stay connected!

Innovation is the key!
Regards,

Valère Huart.
International Sales Manager.

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Summary





SIEL 2013 PARIS

The distributor of Ayrton in France, the company Axente, was exhibiting at SIEL 2013 in Paris last February. The originality of the stand design was the very nice lighting show which was playing every 30 minutes.

Thanks to this show visitors was able to see the projectors presented,including a lot of Ayrton fixtures, in live conditions.
See you next year at SIEL 2014 !

LDI 2012 LAS VEGAS

Ayrton and Morpheus Lights would like to thank everyone who visited us at LDI 2012 this year. The new MagicPanel 602 and NandoBeam 302 were enthusiastically received by our guests.

We were thrilled to introduce these new products, and along with the current product line, Morpheus is looking forward to continuing the introduction and expansion of AYRTON luminaires into the US marketplace.»

SANA HOTEL INAUGURATION IN LISBON

The leading Portuguese rental and production company Europalco , headquartered in Sintra , was part of the technical team responsible for the inauguration of the new Hotel SANA Hotels by Myriad that occurred at the «Parque das Nações» in Lisbon last November.

IceColor 250 and Moduled 150 has been used in order to lit the new tower where the hotel is located.The result was very nice, see the photo by yourself !

WARM CHRISTMAS AT BRUSSELS

Belgium based rental company AlphaRent chooses Ayrton to create a warm christmas atmosphere in the heart of Brussels during «Jeux d'Hiver» last December.
Both Arcaline 2 50 & 100 bars were used to bring out the «Beurs» building.
Thanks to its massive lighting output in a compact and elegant housing, Arcaline 2 was the perfect tool for this high class outdoor event.

NOUVELLE STAR: THE LUXURY DISPLAY

«Nouvelle Star 2013» is a French TV show using WildSun 500C provided and programmed by the company Phase 4.
Some of the WildSuns was used as displays in order to show to the cameras the results of the selection the jury. Original and good looking isn't it ?

AYRTON PARTICIPATES IN INTERNATIONAL TV STUDIO LIGHTING TECHNOLOGY SEMINAR 2013 IN CHINA

In order for improvement of the development and application of the latest stage lighting technology, discussion about future development direction of illuminating technology on stage lighting, strengthening on the communication between the stage lighting designers, and promotion for the comprehensive level of television program production, Southern Media Corporation, Guangdong Television, CCTV «modern TV technology», CCTV China Illuminating Engineering Society jointly organized this 'International TV Studio Lighting Technology Seminar 2013'. This seminar was held at Nanyang Royal Hotel, (Guangzhou, China) during 8th to 11th, Mar 2013.

As the global leading company in the domain of professional lighting, Golden Sea Professional Equipment Limited supported this International TV Studio Lighting Technology Seminar. on 9th, Mar 2013, atracting almost 250 lighting experts and designers from 25 provincial television stations across the country, including CCTV, Beijing TV, Guangdong TV and lighting enterprise, this Seminar was held in the newly constructed Showroom of Golden Sea with a building area of 800 sq.m..

All the lighting experts and designers was very interested by the Yvan Péard (Ayrton CTO) LED technology conference.

Yvan Péard explained to the audience how a LED projector is conceived and which technical choices you have to do depending of the goal you want to reach and the application field of the projector (wash,beam,spot,effect,...).

As the first LED moving-head designer,Yvan Péard was also able to describe the LED, optical and cooling systems evolution since the beginning of the 2000's and all the advantages of the new generation of LED projector for the entertainment industry.

It was a real pleasure for everyone to have discussions and to get informations from manufacturers.

1. Ayrton seminar - 10 Years of innovation dedicated to LED
2. Jiang Wei Kay - CEO of GOLDEN SEA
3. Eddy Verstraeten, the Development Senior Technician for Systemetic Integration & Application from PHILIPS, delivered a speech on 'The Features and Development Analysis of Gas Discharge Light Source'.
4. Sven Weber, the Industrial Products Marketing Manager of OSRAM, made a brilliant speech on 'The Features and Development Analysis of LED Light Source'.
5. Yvan Péard, the founder and the managing director of the French company AYRTON, shared his experience of 'The Application of LED Luminaires.
6. During the last four hours of this seminar, all the participants enjoyed themselves and was inspired by new view-points.
7 & 8 - DongJiang makes wonderful show during the Inauguration of the new Golden Sea Showroom

DongJiang
Lighting designer

DongJiang, who was born in 1985, is a young and briliant stage lighting designer in China. Graduated from the most prestigious colleges of the artistic education of Chinese play --Central Institute of Drama, he majored in stage lighting designing. Before 2007,he worked in Japanese General stage co.. But now he works in the famous performance company in China –Beijing Clarkia technologies Co., Ltd and mainly being responsible for stage lighting designing.

The major projects he has participated in are as following.
2012 Final of Miss World
2012 CCTV Program 'I want to go to the New Year Gala'
2011 Army-Civilian Spring Festival Party
2011, Cultural Event of 100th cerebration for Xinhai Revolution in 1911
2011 Cultural Event of 90th cerebration for the founding of Communist Party of China
2009 Opening ceremony of 11th National Games
Opening ceremony of 2nd Asian Indoor Games
Opening ceremony of 1st Sport meeting in the school of Portuguese
Opening ceremony of 2nd EXPO central China

With his briliant stage lighting designing talent, Dongjiang has given performance and cultural communication in Europe, America and Southeast Nations repeatly as one of the representative of Chinese performing groups. Being full of creation, imagination and majesty, Dong's works is widely recognized by stage lighting field. Therefore, Done is named a leading figure in the younger generation of Chinese stage lighting.

AYRTON CHOOSES LUMENRADIO
AS THEIR WIRELESS PARTNER

LumenRadio

Ayrton is happy to announce that all of the new Ayrton products equipped with a wireless DMX/RDM receiver module, will feature award-winning CRMX technology by LumenRadio.

After an extensive testing campaign, Ayrton selected LumenRadio thanks to its superior quality and reliability. The LumenRadio Coexistence technology allows smarter use of the frequencies by continuously scanning the radio spectrum and dynamically adapting its frequency-hopping pattern to the surrounding environment. This eliminates interference and maximizes performance whatever protocol is in use, DMX or RDM.

Ayrton and LumenRadio started working together during the «European Motor Show – Brussels» where the challenge was to control hundreds of custom LED fixtures by wireless RDM. The result was perfect and Ayrton decided to collaborate with LumenRadio for their entire product line.

The first projector to benefit from the new CRMX wireless features will be the MagicPanel 602, a modular LED luminaire equipped with continuous double rotation in PAN and TILT mode. Also, it is able to display media thanks to its Arkaos KlingNet protocol or be controlled via DMX or RDM protocols through its XLR connectors.

NEW DISTRIBUTOR IN NORWAY

amas

Welcome to Bergen-based company Amas who is our new distributor in Norway.
Thanks to its nice team and to its long experience Amas will actively promotes all the Ayrton's range of lighting solutions thorough the country.

Feel free to contact them :
AMAS
Litleåsv, egen 47, 5132Nyborg
Norway

Contact : Justin Gooch
www.amas.no
Tel. : 0047 55243000
Email : justin@amas.no

BRUCE SPRINGSTEEN AND THE E STREET BAND

Bruce Springsteen and the E Street Band just finished their first of 10 "Down Under" shows a few days ago. Morpheus is supplying the lighting rig for the Australian tour in cooperation with Chameleon Touring Systems of Sydney, Australia, with Morpheus shipping down specialty trusses and luminaires required to maintain the overall design integrity of the Springsteen tour - including 52 active Wildsun 500C LED automated wash fixtures. Bruce Springsteen and the E Street Band will reach Norway end of April and will continue the tour in Europe till end of July.

FOLLOW AYRTON ON FACEBOOK

Likes: 6.521 (03/22/2013)
Audience: 29.020 (from 02/28/2013 to 03/06/2013)
Most popular publication: 16.401 (Nouvelle Star 2013)

www.facebook.com/pages/ayrton/209728302396312

Extremly Powerful...
... The dark side of the Sun

colorsun 250

COLORSUN 250 LED STATIC LUMINAIRE

COLORSUN 250 is a versatile luminaire with innovative technical features with a small footprint. Very quiet, due to its sophisticated cooling system COLORSUN 250 opens up new creative horizons.
With its optical output ratio of 85%, the COLORSUN 250 is able to supply a maximum flux of 7.500 lumen whilst only consuming 250-Watt at full power.
COLORSUN 250 : the power in your hand !

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PROLIGHT + SOUND 2013

Ever true to their roots and their passion for beautiful cars and bikes, Ayrton has chosen to expose Lazareth's motorised monsters with their new projectors. With a James Bond theme, three fantastic motorised vehicles will tease the visitor's curiosity: Vin Diesel's motorcycle in Babylon AD; the amazing Snow Triazuma tricycle with skis on the front and rear tracks, and the ultimate Wasuma V8F a hybrid tricycle with 4 wheels and phenomenal power from the 300 horsepower Ferrari V8 engine giving a top speed of 350kph. Placed on a 25 m2 video podium consisting of the new DreamPanel Floor HD panels, the three vehicles will be lit by powerful beams of 60 NandoBeam 302s surrounded by 3D projections coming from 25 MagicPanel 602s and 20 Rollapix. They will also be highlighted by 16 MADesign's; adorned by the beams of 16 Colorsun 200s, in an environment featuring the famous Wildsun K7 500, and coloured by the WildSun 500S and 12 Ice Color 250's. And as nothing is left to chance at Ayrton, we chose 16 Arcaline 50's to highlight the walls and decor. In total, more than 300 projectors will be involved on the Ayrton stand at Prolight & Sound 2013.

MAGIC PANEL 602

Play with dynamic 3D images

Imagine! An array of moving head video panels with infinite rotation in both tilt and pan axis , each one spreading part of an image or graphic in color & contour in a well defined haze. Imagine also that the system is super simple because it accepts a new protocol that allows you to send images easily from the Arkaos software without complex networking. With it's thirty-six 15W Osram RGBW pixels the MagicPanel, producing a powerful and tight 7° beam, was born to map moving images in 3D space. It responds to the KlingNet protocol developed by Arkaos and in parallel could be managed by ArtNet, RDM or DMX. This is a fabulous projector that can also produce a sharp edge 15.000 lumen multidirectional light beam, thanks to its motorised infinite pan tilt system.

NANDOBEAM 302

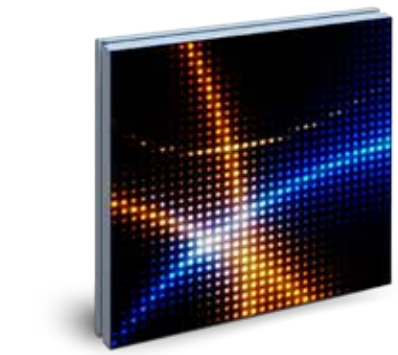
Definitely faster

Born for the stage - small, light, fast and very edgy. It shoots a light beam into space and also allows wash applications with the fabulous Ayrton colours. In a small round head, the NanDoBeam has nineteen 15 W Osram RGBW LED arranged in three independently controllable crowns; the widest crown is split into two to enhance the effects. Ayrton has developed a lightweight and extremely innovative optical system for hard edged beams with an ultra quick zoom going from 8° to 40° and an affordable price.

DREAMPANEL FLOOR HD18

A magnificent floor display

Ayrton reinvents the DreamPanel Floor with full HDMI - and it changes everything. The modular video floor is formed conventionally with panels, each of which receives the full HDMI signal and that's huge. It means that the HDMI panels can be connected to each other in any order and the user no longer has to worry about organising it's rows or columns in series. It also means that each panel that receives the entire image may distribute any part chosen by the user; plate or inclined on a particular sector or even overlapping. The pitch of 18 mm on a panel of 60 x 60 cm represents 1024 RGB pixels. The LED boards are nestled in a protected plastic cover which provides an IP 65 protection level. The LED support is black for contrast. DreamPanel Floor is a real video floor, a beautiful screen!



LAZARETH, JUST RADICAL

Hallucinating, aggressive and powerful Lazareth's vehicles combine fantasy design to the experience of a company that fluently masters industrialization process and obtains the approval of his made in France creations.

Head in the clouds and feet firmly on the ground, with a divine sounding name Ludovic Lazareth designs and builds vehicles with 2, 3 or 4 wheels always more dams and rapids. Motorcycles, quads, for circuits, road and even snow, Lazareth achieved at the request of its customers, custom gear around the engine of their choice. For connoisseurs: Bentley Continental GT V8, V12 Lamborghini or V12 bi-turbo Mercedes.

Wazuma the new toy is a 4-wheels hybrid with two coupled rear wheels, therefore considered as a simple wheel by regulators, providing unmatched security and performance firstly with a Yamaha R1 engine and after with an incomparable V8F from a Ferrari 328. We understand why Lazareth has customers worldwide, recently the United Arab Emirates, Russia, Czech Republic ...

20 vehicles on measures approved in France outputs workshops Lazareth at a rhythm of 4 per year. The sexiest one is certainly overlapped by Vin Diesel in the movie Babylon AD. The most famous was born of a collaboration with Yamaha Motor on the basis of Vmax which toured the world fairs motorcycle. Name: HyperModified Vmax 001. It is available as a limited series. Enjoy!

www.lazareth.fr

MADESIGN
Crazy and indispensable

Design research has no limits at Ayrton, where they continue to surprise us with completely unpredictable lighting solutions, creating an irresistible urge to possess the product. This mast light, tall, reclinable and with adjustable LED spotlights is also backlit. It has a stainless steel plated articulation for an increased level of safety. Because the device is very thin, discreet and efficient, but especially because it is elegant, it responds instantly to the real need for autonomously positioning lighting for stage, interior design, events...

Stand's technical sheet

65 Nandobeam 302 (RGB + cool white at 6700K)
14 Wildsun 500 S (RGB + cool white at 6700K)
2 Wildsun 500 C (RGB + neutral white at 4100K)
12 Wildsun 500 K7 (cool white 6700K)
2 Colorsun 250 (RGB + neutral white at 4100K)
16 Colorsun 200 S (RGB + cool white, point-by-point management)
25 Rollapix 100 (RGB + cool white, point-by-point management)
12 Icecolor 250 (RGB+ neutral white 4100K)
3 Icecolor 500 (RGB+ neutral white 4100K)
126 Dreampanel floor HD18
30 Magicpanel 602 (RGB + cool white, point-by-point management)
16 Madesign (RGB + neutral white, point-by-point management)
19 Arcaline 2 50 (RGB+ neutral white 4100K)

LAST MINUTE LAST MINUTE LAST MINUTE LAST MINUTE

ROLLAPIX 402
5 TIME MORE POWERFULL BUT STILL SLIM

The big brother of last years newly launched Rollapix 100 is watching you with its 5 amazing XXL 90 mm optics. The Rollapix 402 is equipped , as its name indicates, with 400 W of REBW LED in order to generate 5 powerful 8° hard-edged beams that look like light sticks.
Thanks to it's motorised tilt and it's individually controlled LEDs, the RollaPix 402 will leave you with a strong visual impression.
Ayrton has kept it a compact size, thin, even ultra slim, with the usual elegant design.
A non-motorised fixture called MultiPix will be available in the near future.

WILDSUN 702
7 XXL COLLIMATORS

When writing the specifications for their next flagship moving-head wash, Ayrton R&D team members aimed for their strongest yet visual effect with a more defined beam, less soft-edged than the WildSun 500 series.
Perhaps only a detail but one which led to the development of a new 90 mm optical system, known internally as Youkounkoun (a film reference to the world's biggest diamond!) and its associated zoom lens. It has 7 large optics through which passes the light of 7 RGBW multichips; giving a truly exceptional and unprecedented look.

NANDOBEAM FAMILY

NandoBeam 302 is the first member of the NandoBeam family.
Two big brothers will coming soon,stay connected !

Good news: the ultimate beam can be used as a wash...

nandobeam 302

NANDOBEAM 302 LED MOVING HEAD LUMINAIRE

NandoBeam™302 is an elegantly designed, very fast and compact 300W LED moving head that provides ultra bright, concentrated beams of light. NandoBeam™302 uses 19 RGBW 15W Osram light sources coupled with a 8° - 40° beam angle zoom. An innovative, advanced optical system allows the very concentrated, ultra bright beams to travel far and wide with deep and colourful wash capacity.

AYRTON

Light in action

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PARIS MOTOR SHOW

A lighting revolution on the Renault stand

We've never seen a stand in colour in a motor show before, much less with a good thousand LED projectors creating a unique atmosphere, very smooth and innovative.
This is the challenge that Renault set in motion in 2010, asking the best architectural agencies in Europe to take part in a competition, followed by an invitation to bid with leading French lighting and rig providers.

Text
Soundlightup.com

Photos
Olivier Martin Gambier / Renault

The contract was won by DGT, an agency that has close ties with the H. Audibert workshop. They entrusted the lighting design for this extraordinary stand to Hervé Audibert, a designer more accustomed to museums and theatres than the lighting of a trade show, which is highly specific.All participants were therefore strangers to this type of project but decided to focus on the specifications of the brand, which wanted a total relook, aiming at causing surprise.

The service provider NAT joined them following an extensive consultation, providing technical expertise for the massive installation of over 1,000 projectors on 4,200 m2 of rigging.

An opportunity for us to discover the best «clean» light sources: JB Lighting's A12 moving heads for colour and the Ayrton WildSun K7 for white, an indispensable element used to «extract» the vehicles out of their colour nest. And they are not alone as some (!) nice Arcaline striplights cover the walls of the stand, definitely unlike the others.

No longer in the game of light power at any cost, the stand differs completely from its neighbours in the show, firstly through its design - flat and smooth - secondly through its colours and lower (but more than adequate) lighting levels, making it cooler, literally and figuratively.

As we are at a trade show, we often look in the air, and the ceiling has therefore not been neglected. A key element in this overhead lighting rig is that it covers the stand with hundreds of brightly coloured balls that are part of a comprehensive lighting design.

We met up with two key figures in order to discuss this imposing construction that began nearly three years earlier. Gérard Schallier,

The A12 and Wildsun 500 K7 are not even deployed at full power (975 W for the A12, 380 W for the Wildsun) and yet the stand is lit up like the Northern Lights.

Olivier Martin Gambier / Renault

former manager of the company NAT, now technical consultant, and Hervé Audibert, lighting designer for the stand, who told us about the difficulty of this challenge: to reproduce the colour of the vehicles faithfully within a colourful and progressive setting.

HERVÉ AUDIBERT'S DESIGN

It was almost 3 years ago that Renault launched the project in order to find the architectural agency that would give the space a complete relook. The contract was won by an Italian-Lebanese-Japanese trio of young creative designers under the guise of the agency DGT. Accustomed to working with Hervé Audibert through his workshop to realise some of their designs (such as the lighting at the National Museum of Estonia), it is natural that they put this challenge to him.

The lighting designer, curious by nature and enticed by the chance to extend his field of expertise, accepted and began to conceive a project with them, following very precise specifications. Soon the idea of an undulating landscape with different volumes began to take shape and just as quickly, Hervé decided to fit the ceiling to mirror this.
He talked to us about his original vision of the design as well as his discovery of the world of motor shows.

THE GENESIS OF THE PROJECT A TOTAL OVERHAUL OF THE STAND AND ITS LIGHTING AMBIENCE

SLU: This is your first foray into the world of motor shows, what attracted you to this project?
Hervé Audibert: «What interested me about this technical adventure that we embarked on and actually pulled off, was that it was really just a crazy dream! We had 1,000 projectors on the stand and 400 illuminated balls. It was an extraordinary set-up, the likes of which motor shows had never seen before, which are used to going the course with the sheer quantity of white light, which is constantly increasing.»

We reached incredible levels of illumination, nearly 15,000 lumens on some cars, which was dazzling - in the true sense of the word! I wanted to find a different kind of light and show the car differently. I wanted to give another perspective to this automotive industry, which, in my opinion, is too aggressive in its lighting and artistic approach. It seems to me that we can transform the access to the car depending on how we represent it. We can either turn it into a weapon of war, or an object that is used to transport us. There was a whole language and vocabulary, relayed by the beating of white light and the lighting intensity, which seemed inadequate compared to what the car actually is and especially to what it should become in the cities of the future.
For example, there is much talk of electric cars on the Renault stand, so we had to find another way to show the vehicle, something other than a powerful phallic symbol.

It was important for me to transform the image that people have.
Moreover, we were in Paris and Renault, the symbol of France, needed to reign superior and stand out from the crowd as they were creating the event.

SLU: Did it come down to a request from Renault or was it an approach that you decided yourself?
Hervé Audibert: It was a very personal approach. I started working on this project with the DGT agency at the competition stage, which lasted a year or so. It was complete self-investment with no funding from Renault. We agreed to enter the fray because the project was incredible, with the 4,000-m2 stand to equip.

We won the competition to do the work in Paris, of course, but also a dozen international trade shows over a three-year period, and we began to produce different prototypes. It was difficult, however, to integrate into the very narrow world of trade show lighting, especially with

The LED unit mounted in the ball, with a very nice fan to efficiently dissipate the heat of the LEDs..

The LED unit developed by Ayrton designed to be used directly in the Krill balls, equipped with the same RGBW multichip as the JB Lighting A12 to make sure the colours match perfectly.

1. *Finding a way of viewing the car other than a powerful phallic symbol with a less powerful coloured light, this is the artistic approach of Hervé Audibert and it is a real success.*

2. *Beautiful colour on a theme with the feel-good factor of summer holidays: pebbles!*

3. *Energy-efficient light sources and electric vehicles in order bring the future to sustainable development.*

4. *Image taken at the Brussels show, the video brings a dynamic dimension in harmony with the balls that work perfectly with Wi-Fi this time, thanks to the Lumen Radio DMX RDM cards.*

5. *Attached to bridges with a very tight mesh (3 m), the Wildsun K7 in white, the A12 in colour and the lighting balls, whose wireless control was a nightmare at the Mondial.*

a project that was at odds with everything that had been done before. We were offering a less powerful design in terms of lumens and we were using never-before-seen colour. Really, we were the troublemakers who were coming to upset the apple cart for this type of lighting, which was highly formatted.

THE IMPLEMENTATION OF THE PROJECT REVOLUTIONISING THE CODES

SLU: How did you work with DGT from the stand design?
Hervé Audibert: When they showed me the project and said it would be all white, I immediately suggested we use colour on the stand. Colour, but with LEDs to modulate the light intensity and evolve the ambiances, while literally pulling vehicles from this colourful tablecloth using white. It is a technique that I use frequently: extracting with a white spot in a setting drenched in colour.

The air also seemed important, as we had the negative on the ground with a «shaped» ceiling. Indeed, in a trade show, the halls are very high and when you walk, the main thing that you see is what is in the air, as the crowds prevent you from resting your gaze lower. We therefore needed a ceiling light that was mobile, above all else.
So we went with the idea of lighting balls, which take the form of the ground. Then we returned to the technical aspects of the project, namely the manufacture of the balls and the landscape. We produced various lighting mock-ups, but the concept of the balls and moving light helped us win the contract.

SLU: Was the notion of movement important then?
H.A: Yes, movement, colour and highlighting the car. This meant using lower light intensity, since it was already in a sombre ambiance and as we were using colour, there was no need to use excessive illumination to highlight the cars. By using a reasonable amount of light, we were able to just make the car exist, which is revolutionary in a motor show.

SLU: The programming work must have been difficult!
H.A: It was the German company Light Life, which concentrates on large architectural installations and is a specialist in computer-assisted dynamic lighting, that took charge of this and it was indeed an incredible job and again very unusual, because we had 35 dmx universes, which has never been done before at a motor show. Everything is controlled by dmx and the balls all needed to be motorised and lit individually, all via Wi-Fi. The idea was to reproduce an undulating stand by the movement of the balls. We softened everything, nothing was to be aggressive.

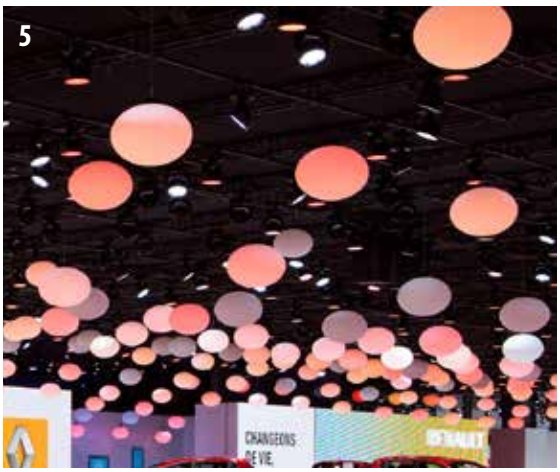
SLU: Did you have any IRC problems?
H.A: Not at all, the cars were lit in cool white, using the 7000°K; it had to be as cold as possible to extract the vehicles from the warmer coloured background in a more dynamic and energetic way. A 3000° does not provide the necessary dynamism to the overall vision of the stand, the cars really needed to stand out with this white halo, and it is with the coldest white possible that it worked. I did not want to soften the overall image. We needed peak energy points within the coloured ensemble for the overall vision and cohesion of the stand. And then we had to meet people from the Renault paintwork design team; very picky about matching the colours of the cars. We made three successive prototypes on 200/300 m2, and this proved essential later on. It was key not to distort the original colour of the vehicle, this was the first step. We got lucky. The 7000°K white option suited them perfectly! If they hadn't liked the white and colour rendering of their vehicles, we would have been forced to switch to bulbs, and suddenly we would not have had the opportunity to graduate the light. With LEDs, we were


1


2


3

Photos : Olivier Martin Gambier / Renault



colours to hide them, and then making them reappear with the white of the K7. It was magical, all thanks to LEDs!

SLU: Was the white halo around the car what you intended?

H.A: Yes, we chose not to use a narrow white beam for the vehicles. We ran a lot of tests with the narrow beam on the vehicle, and we could not get it to stand out enough. This white halo really allowed us to have it suspended. I am very satisfied with Ayrton K7's rendering of white and the texture of their light.

THE DIFFICULTIES OF THE PROJECT TECHNICAL AND FINANCIAL CONSTRAINTS

SLU: Did you have any technical problems with implementing a project such as this?

H.A: Actually, we had a quite a few hassles with the project, not least financial issues. Even though Carlos Ghosn (Managing Director of Renault) validated the model, it was necessary to implement the 1,000 projectors, which was obviously a huge budget. The Renault supervision team didn't like this much and ended up dragging their feet a bit. All this during the preparation stage, which began with the first prototype in 2010.

We then had to consult the various competing service providers. I worked on the preparation of this project right from the beginning with Impact Evénement, who helped us to develop our project from both a technical and a financial standpoint: 4,000 m2 of rigging, a gigantic and very demanding installation as I wanted a 3-m mesh to cover the entire area, not to mention the development of the balls. Ultimately,

Hervé Audibert
Lighting designer

G.Bretzelbw

Born in 1957, the lighting designer from Strasbourg (eastern France) began his career at the National School of Drama in his home town, where he met André Diot. 20 years of wandering the stage from theatre to opera and ballet to variety followed.

Yearning to settle down but still keen to explore, he then founded a lighting design agency specialising in spaces such as museums, architecture or events. He was soon to discover the complexity of realising an idea before finally seeing the lights go on... After a few years learning his craft, he was able to break free of the technical constraints and start to use the lighting tool freely like a painter. Striving «to light an autonomous and holistic expression, to the point of trying to create a work of art», he now works in the H. Audibert workshop, at the site of the former Pathé studios in Joinville le Pont, surrounded by 5 employees from different backgrounds. His latest achievements include the Renault stand at the Mondial, the Géode in Paris or the Vialattea Club Med in Italy, demonstrating the versatility of this lighting designer who seeks to «dramatise spaces by giving them depth and meaning».

Gérard Schallier
Lighting objects designer

Having managed NAT (New Advanced Technology) and collaborated with many lighting engineers creating the lighting for artists such as Johnny Hallyday or the Rolling Stones, while working with the best events and fair management agencies in the business, Gerard Schallier is going back to his roots. In his return to lighting objects design, his first and true passion, he produces lighting in all its forms, drawing on his long technical experience in stage lighting where he was often called upon to collaborate in the development of optics, projectors and lighting equipment, such as lasers.
It is in his Brussels-based company Krill, the city where he has lived for 3 years now, that Schallier has made a fresh start for himself, while remaining an external consultant for NAT for large projects, like the adventure started two years ago to renew the lighting of the Renault stand, a long-time partner of the man and his former company.

NAT won the tender.
But obviously, it was the result that was most important to me. I didn't get involved in the budgeting or partnerships at all. We had enough on our plate with the project's technical challenge.
We also had to learn to work with companies that we do not know and who spoke a «stand» language.

SLU: Did this determine the choice of material?
H.A: Initially I had everything equipped with Ayrton products, both the white and the colour, because as you probably know, at the time of the start of the project there was no better product on the market. All the manufacturers were aware of this tender and showed me their products, but I was used to working with the people from Axente, we spoke the same language and the projectors were really efficient.

In the end, Gérard Schallier expressed a preference for JB Lighting's A12 for the colours, after carrying out several tests. They were chosen particularly for their potential lighting output, which made them more scalable over three years of operation, still in this lumens race...

Later on, we had real problems with the balls and we had to develop the drive system. Finally, we also had to deal with the control of the balls via Wi-Fi, which was not working.
It had us in a cold sweat, particularly given the scale of the project!

SLU: There is also a giant screen on the stand, was this your choice?
H.A: Yes, we had an 80-m long screen in HD on the walls of the stand and the looped lighting scenes and streaming videos were mirrored by the balls on the ceiling for a colour harmony of the entire space. Again, the Light Life people did a great programming job in order to harmonise the effects of the projectors with the videos. They are great computer programmers and very familiar with lighting.
In the end, the entire stand was magical, we were all very happy. It attracted the curiosity of everyone, media, creative types, visitors of course, but also technicians from neighbouring stands who weren't shy to come and take photos!

THE GÉRARD SCHALLIER TECHNIQUE

Gérard Schallier, long-time partner of Renault with NAT, knows stand lighting very well and the challenges involved. He also chose to renew his commitment and went as far as investing some 4 million euros in order to meet the huge lighting plan devised by NAT that won the tender, but we suspect that his expertise and experience also convinced the brand to renew a tried and tested partnership.
Passionate about new technology, which led to BigLite being given its chance, with JB Lighting and Ayrton being chosen for the LEDs. He was happy to speak to us about it.

SLU: Given your long experience in equipping trade shows, is the first time that you went for 100% LED lighting?
Gérard Schallier : Yes, that's right. It was in the Renault specifications, who wanted something really new and more representative of the brand, younger therefore, and in keeping with the new range. A desire to move towards something more human, less clinical and more energy-efficient. It was also the choice of the

Olivier Martin Gambier / Renault

lighting engineer to go with much less energy-hungry projectors with an output almost identical to that which can be seen on other stands with traditional lighting.

But it is the introduction of colour to the stand in particular that was the really innovative factor, which was made possible by LEDs. The feedback from journalists and consumer surveys has been excellent. I think Renault will continue in this direction. Today I believe that the results produced in Paris (which can still be improved on, however, since this was a first) has allowed us to try out a new approach to lighting stands, which will emerge in the years to come.

SLU: **Have you noticed a difference in the stand's lighting level compared to the neighbouring stands?**

Gérard Schallier: I didn't measure the lighting level actually. It is below what we were doing before, but the ambient lighting of a stand still remains a balance between the illumination of the car and what is next to it. We can lower everything, as long as it remains consistent. There's no doubt that there is a difference compared to the stand next door if you are close to Mercedes or Citroen, who take their lighting to a much higher level, but it is no more than three shades below. This is not exactly a black hole, and it is in colour. So from a visual point of view, you are always visible enough to attract people to the stand and once they are there, they feel good. That is what's essential.

SLU: What were the difficulties with moving from HMI to LED whilst maintaining a satisfactory result?

Gérard Schallier: We had to find powerful enough cool white LED projectors to achieve a level that could compete with neighbouring stands. I had already discussed this requirement with manufacturers some time before, knowing that Renault would change the way it did its lighting in the years to come. But I didn't manage to get the results I needed. Martin released the Mac Aura series in cool white but they lacked power. They were used in Geneva for BMW, but a lot of machines were needed to obtain the right level of illumination.

It was the lighting engineer who contacted Ayrton, as his supplier was Axente.

So in the beginning, the initial equipment specifications were made up entirely of Ayrton products. The whites of the K7 were very satisfactory, but the WildSun 500S did not have enough flux to offer the required level of illumination in colour on the stand.

So at the invitation to bid stage, I indicated that they didn't seem suitable in terms of light output and little by little, we came up with this list: The A12 for the colour, the WildSun K7 for the white, also the Arcaline to light the walls and, of course, the lighting balls hanging from the ceiling.

INVENTING THE PROJECTORS AND SOLUTIONS

SLU: Who developed these balls?

G.S. : In the end, the most effective and efficient in terms of time was Yvan Peard from Ayrton, who collaborated with the Belgian company Krill to develop them, providing the LED motors.

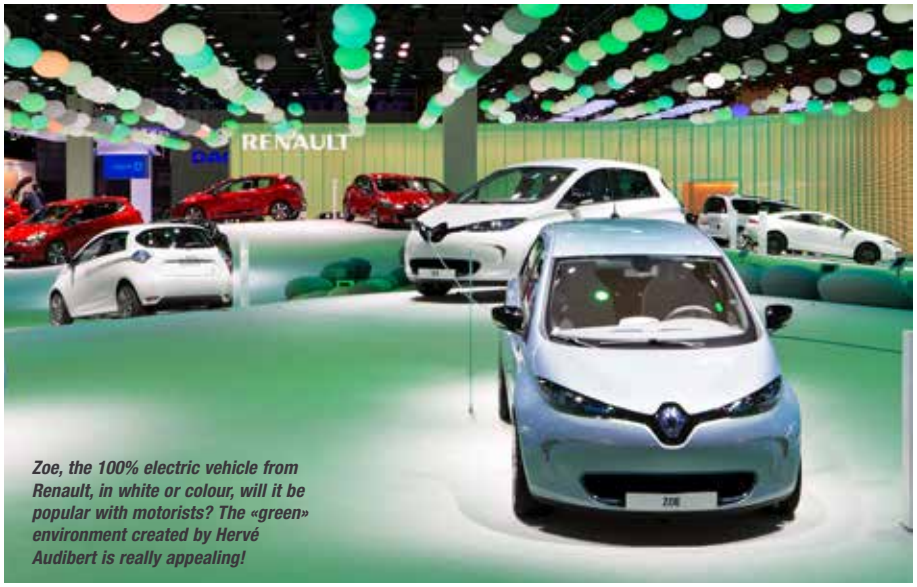
It is basically a slightly oval ball that is suspended from the ceiling. It's a nice little toy that lights up really well. It is fitted with 8 OSRAM RGBW LEDs (the same diodes as the A12), without secondary optics since we had to light up the ball diffuser live. With the white LED, you can really qualify the colours and get the right hues.

SLU: How were they programmed and controlled?

G.S.: By media server. We have a film that controls the colour of all the A12s, an image that controls the colour of the balls, another for their height given that the design made them rise and fall by 3 metres, creating an overall animation on the stand, plus a timecode to match up the video, light and sound. The media server controls the various layers based on the SMPTE received. So the overall image of the stand is a balance between colour, lighting the vehicles, video and sound. There was an artistic director to manage everything.

SLU: What about the lifespan of the LEDs?

G.S: I'm curious to see what happens in the future. The WildSun K7s are supposed to provide 40,000/50,000 hours of constant illumination, but even if they only provided 25,000 hours, that would be 50 times the lifespan of standard bulbs, so it would be at least 10 years. We will have to see how well the LEDs are driven if used at full power all the time, etc.



Zoe, the 100% electric vehicle from Renault, in white or colour, will it be popular with motorists? The «green» environment created by Hervé Audibert is really appealing!

Photos : Olivier Martin Gambier / Renault

6. Nice colour variation on pebbles.

7. While JB Lighting's A12s wash the entire surface uniformly with colour, the cold white of Ayrton's Wildsun 500 K7s make the vehicles stand out, and the halo around them leaves them suspended: magic!

8. 4000 m2 of undulating and coloured stands. The balls of light in the ceiling should have responded in kind...

THE TRADE SHOW LIFE OF THE WILDSUN K7 AND ARCALINE FROM AYRTON

SLU: In terms of cooling, were the K7 used at full power?

G.S: No, in principle we kept the lights at 80%, just to keep something up our sleeve in case we needed to increase the power during the show depending on the conditions. They should be used at around 85% power on average, although they were lit 16 hours a day, from morning to night non-stop

SLU: Were there any losses?

G.S: In Paris, out of the 351 WildSun K7 we set up, we changed five, but only for mechanical odds and ends. Technically we did not have any problems with the electrics or the hardware, apart from the problem of the Wi-Fi on the balls for their movement, as the architects wanted them to literally float in space, hence no cable, which turned out to be a real pain.

SLU: What angle was used for the K7s?

G.S: They were all fitted at a height of 8 metres, with an opening angle of 20%, except for the ones on the hill, which was 1.70 m higher. These obviously had to open more. The console operators worked intelligently, based on height. At Geneva, however, I think we may be scratching our heads a bit as the WildSun opens a little too much from the point of origin. 8° would be the max. JB Lighting's A12 has a perfect span but there is no white, and the RGBW does not give satisfactory results in white, needless to say.

SLU: Is this the first time you've invested so much into LEDs?

G.S: Yes, even though there are previous examples such as the VLX, it was on a different scale in terms of quantity. It is a massive investment, but it is a special contract too. It is not a question of replacing the fleet but I think in this market, the use of LEDs will make it evolve.
At NAT, I've always been a supporter of fewer references but in larger quantities. This is what we did with JB Lighting's A12s (about 500 devices), the WildSun K7s (375) and also the Ayrton Arcaline (a hundred or so), which is a good compromise between the lighting and power and size of the object.

SLU: Does it fit well in the kit?

G.S. : Yvan Peard has really good ideas, this is a great product, which means really good colour with the rest of the set-up. We use it on our customers' stands, just as we used the Thomas PL 110 (which is three times larger and three times more energy-hungry, however), with an equivalent or even superior output, for a product three times cheaper and smaller. And with RGBW...!

SLU: Do you actually consume less power?

G.S. : Yes, of course. The Renault stand had less than half the demand, so we must have used 40% of what was consumed before! Ecologically speaking, it is really much more in tune with the times.

But economically the customer feels the savings less, as LEDs require a 125 A feeder for 80A actually consumed due to the fluctuations in current, and they always pay for the number of feeders, not the consumption. Either way it must amount to a saving of around 30%, which is not negligible at the price of the 125 in an exhibition centre! An A12 is expected to consume 1 kW at full power, but it only consumed around 400W max. We had the 125 A cabinets at cruising speed which actually meant 30A!

THE A12 JB LIGHTING REVEALS ITS QUALITIES

SLU: Why did you choose JB Lighting's A12?
G.S: It is a nice little machine, with a beautiful light colour and an extraordinary zoom range of 8°-58°, a huge beam that is really lavish in smoke effects.

SLU: What do you think of its cooling system?
G.S: The cooling system is super efficient and quiet. Anyway JB Lighting produces a nice little device and whatever they do, they do it right. The service technician that we sent on site was received with great kindness and generosity, with no secrecy or jargon.
The ergonomics are also well thought out, with interesting calibrations and all the necessary functions such as 50/60 Hz. This makes it effective and accessible.
Lastly, they have a neat little aspect to their technology, which allows you to change each LED individually as they are not soldered in place. Our technician changed one by himself, just like a big kid!

SLU: Do they work with saturated colours?
G.S: Not particularly, with every colour, from red to water green (very trendy right now), and the blues and even the Renault yellows are slightly amber-coloured.
The projectors were fitted with video walls in the sides to produce seductive moods: green for fun, red for love, etc.»

More than successful and original ambiances in spaces that are traditionally cold and architectural in the lighting of motor shows; they really attracted quite some attention.
It was difficult not to be surprised on finding colour first of all, and more broadly speaking, a true work of art around vehicles. It was even more difficult not to be irresistibly attracted by the décor in the curves, the soft and warm atmosphere designed by the DGT agency and their lighting partner Hervé Audibert.

By throwing a stone into the pond of political correctness in presenting vehicles at motor shows, Hervé was able to meet Renault's requirements perfectly, who were eager to innovate and surprise. The colours soften the ambiance surrounding this usually clinical exercise. They also make the vehicles stand out even more, however, which appear to float in their white halo, bright and perfectly homogeneous. They stand out perfectly against the surrounding baths of red, green or blue. Finally, the amazing ceiling lighting conceived by the lighting designer and implemented by the NAT teams provides real fluidity to the space above the poetic ground campaign between hills and side roads, even if the ambitiously planned animation could not work well for the reasons stated in the adjoining article.

A very nice idea, never seen before, and a real technical challenge.

Following the failure of the light balls

Ayrton backs Lumen Radio

The drive mechanism of the light balls, both in terms of colour and movement, which was to be controlled by Wi-Fi, did not work as expected in Paris. We interviewed Yvan Peard who provided the LED sources for the balls in order to find out what the problem was.

Yvan Peard (Ayrton Managing Director) : ***«We wanted to control the Krill Color Engine balls via a wired connection but Gérard Schallier wanted a Wi-Fi solution. I suggested the cards that I used in the Ayrton moving heads but as this product does not have a display, we had to consider a DMX RDM solution. The supplier, whom I will not mention, was then contracted to adapt his cards and deliver them on time. When programming the balls, however, the system failed and they either got stuck on a colour or did not light up at all.***

Cyril Union (Ayrton Engineer) : ***The system transmitted on one frequency. If you're lucky, the ball receives the signal but if the space is cluttered, it drops off.***
There was also a bug in their software because some of the receiver cards started to act as transmitters. They use the same card for transmission and reception. You just need to change the configuration. A number of balls started to act as transmitters, which cluttered the frequency band even more...
In Paris there were four transmitters and the balls were controlled on 5 channels, which meant 4 universes with a hundred or so balls per universe. The transmitters were increased because the system was not reliable.

Yvan Peard : ***And the manufacturer never admitted this fault. For the next exhibition in Brussels, we absolutely had to have a reliable system that worked! Therefore, I brought in the Lumen Radio team to carry out an external diagnosis during the Mondial, with their receiver. They were able to control a ball, no matter how congested the Wi-Fi frequency band was. Following this successful operation, they set up the RDM and everything worked, irrespective of the position of the transmitter or the environment. So we purchased their cards and have had no trouble since. Everything worked fine at the Brussels Fair.***
Now the new Ayrton products will be equipped with the Lumen Radio RDM card. Their «Coexistence» system analyses the frequency band to select the best frequency setting for successful transmission in highly congested environments.

LAURENT CHAPOT ILLUMINATES TRYO

on the roof of the Olympia Theatre

For the 2012/2013 edition of the Tryo tour, the lighting designer, Laurent Chapot floods the Olympia stage with a kit that is reasonable in terms of power consumption, the majority of sources being LEDs and 700W light bulbs. In an intimate set that showcases the roofs of Paris, the designer once again provides amazing lighting design, where concepts and lightbeams merge!

Text and photos
Soundlightup.com

Once again at the faders for the 2012 edition of the Tryo tour, lighting designer Laurent Chapot floods the Olympia stage with a modest but perfectly adapted kit, in his own words. Still in view of lowering energy consumption, it is with a majority of LEDs and 700W lamp sources that he continues to redefine stage lighting by avoiding high power, by favouring precise work with smoke and by opting for a highly diverse choice of projectors.

In an intimate set that showcases the roofs of Paris, in collaboration with Nitro Deco, the designer once again came up with an amazing lighting design, where concepts and beams merge!

And it is, as is often the case for Laurent's teams, in good spirits and with passion, that a few hours before the concert we are welcomed by this band, who are devoted to their audience and pay a lot of attention to the show's technical aspects.

Understanding each other (almost) without speaking

Image 2213 Laurent Chapot, who is loyal in terms of time spent on illuminating the artists, naturally returned to design the lighting for this tour, which started in October 2012, and will end in April 2013, after a major journey throughout all of France.

It was during its relatively short preparation stage that all the involvement and trust developed during the many years of working with the same teams and for the same artists, came into their own. By growing in constant partnership with David Sagot (Nitro Deco) and his GrandMA console operator, Laurent Garnier, the designer had to develop the

entire show's scenography and provide it with a projector kit based on a hastily sketched drawing.
Image of the drawing

SLU: Laurent, what were Tryo's requests with respect to lighting design?

Laurent Chapot: "In fact it was all based on a small sketch in a notebook sent by MMS and subsequently developed during a single meeting between the artists and myself. Afterwards, we had to work it out! We then set out to design the stage components in order for me to be able to subsequently think of the lighting that could suit them or enhance them. Since the writing of the production had slightly progressed in the meantime, this was followed by a few drawings suggested by «l'Écureuil» (aka David Sagot), taking into account technical, logistics and financial constraints. Certain elements have been preserved, such as the central scaffolding, which we did not particularly like, but of which the artists were fond, and other, truly special ones, such as the roof with the sitting dog or the low stone wall that we have designed ourselves.

1. The lighting, set and sound teams for the Tryo tour. Top, from left to right, Florent Namy (sound), Rodolphe Collignon (lighting), Anthony Johann (rigger), Emmanuelle Corbeau (sound), Christophe «Titou» Pignol (lighting), Yoann Roussel (sound). Bottom, Laurent «Freddy» Garnier (lighting), Laurent Chapot (lighting), Ludovic Brouneur (rigger), David Sagot (set), Olry Collet (lighting).

2. The upstage lifts are mobile and can be raised during the performance using motors; another step in this concert's rich scenography.

3. Laurent Chapot also knows how to play with beams using spots, rays and colour as a bonus.

I only got down to the lighting design plan once this was approved and kept it very simple and pragmatic.»

SLU: Each stage component seems to have its own function and usefulness, so it's not just for decoration?

Laurent Chapot: Right, for instance, to begin with we designed the three rear catwalks to accommodate the projectors, as we had no upstage truss, but also to allow the artists to get onto them. The latter option proved to be impossible as we had no servo motors. However, the lifts remain essential to the show's lighting and can nonetheless move, providing several positions to the projectors rigged to them and they enable me to cover the entire upstage area. That is why they are not directly fixed to the floor and have feet to be able to properly hold and adjust the automatic projectors they support.
Similarly, the central scaffolding, albeit a strong (and impressive) component in the set design, also accommodates projectors, fluorescent strips and a genuine working street lantern.

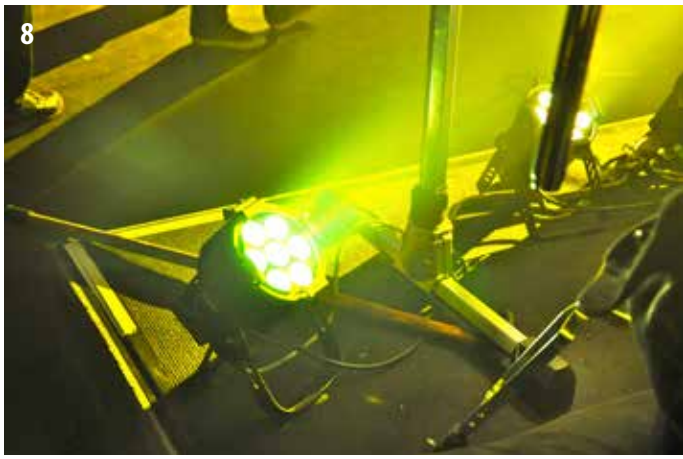
As to the lateral poles, they are more traditional supports for projectors, but the two blocks representing the roofs installed on the stage allow us to play with beams, through the sitting dog window, for example.
In fact, decor and lighting merge in this show and we have truly worked together. For that matter I make no distinction between lighting and set design teams!

SLU: There is no video in this concert but a clear cyclorama, without upstage truss. How did you work it?

Laurent Chapot: It was interesting to work without video this time and to revert to a more traditional cyclorama. The difficulty lies in properly illuminating this large empty upstage space covered with a cloth. I worked it with 100% LEDs with Ayrton Ice Color and WildSun 500 C projectors to the rescue on certain scenes. The (once again budgetary) issue was that we were unable to benefit from diffuser filters for the Ice Color and therefore they illuminate the cyclorama in strips but complemented by the WildSun it works well and the whole area is covered.

4. The kit comprises a sufficient number of different projectors to switch from a monochrome blue ambiance, with a superb cyclorama achieved by the Ice Colors and AyrtonWildSuns, to scenes with further beams and lightbars.

5. The WildSun 500 C's take centre stage in this red monochromic scene, brightened by the warm lamps on the Sunstrips.



6. When Laurent Chapot uses the Wildsun 500 C from Ayrton he does so thoroughly and therefore in extended mode, to produce a narrow beam with the central lighting ring made up of LEDs.

7. One of the three mobile lifts designed on the basis of the original, marked out by Sunstrips, accommodates WildSun 500C moving heads, by the Atomic colour strobe, automatic VL 3500 and Alpha Beam 700 spots.

8. A habit developed by the lighting designer to look after the drummers and their instruments: PAR LEDs (here Oxos) at the foot of the drums that illuminate the skins and highlight the drums.

*9 & 10. The lateral poles accommodate the Ayrton Rollapix, a further Martin strobe and a Vari*Lite VL 3500 spot.*

And since the entire projector range from Ayrton has the same highly accurate and efficient colorimetry, there was no colour incompatibility. Lastly, I can also use the A7 Zooms on the cyclorama, which for their part, feature a very wide aperture, which is one of the reasons why I like them so much.

SLU: Was the idea of «clean» projectors, i.e. energy-efficient ones, still on the mind of the artists and the technical team?

Laurent Chapot: Yes, always with Tryo, but it is also a personal choice. For a long time now, I have been trying to work with a maximum number of sources not exceeding 700W or with LEDs. This kit is for that matter eerily similar to the one I used on Lavilliers' latest tour. There are energy-efficient projectors like the JB Lighting moving heads or the Alpha Clay Paky range in 700W.

This year Ayrton luminaires joined them, and their power consumption/efficiency is undeniable. However, it is not only as a result of a quest for energy efficiency that I prefer LEDs in my projects. I love the precision of LED moving heads. Whenever I want to create highly rhythmical manual flashes, they are relentless. And on some of the band's electronic pieces (when the DJ comes on stage), I would not be able to do what I want as meticulously using moving head lamps. It is therefore definitely the precision of execution that appeals to me in these new moving heads such as the WildSun 500.

USER-FRIENDLY KIT

SLU: Exactly how did you choose the projectors that make up your kit?

Laurent Chapot: It is a kit that I would qualify as average and highly diverse. We have in fact many different projectors, each in moderate quantities. I dug into all that I like (and that was available in the warehouse of course…) in accordance with the specific needs, but always trying to pick sources equal to or lower than 700W.

That is why I rigged a lot of A7 Zoom moving heads from JB Lighting that are still my favourites in terms of aperture, compactness and pre-

cision of execution, even though we ran into a few minor software problems between them and the GrandMA consoles in terms of network programming.

I was familiar with the WildSun 500 C as I tested them as soon as they came out and I think they are great. Obviously their colours are superb and they provide numerous options, notably in extended DMX mode. I'm disappointed that they do not open further, but their speed and their design are really amazing.

For the same reasons, I went for the Ice Color to work the cyclorama in colour baths. Placed on the floor, upstage, they take pride of place. I'm discovering the Rollapix on this tour, and installed as they are here laterally, they allow for the creation of amazing sweeping effects on the stage, always with excellent colours. It would be interesting to be able to have them over a longer length, as their lenses are very close to each other, which would allow the double zoom option to be exploited fully.

I really would have liked to test the Versapix to cover the scaffolding's corners, or Arcaline strips by the same manufacturer (replaced here by fluorescent strips), but stock and budget constraints once again prevented me... In addition, Ayrton is a French manufacturer, and it is always good to promote French products, especially when they are this efficient.

As regards automatic projectors, I absolutely had to have projectors with shutters to illuminate the set with precision as well as the artists, who are quite numerous on stage and highly mobile (they change position on the stage for each tableau, there are three singers, there is a lot of movement....), which is why I had to turn to the VL 3500 Vari*Lite and depart from the less than 700W rule as this one is 1200W. But it is obviously a super moving head, which does its job very well and it is a good compromise compared to other products that I would have liked to test (such as the MAC III Martin),which come in 1500W.

I also wanted Sharpys but in the end, we opted for the Beams from the Alpha Clay Paky series, which are very good. For the spots, I needed gobos, and especially cone-shaped gobos, which, in my opinion, are more than an accessory but an essential basic without which I would be unable to work! I therefore selected the Alpha Spot from Clay Paky that comes with this gobo as standard and other, new and more original ones than those on the Mac 700 from Martin, which no longer satisfy me.

With the Alpha Spot I therefore have an interesting wheel, with the famous cone and a fun perforated gobo.

As the show was highly rhythmical at times with the arrival of the electronic music and scratching in Tryo's world, strobes were necessary. For this purpose, the Atomic 3000 from Martin (here in coloured version) remains a safe bet. They cannot be avoided, even if they use a lot of power.

Lastly, you will notice that I barely used any traditional projectors, or even none at all, except for the Moles on the audience that I kept as their lamps fit in well with those of the Sunstrips Active DMX, for which I have not yet found a worthy LED source replacement.

Of course, we have two Robert Juliat 2500 W HMI followspots that cover the front and are important at the beginning of the show, when the band starts to play in the room on a mobile stage, which then joins the proscenium (in Zenith configuration and therefore not present in this particular venue at the Olympia).

Sometimes, even when the rig does not allow the two followspots to be installed, I illuminate the band from the audience with the A7 Zoom, which works very well!

SLU: Are you satisfied with the whites provided by all these new LED projectors? Do you use them?

Laurent Chapot: When it comes to white, the WildSun moving head stands out with remarkable precision in its colours. Of course I use them, like the ones on the A7 Zoom for that matter, even though they are less precise. I tried to take maximum advantage of the properties of each of the projectors and that is why the kit is diverse, each product

Laurent Chapot
Lighting designer

Specialising in lighting, image, stage design and interfaces, Laurent Chapot is also passionate about electronic music.

It is through this music that he got involved in the lighting business in 1981 when he became the light jockey at the Palace.

Pierre Vassiliu later gave him his chance as a stage lighting designer, while maintaining his ties to music when he joined the group Raoul Petite.

At this time, he met Christian Lorenzi and began a long collaboration with Arpège. He has also collaborated with Pascal Striby from the company SPL.

Always staying loyal to his technical roots, through his need for physical contact with the reality of the show, he was able to come up with economically feasible designs.

Laurent forged relationships with artists based on loyalty: 12 years alongside E. Daho, 18 with S. Lama and 8 with Tryo.

In 1994, he partnered with his brother Fabrice and started integrating video into the light shows.

A career path in evolution for a lighting engineer anxious to understand the mechanics of perfect cohesion between light, music, stage and the artist's universe.

Unafraid of «overcoming the technical dimension» for more of the natural element, Lawrence is always available for a show, no matter how large.

*11. Frozen frames for an electronic ambience with Vari*Lite and Clay Paky spots.*

12. The DJ appears on stage and comes up with a bright idea, namely by reflecting the beams from the automatic projectors using a vinyl record converted into a laser disc!

having its strong suit and I interconnect them. It is also for this reason that we have, with Laurent (Garnier, in charge of the second lighting console), planned by using extended projector modes which, even though we had little encoding time (three days...), enabled us to use all of their options, such as, for example, playing with the WildSun's matrixes and using the central zone to create a powerful narrow beam. And even if we target lower degrees of luminosity than a major all-automatic show in 1200W, we work the lighting like a painting, thanks to the smoke, which becomes its canvas.

THE IMPORTANCE OF SMOKE

And we fully realised the major issue represented by the presence of quality smoke for the lighting designer here on the Olympia stage, when barely a few hours before the performance, he had turbines installed on the bridges to provide more control over the slightly capricious fog in this well-ventilated room.

SLU: European and French lighting designers in particular attach a lot of importance to smoke. Is it an essential tool?

Laurent Chapot: To me, yes! As I said, the beams from the projectors are like a painting and only good smoke, homogeneous and well-managed, can provide them with the ideal support in space. It is the painter's canvas.

Here, its management is complicated as the room is fitted with multiple ventilation points, and smoke tends to rise and concentrate over the stage as the concert progresses, which creates a heavy and unattractive mass.

We paid the price yesterday and today we wanted to remedy the situation by attempting to «control» this smoke using turbines, with maximum blowing power, rigged to the bridges, head to tail, in order to «push» the smoke down. I just love working with smoke, I could not do without it, but it has to be well balanced and spread out.

We try to raise awareness among producers and artists to it and to the fact that without quality smoke there is no quality lighting.

We have an MDG on the performance and I have to say that a second one would not have been too many...»

GREEN MAGIC

And it is not only down to excellent fog control that the roofs of Paris reproduced within the Olympia shine like a thousand stars.

Laurent Chapot is a talented lighting designer who is recognised by his peers; an artistic and especially a very human model for numerous young designers who have grown up (Dimitri Vassiliu or Aldo to mention but two), but he is above all a magician.

With green magic, nearly fully made up of light provided by projectors with low power consumption, at his fingertips, the lighting designer, who is also a console operator, experiences his show live, in total symbiosis with his artists.

Artists he admits choosing according to their musical and human affinities, thus decreasing the number of designs he comes up with every year, but considerably enhancing the relationship of trust and loyalty established with the musicians or performers that he has supported, often for several years (Lavilliers, Lama, Daho, Aubert, Tryo, etc.).

Unable to imagine lighting for music that he does not appreciate and not wanting to abandon the tour's human dimension, always surrounded by the same collaborators, Laurent makes challenges possible such as the one this evening: Preparing and encoding a concert nearly

The full 3D experience...

magicpanel 602

MAGICPANEL 602: 360° X&Y 3D MOVING HEAD LUMINAIRE

MagicPanel 602 moving head is based on the principle of continuous double rotation in PAN and TILT mode. It is a modular LED luminaire which allows for a broad range of diverse visual effects (patent pending).
MagicPanel 602 offers the option to display numbers, letters, graphic effects or images, as well as a massive 7° beam up to 15,000 lumens – all from a 600W power consumption.

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LIST OF LIGHTING EQUIPMENT TRYO 2012

LED PROJECTORS

- 8 Ayrton Rollapix
- 9 Ayrton WildSun 500C
- 8 Ayrton Ice color 500
- 24 JB Lighting A7 Zoom
- 12 Oxo PAR LED

AUTOMATIC PROJECTORS

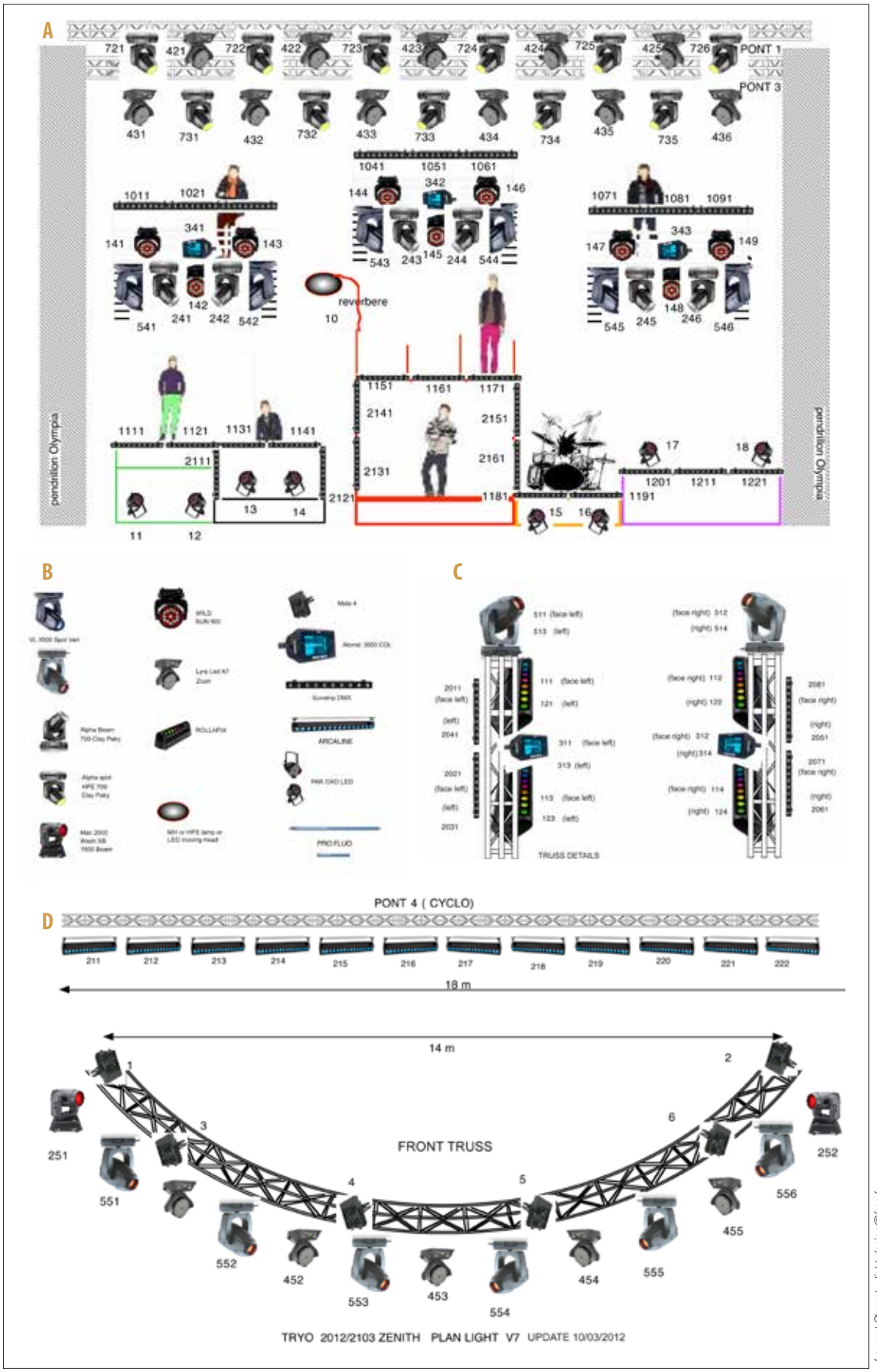
- 16 VL 3500 Vari*Lite spots
- 11 Alpha HPE 700 Clay Paky spots
- 10 Alpha Beam 700 Clay Paky
- 2 Mac 2000 Wash XB 1500 Beam Martin
- 7 Atomic 3000 color Martin

TRADITIONAL PROJECTORS AND SMOKE

- 2 Robert Juliat 2500 HMI spotlights
- 1 MDG smoke machine
- 35 Sunstrip Active Dmx strips
- 6 Mole 4 lamps
- 12 fluorescent strips

ACCESS

- 2 GrandMA full size MA Lighting consoles + screens
- 1 MIDI stage/production link
- 2 Digi Block 6x3 kW



A. Truss 1 & 3 and upstage lift's equipement.

B. Symbols of projectors

C. Lateral pole's equipment

D. Truss 4 (cyclo) and face lighting truss

All lighting diagrams are posted on www.soundlightup.com

Laurent Chapot - light.design@free.fr

Laurent loves the A7 Zoom and it shows with a red sky over the roofs/set blended with a cyclorama, in turn created by the Ayrton Ice Colors: A scene where the colours are 100% LED.

3 hours long in a few days, to make himself understood without having to spell it out to the artists and his technical team, and treat us to lighting that is both very clever and precise.
Precision that is very close to Laurent's heart. The man is meticulous; a perfectionist when it comes to programming, in order to subsequently become a fully-fledged member of the live band, never separating lighting from the music played on stage.

Therefore the audience is bound to spend an exceptional evening, discovering each scene with renewed pleasure; the lighting, the positions, the choice of moods, the gobos or beams change constantly.
A moment of music that begins in an intimate way, with a relevant set of curtains that conceal the full stage and only show the band downstage. The netting falls as the show progresses, first revealing the instruments to us and finishing with all of the stage and its urban setting. The opportunity for Laurent to present us with a simple yet very well executed shadow show. The band, delighted to be there as usual, in a very intimate, family-type relationship with the audience, is in cahoots with its lighting designer's lights by playing the monochrome game or a staggering sequence of frozen stroboscoped frames, which are obviously the result of an exchange between the designer and the musicians, in full confidence.
Moments follow that are as different as they are spectacular, like the dub music sequence which is musically and visually hypnotic, immersing the Paris auditorium in another world once again; a total alchemy between rhythm and projectors.

With a thousand ideas in each scene and as many staging variations, the projectors fitted by Laurent never cease to showcase their special features, whether it be to illuminate a cyclorama left devoid of bridges and screens, barely washed with colour by the Ayrton moving heads, or on the mobile rear lifts, which are raised to bathe the room with beams from Clay Paky spots.

And when Laurent unleashes his gobos, it is a success as usual, as he combines extreme precision and poetry to block out, cover or highlight stage components.

It is then, in a resolutely human perspective, that we (re)discover the magic of Laurent Chapot and his amazing team and we can all understand the choices made by the designer, including the strong presence of strobes that contrast with the discreet face lighting. One realises that beautiful light is not necessarily powerful, that beautiful smoke is there to improve it and that beautiful people associated with the handsome projectors simply make for a magnificent show.

PRODUCTION AND MANAGEMENT

- Production Executive: **Pyrprod Pierre Yves Romano**
- Production management: **Dominique Duplessis**
- Production assistant: **Adeline Carnio**
- Artists' production:
- Management:. **Bruno Gérantès**

ARTIST & MUSICIANS:

- **Mali:** Vocals/Guitars/Piano
- **Guizmo:** Vocals/Guitars
- **Numa:** Vocals/Guitars/Percussion
- **Danielito:** Drums & percussion
- **DJ Shalom:** DJ & Keyboards
- **Benjamin:** Violin/Additional Guitars & Bass

- General production: **Enzo Pallazio**
- Production: **Bénédicte Lelay**

TECHNICAL SOUND TEAMS:

- Front of house sound engineer: **Sebastien Pujol aka Biboo**
- Assistant front of house in charge of broadcasting: **Loic Letort**
- Foldback sound engineer: **Emmanuelle Corbeau**
- Assistant foldback sound engineer: **Yohan**
- Assistant sound engineer October: **Aurelien Bonneau**
- Assistant sound engineer November/December: **Florent Namy**
- Backliner stage right: **Mike le OUF**
- Backliner stage left: **«Hortos»**
- Sound provider: **On Off**

TECHNICAL LIGHTING AND SET TEAMS:

- Designer/Console operator: **Laurent Chapot**
- Assistant/System operator: **Laurent Garnier aka Freddy**
- Deck electrician/Dimmer technician: **Christophe Pignol aka Titou**
- Genlock/Tracking assistant: **Rodolphe Collignon**
- Tracking lighting engineer: **Olry Collet**
- Rigger (Chief): **Anthony Johann**
- Rigger 2: **Ludovic Brouneur**

- Sets: **David Sagot aka «L'Ecureuil» for Nitro Deco**
- Lighting supplier: **Dushow**
- Structure and stage supplier: **Stacco**

GAGGIONE
SHAPING YOUR LIGHTS

Gaggione, optician, French plastics manufacturer, specialised in producing high quality optics associated with LEDs, is one of the world's top three companies in the sector, if not the very best, thanks to over half a century's experience in plastics manufacturing, its staff and its RTD tool resources. It has a long history of working with Ayrton, thanks to which we have obtained exceptional permission to meet engineers and visit the plant.
And we can measure just how many factors might not only degrade dispersion, but also flow and colour mix throughout the collimator design and manufacturing process.

Text: **Soundlightup.com**
Photos : Daniel Gillet & Soundlightup

Let's head for Plastic Vallée in the Ain administrative department along with Yvan Peard, Ayrton director, where we are met by David Veryser, sales director of the optics division and Stéphane Launay, LEDnLIGHT product manager (The Gaggione's brand of standard opical), in charge of communication for this same division.
Our aim is to find out more about the company that often, if not systematically, remains in its customers' shadow, like a closely guarded secret, with the exception of Ayrton with whom they have formed a reliable partnership over time, based on trust.
Subsequently we'll visit the plant and take photos under close surveillance because, in 60 years of plastics manufacturing experience, manufacturing secrets have to be kept under lock and key. A little history lesson to start with.

The history of Gaggione

We are in the Jura region, at Montreal La Cluse in the famous Oyonnax valley. This is home to plastics manufacturing in France that reached its

peak injecting plastic for the car industry until low cost countries came on the scene with lower prices. They say that there used to be more Ferraris in this valley than anywhere else in France!
Pierre Gaggione was a mould maker. Born in Italy, he came to France after World War Two and set up a mould manufacturing company in the back of a garage. At the time, plastics manufacturing broke down into two professions: people who made moulds and people who injected plastic into the mould.

Over the years, Gaggione became a company specialising in injecting very thick transparent plastic, meeting high demands from the cosmetics and luxury market: gift boxes, perfume bottle stoppers... and working with thick transparent plastic led them towards light optics.
The company was then run by Pierre Gaggione's descendants before being taken over in 1999 by the Babylone.

Gaggione, all around you for the last 65 years

Do you wear perfume by Chanel, Nina Ricci, Versace? You'll certainly have handled a Gaggione packing. The pretty famous coffee capsule box, smooth and transparent like glass, is also a good illustration of this industry's know-how.
Today, Gaggione limits its field to optics and packaging. It progressively left the luxury market, also recognising that they had forged their experience in plastics manufacturing.
Packaging involves custom-built cases, made for a great French brand tooling, for example who guarantee their tools for life. Gaggione ensures that the plastic hinges can be opened 100,000 times without deteriorating.
Under the Plasticase brand, Gaggione has also developed a range of standard cases that can be personalised with customer logos. These are communication tools intended for professionals from all fields of activities : tooling, measuring instruments, medical, first aid, auto….
In optics, dedicated exclusively to lighting, Gaggione provides custom-built solutions used indoors, outdoors, for architecture, shows, public outdoor lighting, in industry and on railways. We find them on high speed trains (reading light lenses), on public roadways (traffic lights), on the motorway (safety panels), on aeronautical, in the medical field (lights in operating rooms).
But let's not get carried away...

STAGES FOCUSSING THE COMPANY

1996, 1st Lumileds LED, injection of the world's 1st collimator
In the 1990s, Gaggione was a plastics manufacturer, as explained by David Veryser, sales director of the optical division
David Veryser : "Back in 1996, the first power LED in the world was put on the market by Lumileds. It was called Barracuda and then

1. Just part of the Gaggione team of course as the plant works 3x8 and the machines are never left alone.

2. A Plasticase mould.

Luxeon. Philips designed an optic called a collimator to focus the light from this source that emits over a half sphere and they asked us to inject it.
So it was in 1997 that Gaggione brought out the world's first collimator. Working from a study, we knew how to control the shapes with very fine tolerances. We knew how to inject by controlling the shrinkage. We became a plastics manufacturer working in optics and we focus our strategy towards the development of this promising market".

1999, Gaggione was taken over by the Babylone Holding company

Babylone owns 3 companies: Gaggione for engineering and thermoplastic injection, Surcotec in Geneva is specialised in engineering and

GAGGIONE IN FIGURES

- 120 people
- Turnover of 16 million Euros
- 60% through optics
- 30% through packaging
- 10% through industrial technical parts
- Export turnover: 70 %

- Quadratec (Montreal-Québec) : 20 people
- Surcotec (Genève): 15 people

Production rate
- 3 x 8h week
- 2 x 12h weekend

- Total RTD: 20 people
- RTD: 16 people

Gaggione worldwide
- A commercial office in Chicago, Shanghai, Munich, Gênes and a distributors network

4. The new 90 mm

5. The hybrid reflector. Gaggione provides the central optic and Surcotec provides the reflector metallization

6. Part of the 500 references in the LednLight range.

Yvan Peard,
Ayrton Managing Director

Photo Daniel Gillet

4

Gaggione Team

Régis Chaplain, Photometry Technician

Sylvie Chardeyron-Mercier, Plasticase Sales Manager

Alexandra Fargeot, Quality Project Manager

Denis Gras, Tests Manager

surface treatment, and Quadratec in Montreal Quebec in thermoplastic injection.

David Veryser : "Babylone bought Quadratec a year ago to get their foot in the door in North America and save some time on deliveries.
It's a small company, employing around 15 people, evolving on a ruined market.
For them, optics gave them the chance to develop a niche sector and for us, it gave us a foot in the door locally. They kept their own production, separate from optics.
The engineering is done in France and they have two injection machines kept aside for optics.

Surcotec in Geneva carries out metallization. They work in clock making, medical, luxury and optical. We found a common product in a hybrid reflector. We provide the central optic design for a wide diameter LED and they provide the reflector metallization. We have developed silver metallization that ensures 95% yield compared to 85% with aluminium."

2005, bringing an optical engineer on board

However, investing in the world of optics implies bringing scientists into the company, principally an optical engineer.

David Veryser: "The transformation came about from 2005 when we recruited Jean-Pierre Lauret to design optics. From this moment on, Gaggione became an optician that was going to use plastics manufacturing to make products.
That also means monitoring LED technology, remaining in close contact with manufacturers; this involves understanding how the product is going to interact in a complete system that has thermal, electronic, binding and colour mix problems."

2006, arrival of the LEDnLIGHT catalogue

In 2006 Gaggione decided to develop its own range of optics.

David Veryser: "When I was at Philips (Before joining Gaggione, David Veryser worked for Philips Lighting for 14 years), we commissioned Gaggione to develop custom-built solutions. But for some urgent projects, Philips reluctantly had to work with their competition. The time required for an optical study (3 to 4 weeks), making a mould (10 to 12 weeks), testing the first parts, classification…. Sometimes you have to go fast and take standard optics off the shelf. This was what pushed Gaggione to develop their first range of five standard optics.
Today, the LEDnLIGHT catalogue offers over 500 difference references and continues to develop more.

SLU: Therefore, for each LED reference, Lumiled or Seoul at the

5

6

Photo Daniel Gillet

time, there was a collimator?

David Veryser: Yes, that was our decision, for each LED there would be an adapted optic or a mecanical interface called a Holder, a support that refocuses the optic in line with the LED unit.

Today, the chips are almost all on ceramic bases with the same thickness therefore when we develop an optic, it is generally compatible with most LEDs from the same market segment."

Yvan Peard: "It was at this time that we adopted the first Gaggione optic for the Seoul P4 in Ayrton projectors (Easy color, Moduled…) because Seoul was clever enough to bring out the P4 with a K2 compatible unit."

2007 : The diamant tower

It was the arrival of the diamond machining tower that would allow Gaggione to reach almost unheard-of quality levels.

David Veryser: "In optics, we talk about tolerances in terms of micrometers, hundreds of nanometers visibly.

To be respectable in the optics industry, a mould impression must be machined to these scales. The mould impression is the part of the mould that replicates the shape of the product. Diamond machining ensures roughness accuracy between 1 and 10 nm. The mould does not require polishing because this might deform it. It is already smooth. The template mould is close to perfection. Afterwards, we have to know how to control the shrinkage of the material during the injection phase. Back in 2006, under friendly pressure from clients, the Gaggione CEO was ready to invest in diamond machining. We're talking about 1 million dollars. That's the price of a Formula 1 racing car! But before putting in the order, they had to find a driver, their very own Schumacher. This was David Gluchowski who sought us out (Gaggione has a good reputation). He was using this technique for a confrere. He sent us his CV almost with the quote for the digital control machine (he laughs). It came from Nanotechnology Systems in USA(Nanotech 350FG 4 axis)."

THE AYRTON 90 MM TRACKING DOWN THE YOUKOUNKOUN

Our plant visit will follow how an enormous collimator with a 90 mm diameter, 45 mm Height, was developed for Ayrton. A plump, 220g optic, made of perfect plastic, christened the Youkounkoun by Yvan Peard, who laughs as he explains it comes from a comedy road movie, Le Corniaud, revolving around the biggest diamond in the world, hidden in a Cadillac's battery.

The optics technical office

This 90 mm is the result of a partnership between Ayrton and Gaggione, starting with a feasibility discussion. Wide optic, tight beam, colour mixing and zoom, the technical specification is a delicate equation to solve between optics and plastics manufacturing. After a year of studies and shared prototyping costs, this optic is ready to incorporate two new Ayrton light points, the Wildsun 702 and the Rollapix 402.

We met Jean-Pierre Lauret, optical engineer, in charge of the optic design office. Jean-Pierre has vast experience in optical design along with perfect understanding of constraints involved in producing moulds and injection meaning that he can anticipate them at the design stage.

Tight angle and colour mixture Squaring the circle

SLU : How did this 90 mm come about?

Jean-Pierre Lauret: "The 90 mm collimator is the technical pinnacle of a concept that has matured over time plus the development of preceding collimators. It started small and represents several years of nurturing.

The basic problem was that the RGBW multi-chip LED chips are juxtaposed. A collimation system is going to have a strong tendency to project the image of the emitting surfaces. As a final result, what we get with classic optics is 4 juxtaposed spots. Therefore we have to get these 4 chips perfectly superimposed in the design.

The other way of seeing things is to light up a single chip, therefore to work from an off-centre source for the optic and recover a centred

Ayrton/Gaggione **Partnership**

Ayrton was Gaggione's first collimator customer, more precisely ever since the Luxeon: that creates strong ties.

The P5 20 mm optic will follow because, with the appearance of multi-chips to which standard optics did not adapt, Ayrton developed a sophisticated optic intended for colour mixing from 4 diodes with separate power. The part is shaped like the Eiffel Tower and Gaggione will be the firm that injects it. However, draconian tolerances imposed for positioning diodes are not an industrial solution and despite many attempts and corrections, the product is not coming together.

Yvan Peard: "There is always this phase when you invent things. It is certainly risky, but if you don't go through it, you'll never invent anything.

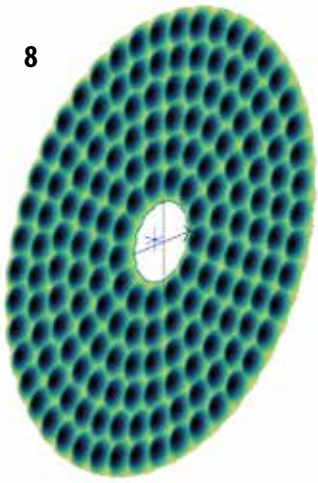
This Eiffel Tower has cost us a lot of money and time, but it also helped us to consequently develop the 45 mm, in partnership with Gaggione, adapted to colour mixing for a 4 chip model. It has helped us to find the route for the Arcaline elliptic, the Ice Color narrow and the Wildsun zoom following an Ayrton technical specification. This collimator was the precursor in 2011 and it must have been a success having seen the number of copies (with varying degrees of accuracy) made throughout the world.

With Gaggione we reason in terms of the whole product, always considering the LED's geometric spread with regards to the beam.

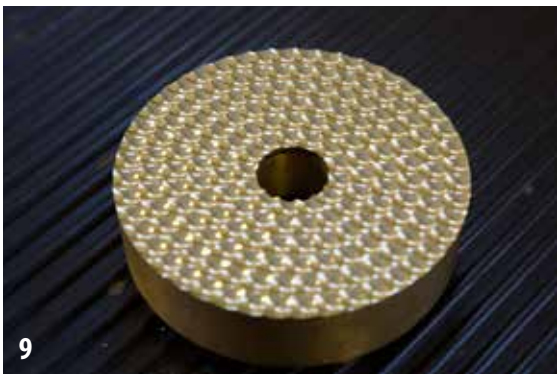
We have undertaken a partnership driven by research; we meet up several times a year and we try to dream up tomorrow's light, always focussing on shows and displays

We share information, some developments and that's not always easy with a manufacturer who might sell your product to the competition. The idea of trust is therefore essential."

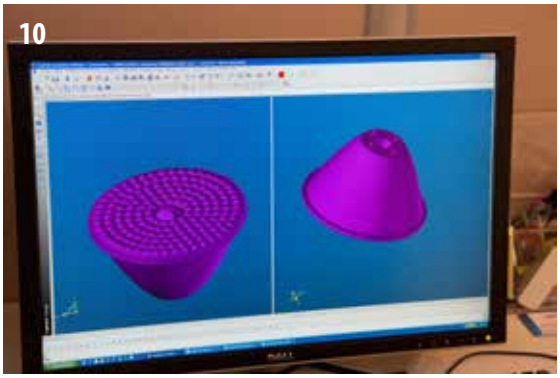
7. *The LEDnLIGHT 90 mm (on the right) has grown slightly as a result of previous developments and experience. (Photo Daniel Gillet)*



8. Design for the LEDnLIGHT 90 mm optic zoom in the Difsys software that will be used as a control file for the diamond tower.



9. One of the mold impression of the 90 mm LEDnLIGHT collimator co-developped with Ayrton.



10. The LEDnLIGHT 90 mm collimator created in 3D using Top Solid software. It is used to make the mould.

beam. Regardless of the chip's position, the beam must always have the same centred projection.
Much of the work must be done by the reflective surface and the remainder, working in direction transmission, must do as little as possible. Combining the two gives the resulting beam.

In colour, this raises a problem because everything that is going to work in direct transmission is going to project the image of the chip like a video projector and everything that is going to work as a reflection has a natural tendency to mix colours. The secret is to maximise what is going to enter the parabola and minimise what is in the centre.
In a second stage, we have controlled what is happening directly.
In a third stage, we developed a special surface to control the light diffusion.
This is the concept applied successfully to the 45 mm.
In addition, we finished off the 90mm generation by adding a function that means the disk is perfectly clear. Once again, we obtained the mixture by maximising the size of the reflecting surface to focus perfectly and we controlled what is happening in the centre with a set of lenses. We also created a diffusing structure on output allowing us to go on mixing in the small residual colour faults and obtain a high quality colour mixture, taking the specific shape of a rosette.
Experience taught us that centring and the position of the chips on the unit are critical elements.

If the chips are offset by just 1 or 2/10e mm this can upset the colour mixture. If the collimator is decentred over the LED, we do not get the chosen beam. The spot with the 4 lit diodes must be white. When we decentre it in the wrong direction, we can get a pink spot with a blue crown around it, or a green spot with a purple halo.
The more we tighten it, the more sensitive it becomes.
The real problem lies in obtaining the narrow angle and the colour mixture.

With a narrow angle, we have to have low direct diffusion so as not to bring out the source faults and we get a colour mixture by adding from the diffusion therefore by widening the beam.
This 90 mm is a challenge and we correct the faults on it using other means."

The mechanical design office

Whilst Jean-Pierre Lauret designed the optic and its specific shapes, it was Stéphane Locatelli, Project Manager, who finalizes the 3D part using Top Solid by adding details such as the injection point, the demoulding angles, ejectors, etc.

This software can produce the CAD model that will be firstly used for the optical simulation and then for the mould design and machining, whether this is traditional with simple shapes, using electro-erosion, wire erosion and finally using diamond machining for complex shapes such as the rosette of our Youkounkoun. Not easy to copy!
This technical office is run by Joseph Busi who has been with Gaggione since the early days.

Diamond machining

The 90 mm, and particularly the impression for the diffusion lens and its associate the zoom lens, lead us to the air conditioned white room dominated by the famous digitally controlled diamond machining tower operated by David Gluchowski.

Illuminate your dreams...

arcaline²

ARCALINE 2 3G LED STATIC LUMINAIRE

ARCALINE™2 IP65 LED static luminaire is the ultimate linear range evolution of AYRTON creations using 16 RGBW Multi-chip High-Power LEDs as its light-source coupled with 10° x 40° High-Efficiency optical system.
With a stunning smooth and sophisticated profile, the ARCALINE™2 is meant for any kind of steady applications. ARCALINE™2 can be directly powered through its own on-board power supply unit. ARCALINE™2 thus gives an incredible utilisation pliancy in any condition requirements.

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11. *Allignment of the mold impression before machining operation.*

12. *In machining, the diamond tower is accurate to the nearest nanometre, that's 6 figures after the decimal point of millimeters.*

13. *There is a diamond at the end of the tool. It is either glued or welded and sharpened with under 2 microns shape fault.*

14. *The diamond, seen by the camera used for machine axis alignment with the centrer of the tool.*

15. *In the injection workshop, the only electric machine (300 tonnes) intended to inject the great thickness optics.*


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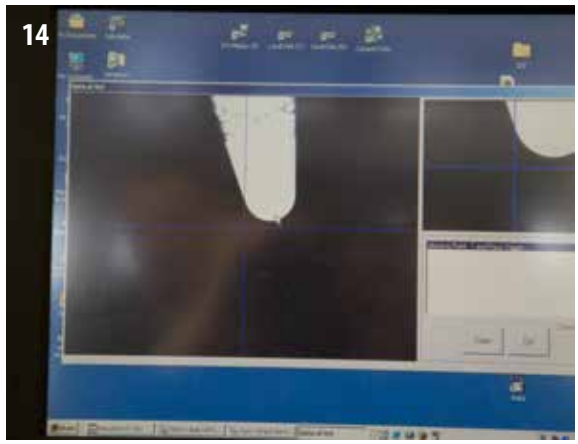
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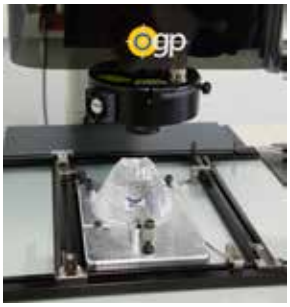


Thanks to an OGP opto-mechanical measurement, technicians obtain a 3D view of injected parts to verify their tolerance.

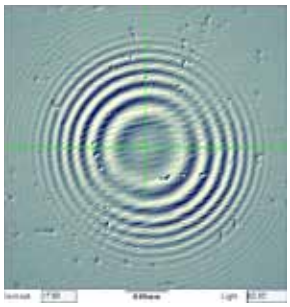


Image of the surface condition for the LEDnLIGHT 90mm collimator measured using a CCI Lite de from Ametek –Taylor Hobson Precision checked (to the nearest Angström) accuracy of diamond machining.).

Dynamic control over 4 axes (x, y ,z, c), optical adjustments that are accurate to the nearest 34 pm to guarantee the 30 nm displacement tolerance over the 350 cm rails, linear motors, therefore with no gearings or bearings that might generate vibrations. Constant hydraulic pressure guarantees no friction... To keep the machine stable, it stands on marble, itself laid on pressurised platforms installed on a plate uncoupled
from the rest of the slab because stability guarantees no shape faults (<150nm) or roughness faults (< 10 nm) for the machined impression.

The pin turns at 0 to 10,000 rpm, driven by a linear engine. Parts are held by means of depression. This machine's description all sounds like fabulous mechanics but it comes at an equally amazing price. Nanometre accuracy definitively does not come cheap.

The machining tool is not to be outdone. Whether it is made of diamond or polycrystalline (although David prefers the more reliable natural material), it comes in different ranges and profiles, the smallest measuring 1 micrometre will set you back €2500!

SLU: Are you the only ones using this tool?
David Gluchowski: "Here, yes and in France there are around fifteen of us as training takes an extremely long time and to get good results, it is not enough to just put in a CAD file to drive it. There is an entire context of adjustments, analysis, anticipation, knowledge of mechanical effects generated that might modify the impression in the end.
We register the peak-to-valley that means the differencies of shape of the mold impression and if it is not fully compliant to our quality standard we have to analyse why, modify the machine parameters to compensate and generate a new file to do it again."

SLU: What material is used to make the impression of a mould?
David Veryser: "Generally we use steel as it is a robust material ensuring that the mould lasts a long time. Except that steel contains carbon, and so does diamond. If a diamond touches the carbon, it explodes.
For diamond machining, we therefore use copper alloys. If we want to make a mould that's going to last a very long time, we make a preshape out of steel and send it to to specialized company to get nickel grown over it by electrolysis. This is a very long stage. It takes several weeks to get a thin 500 nm layer that can be diamond machined.

David then showed us his control machine collection. Form Talysurf FTS Series 2 from Ametek – Taylor Hobson is a (truly!) diamond tipped mechanical profilometer / roughness meter to control the roughness down to the nearest 5 nm. CIC Lite from Ametek –Taylor Hobson Precision, an interferential microscope, analyses and maps the surface conditions with 0.1 Angström resolution. And finally, the ZIP 300 Smartscope from OGP, opto-mechanical 3D measurement apparatus, uses a camera alongside a ruby detector to scan surfaces and measure shape faults."

Plastic injection

31 machines take care of the injection and correspond to two different types of technology: German piston hydraulics for force, electric with steppers to work on fine adjustments. They are ultra accurate in terms of movement, speed and position. Last but by no means least, we have hydraulic equipment weighing 350 tonnes that injects large diameter optics. That is exactly what we're interested in.

David Veryser: "The material arrives in granules that first of all go through a desiccator to remove any humidity content from the material. Then it is taken to the injection nozzle through an endless screw throughout which there are heating trays that melt the material, bringing it to the right temperature. The material should not be allowed to degrade due to the risk of creating black spots. It should be melted progressively without burning the material. This is experimental cookery, hard-won and valuable experience.

The mould is made up of two parts. When the mould is closed we can inject the material. Temperature probes can control the mould's thermal adjustments.

After injecting the material, we can start the cooling. The larger the part, the longer the cooling time as the core must be cooled whilst maintaining important pressure so that the material does not set immediately at the mould entrance. It must be pushed to hold its shape in order to avoid the materials' formidable physical shrinkage as it cools.

Then the mould opens, the feet push the optic to break it away on one side and a robot comes to grasp it and put it delicately on a belt."

SLU: The injection point remains, like a little umbilical cord. How do you deal with it Yvan?

Yvan Peard: "It's actually pretty big.... But when we're talking about a zoom, in this case, we can make use of this carrot as part of our positioning requirement. It gives us the perfect position for the zoom lens against the collimator."

SLU: What will the fault tolerance be for this optic?

David Veryser: "The max acceptable shape fault for this optic is < 100 microns; beyond that we start to see the beam break down. If you take the beam for an individual chip, the ideal geometrical shape is a perfectly round disk; if you add a shape fault, the beam becomes potato-shaped, the spot is decentred a little and the beams are no longer superimposed and so the colour mix deteriorates.

SLU: What is the material used to inject the collimators?

David Veryser : PMMA (poly methyl methacrylate) better known as Plexiglas® or Diakon® and polycarbonate are the two polymers most used in optics. We will choose one or the other depending on use, as they have different characteristics. PMMA is rigid and brittle but it is pretty scratch resistant. It has a very good opical capacities, only 10% loss on a thickness of 62 mm. It withstands 90° which is only just acceptable as LEDs are moving more and more towards high

Gaggione Team (suite)

David Gluchowski, Sales Engineer – Diamond Turning.

Stéphane Launay, LEDnLIGHT Product Manager

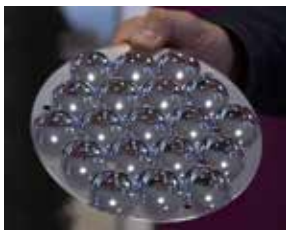
Jean-Pierre Lauret, Responsable des développement optiques, Ingénieur ESO

Gianni Paita, injection workshop manager

Antonio Soares, production injection manager

David Veryser, Global Sales Director Optic Division

Example of shrinkage on an optical part for two different cooling times. We can imagine the impact on the optical performances.

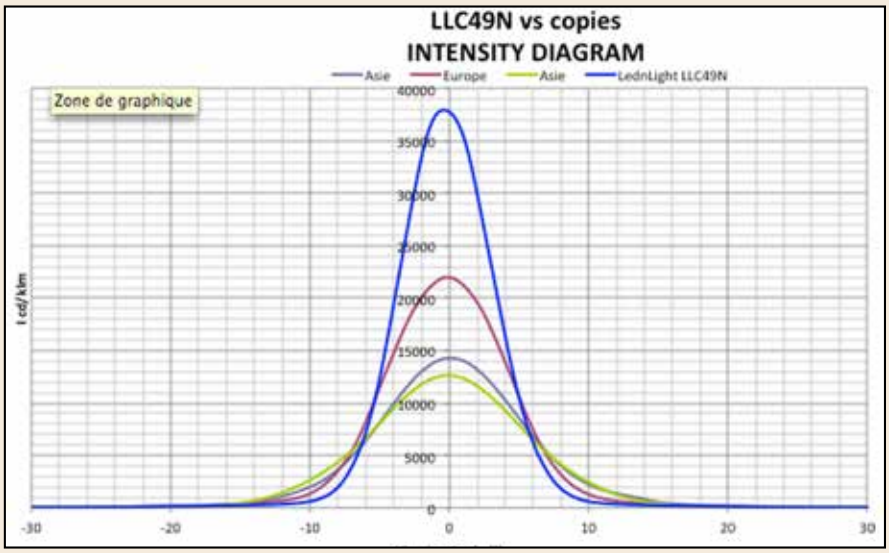


The new NandoBeam 302 sophisticated optic designed by and only for Ayrton. It allows a hard edge beam a very high optical efficiency as usual with Ayrton.

Beware of imitations

The 45 mm collimator is often imitated which is both flattering and really disturbing. The technical office team have managed to get hold of 3 copies: one compliant European copy and two Asian copies with visual faults. They could not resist putting them through the goniometer, associated with the same LED, to compare them with the LLC49N original

▲ *On the left, the Gaggione 45 mm reference LLC49N in the LednLight catalogue and then from left to right, a European copy and two Asian copies.*
It is difficult to differentiate between the two lenses on the left.



Curves shows that you will need from two to three times more LEDs with copies to equal one original Gaggione optical system coupled with the same LED. Copies generate additional cost because you need to use more LED that means more cooling issues and so on. Curves shows that you will need from two to three times more LEDs with copies to equal one original Gaggione optical system coupled with the same LED. Copies generate additional cost because you need to use more LED that means more cooling issues and so on..

In 90 mm test with a LED... No, it's still secret, my lips are sealed! In any case, it looks promising!

PMMA granules, primary material for Ayrton collimators.

temperatures.

On the other hand, polycarbonate is flexible and elastic. Impact resistant, it can withstand physical constraints but it is sensitive to scratching. It performs badly when exposed to UV rays, oxidises easily, yellows and finally becomes brittle.

But it withstands 135° temperatures and above all it performs well in fire as it is self-extinguishing whilst PMMA burns in the presence of flames and projects flaming droplets that propagate fire."

After an injection series, mold impression, the mould impressions undergo stripping in the expert hands of Jean-Jacques Grisard who uses different abrasive pastes, diamond pastes with texture going down to ¼ micron.

SLU: And for Ayrton?

Yvan Peard: "The collimators are made of PMMA and all our projectors have a polycarbonate output lens."

Adjustment

Plastics manufacturing is a thankless technique. All the accuracy implemented in designing and machining the mould can be ruined by shape faults, without even mentioning black spots. This is because after injecting a large optic like the Ayrton 90 mm, the plastic has to be cooled. The outer skin solidifies firstly, whilst the core remains hot and liquid. Towards the end of the cooling cycle, the core shrinks and causes the outer layer to deform which spoils the collimator's optical function requested.

When beginning production, the adjusters produce tuning files like recipe cards. The adjusters fit the mould and set the injection molding. Production begins and when the parts seem to be satisfactory visually, the controller checks several mechanical and optical points before approving production. Then the operators visually check over each part. Regularly, a controller verifies that the parts are still compliant, therefore confirming there has been no drift in the process.

The photometric laboratory

It is then the technicians' turn to run the Product Audit. They take the parts to the lab for the next step in photometric control using two goniophotometers, a un Radiant Imaging (acquisition with camera ProMectric®) and a LEDGON 100 from Instrument Systems.

When Gaggione carries out a custom study, the customer can be sure that they will obtain a final result complying with their technical specification. All the company's energy goes into this. We have been given the idea during this visit and these discussions that low cost production is a dirty word around here. On the contrary, the word we hear most often is tolerance. This reassures customers that when they fit their optic into their light point, it will send out a lot of clean, beautiful light. We will see in Frankfurt whether the Wildsun 702 and Rollapix 402 can win the 90 mm challenge. ■

The power of silence

icecolor 250

ICECOLOR 250 3G LED STATIC LUMINAIRE

ICECOLOR™250 is a compact luminaire offering the possibility of creating an infinite palette of rich pastel or saturated colours. Fitted with an ultramodern fanless and absolutely silent cooling system, it can be integrated into any application without any noise. Respecting the environment thanks to its 85% plus efficiency optics, it is able to produce a lighting flux in excess of 5000 lm for only 200 W of power consumption.

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Motorised linear tilt LED luminaire

AYRTON ROLLAPIX, A DYNAMIC EFFECT FOR THE STAGE

Text and photos
Soundlightup.com

The Rollapix actually originated from a commission by Vassiliu Dimitri, a French lighting designer renowned for his light shows for concerts and theatre alike. He needed a small striplight that was discreet, very flat and more motorised in Tilt mode. Ayrton developed it to his specifications, integrating the powerful Osram RGBW LED multichip with 45-mm optics, which have long been considered standard, point-by-point management of the LEDs, a 6500 K cool white for extra dynamism and even a zoom. The Rollapix, on the market for 6 months, slots nicely into the lighting kit. We have seen it in front of the stage catching the artists with low angle shots and lighting up the sets, scintillating the audience and bathing the stage in light from side to side with Dimitri Vassiliu, Laurent Chapot and most recently with 6sou, the C2C lighting technician. We put it to the test.

PRESENTATION

The Rollapix is a good-looking piece of equipment with soft curves, made primarily out of black extruded aluminium that fits easily into different sets, both live on stage, or at corporate events. It can be very discreet when off but is very imposing with the intensity of its beams when it is on.

This is primarily an effects projector. It is equipped with an Osram RGBW 10W SMD 6500 8-LED multi-chip, each LED controlled individually, a motorised 270° tilt and two zooms (1 for every 4 LEDs) each controlled separately allowing a beam angle range of 8° to 32°. This projector is either autonomous with a master/slave mode giving the master source control over the other units, or controllable in DMX with 9 modes ranging from 7 to 45 channels. It can also be controlled remotely.

OPENING THE BOX... AND THE PROJECTOR

The initial surprise when opening the box is that Ayrton has packed this

product in a flexible thermoformed casing, which is specially designed for safe transport and can be reused in the design of the flight cases. The projector comes with a Powercon power cable and a PC 16, two Omega ¼-turn locking mounting brackets and a safety sling.
The first impression is always important and this device certainly has an air of robustness, and a design and build quality typical of Ayrton products.

The connector, power (PowerCon) and DMX (XLR 5-pin) sockets are located in the projector and are therefore hidden in a floor-standing installation. One Rollapix device can be relayed to another by copying the data and output (via two separate cables).
The safety sling is also attached to the base and can be stored in the projector when the device is floor-mounted or accessible when attached. Four feet permit the air flow and allow room for the power supply cable. The mounting brackets are attached between the power and data connectors so as not to interfere with the wiring.
Ayrton has also factored in maintenance when developing the device. A Phillips screwdriver and a spanner are all that is needed to discover the secrets of the Rollapix.
The projector is divided into four parts. The base houses the power supply, the zoom motor management circuit board and the tilt motor. One of the side panels houses the tilt drive system, and the other the display. The last part is the mobile body, comprising the eight LED circuits and the optics.

The Rollapix is fitted with two cooling systems. An active system, via a bushing-mounted fan (to avoid any resonance) in the base, cools the power supply and the motor management circuit board. A passive system consisting of numerous extruded aluminium fins located behind the light box removes the heat produced by the LEDs. Note that the fan speed is self-regulating, fast or slow depending on the projector.
The movable part is driven by a three-phase stepper motor controlled by high-resolution microprocessors to ensure high precision of movements and automatic repositioning. The toothed belt drive system is on one side of the device.

On the other side, there are the display and touch-sensitive keys for configuring the projector. The menu is intuitive and easy to use. It is divided into five parts: addressing, mode, options, information and auto mode settings. In the options menu, in addition to the standard tilt and zoom speeds, there are some very useful functions such as the «Dimmer Mode», which allows to invert the intensity control and the «colour mode» which, when activated, prevents the phenomenon of gradual colour degradation that occurs when the machine heats up.
One slight complaint is the lack of CMY mode, which can be very useful when there is no time or possibility to edit a library in the console.
The «auto» section of the menu is used for controlling the Rollapix light without the console, both in static mode for setting a fixed colour or in dynamic mode, by choosing from several colour sequences. I have not found a manual zoom and tilt control, but I am told that these functions will be available in the next software version.

1. Soft thermoformed casing provided by Ayrton

2. The connectors are out of sight on the underside of the Rollapix

3. The fins of the passive cooling system

The head opens easily via a clever little system that involves rotating the entire movable part until a screw is aligned with one of the two holes drilled into the top of the side arms.
We then discover the eight lenses fixed on two motorised supports constituting the zoom lenses and the eight 45-mm diameter collimators. The zoom motors are fixed on the plate that holds the collimators in place.

The collimators are positioned with four studs on the LED circuit board and a dowel on the plate. They are held in place by an aluminium plate. This very precise positioning system allows maximum efficiency of the LEDs, good colour mix and homogeneous brightness, not only for the projector's eight optics but also for the Rollapix as a whole.
One of the important points that I particularly want to emphasise is the ease of maintenance. All the parts can be accessed, removed and reassembled with two hands and only two tools.

4. The head's drive system

5. The Optical system with collimators to the left and zoom lenses to the right

Light level measurement at 2 meters

Narrow beam RGBW full power

One source

- Light level at the center when switching on : **2150 lux**
- Light level at the center after derating : **2150 lux**

8 sources

- Light level at the center when switching on : **10760 lux**
- Light level at the center after derating : **9610 lux**

THE PLUSES

- **The homogeneity of colour, the design, the internal effects and the light intensity.**
- **The «Colour Dimmer»**

THE MINUSES

- **The noise of the tilt and zoom**
- **The lack of settings for the tilt and zoom in Auto mode**
- **The absence of a CMY option**

AND THEN THERE WAS LIGHT!

Now to move from the workshop to showroom to discover the full potential of the Rollapix. After a very fast 5.6 second reset, it is time to choose one of the 9 DMX modes that the machine offers! The 6 to 45 channel DMX panel provides many options for individualised management of the eight LEDs, 8 or 16-bit movement of the Tilt, the choice of one or two zooms and the use of colour presets and internal effects. There is enough to satisfy a good number of operators who can patch up to 9 machines (in console operator speak: fixtures, spots, etc.) depending on the mode and the console in order to take full advantage of all the options on offer. In an effort to give an idea of the very best capabilities of the projector, we conducted our tests in mode 9.

The handling is very user-friendly. The internal functions allow you to produce an array of interesting effects. The three channels for setting the internal chasers are particularly useful when you do not have the time available to set up a complete programme. They give us the opportunity to refine the atmosphere while having fast and effective dimmer effects.

When we power on the 8 white LEDs, we get a light curtain with the ability to vary the density using the zooms. The Rollapix can be used to create volumetric effects with dry ice (changeable on the day of the tests).

We can also easily create light ceilings by aligning multiple machines on the ground to the front of the stage or mounted on scaffolding. By distributing them over several heights and/or depths, we can change the volume of the space in a few seconds.

It is also possible to make «flame effects» on a wall or curtain by positioning the tilt vertically and grazing the wall with low-angle light.

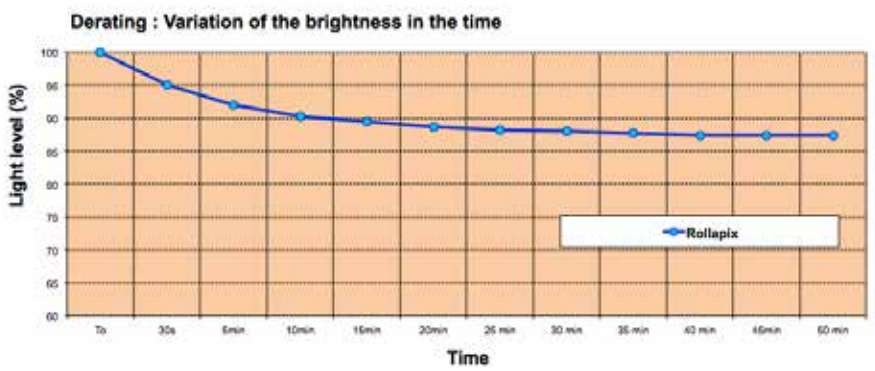
With the motorisation of the tilt, we can move from one position to another and completely change the appearance of the space or stage. We can bring a spot to life, or completely dematerialise a stage area.

It is also possible to make permanent movements by programming the chasers or effects in the lighting console. We obtain sweeps quickly and easily which, when combined with dimmer variations, provide dynamic effects.

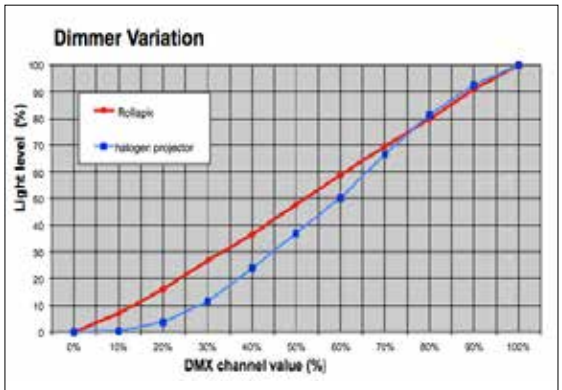
The use of RGBW LEDs adds a multitude of colours with a transition time that can vary from very slow to instantaneous. The «4 in 1» LED and the carefully embedded optics afford consistent colour with a more saturated tone and the clearest pastels.

Using one of three methods for controlling each LED individually (modes 7-9), it is possible to define up to eight different colours per projector.

You can programme colour effects from the simplest to the most complex, both using the conventional lighting console tools or pictures and



Fanless natural convection, all RGBW LEDs fully lit, the attenuation does not exceed 12%: this is impressive.



Linear is the best way to describe this dimmer

images on the pixel mapper matrix.
It is also possible to optimise the colour transitions by using the fade times or working with different times for each LED to create motion effects in the transitions. You can also use this method for turning lights on or off via the colour and not the dimmer of the machine. It is therefore possible to obtain overhead effects if the projectors are placed backstage or light curtain opening effects by placing the projectors at the front of the stage.

The creation of a virtual LED dimmer on consoles such as MagicQ or Grand MA facilitate this kind of effect.
An interesting function provided by Ayrton, the «Colour Dimmer» provides a transition between the internal colour presets and the RGBW colours of the LEDs.

Dimmer

Much akin to the colours, turning the projector lighting on and off involves going through a graduation of LEDs. I tested the Rollapix dimmer several times varying the times from 0s to 60s. It is really clean and linear as can be seen on the graph. This quality allows for long fades for both the dimmer and the colours.
The Rollapix has a Strobe function of up to 25 flashes per second, which places it in the same category as the most respected strobes on the market in terms of speed.
If you need a big «wash», lighting the 4-chip RGBW to the full will give you a slightly bluish white, but will significantly increase beam intensity.

TEST RESULTS

We have long questioned the relevance of photometric measurements on a multi-led effects projector and the best method to use. We decided to do the tests in two stages, the first set with a single LED and the second with eight LEDs. We also decided that the tests would be conducted at a distance of two metres and not 5 metres as usual. I also opted to make two sets of lighting measurements, one on the white chip and the other on the RGBW white one as, although the latter provides the best results in light output, in my opinion, it is not the primary use of the Rollapix, which places greater emphasis on quality and colour consistency. In addition, we obtain a clear reading of the difference between the colour lighting in comparison to the pure white.

Derating

The first test is the derating test, i.e., the attenuation curve of the lighting over time. We light 4 LEDs on full power until the value is stabilised - fully aware of the fact that we are off topic but we just couldn't resist! The Rollapix is one of the rare Ayrton projectors that does not have a heat pipe cooling system and/or fan, this choice being dictated in part by the requirement for reduced thickness and the projector's primary function , that of producing effects.

A quick synchronisation operation with both hands, Chrono + GO and the lighting is measured every five minutes. We can see a lighting attenuation of

Colours	Relative %
Only White	**100 %**
Only Red	**34,29 %**
Only Green	**98,71 %**
Only Blue	**8,65 %**
White RGBW	**222 %**

about 12% over 40 min and then the flux stabilises. The tests carried out with the 8 white LEDs fully lit on the one hand, or with a single RGBW optic at full power on the other show no attenuation. The fanless natural convection cooling proves very effective.
Fanless natural convection, all RGBW LEDs fully lit, the attenuation does not exceed 12%: this is impressive.

Lighting measurements

The lighting measurements are made with the white alone and the RGBW white on a single optic and the eight optics lit together.
We note that in the 8° (0% zoom) to 13° (50% zoom) tests, the brightness is uniform throughout the circumference of the beam.

6. Three Zoom positions and changeable dry ice in our large air-conditioned room. The 8° narrow beam

7. The zoom at 50%

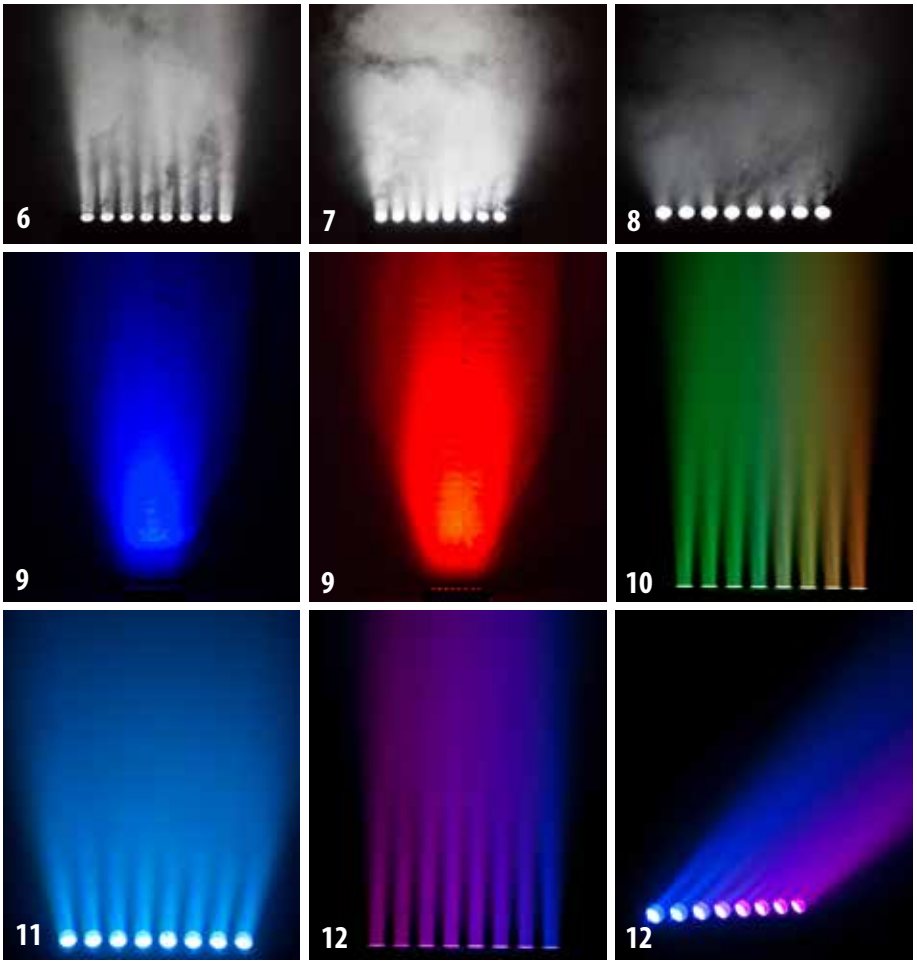
8. And finally the wider 32° beam

9. Flame effects on walls or curtains

10. The eight beams can each have a different colour

11. Note the quality and homogeneity of the beams and colours.

12. Transition effects staggered by colour



GENERAL CHARACTERISTICS	
Type of projector	**LED Effects projector**
Voltage and power consumption	**110-240 V / 50-60 Hz - 160 W max.**
Number of motors	**1**
Cooling	**Active ventilation for the electronics. Passive, radiator cast aluminium for the moving body**
Control	**DMX512**
nomber of DMX channels and DMX Modes	**9 mode up to 45 channels**
Lamp type - T° K - life time	**8 Osram RGBW 10W 6500°K LEDs - 50,000 hours**
Lamp adjustment	**NO**
Hot restrike	**Instant control of LED under any circumstances**
Type of ballast/driver	**Electronic**
Optical system	**Collimators + Zoom Lenses**
Connectors	**2x XLR 5 + Neutrik Powercon IN/OUT**
Control panel	**Colour screen + 5 keys**
Protection class	**IP20**
Software update	**Via an upgrade box through DMX connector**
Fixing hooks	**Quick fasteners1/4 of a turn type Oméga removable**
locking TILT	**No**
Material	**Aluminium**
Fastening point for safety cable	**Yes**
Functions	
Pan et Tilt	**270° Tilt**
Zoom	**8° to 32°**
Dimmer / Shutter	**Dimmer + LED strobe**
Couleurs	**RGBW**
Size and Weight	
Length	**24.2 ”**
Width	**6.5 ”**
Height	**8.6 ”**
Weight	**9.5 kg**
General measurements	
Ambient noise	**43 dB**
Machine noise in operation @ 1m	**44 dB**
Loudest operating noise @ 1m	**53 dB**
Speed ans time specifications	
Full reset time (OFF/ON)	**5.6 s**
Lamp reboot time (OFF/ON)	**Instant on/off of the LED light sources**
Rapid movement	
180° Tilt	**1.0 s**
270° Go/Return Tilt	**1.2 s**
Slow movements	
Fluidity of Pan and Tilt	**Very fluid up to 20s for 270° in fast Tilt mode**
Zoom	**1.8 s**
General Infos	
Instructions	**English & French**
Field of use	**Stage, TV, Events and Institutions**
Developed in	**France**
Assembled in	**China**
Use	**Stage, TV, Events and Institutions**
Guide Price	**€ 2080**

The Osram RGBW 10W SMD 6500 8-LED circuit uses 4G technology for point by point management

A collimator with the dowel and centring pins

Lighting measurements by colour

Unlike we usually do, we have decided to provide the percentages of the colour compared to the white. The reason for this is that the RGBW white runs above 100%.

IN CONCLUSION

In addition to its elegance, the Rollapix has confirmed our first impressions of solidity and quality. True to its image, Ayrton has left nothing to chance, every detail has been fine-tuned. The optics are high quality, the beam powerful and the colour consistent. The integration of the internal presets and effects allows rapid implementation and the multitude of DMX modes makes the Rollapix equally at home at small concert venues or large events. The light performance and wide range of applications and programming possibilities mean that the Rollapix is likely be found in many technical light show programmes around the world. ■

The rolling partner...

rollaPix 100

ROLLAPIX 100 LED LINEAR LUMINAIRE

ROLLAPIX™100 is the first motorised linear LED luminaire fitted with a 4:1 double zoom system (patent pending). The motorisation of the Tilt axis allows the addition of numerous options to this luminaire, such as the creation of partitions, barriers or mobile virtual doors.
The ROLLAPIX™100 is the ideal tool for the creation of virtual lighting decors.

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dreampanel
FLOOR HD 18

DREAMPANEL FLOOR HD18

DreamPanel Floor HD 18 is a 60cm x 60cm IP65 modular 1080P video tile equipped with HDMI connectors and designed specifically for screen-floor applications, with a pixel pitch of 18.75mm.The exclusive 170° angle image diffusion system of DreamPanel Floor HD 18 allows global vision of the screen. DreamPanel Floor HD18's control system can operate each individual tile as a portion of the standard video screen.

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