



PRO|SCENE

ZU650

Spectacular image quality, outstanding
brightness and ultimate reliability

Lamp-less laser-phosphor light source

WUXGA 6,000 lumens

Extensive lens options

Lens shift

Exemplary service





Chameleon GB-200

Edge blending processor
used in racing car simulator



- **Lamp-less laser-phosphor light source** - up to 20,000 hours of low maintenance, great colour and consistent brightness
- **Bright detailed images** - 6,000 lumens, WUXGA resolution, high contrast
- **Installation flexibility** - 5x motorised lens options, lens shift, 360° rotation and portrait mode
- **Unobtrusive** - compact, lightweight and quiet
- **HDBaseT** - for simplified installation
- **Exemplary service** - a huge network of centres across Europe and extensive warranty and servicing packages

The Optoma ProScene ZU650 laser-phosphor projector provides up to an astonishing 20,000 hours of impressive, virtually maintenance free operation. This technology eliminates the need for lamp and filter replacements for an even lower total cost of ownership.



Designed for meeting rooms, boardrooms, auditoriums, museums and other large venues, the laser-phosphor light source delivers great colours and more consistent brightness, along with high resolution and contrast for stunning quality images. It is also ultra-quiet making the ZU650 an ideal companion for quieter environments, smaller rooms or those with lower ceilings.





Introduction



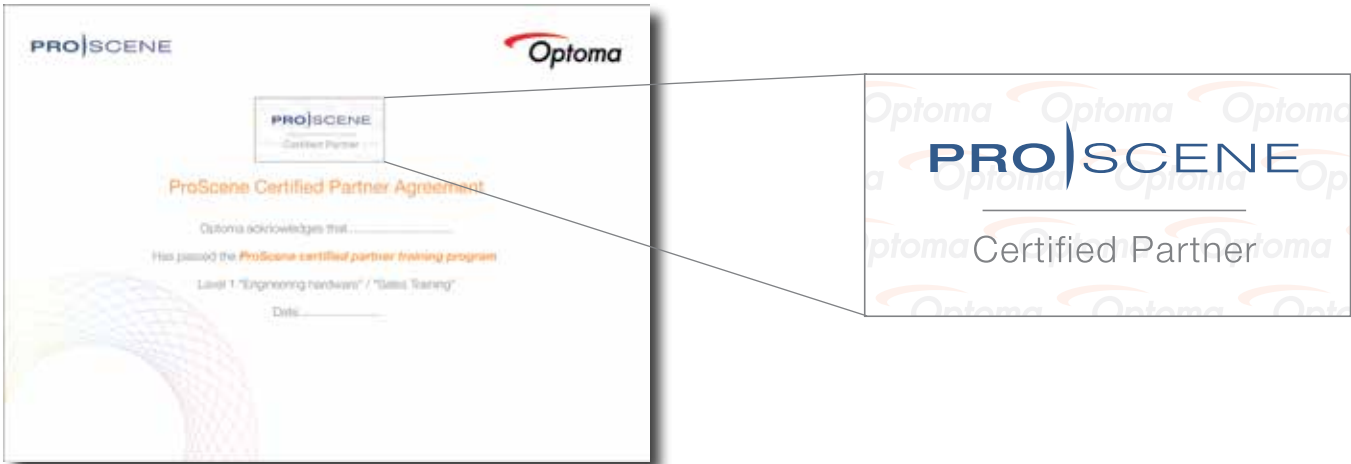
Key features



For more than ten years Optoma has been one of the world’s foremost projector designers and manufacturers - amongst the very few companies that focus exclusively on projectors.

Today the Optoma ProScene range represents the evolution of projection expertise, honed and refined by manufacturing and supporting millions of projectors the world over. This knowledge and skill has been distilled into the ProScene products and support services which are designed specifically for demanding professional applications.

- | | | | |
|---------------------|---------------------|----------------------|-------------------|
| ✓ Higher education | ✓ Boardrooms | ✓ Digital signage | ✓ Post production |
| ✓ Lecture theatres | ✓ Broadcast studios | ✓ Stage shows | ✓ Theatre |
| ✓ Houses of worship | ✓ Large classrooms | ✓ Live events | ✓ Trade shows |
| ✓ Museums | ✓ Exhibitions | ✓ Projection Mapping | |
| ✓ Auditoriums | ✓ Conference rooms | ✓ Meeting rooms | |



ZU650 features



Lamp-less laser-phosphor light source

Up to 20,000 hours of low maintenance, great colour and consistent brightness



Bright detailed images

6,000 lumens, WUXGA resolution, high contrast



Installation flexibility

5x motorised lens options, lens shift, 360 and portrait mode operation



Unobtrusive

Compact, lightweight and quiet



Exemplary service

A huge range of service centres across Europe and extensive warranty and servicing packages



HDBaseT

For simplified installations



Image quality

Superb image quality is at the heart of every ProScene product design. At every step, commencing with the incredibly reliable, high resolution WUXGA DLP® chip, where the image is initially created, via the laser-phosphor light source, through to the precision optics to focus the image on screen, accuracy and integrity of the image are paramount.

ProScene chose DLP® technology for its image quality and unmatched reliability. The reflective nature of DLP® micro-mirror technology provides highly efficient bright images with great contrast whilst maintaining precise colour accuracy and natural, real-world colour reproduction. For demanding professional applications, the proven reliability of DLP® technology makes it the obvious choice.

Better than Full HD resolution



Where detail really matters, the full WUXGA (1920 x 1200) resolution offers 15% more pixels than 1080p and 60% more than SXGA+. This enables unscaled Full HD video and extra detail. Time code information can be displayed onscreen at the same time, perfect for soundtrack recording & video editing where precise timing can be critical.

Precision optics

High quality glass optical elements maintain optimum sharpness and focus uniformity over the entire image. The ProScene insistence on uncompromising optical quality ensures extremely low colour flare and chromatic aberration resulting in a crystal clear, high contrast image.



Reliability

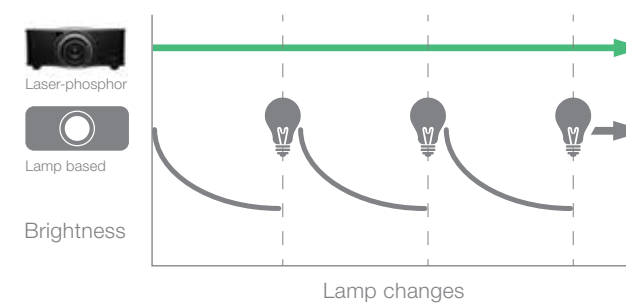
All ProScene projectors are designed for continuous 24/7 operation. Only the most reliable, industry proven components are used to ensure superior reliability. This hard-earned “capability” has been meticulously developed over a decade of designing and supporting millions of projectors the world over. The dust-sealed, filter-free design prevents dust and dirt from affecting the system – ensuring optimal image quality with minimal maintenance. ProScene customers can therefore be confident that, as one of the most reliable projector brands in the industry today, Optoma has a reputation for service excellence that is well deserved.



Constant brightness

Some installation applications such as control rooms, simulations and museum exhibits do not require the full brightness of the ZU650. In this case lowering the brightness can extend the laser-phosphor light source life span and “constant brightness” modes can be enabled to keep the brightness more consistent for longer without the need for costly lamp changes.

Lamp VS laser-phosphor



Enhanced colour gamut

The laser-phosphor light source provides benefits such as a sealed mercury free optical design to prevent dust entering the projector, minimal warm-up and cool-down time, and long life light source operation of up to 20,000 hours with minimal maintenance.

DLP® technology

DLP® technology from Texas Instruments® is widely recognised and acclaimed for its unmatched reliability and long lasting image performance. When combined with high brightness and native contrast ratios, it becomes the obvious choice for demanding applications. Independent testing has proven DLP® to be the most reliable of projector technologies. Whilst other technologies may show image quality decline after only a few thousand hours, DLP® technology can remain unchanged over hundreds of thousands of hours.



Total cost of ownership

For demanding applications the total cost of ownership of a projector is not in the purchase cost but in expensive maintenance and service. ProScene projectors require very little maintenance, have no user serviceable parts inside and no filters that require periodic replacement. The result is low cost, predictable service cycles, enabling planned down time to be minimised.

We are so confident that the ZU650 image colour quality will remain as good as the day you bought it that Optoma will guarantee it for five years.

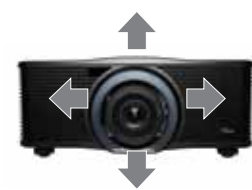




Flexibility

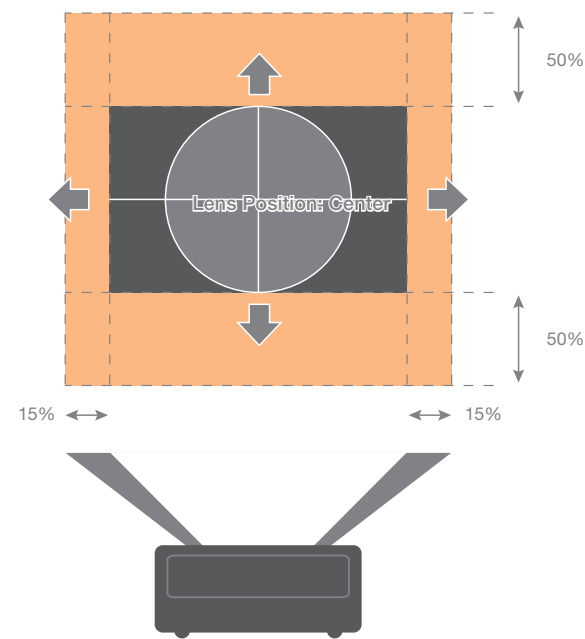
Installation flexibility

To help meet the seemingly limitless challenges of ProAV installations the ZU650 provides 5 lens options with motorised zoom and focus to ensure you can get the image size you require. Motorised lens shift helps you get the image exactly where you want it.



There are 5 optional lenses, all of which can be easily adjusted via motorised lens-shift, zoom and focus.

Motorised lens shift



*Lens shift percentage is dependent on lens, see user manual for details

Lens options

Optoma model name	A15	A01	A02	A03	A13
Throw ratio (WUXGA)	0.75 ~ 0.95	0.95 ~ 1.22	1.22 ~ 1.53	1.52 ~ 2.92	2.90 ~ 5.50

360° and portrait projection capability

Images can be projected over a full 360° range along the vertical axis, including reproduction on a ceiling or floor. The projector can also be placed in portrait mode for applications such as digital signage or for tall thin projection areas.



HDBaseT

HDBaseT simplifies cabling requirements and reduces installation complexity saving both time and reducing costs.



Quick start-up and shutdown

The ZU650 features quick start-up and shutdown and reaches full brightness quickly. To maximise energy saving it also includes a 'pause projection' feature where the light source can be completely shut off. Unlike conventional lamp based projectors, the laser-phosphor light source requires minimal cool-down time.



Flexibility

ExtremeBlack

In situations where only absolute darkness is good enough, the ZU650 has an ExtremeBlack mode to provide total blackout. Perfect for scene changes during live performances where traditionally a mechanical shutter would be used.

Edge blending controls

No two projectors are completely identical. When performing complex, or even simple edge-blend projects using multiple projectors, it can be difficult to achieve good results if the images do not match. The ZU650 incorporates the following features to ensure high quality and consistent results:

Colour matching

The ZU650 has a colour matching system, which combined with accurate measurements can create seamless blends every time.



Brightness matching

The brightness of a projector will vary throughout its life. To correctly match multiple units, the ZU650 has multiple light source power options to achieve the correct matched brightness level.



Without

With

Projector security

The ZU650 features both Kensington lock and security bar for enhanced theft prevention.

Custom ID colours

The ZU650 is available in Black as standard. However if your project calls for a higher level of customisation, the ZU650 is available in any colour from the RAL colour space system.



Please contact your local sales representative for more information.



Control



Lenses



System integration control

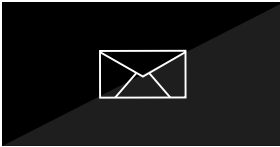
Multiple ZU650 can be monitored over LAN and also provide the user with an email message alert in case an error occurs or a light source fails or needs to be replaced, using Crestron RoomView. While the web browser interface and full support for Extron's IP Link, AMX dynamic device discovery and PJ-Link protocols, allow almost all aspects of the ZU650 to be controlled across a network, keeping you in control, wherever you are.



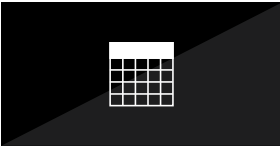
Global monitoring of all AV devices



Track projector light source usage



Email alerts and instant notifications - help desk requests, service reminders, device failure or theft



Event scheduling

Ultimate control

Cut up to 30% from your energy bills using 24-hour automated power scheduling to ensure that projectors power off when not in use.



Download Crestron RoomView® Express for free at www.crestron.com/getroomview

Help alert

Real-time interactive help desk requests are sorted to come to the top. The help desk then has the ability to respond with an automatic message or instant message the room with exact procedures.

Display power

Check on/off status of display power and system power. View a bar graph to monitor the percentage of available projector light source usage and set an alert to notify the services department when maintenance is needed.

Display usage

A visual indication of light source or service interval status.

Schedule event

RoomView Express makes scheduling of recurring or one time events easy. Setting RoomView to automatically power down at midnight throughout the week can save valuable light source life and ensure security inside the facility.

Selected view by rooms, attributes or contacts

RoomView Express gives you the ability to simultaneously view more than 250 rooms from a single screen. Customise RoomView to view by room name, locations and group.

Event log

Automatically generates log files, reports and charts to analyze ROI and budget allocation. Track device usage, call statistics and user history.

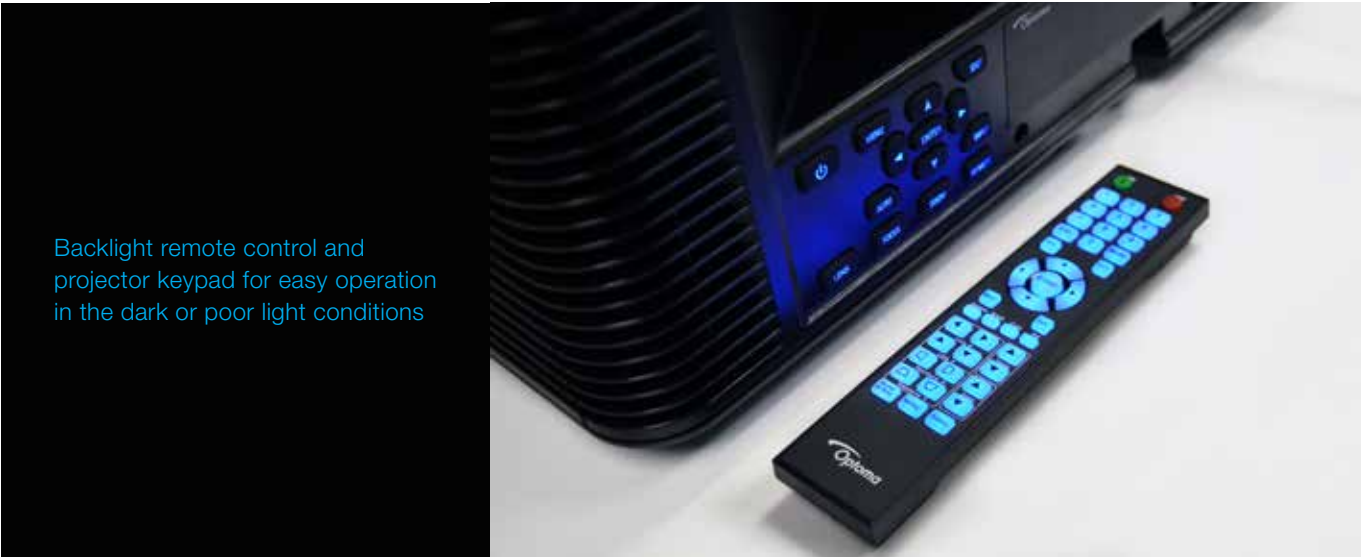
Lens options

Optoma model name	A15	A01	A02	A03	A13
Focal length (f) (mm)	11.11 ~ 14.06	14.03 ~ 17.95	18.07 ~ 22.59	22.56 ~ 42.87	42.60 ~ 80.90
F number	2.30 ~ 2.53	2.30 ~ 2.57	2.00 ~ 2.32	2.30 ~ 3.39	2.30 ~ 2.74
Focus spec (MTF)	67 lp/mm	67 lp/mm	47 lp/mm	67 lp/mm	67 lp/mm
Zoom range (ratio)	1.26x	1.28x	1.25x	1.9x	1.9x
Zoom & focus adjustment	Motorised				
Throw ratio (WUXGA)	0.75 ~ 0.95	0.95 ~ 1.22	1.22 ~ 1.53	1.52 ~ 2.92	2.90 ~ 5.50
Throw distance (m)	0.81 ~ 6.13	1.02 ~ 7.88	1.31 ~ 9.89	1.64 ~ 18.87	3.12 ~ 35.54
Projection image size	50" ~ 300"				

Throw distance chart

Diagonal image size (Inch)	Image width (m)	Image height (m)	A15		A01		A02		A03		A13	
			Min (m)	Max (m)	Min (m)	Max (m)	Min (m)	Max (m)	Min (m)	Max (m)	Min (m)	Max (m)
50	1.08	0.67	0.81	1.02	1.02	1.31	1.31	1.65	1.36	2.61	2.97	5.63
60	1.29	0.81	0.97	1.23	1.23	1.58	1.58	1.98	1.63	3.13	3.56	6.75
70	1.51	0.94	1.13	1.43	1.43	1.84	1.84	2.31	1.90	3.65	4.15	7.88
80	1.72	1.08	1.29	1.64	1.64	2.10	2.10	2.64	2.17	4.18	4.75	9.00
100	2.15	1.35	1.62	2.05	2.05	2.63	2.63	3.30	2.72	5.22	5.93	11.25
120	2.58	1.62	1.94	2.46	2.46	3.15	3.15	3.95	3.26	6.26	7.12	13.51
200	4.31	2.69	3.23	4.09	4.09	5.26	5.26	6.59	5.43	10.44	11.87	22.51
250	5.38	3.37	4.04	5.12	5.12	6.57	6.57	8.24	6.79	13.05	14.84	28.14
300	6.46	4.04	4.85	6.14	6.14	7.88	7.88	9.89	6.79	13.05	17.80	33.76

For guide purposes only





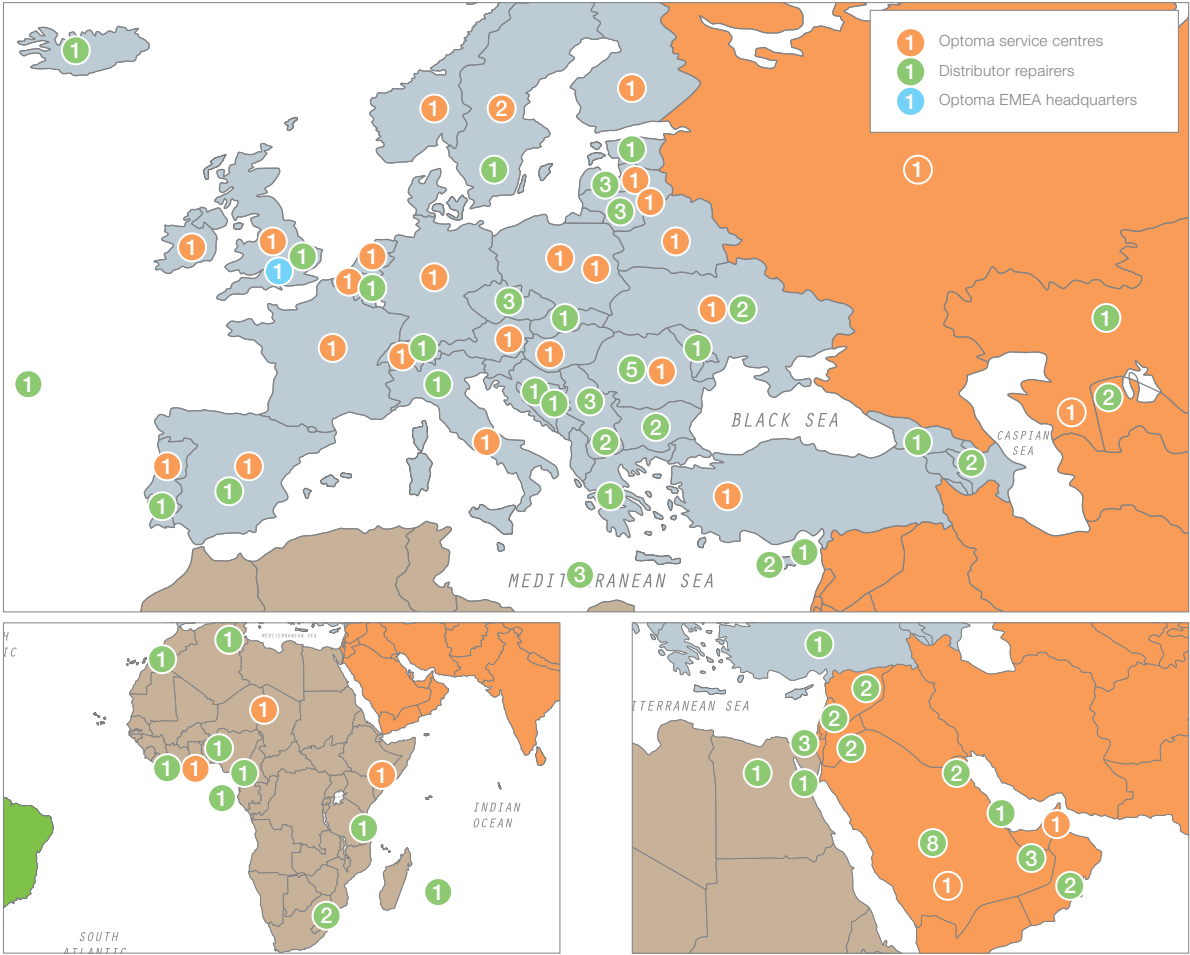
Service, support and warranties

ProScene Certified Partners

Optoma understands that for ProScene customers, their high specification projector must be of exceptional quality and that the level of support and expertise provided by AV installers and integrators must also be of the highest calibre. To maintain this standard throughout, we have selected only the very best from within the AV industry to become ProScene Certified Partners.

These rigorously selected partners understand your specific requirements and perhaps as importantly, they have direct access to the specially-trained Optoma support and service teams. Our dedicated experts are available from the initial design and planning phase of a project, right through to the installation stages and beyond. Through our partners, you'll have access to what is probably the most extensive network of service centres across Europe of any projector manufacturer.

Choosing your ProScene projector is just the start. Total support and service excellence are the core of the ProScene ideology, ensuring industry leading dedication to giving you the highest standard of expertise from Optoma and from our Certified Partners.



Standard and optional warranties

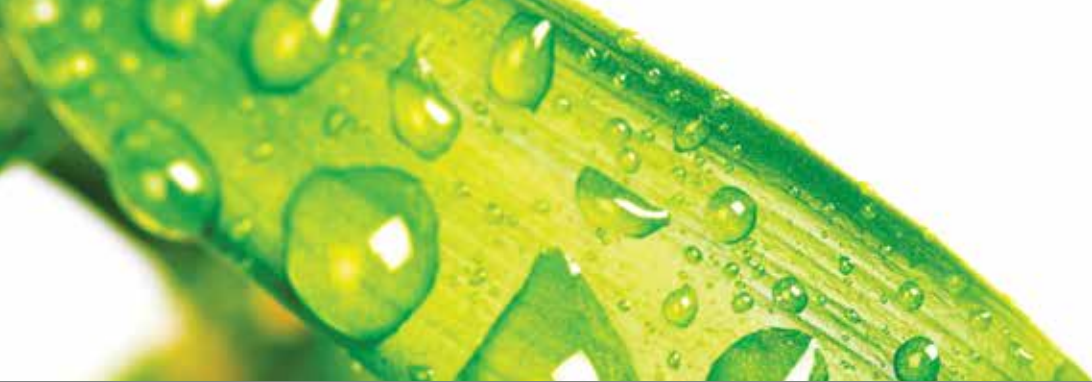
In addition to our Standard Warranty, we offer a range of optional warranties:

- Standard warranty, Collect and return,
- Collect and return with exchange and
- preventative maintenance servicing.



Training

Our training courses are developed and tutored by the ProScene technical services team. This ensures Certified Partners have access to expert knowledge of ProScene products and tutors who are familiar with the real-word scenarios faced by our partners.



Green



We know that improving our products is the best way to reduce our impact on the environment. That's why at Optoma, we design our products to have a long usable life, use fewer materials, ship with the minimum packaging and be free of all possible toxic substances. Naturally, energy efficiency and being recyclable are built in at the design stage. With each new product, we strive towards minimising our environmental impact. For full details of Optoma Project Green please visit our website.

Eco friendly and highly efficient

Cut up to 30% from your energy bills using 24-hour automated power scheduling to ensure that projectors power off when not in use.



Direct power on

The projector will start up instantly when power is supplied to the unit. This eliminates the need to manually turn on the projector via the remote control or the keypad, ideal for use in rooms with a "master" power switch.



Auto power off

If after a pre-determined time the projector does not receive a signal, it will turn itself off automatically, conserving power and extending the life of the light source.

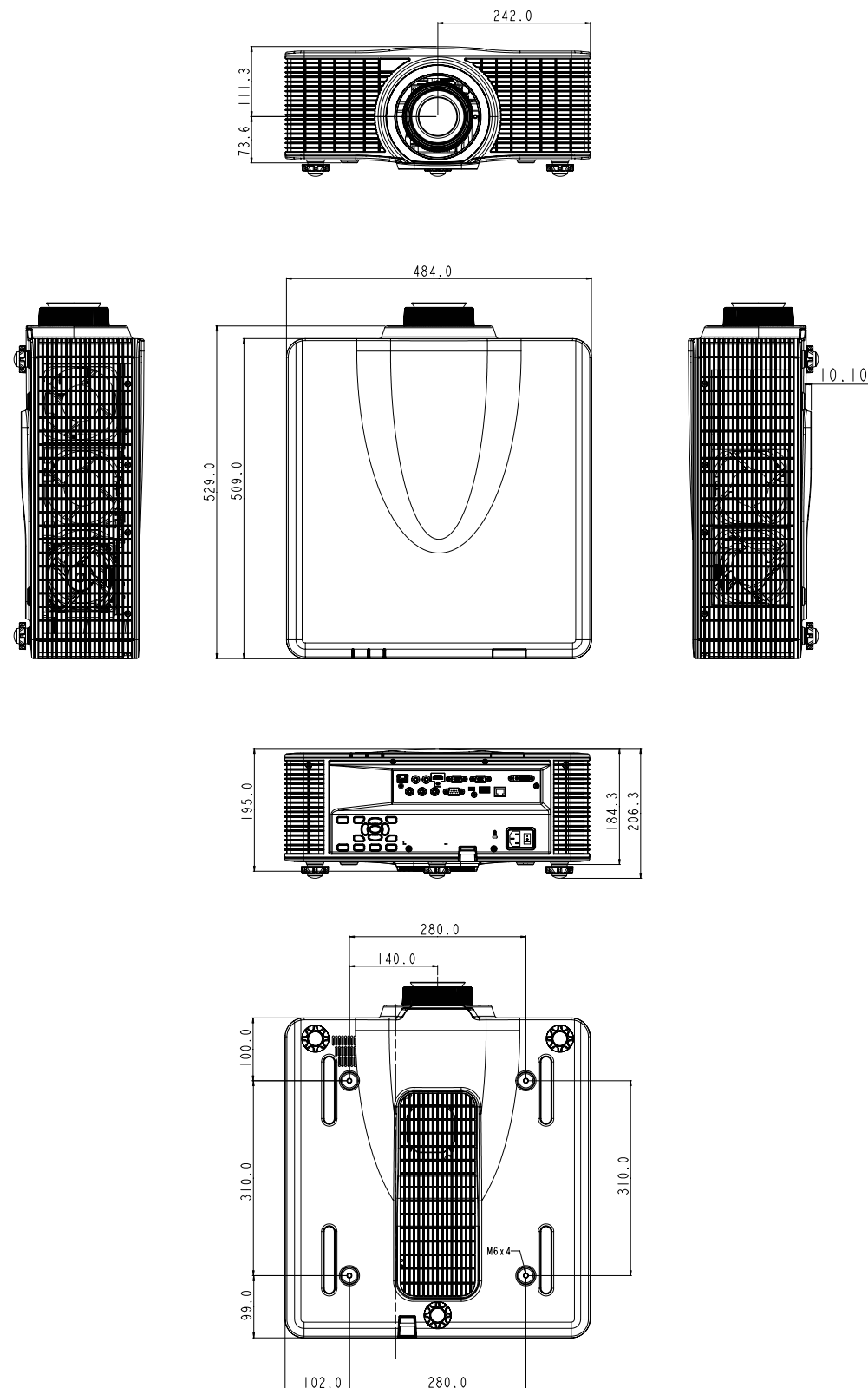


Eco standby mode

Reduces energy consumption to less than 0.5W when the projector is not in use.



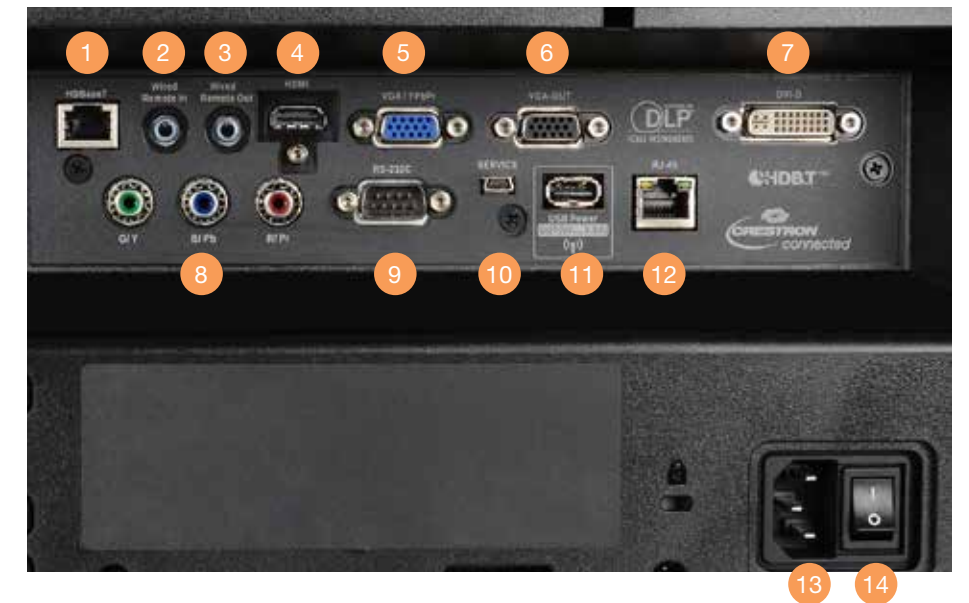
Dimensions



Labelling

Input / output connections

1. HDBaseT
2. Wired remote In
3. Wired remote Out
4. HDMI
5. VGA / YPbPr
6. VGA Out
7. DVI-D
8. Component video
9. RS-232
10. Service port
11. Wireless adapter port. USB power 500mA
12. RJ-45
13. Power socket
14. Power switch



Keypad

1. Power
2. Menu
3. Exit
4. Direction keys
5. Enter
6. Auto
7. Input
8. Lens
9. Focus
10. Zoom
11. AV mute





Technical specifications

Projector		
	Technology	1 x 0.67" DLP
	Resolution	WUXGA 1920 x 1200
	Brightness¹	6,000 centre lens (5,500 ANSI lumens)
	Aspect ratio	16:10 native, 4:3 & 16:9 compatible
	Dynamic contrast	2,000,000:1 ExtremeBlack enabled (2000:1 full on/off)
	ANSI contrast	250:1
	Projection distance	0.81m to 35.54m (dependent upon lens)
	Projected image size	50"~ 300" Diagonal 16:10 (dependent upon lens)
Optics		
	Light source	Laser-phosphor
	Light source expected lifetime² (max hrs)	20,000
	Shutter	ExtremeBlack
	Lens shift (motorised)	+/- 50% V, +/- 15% H (Dependant on lens - check user manual for details)
	Lens zoom (motorised)	dependent upon lens
	Lenses (no lens supplied as standard)	
	A15	0.75-0.95
	A01	0.95-1.22
	A02	1.22-1.53
	A03	1.52-2.92
	A13	2.90-5.50
	Keystone correction	Vertical and Horizontal +/- 20
	Uniformity	(JBMA) 90%
Connectivity		
	Inputs	HDBaseT
		HDMI
		DVI-D
		VGA
	Output	Component
		VGA
	Control and communication	USB-A power / wireless
		RS232
		LAN
		Wired remote in
		Wired remote out
		USB service
General		
	Noise level³	33dB
	Weight	18Kg (without lens)
	Dimensions (W x D x H)	484 x 509 x 185mm without lens
	Power requirements	100 - 240V, 50 - 60Hz
	Power consumption	570W BRIGHT mode < 0.5W Standby mode 300W ECO mode < 0.5W Standby mode
	Heat dissipation (BTU/Hr)	1945
	Operating conditions	5 - 40oC, 0 - 750m, max. 85% humidity
	Portrait mode¹	Yes
	360° operation	Yes
	Operating temperature	0 - 750M, 5 - 40°C 750M -1500M, 5 - 35°C 1500 - 3000M, 5 - 30°C
	OSD languages	English, French, German, Italian, Russian, Spanish, S-Chinese, Japanese, Korean
	Use manual languages	English, French, German, Italian, Russian, Spanish, S-Chinese, Japanese, Korean
	Environmental	RoHS and WEEE
	Conformances	CE, CB
	Security	Kensington Lock port, security bar
	Warranties	3 year standard
Supplied accessories		
	Cables	AC power cable, VGA cable
	Other	Remote control with back-light and wired remote socket



Accessories

A powerful performer

Chameleon GB-200

Image blending and warping processor

- Powerful and intuitive blending and warping

- Black level adjustment

- Multi region colour correction

- Geometric correction for off-axis projection and stacking

- High resolution image blending (up to 1920 x 1200 per output)

- Dual channel output



Chameleon GB-200

Is a powerful and intuitive image blending and warping processor that provides the ability to merge overlapping edges of two or more projected images creating a seamless single image.

The outputs can be warped vertically and horizontally. Each processor is equipped with two channels and are positioned inline between the input source (PC) and the projector.

Optoma' s Chameleon has the ability to pre-cut a single image to form a seamless picture of up to a 2x2 projection array, making your installation quicker and easier. More complex arrays are not a barrier for the Chameleon, they can be done with the help of a multi output graphic card.

Resolutions including 1080p and WUXGA are supported via VGA, DVI and HDMI connections. Colour, black level and gamma correction are engaged to compensate for the challenges faced when blending projectors.





Offices

Worldwide technical and commercial support

Optoma Europe

Optoma Europe Ltd.

42 Caxton Way
The Watford Business Park
Watford
Hertfordshire
WD18 8QZ
UK
Tel: +44 (0) 1923 691 866

Optoma Deutschland GmbH

WIESENSTRASSE 21
D40549 Düsseldorf
Germany
Tel: +49 (0) 211 506 6670

Optoma France

Batiment E
81-83 avenue Edouard Vaillant
92100 Boulogne Billancourt
France
Tel. : +33 (0) 1 41 46 12 20

Optoma Spain

C/ José Hierro,36 Of. 1C
28529 Rivas VaciaMadrid
Madrid
Spain
Tel: +34 91 499 06 06

Optoma Benelux

Optoma Benelux BV
Randstad 22-123
1316 BW Almere
The Netherlands
Tel: +31 (0) 36 820 0252

Optoma Czech

Tel: +420608666090

Optoma Poland

Tel :+ 48 507 090 411

Optoma Romania

Tel: +40 723 764 995

Optoma Russia

Moscow
+7 905 553 67 78

Optoma Italy

+39 3408521552

Optoma Scandinavia

Lerpeveien 25
Postboks 9515 Åskollen
3038 Drammen
Norway
Tel: +47 32 98 89 90

Optoma Turkey

Tel: 07775 822134

Optoma UAE

Tel: 0097 155 574 8922

Optoma USA

Optoma USA Headquarters

3178 Laurelview Ct.
Fremont, CA 94538
Tel: (510) 897-8600

Optoma Asia

Taiwan

Optoma Corporation
Taipei Office
12F., No.213, Sec. 3, Beixin Rd., Xindian Dist., New Taipei City
231, Taiwan (R.O.C.)
Tel +886-2-8911-8600 EXT.3732

Taichung office

7F-5, No.3, Lane 2, 1st Rd, Taichung Industrial Park, Xitun
Dist., Taichung City, 40767, Taiwan, R.O.C.
Tel: +886-4-3505-0336

Kaohsiung office

Rm. D, 7F, No.108, Zhonghua 3rd Rd., Qianjin Dist.,
Kaohsiung City 80145, Taiwan, R.O.C.
Tel: +886-7-952-5689

China

Shanghai Office
5F, No. 1205 Kaixuan Road, Changning District , Shanghai
Tel: +86-21-6294-7376

Beijing office

20D apartment 3, Build No.3, Yindu Tower, No 48 ZhiChun
road, HaiDian district, Beijing
Tel: +86-10-5873-1919

ShenYang office

Room1201, building C3, Wulihe Tower, No 4-1 WenTi road,
HePing district, ShenYang
Tel: +86-024-3188-7018

Xi'an office

Room 1310, building B, ShiMao tower, GuanDongZheng
street, Xi'an
Tel: +86-029-8228-2428
Fax: +86-029-8228-2428

GungZhou office

Room 602, NanTie Tower, No.57 No.1ZhongShan road,
YueXiu district, GungZhou
Tel: +86-20-6128-0990 / 6128-1025

ChongQing office

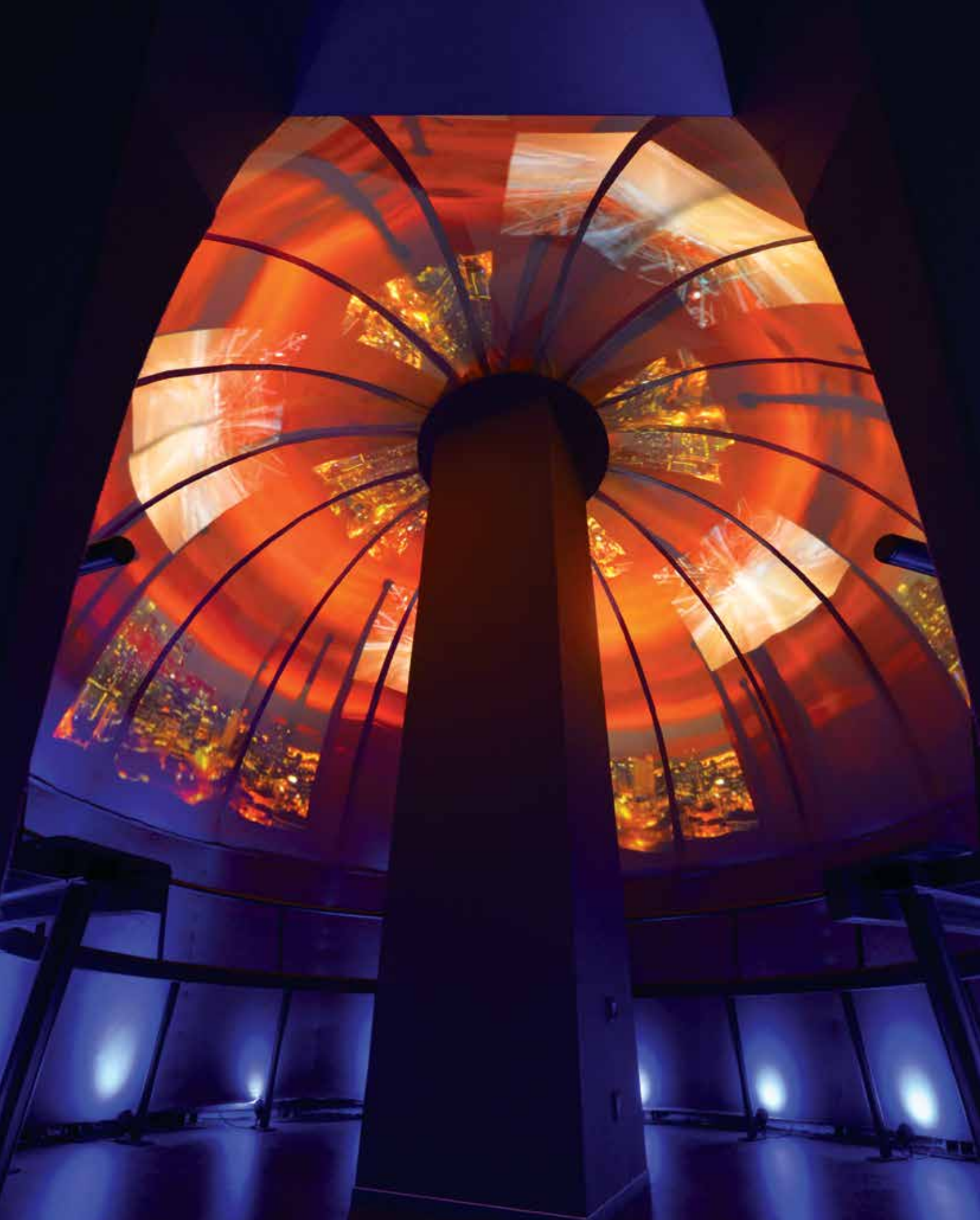
Room 9-2, building 19 HuaYuMingDu, ShiQiaoPu, ChongQing
Tel: +86-23-6879-7626

ChengDu office

Room A3 floor 20, building A Time digital square, No.1 South
RenMin road, ChengDu
Tel: +86-28-8523-1553 / 8631-7092

Hong Kong office

Unit A, 27/F., Dragon Centre, 79 Wing Hong Street, Cheung
Sha Wan, Kowloon, Hong Kong
Tel: +852-2396-8968



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Chameleon GB-200

Edge blending processor
used in Optoma 7 metre edge blend



Optoma

