



GOLDEN SCAN 3



The Golden Scan 3 is where the most advanced technology and the demands of the most exacting lighting designers meet. Combining outstanding performance with an immense range of innovative effects, it brings a totally new world to the users of intelligent lighting.





GOLDEN SCAN "3" HMI 1200



**GOLDEN
SCAN "3"**
HMI 1200



UNRIVALLED POWER

A light beam without equal, offering greater output than any other luminaire in its category for the same light source.

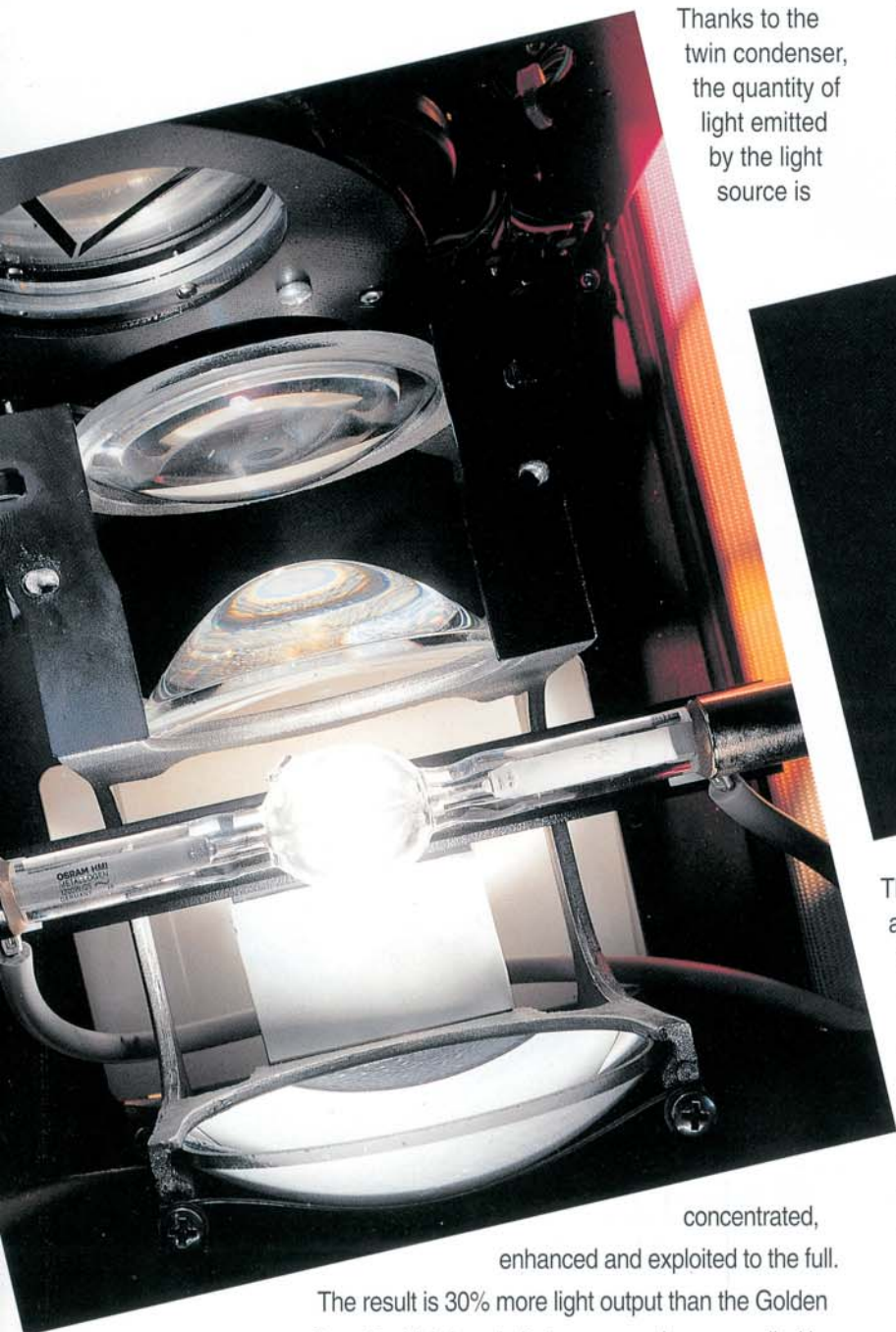
The Golden Scan 3 uses a new design of optical system, perfected using computer design techniques and the most sophisticated algorithms in optical science. It is made using special lenses, subjected to exclusive treatments and rigorously selected to ensure perfectly uniform light projection.

Thanks to the twin condenser, the quantity of light emitted by the light source is

The Golden Scan 3 is available with the HMI 575 lamp and in a powerful version with the HMI 1200 lamp.

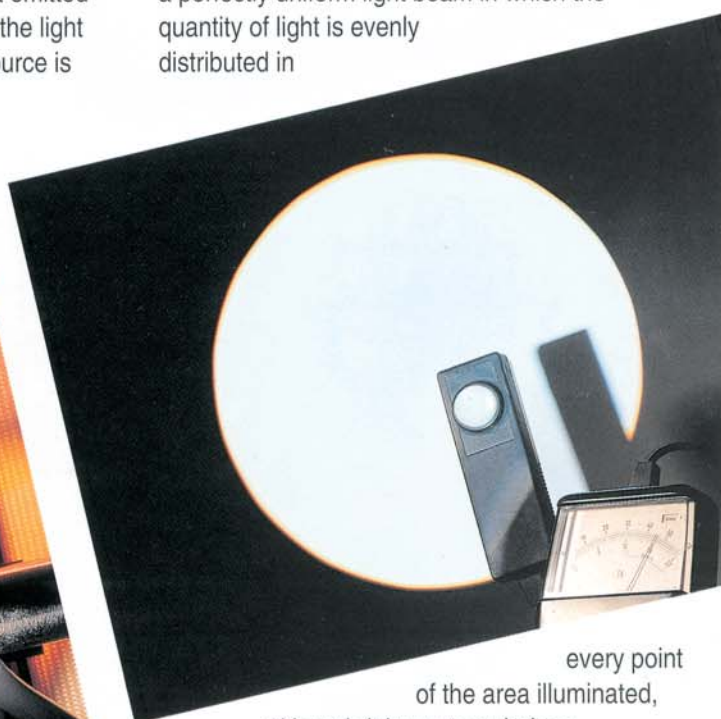
Thanks to its special optical system, the effective light output of the luminaire amounts to approximately six times the rated value of the lamp. At the same time, the operating characteristics of the lamp remain unchanged - at the highest levels - with a life in excess of 750 hours, bringing undoubted benefits for running economy.

Exceptional power is, however, far from the only result of this professional optical system. It produces a perfectly uniform light beam in which the quantity of light is evenly distributed in



concentrated,
enhanced and exploited to the full.

The result is 30% more light output than the Golden Scan 2 which has, in its turn, never been equalled by any luminaire in its category. The Golden Scan 3 uses an OSRAM HMI lamp, held in high regard by lighting designers and choreographers for the innovative strengths which won it the prestigious Academy of Motion Picture Arts and Sciences' OSCAR in 1988.



every point
of the area illuminated,
without bright spots or haloes.

This level of performance is essential in professional applications and has always been recognised and valued in Clay Paky luminaires, but rarely offered by others.

Spotlight Efficiency (lumen)

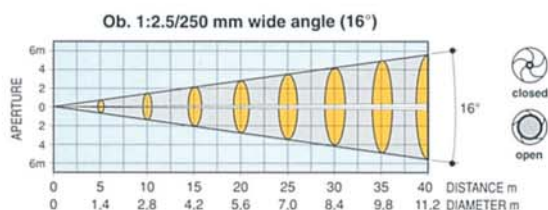
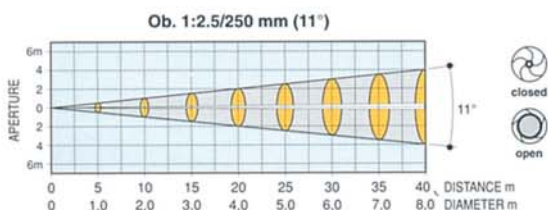
Lamp type	Nominal efficiency	Golden Scan 2 actual efficiency	Golden Scan 3 actual efficiency
HMI 1200	110.000	495.000	640.000
HMI 575	49.000	205.000	266.000

TOTAL MASTERY OF LIGHT PARAMETERS

APERTURE

The standard lens has an aperture of 1:2.5 / 250 mm, equal to an angle of 11°. An additional lens is available which increases the projection angle to 16°.

This optional wide-angle lens is built into the luminaire and allows the operator to choose the beam angle desired without having to use other external systems.



INTENSITY

The Golden Scan 3 features a linear mechanical dimmer which enables the light output to be precisely controlled, fading smoothly and steadily from 100 % through to 0.

The shutter speed is totally controllable, thus enabling one to stop the light output instantly for as long as desired.

DIFFUSION

The Golden Scan 3 can produce a concentrated or diffuse beam of light, passing from hard-edge to soft-wash projection by inserting the built-in Frost filter incorporated in every luminaire.

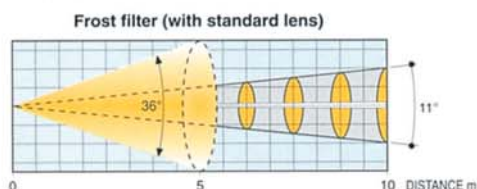
This not only enables one to use the Golden Scan 3 for producing the effects typical of this type of luminaire, but also makes it possible to produce fixed or changing colour washes.



Switchable wide-angle lens

The wide surface of the moving mirror ensures optimum diffuse light orientation in this application.

The Golden Scan 3 is so effective in this function to become an excellent replacement for lights designed for this purpose alone.



COLOUR TEMPERATURE

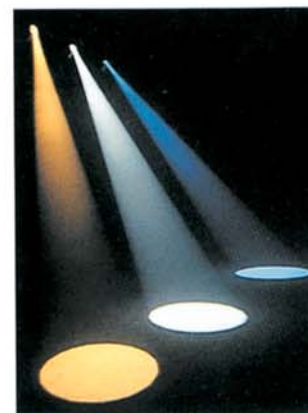
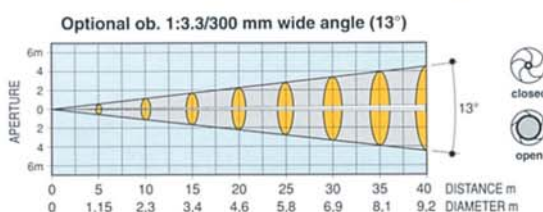
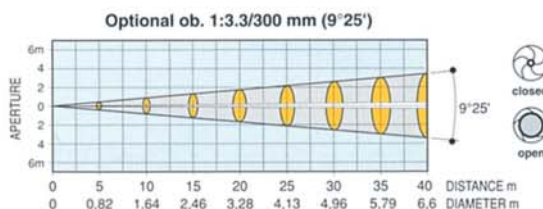
Under normal conditions of use the Golden Scan 3 reproduces the daylight colour temperature of HMI lamps perfectly.

The luminaire also features two colour temperature conversion filters which act both on white and coloured beams of light and can be inserted directly from the control system.

The first filter reduces the colour temperature, making the colours warmer, while the second filter increases the colour temperature, making the colours colder.

COLOUR TEMPERATURE

Without filter	5600 K
With warm filter	3200 K
With cold filter	6000 K



UNLIMITED EFFECTS

The Golden Scan 3's potential for chromatic and graphic modulation of the light beam really is unlimited, stimulating the creativity of lighting designers and taking them on to new horizons.

COLOURS



The Golden Scan 3 produces beams in a full 24 different colours, obtained using a primary colour disk and two filters which alter the basic range.

The disk has an empty position for white light and seven high-quality, high-luminosity dichroic filters which produce very pure colours.

Clay Paky devotes special attention to the selection of its dichroic filters, with a narrow tolerance range to ensure the colours obtained by different luminaires are perfectly consistent.

In addition to white, the standard basic colours are yellow, red, orange, green, blue, violet and pink, increased by a further 16 colours by adding the two conversion filters to the basic colours.

A wide range of optional dichroic filters meets the most diverse special creative and application requirements.

The Golden Scan 3 can produce bi-colour beams as well as single colour beams.

What's more the colour disk can be rotated at any speed, producing interesting colour-changing effects and a spectacular rainbow effect at higher speeds.

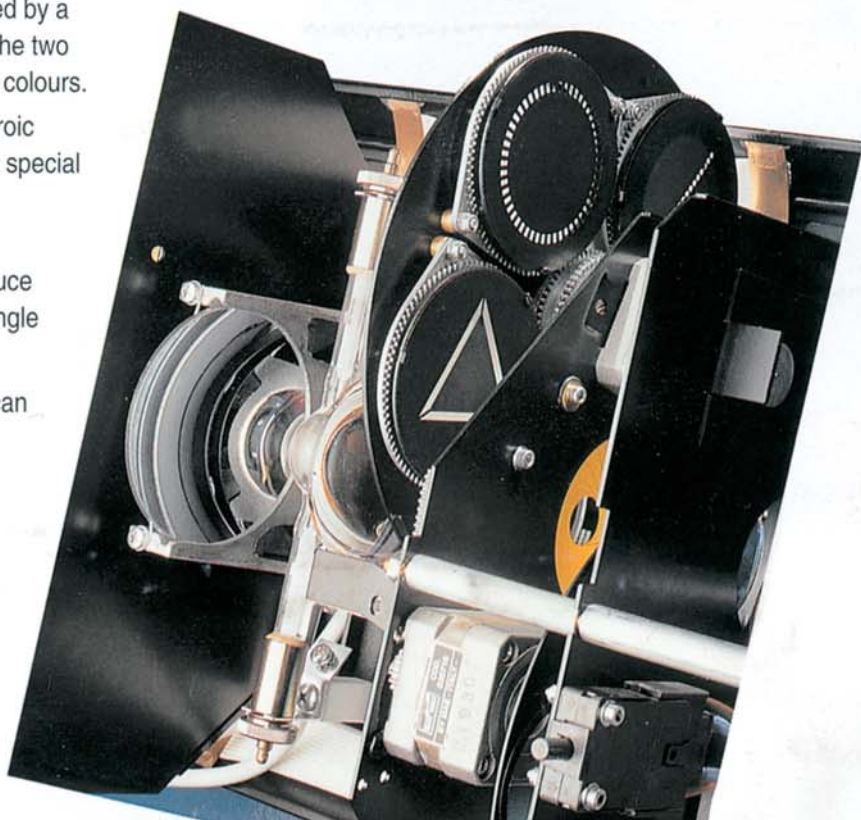
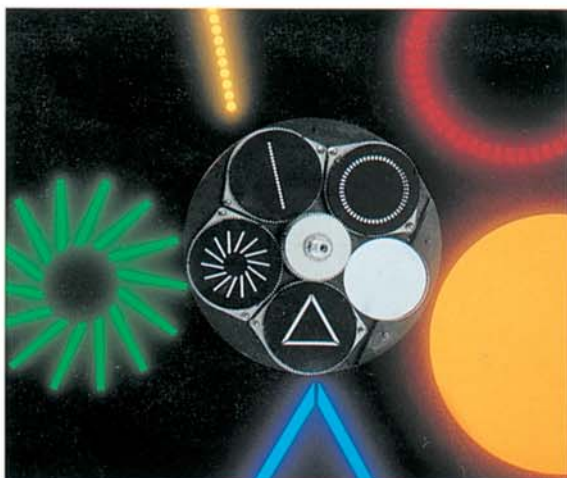
GOBOS

The Golden Scan 3 offers an astonishing, innovative and sophisticated selection of graphic images, thanks to its exclusive system of indexed-position rotating gobos.

The light beam is shaped by four gobos, each of which can be stationary or spin in both directions (clockwise and counter-clockwise).

The speed of rotation can be freely set by the operator from a wide range of values.

Elaborate control software enables the position of each gobo within a total angle of 540° rotation to be stored in the memory, thanks to which a pattern can be projected for example, in a fixed horizontal position, while the mirror passes through its full range of movement. All the gobos are interchangeable and have a diameter of 66 mm (standard M-size).





Changing a gobo is a fairly easy operation which does not need any special technical skills or tools.

Ten different additional gobos are supplied with every Golden Scan, in addition to the four standard gobos already mounted on the gobo disk.

The additional gobos are fitted in a special housing inside the luminaire so that they are always available when needed, further increasing the versatility of the light in use.

Since the gobos have a standard size, they appear in the catalogues of many



Gobo replacement

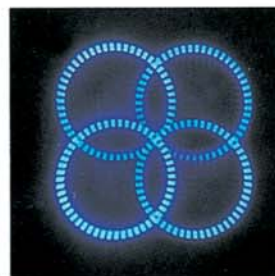
well-known suppliers worldwide, making the range of patterns available practically unlimited.

Customised gobos, which can be made quickly at a reasonable cost, can also be used.

MULTIPLYING PRISM

The graphic projection potential of the Golden Scan 3 is extended by a built-in multiplying prism which can be inserted whenever required, forming four identical images of any basic image projected.

Combining the gobos and prism thus produces 8 different patterns, while adding the rotation effect brings infinite possibilities for creating spectacular effects.



Additional gobos housing

STANDARD



Cod. 0 813 11
dia 49 mm image



Cod. 0 813 13
dia 49 mm image



Cod. 0 813 18
dia 49 mm image



Cod. 0 813 25
dia 49 mm image

OPTIONAL



Cod. 0 813 05
dia 49 mm image



Cod. 0 813 07
dia 49 mm image



Cod. 0 813 12
dia 49 mm image



Cod. 0 813 14
dia 60 mm image



Cod. 0 813 15
dia 60 mm image



Cod. 0 813 17
dia 49 mm image



Cod. 0 813 19
dia 49 mm image



Cod. 0 813 20
dia 49 mm image



Cod. 0 813 21
dia 49 mm image



Cod. 0 813 24
dia 49 mm image

IRIS

The Golden Scan 3 features an iris which enables the diameter of the light beam to be varied while leaving its intensity unchanged.

The iris has a continual, gradual movement with a speed that can be controlled as desired within a wide range of values.

STROBE

The light beam can also be modulated using a strobe effect which may be set to from 1 to 7 flashes per second as desired.

The strobe effect is accentuated by an exclusive new device which stops the light beam using two stopper blades, rather than one, that move toward the centre simultaneously, completely dosing (and not cutting) the beam with a black-out time at any speed of only 0.070 seconds (as opposed to the previous value of 0.120 sec).

PERFECT MOVEMENT

switch straight from symmetrical to asymmetrical movements, in conjunction with other lights, without the need for time-consuming changes to their control programs. Thanks to all these devices, the Golden Scan 3's installation, centering and programming operations are fairly simple to carry out, above all in touring applications, since the movement of the mirror is virtually independent from its position on the luminaire body.

PRECISE AND SMOOTH MOVEMENT

The speed at which the mirror moves can be selected as desired from a wide range of values, extending from an infinitesimal minimum value to a maximum pan value of 0.4 s/150° and a maximum tilt value of 0.3 s/110°.

The most surprising aspect of the Golden Scan 3's performance, however, is its smooth, even movement, which is particularly noticeable at low speeds. The effective mirror rotation resolution is thus 0.6° for the pan action (150°/256) and 0.4° for the tilt action (110°/256). Thanks to this, in the worst case, the light beam could be 0.3° or 0.2° from the required position for pan and tilt respectively.

MICROSTEPPING RESOLUTION



A sophisticated algorithm in the control software developed by Pulsar has in fact made it possible to double the microstepping resolution.

Naturally every position can be stored in the system memory and retrieved from it with the same accuracy.

These performance levels can only be achieved with great difficulty by other intelligent luminaires, including those in higher categories. Presentations

of moving lighting all too often concentrate their attention on the maximum movement speed.

While the Golden Scan 3 also offers a very high maximum speed, this only makes a practical difference within certain limits. What is, however, much more important in professional applications is the perfection of a luminaire's movement at its lowest speeds. And this is exactly where the Golden Scan 3 cannot be equalled, with performance levels that will satisfy and delight the most exacting lighting designers.

Clay Paky's longstanding mechanical design expertise and Pulsar's

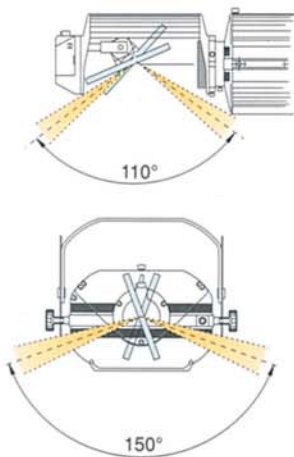
unparalleled control electronics know-how, both accumulated in the professional show-lighting sector, have enabled us to develop the ultimate in microstepping motor technology.

As a result, the Golden Scan 3 light beam can be positioned with exceptional accuracy, total control and no speed or excursion limits.

MOVING MIRROR

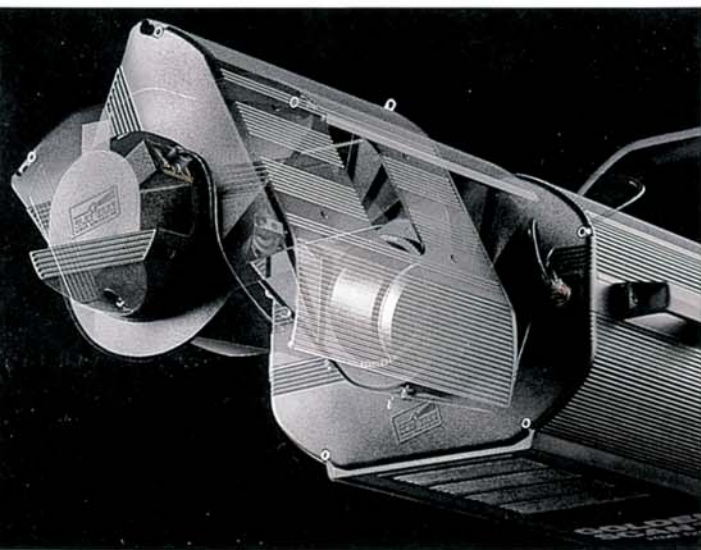
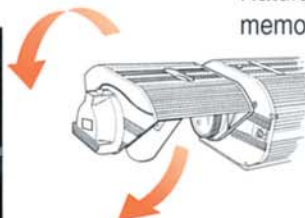
The moving mirror is highly reflective, reducing the loss of light output efficacy to negligible values. Its perfectly flat surface is very large to ensure it reflects the entire light beam projected by the luminaire, even when the Frost filter and prism are inserted and irrespective of whether the wide-angle lens is used or not. The mirror is moved by two microstepping motors with a pan movement of 150° and a tilt movement of 110°.

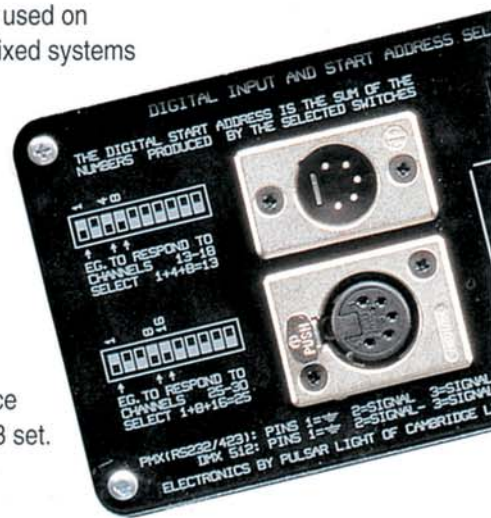
The possibilities of positioning the light beam in relation to the scene are increased still further by the possibility of easily rotating the mirror head through 360° on the luminaire body.



Completing this flexibility, the Golden Scan 3 features a device for reversing the movement of the mirror.

This makes it possible to





and processing capacity sufficient to cope with the luminaire's many different functions.

Operators can therefore use whichever control system they are used to or choose from the wide range of new systems available on the market.

The major companies offer one or more solutions, often featuring libraries or personality cards that have already been set up to facilitate interfacing with the Golden Scan 3.

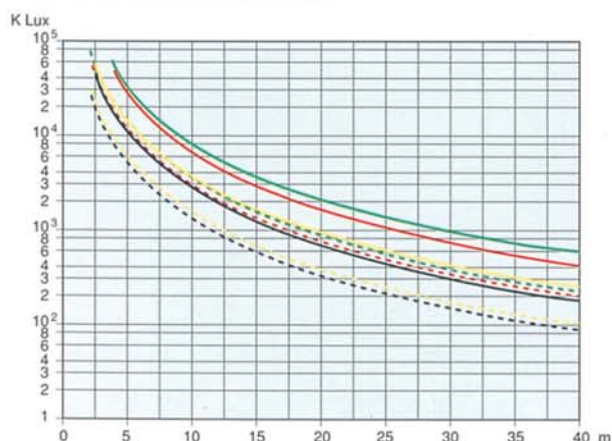
The Pulsar Masterpiece is a particularly effective choice, having been designed in parallel with the luminaire.



VERSATILITY

The Golden Scan 3 has been designed to meet the widest application requirements, with an extensive range of features that form the common base for its versatility.

Special care has been devoted to studying specific needs which can be met by a number of different variants on the base model.



HMI 575. The size and weight of these two units differ as well as their light output.

Lamp type	Socket	Color temp. (K)	Flux lumen	Average life (h)
HMI 575 W/GS	Sfc 10-4	5.600	49.000	750
HMI 1200 W/GS	Sfc 15,5-6	5.600	110.000	750

TOURING VERSION

The robust construction and reliability of the Golden Scan 3 make it particularly suitable for touring use.

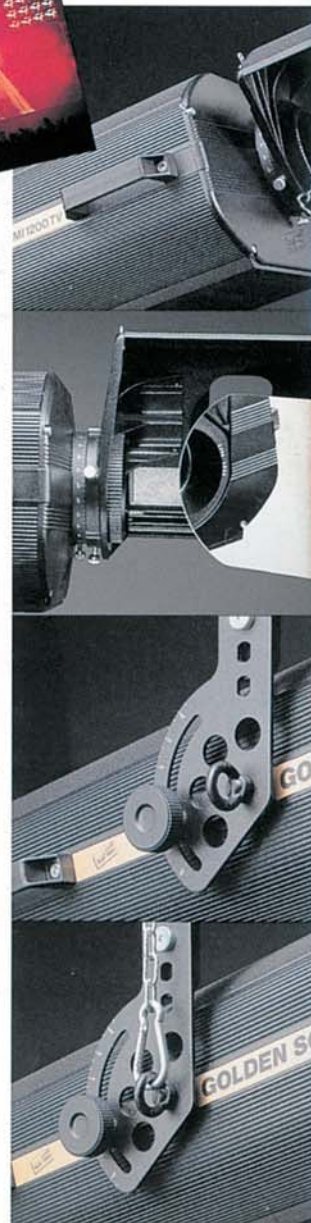
A special model has been developed to meet the specific needs of this application, which often differ from those of a fixed installation.

The Golden Scan 3 Touring Version benefits from a whole a series of additional features:

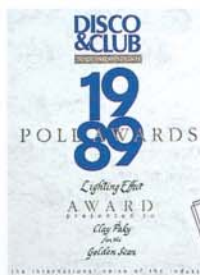
- 4 side handles to facilitate handling
- hour meter to measure lamp life
- graduated scale on mounting bracket and mirror head for precise, totally repeatable positioning
- safety chain anchoring point
- black finish
- built-in power factor correction to reduce power requirements.

LAMPS AVAILABLE

Two versions are available which use different power lamps: ● Golden Scan 3 HMI 1200 ● Golden Scan 3



LEGENDARY RELIABILITY



As the latest arrival in a family which can boast as many as six consecutive international awards for "best light effect" (from 1989 to 1993), the Golden Scan 3

takes our legendary reliability still further.

THE HIGHEST CONSTRUCTION STANDARDS

The renowned reliability of a Golden Scan starts with the design of its parts and choice of materials and components, which are always developed or selected to ensure perfect operation and never compromise on quality.

Most of the Golden Scan 3's parts are in fact original, manufactured using costly, highly-advanced equipment to ensure they comply fully with their design specifications and ensure fault-free operation.

SAFETY

The design of the Golden Scan 3, together with the electrical and mechanical components and construction procedures used in its

manufacture, ensure it achieves the highest safety standards for both the user and the appliance itself.

● Safety standards:

the Golden Scan 3's compliance with safety standards gives it a protection level of IP 20; the power supply cable complies with IEC standard 20/22 III.

● Forced ventilation cooling by axial fan, with special ducts inside the luminaire for optimised air circulation.

● The power supply is automatically disconnected in the event of overheating or a cooling system fault.

● A safety switch disconnects the lamp when the access cover is opened.

● The signal inputs are protected against accidental application of mains voltage and static discharge.

EASY MAINTENANCE

The construction architecture of the Golden Scan 3 has been carefully designed to facilitate the routine maintenance of all its internal and external parts, above all considering the possibility of touring use.

The luminaire features:

- self-test routine for diagnostics
- large cover for easy access inside
- modular construction
- immediately accessible mechanical units and electronic cards
- rapid removal and fitting of mechanical units
- twin-contact printed circuit connectors for electrical connections
- multiple contacts which ensure operation in all situations.



GENERAL CHARACTERISTICS

Power Supply: 200 - 240 V, 50 / 60 Hz.

Lamp: • Metal halide discharge lamp, with built-in ballast and igniter
• two versions are available: HMI 575 W/GS and HMI 1200 W/GS.

Power Consumption

Lamp type	Power consumption VA @ 220 Vac		
	With PFC (•)		Without PFC (•)
	VA	μF	VA
HMI 575	750	70	1500
HMI 1200	1500	140	3100

(•) PFC = Power Factor Correction

Motors: • n.9 high resolution steppers motors, controlled by the internal microprocessors.

Optical Unit: • Made by extruded and diecast aluminium, with top efficiency parabolic mirror and twin condenser, using special lenses subject to special antireflection multilay coating.

Objective lens: • Standard dotation: 1:2.5/250 mm (11°)
• Available as option: manually switchable built-in wide angle lens (16°) • Optional 1:3.3/300 mm (9°).

Mirror Movement:

	Pan	Tilt
Beam excursion	150°	110°
Maximum viable speed	0.4 s/150°	0.3 s/110°
Positional accuracy	± 0.3°	± 0.2°

Electronics: • Specially developed exclusively for Clay Paky by Pulsar Light of Cambridge • Two microprocessors for input signal reception and real time simultaneous controlling of all functions.

Control signals: • Analog Input 0 - 10 V • Serial Digital Input RS 232/423 (PMX) • Digital full DMX 512.

Control Channels: • 6 control channels • Channel Functions:

- Channel 1: Iris, Gobo Rotation.
- Channel 2: Basic Color Selection, Color Wheel Rotation.
- Channel 3: Gobo Selection, Basic Color Modification, Frost Filter, Prism.
- Channel 4: Fading Dimmer, Stopper, Strobe.
- Channel 5: Pan.
- Channel 6: Tilt.

Safety Norms: • The equipment is manufactured according the latest safety regulations • Protection degree IP 20 • Power supply cable in compliance with IEC 20/22 III norms.

Safety devices: • Automatic power supply thermal cut-out in case of overheating or cooling system failure • Switch off security device in case of cover opening • All inputs protected against accidental application of mains and static discharge.

Cooling System: • Forced ventilation cooling by axial fan with optimised internal air circulation.

Housing: • Extruded and die-cast aluminium • Epoxy paint finish.

Mirror Head: • Possible rotation of 360° on projector body.

Mirror: • Very high reflectivity, perfect flatness glass.

Bracket: • Aluminium bracket, epoxy paint finished • Six setting positions (25 mm pitch) • Adjustable setting angle of 110° total.

Working positions: • Any position inside the ± 90° quadrant from horizontal axis.

Weight:

	Net	Gros
Golden Scan 3 HMI 575 (*)	Kg 29.5 (65.0 lb)	Kg 32.6 (71.9 lb)
Golden Scan 3 HMI 1200 (*)	Kg 38.7 (85.3 lb)	Kg 42.4 (93.5 lb)
Golden Scan 3 HMI 575 TV (*)	Kg 30.4 (67.0 lb)	Kg 33.5 (73.9 lb)
Golden Scan 3 HMI 1200 TV (*)	Kg 39.6 (87.3 lb)	Kg 43.3 (95.5 lb)
Mirror Head for GS3	Kg 3.1 (6.9 lb)	Kg 4.6 (10.2 lb)

(*) without mirror head

Commercial Codes:

C11068 Golden Scan 3 HMI 575 (w/out mirror head).

C11069 Golden Scan 3 HMI 1200 (w/out mirror head).

C11070 Golden Scan 3 HMI 575 Touring Version (w/out mirror head).

C11071 Golden Scan 3 HMI 1200 Touring Version (w/out mirror head).

C21061 Mirror Head for Golden Scan 3.

C31126 Kit for built-in wide-angle lens.

C31127 Optional 1:3.3/300 mm objective lens.

(PFC and hour meter are available on request for the standard version as well).

