

# MAC ULTRA PERFORMANCE

1150 W HIGH OUTPUT LED MOVING HEAD PROFILE WITH FRAMING

SPEC SHEET



The MAC Ultra Performance has raised the bar for extremely bright moving lights and features benchmark output across the zoom range, a true next generation framing system, higher definition optics and astoundingly low noise levels.

Built to support the biggest live events, this powerful workhorse is based on our all new 1150 W, 5800 K proprietary LED light engine and the fixture pushes an incredible 46,500 lumens in projection. The 50,000+ hour light engine also provides high resolution dimming, strobing and Martin's unique Animation effect.

A 1:7 zoom-range and precision focus-control is provided from the refined optical system. The extensive feature package includes uniform color mixing, variable CTO, additional color and spectral correction filters, Martin's innovative Extended Framing system, two layers of rotating gobos, full function animation wheel, iris, frost and prism effects, and truly responsive and accurate pan and tilt. And, these features are all packed into a compact, sturdy and legendary Martin design.

The MAC Ultra Performance is perfect for a wide range of concert and touring productions but is equally applicable for noise-sensitive broadcast and theater stage lighting applications. Simply put, when it comes to workhorse fixtures that push the boundaries of output and performance execution, the MAC Ultra Performance stands boldly in a class all its own.

## KEY MESSAGES

### INCREDIBLE LUMEN OUTPUT

The MAC Ultra Performance produces an incredible 46,500 projection lumens. With our tailor-made light engine and optics designed as a single unified system, MAC Ultra excels on keeping output across the zoom range. With high luminous flux and intensity at narrow zoom angles, MAC Ultra delivers the punch needed for the longest throws and highest trims - no stage or venue is too big for MAC Ultra Performance.

### SEEING IS BELIEVING

Our proprietary LED light engine is the foundation for MAC Ultra visual quality, built around the very latest technology to meet ever-stretched performance requirements. Our engine not only provides impressive metrics, but most importantly is more pleasing to the human eye. With higher red content and 5800 K color temperature for better daylight balance, it delivers richer, more vivid colors and more natural skin-tones.

### VISUAL EXCELLENCE FOR LIFE

MAC Ultra was designed to not only deliver best-in-class output and quality in its first hour of use, but throughout its product life. The minimum LED lifetime exceeds 50,000 hours and the engine delivers over 90 percent of its initial output after 20,000 hours of full output. In real-world applications, this equals rock-solid performance and stability. Our engineering team has achieved these results through a sophisticated cooling system and by never driving the 1680 W LED package at more than 70 percent of its maximum rating. This combination ensures visual excellence and peace of mind throughout the life of the product.

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## KEY MESSAGES (Cont.)

### PRECISION OPTICS

With remarkably higher projection resolution and definition, incredible sharpness across the field and enhanced contrast, the MAC Ultra Performance features our most impressive projection system ever. The 1:7 zoom system with accurate focus capability maintains a flat field. The beam stays bright at the edge for higher visual impact and white tones and colors stay more consistent across the beam. Thanks to this optical design, MAC Ultra delivers excellent morphing from one gobo plane to the other and outstanding results when using framing and gobos together.

### EXTENDED FRAMING SYSTEM

MAC Ultra Performance truly raises the bar with a next-generation framing system. It offers more flexibility, easy programming, quick response time and enhanced shutter angling. Where existing systems have no tilting of the shutter blades at the very edge of the beam and only obtain their specified tilt range when the blades are fully inserted, the Martin Extended Framing System offers fully specified shutter tilting from the very outside of the beam all the way across to the opposite side. This results in limitless, full curtain functionality and the

ability to throw more light onstage. And, the MAC Ultra Performance keeps the four framing blades in just two layers, offering more even focus across all four blades.

### ULTRA QUIET OPERATION

The sophisticated MAC Ultra cooling system ensures a precise operating temperature window and sets a new standard for low acoustic levels. It's not only ideal for a range of concert and touring productions but is equally applicable for noise-sensitive broadcast and theater stage lighting applications.

### FUNCTIONAL INDUSTRIAL DESIGN

MAC Ultra features a unique and compact industrial design. Martin's patented yoke handles provide better ergonomics and safer handling of the light. To benefit stage and set designers, all connectors and the UI are placed on the same side of the unit, leaving the opposite side free from visual distraction. Follow-spot handles are also permanently incorporated, and tool-free replacement of air-inlet filters is easier than ever to access.

## FEATURES

### LIGHT SOURCE

- 1150 W proprietary LED light engine
- 84 x 20 W white LEDs
- Minimum LED lifetime: >50,000 hours (see specs for further details)

### PHOTOMETRIC DATA

- Light Engine Luminous Output: 90,000 lumens
- Fixture Luminous Output: 46,500 lumens
- Peak Luminous Intensity: 3,000,000 cd
- CCT: 5800 K (+/- 250 K)

### OPTICS

- 160 mm front Lens
- 1:7 zoom range (8.0° - 54° field angle)
- High resolution projection system

### DYNAMIC EFFECTS

- 0 - 100% continuous dimming and strobe effects
- Choice of four dimming curves
- CMY color mixing
- Color temperature control (5800 - 2850 K)
- Color wheel with 6 x interchangeable dichroic filters, including Spectral Enhancement Filter
- Rotating gobo wheel 1 includes 5 interchangeable gobos + open
- Rotating gobo wheel 2 includes 5 interchangeable gobos + open

- Gobo animation wheel, indexing, continuous rotation with variable angle
- Frost (fade in)
- 4-facet prism
- Iris
- Zoom
- Focus with auto tracking
- Extended Framing module with individual +/- 30° across entire beam and +/- 83° rotation
- Pan: 540°
- Tilt: 268°
- P3 videomapping of fixture color and/or intensity (10 segments)
- Pre-programmed effects: Two ranges of pre-programmed FX

### COOLING AND NOISE

- Low noise cooling system
- User-selectable output vs. sound level control

### CONSTRUCTION

- Height (head straight up): 864 mm (34.1 in.)
- Height (maximum): 876 mm (34.5 in.)
- Weight: 44.0 kg (97.0 lbs.)

### CONTROL

- DMX-512 in/out
- Ethercon in/out for P3, Art-Net, sACN
- Built in Ethernet switch with fail-safe bypass

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## ORDERING INFORMATION

- MAC Ultra Performance, SIP (in cardboard box with SIP foam flight case insert) ..... P/N 90250055HU
- MAC Ultra Performance, white finish, SIP (in cardboard box with SIP foam flight case insert)... P/N 90250060HU

## INCLUDED ITEMS

- Two omega brackets with 1/4 turn fasteners for rigging clamp attachment
- Heavy-frost/wash filter (prism replacement) .....P/N MAR-91614060HU
- Safety and Installation Manual

## ACCESSORIES

### OPTICAL ACCESSORIES

- Heavy-frost/wash filter (prism replacement) .....P/N MAR-91614060HU

### TRANSPORT AND STORAGE

- Flightcase for 2 x MAC Ultra Performance/ Wash without SIP inserts.....P/N 91515055

### CONSUMABLES

- Air filter, MAC Quantum / MAC Ultra, set of 12 .....P/N 50400765
- CR123A 3-volt lithium battery .....P/N 05801011

### POWER INPUT CABLES

- Power Input Cable, H07RN-F, 2.5 mm<sup>2</sup>, bare ends to TRUE1 NAC3FX-W TOP (female), 1.5 m (4.9 ft.) .....P/N 91611797
- Power Input Cable, H07RN-F, 2.5 mm<sup>2</sup>, bare ends to TRUE1 NAC3FX-W TOP (female), 5 m (16.4 ft.) .....P/N 91611786
- Power Input Cable, SJ00W, 12 AWG, bare ends to TRUE1 NAC3FX-W TOP (female), 1.5 m (4.9 ft.) .....P/N 91610173

- Power Input Cable, SJ00W, 12 AWG, bare ends to TRUE1 NAC3FX-W TOP (female), 5 m (16.4 ft.) .....P/N 91610174

### POWER INPUT CONNECTOR

- Cable Connector, Neutrik powerCON TRUE1 NAC3FX-W TOP (female) ..... P/N 91611789HU

### INSTALLATION HARDWARE

- G-clamp (suspension with fixture hanging vertically downwards only).....P/N 91602003
- Quick Trigger Clamp (suspension with fixture hanging vertically downwards only) .....P/N 91602007
- Half-coupler Clamp .....P/N 91602005
- Safety Cable, SWL 60 kg, BGV C1 / DGUV 17, black .....P/N 91604006
- Safety Cable, SWL 60 kg, BGV C1 / DGUV 17, silver .....P/N 91604007

### RELATED ITEMS

- Martin Companion Cable (for firmware update over DMX) .....P/N 91616091
- Martin RDM 5.5 Splitter .....P/N 90758150
- Martin Companion Software (for firmware update over DMX): Free download from [www.martin.com](http://www.martin.com)

## TECHNICAL SPECIFICATIONS

### DYNAMIC EFFECTS

- **Pre-programmed effects** .....Two ranges of FX, independent or synchronized/combined
- **Color mixing** .....CMY, independently variable 0 - 100%
- **Color wheel** .....6 x interchangeable dichroic filters + open (incl. Spectral Enhancement Filter), indexing, continuous rotation, random color
- **Gobo animation** .....Interchangeable animation wheel, indexing, continuous rotation with variable angle, speed and direction
- **Iris** .....Variable 0 - 100%, pulse effects
- **Zoom** .....Motorized
- **Color temperature control** .....Variable 5800 - 2850 K

- **Framing** .....Rotatable framing module, +/- 83°, 4 x individually controllable full curtain blades with full variable angle (+/- 30°) through the entire insertion path from 0 - 100%
- **Prism** .....4-facet, indexing and continuous rotation
- **Frost** .....Variable 0 - 100%, second (heavy) frost available as optional replacement for Prism
- **Dimmer/shutter** .....0 - 100% continuous dimming, regular and random strobe and pulse effects, instant open and blackout
- **Dimming options** .....Choice of four dimming curves
- **Pan** .....540°, coarse & fine control and speed
- **Tilt** .....268°, coarse & fine control and speed

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## TECHNICAL SPECIFICATIONS (Cont.)

### DYNAMIC EFFECTS (Cont.)

P3:	Videomapping of fixture color and/or intensity with variable crossfade between DMX control and video control
Focus:	Motorized, range varies with zoom angle, from approx. 4.5 m (14.8 ft.) to infinity
Rotating gobo wheel 1:	5 x interchangeable gobos + open, indexing, continuous rotation and shake
Rotating gobo wheel 2:	5 x interchangeable gobos + open, indexing, continuous rotation and shake
Gobo Color Temperature Correction:	Automatic

### CONTROL AND PROGRAMMING

Control Protocols:	DMX, RDM, Art-Net, RDM over Art-Net, sACN and P3
Protocol detection:	Automatic
Setting and addressing:	Display Menu, RDM, RDM over Art-Net or P3
DMX Modes:	One
DMX channels:	48
16-bit Controllable Parameters:	Dimming, Color Mixing + CTC, Gobo Rotation/Indexing, Zoom, Focus, Pan and Tilt
Fixture Identification:	User-settable ID number
DMX compliance:	USITT DMX512-A
RDM compliance:	ANSI/ESTA E1.20
Art-Net Compliance:	Art-Net 1, 2, 3 and 4; including RDM over Art-Net
sACN Compliance:	ANSI E1.31 - 2016
Martin P3 Compliance:	P3 System Controller Software 5.1.0 or newer
DMX/RDM Transceiver:	Galvanic-isolated RS-485
Ethernet Transceiver:	10/100Mbit (with fail-safe bypass)
Firmware update:	USB memory device, via DMX using Martin Companion or via Ethernet using P3 System Controller
Local User Interface:	Backlit LCD Display with battery-powered operation

### OPTICS

Front Lens Diameter:	160 mm
Zoom Range:	8.0° - 54° (1:7 field angle)
Light Source:	84 x 20 W White LEDs in a custom Martin engine
Minimum LED lifetime:	>50,000 hours (to >80% luminous output)* / >20,000 hours (to >90% luminous output)*

Maximum Total LED Engine Power .....1150 W

\*Figure obtained under manufacturer's test conditions

### PHOTOMETRIC DATA

Light Engine Luminous Output:	90,000 lumens
LED refresh rate:	3000 Hz

### PHOTOMETRIC DATA (Cont.)

#### STANDARD

Fixture luminous output:	46,500 lumens
CRI (Color Rendering Index):	66 (+/- 3)
TM-30 Rf (IES TM-30-15 Fidelity Index):	66
TM-30 Rg (IES TM-30-15 Gamut Index):	95
CCT:	5800 K (+/- 250 K)
Peak Luminous Intensity:	3,000,000 cd

#### WITH SPECTRAL ENHANCEMENT FILTER AT 5300 K

Fixture luminous output:	23,500 lumens
CRI (Color Rendering Index):	83 (+/- 3)

#### WITH CTO AND CYAN AT 3200 K

Fixture luminous output:	12,000 lumens
CRI (Color Rendering Index):	90 (+/- 3)

### CONSTRUCTION

Housing:	High-impact flame-retardant thermoplastic
Color:	Black
Protection rating:	IP20
RoHS:	Compliant
REACH:	Compliant

### GOBOS

Maximum image diameter:	30 mm (1.181 in.)
External diameter:	37.5 mm +0 / -0.2 mm (1.476 in. +0 / -0.008 in.)
Maximum gobo thickness:	1.1 mm (0.04 in.)
Coating:	Heavy matted aluminum
Material:	Borofloat 33

### INSTALLATION

Mounting points:	2 pairs of 1/4-turn points for 106 mm (4.17 in.) center-to-center omega brackets
Location:	Dry location only, must be fastened to surface or structure
Orientation:	Any

Minimum distance to combustible materials .....0.2 m (8 in.)

Minimum distance to illuminated surfaces .....4.75 m (15.6 ft.)

### CONNECTIONS

DMX and RDM data in/out:	5-pin locking XLR
AC mains power input:	Neutrik TRUE1 socket, accepts TRUE1 NAC3FX-W (TOP) connector

Ethernet (Art-Net, sACN and P3) in/out, including fail-safe bypass .....Neutrik etherCON

Firmware from flash memory .....USB 2.0 port

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## TECHNICAL SPECIFICATIONS (Cont.)

### ELECTRICAL

AC power	200-240 V AC nominal, 50/60 Hz
Power supply unit	Auto-ranging electronic switch mode
Typical half-cycle RMS inrush current at 230 V, 50 Hz	17.0 A
Power Factor	0.99 @ 208 V / 230 V / 240 V
Max current draw	8.0 A @ 208 V, 6.7 A @ 230 V / 240 V
Typical current draw	6.8 A @ 208 V, 6.0 A @ 230 V, 5.8 A @ 240 V *
<b>Power Consumption</b>	
Maximum	1450 W
Typical	1380 W *
Idle	100 W *
Hibernation	55 W *

\* Measurements made at nominal voltage. Allow for a deviation of +/- 10%.

Typical: full output white, no effects moving, regulated fan speed.

Idle: no output, no effects moving, regulated fan speed.

Hibernation: no output, motors de-energized, fans stopped, wake-up procedure to re-use fixture.

### THERMAL

Cooling	Forced air (temperature regulated, low noise)
Maximum Ambient Temperature (Ta max)	40° C
Minimum Ambient Temperature (Ta min)	5° C
Maximum surface temperature, steady state, at 40° C ambient	85° C (185° F)
Total heat dissipation (calculated, +/- 10%)	4950 BTU/hr.



### ACOUSTIC DATA

Sound Pressure Level (LpA) @ 1 m (default regulated fan mode, full output)	36.5 dB(A)
Sound Pressure Level (LpA) @ 1 m (constant fan mode ultra low)	35.1 dB(A)

### WARRANTY

Fixture	2 years
Light Engine	5 years

### APPROVALS

EU safety	EN 60598-2-17 (EN 60598-1), EN 62471, EN 62493
EU EMC	EN 55032; EN 61547; EN 55035; EN 61000-3-2,-11
US safety	UL 1573
US EMC	FCC Part 15 Class B
Canadian safety	CSA C22.2 No. 166
Canadian EMC	ICES-003 Class B, ICES-005 Class B
Australia/NZ	RCM
Global CB Certification/IECEE	IEC 60598-2-17 (IEC 60598-1)





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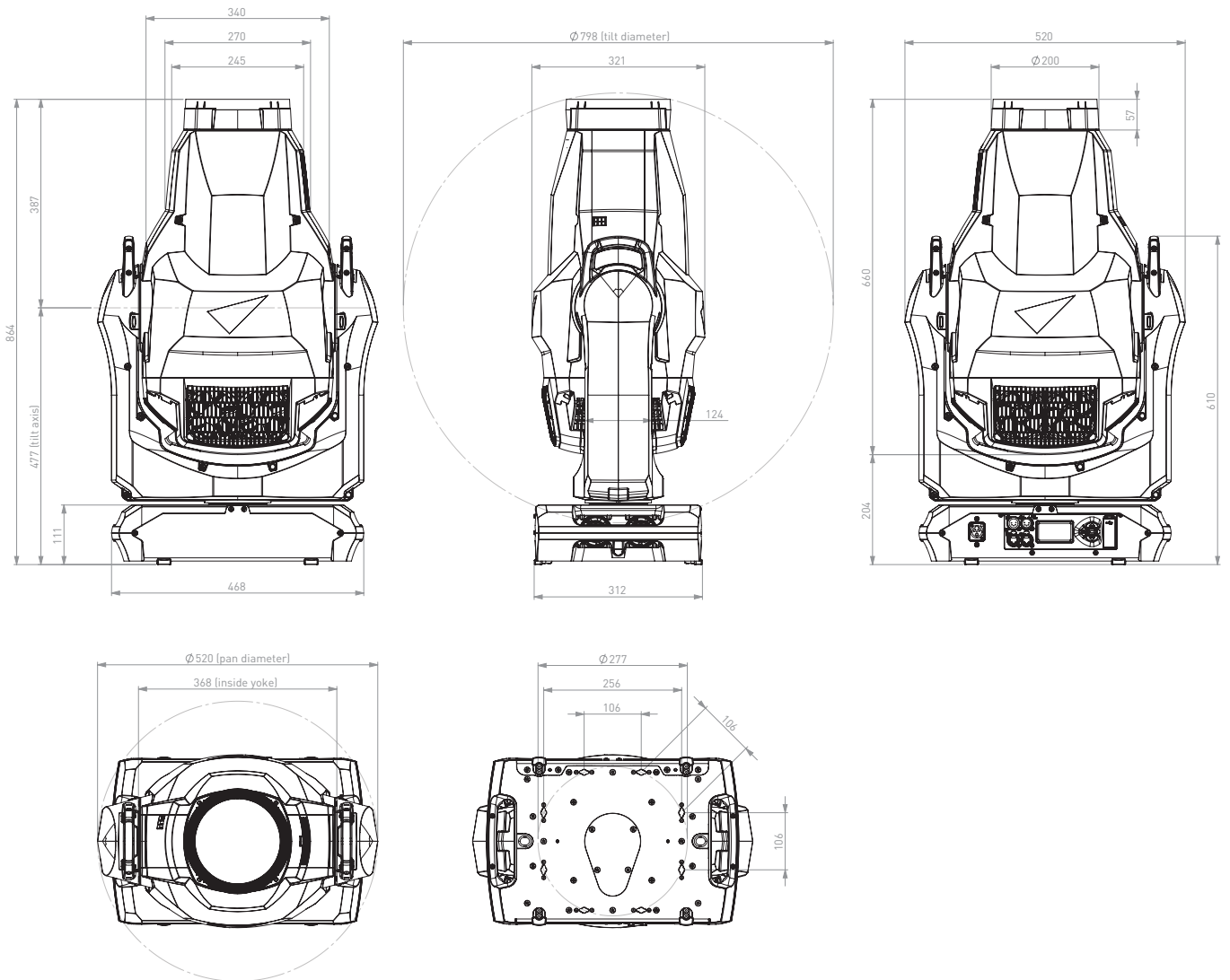
SPEC SHEET

## DIMENSIONS

### PHYSICAL

Weight .....44.0 kg (97.0 lbs.)  
Minimum center-to-center distance  
in side-by-side installation .....830 mm (32.7 in.)  
Length (head) .....660 mm (26.0 in.)  
Length (base) .....468 mm (15.5 in.)

Width (base) .....312 mm (12.3 in.)  
Width (across yoke) .....520 mm (20.5 in.)  
Height (head straight up) .....864 mm (34.1 in.)  
Height (maximum) .....876 mm (34.5 in.)



All dimensions are in mm