MAC TW1™
Tungsten Wash

Martin®
Just like sunlight, an incandescent source is ideal for highlighting skin tones or textiles, making it the preferred light source for television, theatre, concerts, film sets, fashion shows and corporate events.

Living colors

The MAC TW1 is Martin’s 1200 W Tungsten Wash fixture that brings to the stage and studio all the optical brilliance and feature quality of the MAC range – with the warmth of tungsten halogen.
The edge of beauty

The MAC TW1 has truly beautiful soft beam edges and an unquestionable uniformity in light and color output.

This gives an even distribution across a projected surface and allows seamless overlapping of beams for large stage and set areas.

Dynamic zoom and lens options
A twin lens zoom offers lighting designers the flexibility of working with different beam angles, while the zoom system ensures total control of the beam angle without compromising the quality of the light itself. The standard lens gives a variable field angle range of 18° to 40°. Two optional lens kits are available – a very wide-angle lens with a range of 94° to 102°, and a narrow-angle lens with a 14° to 27° range, if longer throw distances are required.

Internal and external dimming
Prepared for use with external dimming systems, the MAC TW1 has also been fitted with an internal IGBT dimmer. This is advantageous for smaller productions not requiring external dimmer racks or off-stage fixture placement where dimmer cables can be cumbersome. When using external dimming, no power can reach the fixture’s lamp before its safety features are activated.

Mechanical dimming
In addition to the electronic dimming options, the MAC TW1 is also fitted with a mechanical dimmer. As this mechanical dimmer is independent of the lamp itself, the color temperature remains in balance throughout the dimming process. The mechanical shutter also gives you instant snaps to full or zero, and variable speed strobe effects.
Full spectrum color mixing

The broadest, most evenly distributed spectrum of colors in one self-contained color mixing system. This means there is no need for complicated module changes or doubling up fixtures on the truss in order to achieve a total range of colors.

Images taken at approximately 3m from projection surface

Every nuance,
Every shade

The MAC TW1’s CMY color mixing system delivers a multitude of vibrant colors – from fully saturated deep hues to soft pastels.

The system ensures a logical transition from any one color to another without distracting detours or unwanted colors.

The temperature of light

All around us in nature, the temperature of light is in continuous flux. It is never constant. The subtle shifts of color temperature throughout the day gently communicate with our peripheral senses. We receive subconscious messages such as: the storm is clearing, midday is approaching or the workday is ending. In theatre, the ability to accurately emulate color temperature can similarly communicate to an audience all the emotions associated with an exact moment in time. The incredible accuracy of the CMY mixing system in the MAC TW1 allows you to do just this.
The science of silence

Despite being the brightest 1200 W fixture in its class, the MAC TW1 is also exceptionally quiet. Less than 40dBA.

This is achievable through its cold-light reflector technology and a new, patent-pending silent cooling design, which traps the heat and silently dissipates it away from the back of the fixture.

**Heat management**

Convection cooling through a magnesium shell ensures the fixture has an extremely quiet operating noise level while also directing heat away from the stage or set.

The MAC TW1 operates in three modes: **Normal, Studio and Silent**.

Selectable from your lighting desk, Silent mode reduces the speed of effects and mechanical movements for an even smoother, quieter performance. A convection cooling only setting is also available from the lighting desk.

**Accurate and quiet movement**

A precise pan and tilt system (540°/242°) gives measured and accurate movement - no matter how fast or slow, while Martin’s yoke technology ensures the quietest movement in its class.
The finer details...

It is not only about bright, brilliant, colorful output, but also ensuring that service and day-to-day adjustments are straightforward and fast. That is the philosophy behind all Martin luminaires, and in the MAC TW1 this objective comes into its own.

The complete global package

The MAC TW1 comes out of the box as a complete operating fixture. A full auto-sensing switch-mode power supply means one single fixture can be used all over the world without the need for external power boxes and cables that increase transport costs and hassles.

Simple lamp replacement & adjustment

A single-ended, quarter-turn lamp makes lamp replacement simple and fast, cutting down service and maintenance time. Three illuminated lamp indicators on the back of the fixture allow easy adjustment in the dark. The MAC TW1 can be fitted with a 230 V, 240 V or 115 V lamp as well as a new breed of 80 V lamp that offers a far superior output to traditional mains voltage lamps.

Easy maintenance

A clever modular design with multi-connectors for easy access, maintenance and cleaning reduces service time and cost of ownership. The fixture is prepared for a range of accessories, such as barndoors, gel frames and top hats.
Optical accessories

Narrow-angle lens kit
The narrower zoom range of 14° to 27° enhances beam intensity and provides a tight beam for venues where longer throw distances are necessary, for example at larger theatres, concert halls, and opera houses.

Very wide-angle lens kit
The very wide-angle lens spreads light from 94° to 102° and is perfect for short-distance projection to light up a large area, for example cycloramas and scenery.

Front accessory holder
The front accessory holder is easily attached to the front of all lens options, with four runners (three static and one spring-mounted clip) to lock accessories into place. Silicone rubber inserts stop any vibration noise while the fixture is moving.

Top hat
The top hat is designed to shield the audience or a camera from the direct source of light. With a flock coating on the inside, the top hat effectively absorbs light spill, eliminating unwanted reflections.

Top hat with louver
With the additional honeycomb louver insert, this top hat further eliminates unwanted glare.

Gel frame
The gel frame is a standard holder that accepts regular gel filters from major manufacturers, including all diffusion and correction gels.

Front accessories
We have teamed up with City Theatrical Inc. of New York to offer front accessories that increase the flexibility of the MAC TW1, for additional optical control. Up to two accessories can fit onto the front accessory holder, and all accessories, except for the gel frame, come with a safety wire.

Dramatic new flexibility
Extend the functionality of the MAC TW1 with a range of optical accessories. All lenses and attachments can be used without compromising the quality of light. Simply swap the current lens with the new narrow-angle or very wide-angle front, fasten with four quarter-turns and attach the safety wire. No components need to be changed inside the fixture.
### Specifications

#### PHYSICAL
- **Base length:** 454 mm (17.9 in.)
- **Base width:** 362 mm (14.3 in.)
- **Yoke width:** 489 mm (19.3 in.)
- **Height:** 709 mm (27.9 in.), head straight up
- **Weight:** 27 kg (59.5 lbs.)

#### LAMP
- **Type:** 1200 W tungsten halogen
- **Socket:** PGJX-50
- **Approved lamps:** Philips 1200/115, 1200/230 or 1200/240 FastFit, Philips Hi-Brite 1200/80 FastFit
- **Lamp voltage:** Must match internal or external dimmer output voltage

#### DYNAMIC EFFECTS
- **Color mixing:** CMY, independently variable 0 - 100%, 8- or 16-bit control
- **Shutter:** Fast-action mechanical shutter, variable speed strobe effect 1 - 10 Hz
- **Zoom:** 20° - 41° (2.1:1), 8- or 16-bit control
- **Pan:** 540°, 16-bit control
- **Tilt:** 242°, 16-bit control
- **Electronic dimming:** Multi-voltage IGBT and 80 V internal dimmer options, ‘plug and play’ external dimming

#### INSTALLATION
- **Mounting points:** 2 pairs of 1/4-turn locks
- **Minimum distance to illuminated surfaces:** 0.5 m (1.6 ft.)
- **Minimum distance to combustible materials:** 0.5 m (1.6 ft.)
- **Minimum center-to-center installation distance:** 550 mm (21.7 in.)

#### ELECTRICAL
- **AC power:** 100-120/200-240 V nominal, 50/60 Hz
- **Main fuse:** 20 A

#### TYPICAL POWER AND CURRENT
- **115 V, 60 Hz:** 1226 W, 10.7 A, PF 0.998
- **230 V, 50 Hz:** 1220 W, 5.3 A, PF 0.995
- **240 V, 50 Hz:** 1233 W, 5.2 A, PF 0.996
- **230 V, 50 Hz using internal 80 V dimmer:** 1219 W, 5.5 A, PF 0.970
- **230 V, 50 Hz using external dimmer, figures for fixture only:** 93 W, 1.0 A, PF 0.420

#### THERMAL
- **Lamp cooling:** Patent-pending low-noise ducted forced air system
- **Cooling:** Filtered forced air (temperature-regulated, low noise)
- **Maximum ambient temperature (Ta):** 40° C (104° F)
- **Maximum surface temperature, steady state:** 55° C (131° F)
- **Total heat dissipation (calculated, 230 V, 50 Hz / 110 V, 60 Hz):** 4160 / 4180 BTU/hr.

#### ACOUSTIC
- **Noise level:** Below 40 dBA at 1 m (3.3 ft), 26° C (80° F), steady state, lamp on, effects static

#### APPROVALS
- **US safety:** ANSI/UL 1573
- **Canadian safety:** CSA C22.2 No. 166
- **EU safety:** EN 60598-2-17
- **EU EMC:** EN 55 015, EN 55 103-1, EN 61 547

#### RELATED ITEMS
- **DABS1 Hardware Interface (USB-XLR):** P/N 91611144
- **PHYSICAL PARTS:**
  - Philips Hi-Brite 1200/80 FastFit 80 V lamp: P/N 97000006
  - Philips 1200/115 FastFit 115 V lamp: P/N 97000112
  - Philips 1200/230 FastFit 230 V lamp: P/N 97000113
  - Philips 1200/240 FastFit 240 V lamp: P/N 97000114
- **ORDERING INFORMATION:**
  - MAC TW1, Multi-voltage, IGBT dimmer, cardboard packing case: P/N 90202000
  - MAC TW1, Multi-voltage, IGBT dimmer, double flightcase: P/N 90202001
  - MAC TW1, Multi-voltage, 80 V dimmer, cardboard packing case: P/N 90202400
  - MAC TW1, Multi-voltage, 80 V dimmer, double flightcase: P/N 90202401

#### INCLUDED ITEMS
- **Two Omega brackets, 1/4-turn**
- **Very wide-angle lens kit**
- **Narrow-angle lens**
- **Front accessory holder**
- **DMX cable, STP, 1 pair + shield, IEC/UL-CL, 1 m:** P/N 91611242
- **DMX cable, STP, 1 pair + shield, IEC/UL-CL, 2 m:** P/N 91611243
- **DMX cable, STP, 1 pair + shield, IEC/UL-CL, 5 m:** P/N 91611244
- **DMX cable, STP, 1 pair + shield, IEC/UL-CL, 10 m:** P/N 91611245
- **DMX cable, STP, 1 pair + shield, IEC/UL-CL, 20 m:** P/N 91611246

#### SPARE PARTS
- **Philips Hi-Brite 1200/80 FastFit 80 V lamp:** P/N 97000006
- **Philips 1200/115 FastFit 115 V lamp:** P/N 97000112
- **Philips 1200/230 FastFit 230 V lamp:** P/N 97000113
- **Philips 1200/240 FastFit 240 V lamp:** P/N 97000114

*Available from City Theatrical www.citytheatrical.com or call Martin for details*
Photometric Data

**NARROW**

**Test lamp**

**Test conditions** 80 V, 50 Hz, no effects applied

**Rated output** 30,000 lumens

MAC TW1 Wash, narrow lens, zoom in minimum position:
- **1/10 peak (field) diameter**: 0.25 x distance
  - **Half-peak (beam) diameter**: 0.30 x distance

MAC TW1 Wash, standard lens, zoom in minimum position:
- **1/10 peak (field) diameter**: 0.35 x distance

MAC TW1 Wash, narrow lens, zoom in maximum position:
- **1/10 peak (field) diameter**: 0.46 x distance
  - **Half-peak (beam) diameter**: 0.48 x distance

**Luminous intensity**
- **T10000 candela**
  - **Distance (m)**
    - **diameter**
      - **One-tenth peak**
        - **Illuminance (lux)**
          - **Distance (m)**
            - **diameter**
              - **Efficiency**
                - **Total output**
                  - **4,700 lumens**

MAC TW1 Wash, standard lens, zoom in maximum position:
- **1/10 peak (field) diameter**: 0.48 x distance
  - **Half-peak (beam) diameter**: 0.75 x distance

**Luminous intensity**
- **T10000 candela**
  - **Distance (m)**
    - **diameter**
      - **One-tenth peak**
        - **Illuminance (lux)**
          - **Distance (m)**
            - **diameter**
              - **Efficiency**
                - **Total output**
                  - **5,700 lumens**

**MEDIUM** (STANDARD)

**Test lamp**

**Test conditions** 240 V, 50 Hz, no effects applied

**Rated color temperature** 3200 K

MAC TW1 Wash, narrow lens, zoom in minimum position:
- **18˚**

MAC TW1 Wash, narrow lens, zoom in maximum position:
- **20˚**

MAC TW1 Wash, standard lens, zoom in minimum position:
- **20˚**

MAC TW1 Wash, standard lens, zoom in maximum position:
- **40˚**
**Test lamp**

Philips 230/240 V, 50 Hz FastFit

**Test conditions**

- 240 V, 50 Hz, no effects applied
- 80 V, 50 Hz, no effects applied

**Rated color temperature**

- 3200 K

**Rated output**

- 30000 lumens
- 36000 lumens

**MAC TW1 Wash**, very wide lens, zoom in minimum position:

- 93˚
- 97˚

**1/10 peak (field) diameter**

- 2.11 x distance
- 2.14 x distance
- 2.26 x distance

**Half-peak (beam) diameter**

- 1.09 x distance
- 1.06 x distance

**Illuminance (lux)**

- 9,000
- 14,000

**Efficacy**

- 7 lumens per watt
- 10 lumens per watt

**Total output**

- 8,700 lumens
- 11,700 lumens

**Illuminance (fc)**

- 3,500
- 4,200

**Luminous intensity**

- 9,000 candela
- 13,000 candela

**Efficiency**

- 39%
- 35%

**Zoom in maximum position**

**Zoom conditions**

- 120 V, 50 Hz, no effects applied

**1/10 peak (field) diameter**

- 2.61 x distance

**Half-peak (beam) diameter**

- 1.09 x distance

**Illuminance (lux)**

- 1,556
- 875

**Efficacy**

- 11 lumens per watt
- 10 lumens per watt

**Total output**

- 8,700 lumens
- 11,700 lumens

**Illuminance (fc)**

- 286
- 750

**Luminous intensity**

- 8,000 candela
- 13,000 candela

**Efficiency**

- 35%
- 35%

**Zoom in minimum position**

**MAC TW1 Wash**, very wide lens, zoom in minimum position:

- 93˚

**1/10 peak (field) diameter**

- 2.11 x distance

**Half-peak (beam) diameter**

- 1.09 x distance

**Illuminance (lux)**

- 9,000
- 6,300

**Efficacy**

- 7 lumens per watt
- 5 lumens per watt

**Total output**

- 8,700 lumens
- 6,300 lumens

**Illuminance (fc)**

- 324
- 210

**Luminous intensity**

- 8,000 candela
- 7,200 candela

**Efficiency**

- 11 lumens per watt
- 9 lumens per watt

**Zoom in maximum position**

**MAC TW1 Wash**, very wide lens, zoom in maximum position:

- 103˚

**1/10 peak (field) diameter**

- 2.57 x distance

**Half-peak (beam) diameter**

- 1.49 x distance

**Illuminance (lux)**

- 11,000
- 13,000

**Efficacy**

- 10 lumens per watt
- 10 lumens per watt

**Total output**

- 14,200 lumens
- 15,000 lumens

**Illuminance (fc)**

- 1,333
- 1,222

**Luminous intensity**

- 13,000 candela
- 12,000 candela

**Efficiency**

- 35%
- 35%

“**We finally have an ideal moving light for theatre.**” *Vince Herbert*

“I like how I can get from one color to another without passing through unpleasantness.” *Simon Fraulo*

“The TWIs saved us thousands of dollars where a union crew was to stay and focus the rig, but … we don’t need to climb and focus, so production was rather happy.” *Glen Johnson*

“I’m glad that I finally have a quiet and powerful tool to use for operas and classical concerts … Nowadays the sound guys actually speak and smile to me!” *Valo Virtanen*

“They’re bright and the colors are excellent - in fact I can’t fault any of their features.” *Rohan Thornton*