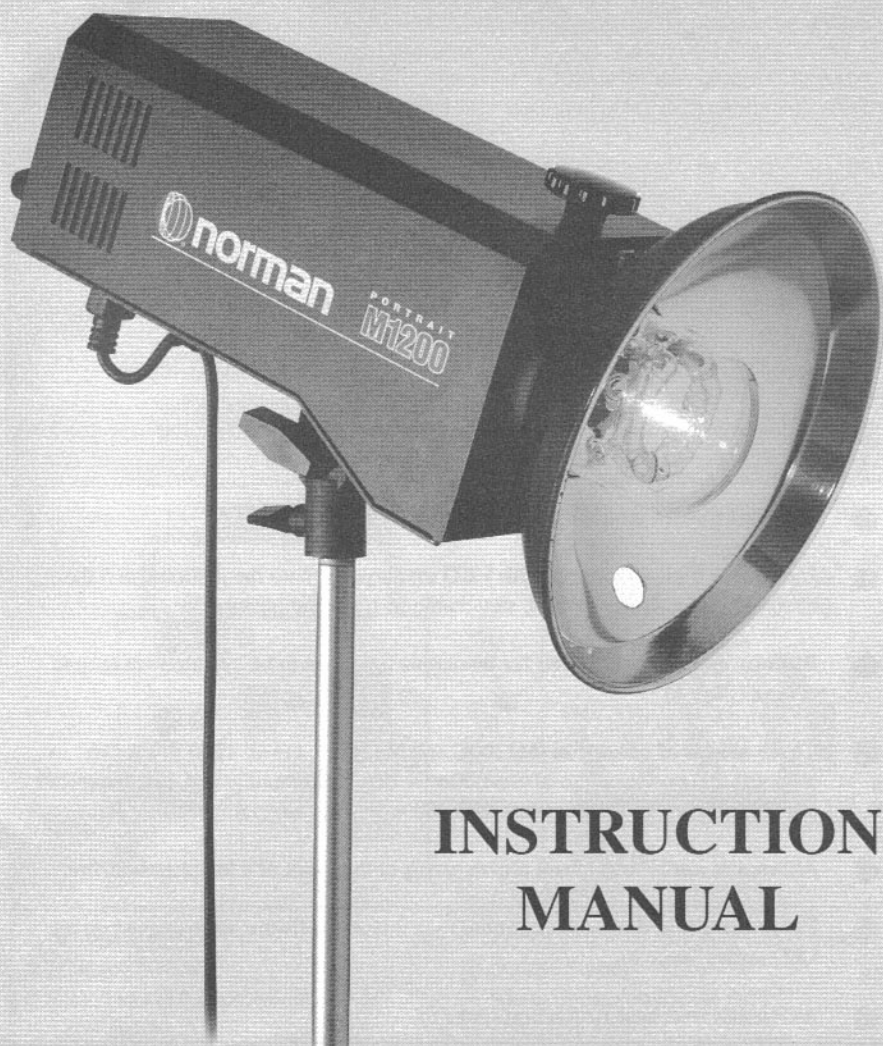




norman



INSTRUCTION MANUAL

Monolites

M600, M1200, M1200C and M1200P

2 NORMAN MONOLITE INSTRUCTION MANUAL

Models covered: M600, M1200, M1200C and M1200P

Welcome to the Norman family of interchangeable high-quality flash equipment and thank you for purchasing a Norman Monolite system. The utilization of larger high-duty-cycle flash capacitors and related components enables this system to be utilized for demanding commercial and portrait silver halide and digital applications that are not normally associated with monolites.

The M1200C (Commercial) and M1200P (Portrait) Monolites are the result of requests from commercial and portrait photographers for features not normally found in other monolites. One of these features is:

M1200C Commercial Monolite - An auxiliary lamphead connector that is compatible with all Norman Series 900 lampheads (LH2000, LH2400, IL2500, etc.).

M1200P Portrait Monolite - An auxiliary lamphead connector that is compatible with all Norman Series 500 lampheads (LH500, LH54, etc.).

Other features include:

- **1200 watt-second capacity** (M1200, M1200C and M1200P). (3200 effective w-s, if using ratings in accordance with today's popular advertising nomenclature.) The M600 is an honest 600 watt-seconds (1600 w-s by today's advertising.)
- **1/20-stop repeatability at full power.** Holds this tolerance with line voltages from 105 to 130 volts.
- **250-watt quartz modeling lamp** with fan cooling.
- **Individual digital controls with LED displays** for both the monolite and the auxiliary outlet (if applicable), switchable in 1/10-stop increments.
- **Built-in 'Serial Port'** allows for numerous functions to be operated via remote control (page 6)
- **Three modes of operation** (M1200C and M1200P); (1) all 1200 w-s to the monolite, (2) power split 600 w-s/600 w-s between monolite and aux. lamphead and (3) 800 w-s to the monolite with 400 w-s to the aux. lamphead.
- **Automatic audio and visual alarm** warns in the event of a lamphead misfire.
- **Error condition diagnostic readouts** via internal software, as displayed on the LED arrays (page 8).
- **Automatic overheat protection** (page 8).
- **Interchangeable with over 100 Norman accessories and light modifiers.**
- **Full two year limited warranty**, including parts and labor

4 EXPLANATION OF INDICATORS, OUTLETS & CONTROLS

1 AC Power Inlet

Connects to the AC power cable. The AC input is 115 volts, 60 Hz. The unit is voltage stabilized to provide 1/20 stop full power repeatability with AC line voltage fluctuations of 25 volts (105 - 130 volts).

2 POWER Switch

Switches the AC power on/off. A memory circuit retains the output settings so that they are retained when the unit is switched back on or when the AC power is interrupted.

3 MDL (Model Lamp) Switch

Controls the modeling lamps:

- FULL* The modeling lamps are at full brightness regardless of the flash power settings.
- OFF* The modeling lamps are off.
- RATIO* The modeling lamps automatically ratio (track) with the flash output settings. Internal software automatically makes these adjustments between the MAIN unit and AUXILIARY Lamphead regardless of the various modes of power distribution being utilized (M1200C and M1200P).

4 TEST Button

The unit can be flashed by depressing the TEST Button. The TEST Button will not function unless the unit is 100% recycled. However, to accommodate those who may wish to trigger the unit early, the camera sync circuit will permit triggering prior to 100%.

5 SYNC Outlet

The camera connects to this outlet via the R4155 Sync Extension Cord (included). The socket (female) end of the Sync Extension Cord connects to the camera sync cord (not included). Most 35mm and 120mm cameras utilize a standard "PC" sync cord which is available through your photo supply store.

Proper polarity is important with cameras that utilize grounded shutter switch circuits (cameras that utilize PC cords).

To check polarity - With the unit on, connect the camera "PC" cord to the Sync Extension Cord and touch the metal shield, at the tip of the "PC" cord, to any exposed (non-painted and non-anodized) metal on the flash unit. If the unit flashes, the sync cord polarity is reversed.

To achieve the correct polarity - Reverse the camera sync cord at the point where it joins the Sync Extension Cord. This establishes a common ground between the camera body and the flash unit. If the polarity is incorrect the unit could self-flash or flash intermittently.

6 RESET 10 Amp Circuit Breaker

Automatically protects the flash circuit against excessive overloads. When activated, it will pop out about 1/4" and the flash portion of the unit will become inoperative. To reset, wait at least 30 seconds and depress the RESET Button. If the circuit breaker continues to activate, consult the factory or your authorized Norman service center.

7 W-S RATIO Switch (M1200C and M1200P)

Controls the distribution of power between the MAIN unit and the AUXILIARY lamphead. There are three modes of operation:

1200 / 0 The MAIN unit flashes at up to 1200 w-s (subject to the setting of the MAIN +/- Switch) and the AUXILIARY lamphead is off, even if a lamphead is connected to the AUX. Outlet.

To confirm that the AUXILIARY lamphead is disabled, these components automatically switch off:

- AUXILIARY LED digital display
- AUXILIARY lamphead modeling lamp
- AUXILIARY lamphead alarm system

800 / 400 The MAIN unit flashes at up to 800 w-s (subject to the setting of the MAIN +/- Switch) and the AUXILIARY lamphead receives up to 400 w-s (subject to the setting of the AUX. +/- Switch).

600 / 600 Both the MAIN unit and the AUXILIARY lamphead power is split at 600 w-s each, subject to the settings of the MAIN and the AUX. +/- Switches.

8 MAIN +/- Switch and LED Display

Controls the output of the MAIN unit in 1/10-stop increments over a 5-stop range plus "full" (6-stops total). The LED Display reads the output in terms of *f*-stop reduction. Tap the +/- Switch for each 1/10-stop change. Hold the button down and the change accelerates for convenience. Once the approximate power level is obtained, tap the switch until the desired setting is obtained.

When an LED display reads "FL", its corresponding watt-second output is the full amount, subject to the power distribution selection between the MAIN the AUXILIARY lampheads (M1200C and M1200P).

The LED displays blink during the recycle period and illuminate continuously when the 100% ready condition is reached. Error conditions are displayed on the LEDs, as outlined on page 8.

9 AUXILIARY +/- Switch and LED Display (M1200C and M1200P)

Controls the output of the AUXILIARY outlet in the same manner and over the same range as described above in section 8. The MAIN and the AUXILIARY +/- Switches operate independently so that adjusting one has no effect on the other.

10 Disable Switch (M1200C and M1200P)

Permits switching off the MAIN unit or the AUXILIARY lamphead. This is especially useful in portrait situations where it is desirable to switch off a hair light, or in commercial and portrait applications where you wish to see the effect that one light is having by switching off another light:

MAIN OFF Switches off the MAIN unit. Has no effect on the AUXILIARY lamphead output.

ALL ON Both the MAIN unit and AUXILIARY lamphead are on.

AUX. OFF Switches off the AUXILIARY lamphead. Has no effect on the MAIN unit output.

Note - The Disable Switch is automatically disengaged when the W-S RATIO Switch is at 1200/0 (no Auxiliary Lamphead is in use). To disable the monolite in this situation, simply turn off the PWR Switch.

6 EXPLANATION OF INDICATORS, OUTLETS & CONTROLS (cont.)

11 Alarm System

In the event of a lamphead misfire, 5 quick beeps will sound. The LEDs will blink at the same rate and display the cause of the misfire (see page 8).

The alarm system automatically resets when the unit is recycled.

12 Photo Eye Switch

Switches off/on the photo eye. The eye is located at the top center portion of the back panel and it permits remote triggering from other flash units. The eye is not required to trigger the auxiliary lamphead or to trigger the unit via remote control.

13 Ready Beep Switch

Switches off/on the beep signal which serves a dual purpose:

- 1 Audibly informs the operator that the unit is recycled to 100% output.
- 2 Audibly informs the operator that the unit flashed. This is especially handy when the unit is out of view and is used in the photo eye mode in conjunction with another flash unit.

14 Auxiliary Lamphead Outlet (M1200C and M1200P)

M1200C Connects to any Norman Series 900 lamphead, including but not limited to; LH2000, LH2400, Illuminator IL2500, Tri-Lite*, FS6 and FS10 Fresnel Spotlights.

M1200P Connects to any Norman Series 500 portrait lamphead, including but not limited to; LH500, LH500+ and LH54 (LH54 up to 400 w-s only).

The amount of power received on this outlet depends on the settings of the W-S RATIO Switch and the adjustments made to the AUXILIARY Lamphead LED display.

WARNING - Do not connect lampheads of other manufacturers to the AUX. Lamphead Outlet as damage and/or a shock hazard could result.

*Tri-Lites made prior to serial #162162, require that the MDL (model) light be set to full output to prevent the fan from stalling. With subsequent Tri-Lites, the MDL light can be set to ratio.

15 DATA IN/DATA OUT Outlets (2)

This feature is subject to the availability of a software package that is planned for the future. Control of these functions is present at the DATA IN/DATA OUT Outlets:

POWER on/off	W-S RATIO; 1200/0, 800/400 and 600/600 settings
Photo Eye on/off	MAIN Output in 1/10-stop increments
Ready Beep on/off	AUXILIARY Output (M1200C and M1200P) in 1/10 increments
Disable Switch	MDL (Modeling) Lamps off/full/ratio
SYNC (pin 4)	

A standard RJ45 phone cord can be used to link the sync lines of two monolites together. This is handy for situations where use of the photo eye is not desired. (Clip all wires on the phone cord except those on pins 4 & 8 and connect the cord between the DATA IN Outlets on both monolites.)

16 Cable Clips

Serves two functions:

- 1 Places the cables near the fulcrum of the stand adapter so that they do not pull when adjusting the tilt or swing of the monolite.
- 2 Removes the strain at the cable connections to prevent the cables from accidentally disconnecting.

TYPICAL MODES OF OPERATION (M1200C and M1200P)

MONOLITE ALONE



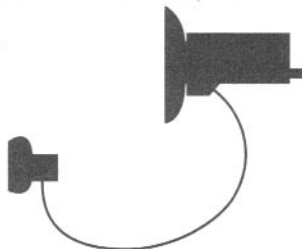
W-S RATIO Switch set to 1200/0 - Monolite delivers from 1200 w-s down to 37 w-s (5-stop reduction plus Full) controlled via the MAIN +/- Switch. M600 range is 600 w-s to 18 w-s and M1200 range is as shown above.

MONOLITE WITH AUX. LAMPHEAD - RATIO OUTPUT

W-S RATIO Switch set to 800/400 (M1200C and M1200P)

800 w-s MAIN

400 w-s AUX.



The MAIN adjustment is from 800 w-s to 25 w-s (5-stops plus Full)

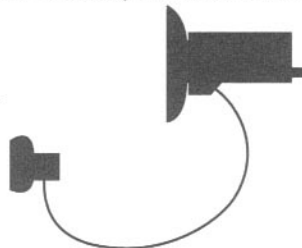
The AUXILIARY lamphead adjustment is from 400 w-s to 12 w-s (5-stops plus Full)

MONOLITE WITH AUX. LAMPHEAD - EVEN SPLIT

W-S RATIO set to 600/600 (M1200P and M1200C)

600 w-s MAIN

600 w-s AUX.



Both the MAIN and AUX, adjustments are independently adjustable from 600 w-s to 16 w-s (5-stops plus Full)

8 DIAGNOSTIC TROUBLESHOOTING

This information can assist the operator in determining the source of a malfunction and it can assist an authorized Norman repair station in servicing a Norman Monolite. These codes flash on the LED Displays, signifying the following:

GENERAL ERRORS

CODE CAUSE

- 70 **Overheated condition** (code on both LEDs). The flash and modeling lamp automatically switch off while the fan continues running until the unit automatically resets (generally under 1 minute). The most probable cause of overheating is repeated use of the "-" power level adjustment switches. This "bleeds" off the capacitor voltage through power resistors which can cause a heat build-up inside the unit.
- 81 **MAIN unit misfire** (code on MAIN LED). Due either to early triggering or to a malfunction of either the flashtube or related trigger circuit components.
- 82 **MAIN unit misfire** (code on MAIN LED). Due to a malfunction of the Monolite circuitry.
- 83 **AUXILIARY lamphead misfire** (code on AUX. LED). Due either to early triggering or to a malfunction of the lamphead. Probable causes are a defective flashtube, trigger circuit or cable break.
- 84 **AUXILIARY lamphead misfire** (code on AUX. LED). Error due to a malfunction of the Monolite circuitry.
- 89 **Low AC line voltage condition** (code on both LEDs). The unit is not fully recycled.

ADVANCED ERRORS FOR AUTHORIZED NORMAN SERVICE STATION USE

CODE CAUSE

- 71 I2c Ram failure
- 72 PIO not detected
- 73 I2c RAM not detected
- 74 LEDs not detected
- 85 MAIN trim level error
- 86 AUXILIARY trim level error
- 87 Low voltage power supply error

SPECIFICATIONS

Watt-Seconds	M1200 types only			All models (M600 recycling is 2 seconds at full power and 1 second at 300 w-s)							
	1200	1000	800	600	400	300	200	100	50	25	12
Recycle time	3.0	2.8	2.0	1.5	1.0	0.8	0.5	0.4	0.4	0.4	0.4
Light output											
Bare bulb	16 ³	16	11 ⁸	11 ³	8.0 ⁸	8.0 ³	5.6 ⁸	4.0 ⁸	2.8 ⁸	2.0 ⁸	1.4 ⁸
5H (included)	32 ⁷	32 ⁴	32 ²	22 ⁷	22 ²	16 ⁷	16 ²	11 ²	8.0 ²	5.6 ²	4.0 ²
5DL (120°)	16 ⁸	16 ⁵	16 ³	11 ⁸	11 ³	8.0 ⁸	8.0 ³	5.6 ³	4.0 ³	2.8 ³	2.0 ³
5E (57°)	32 ¹	22 ⁸	22 ⁶	22 ¹	16 ⁶	16 ¹	11 ⁶	8.0 ⁶	5.6 ⁶	4.0 ⁶	2.8 ⁶
5WW-RP (80°)	22 ²	16 ⁹	16 ⁷	16 ²	11 ⁷	11 ²	8.0 ⁷	5.6 ⁷	4.0 ⁷	2.8 ⁷	2.0 ⁷
5x (80°)	16 ⁵	16 ²	16	11 ⁵	11	8.0 ⁵	8.0	5.6	4.0	2.8	2.0

Light output measured at 10 ft from light-to-subject with ISO 100 emulsion

Sync voltage (at camera) - 6 vdc

Modeling lamp - Q250FL/DC (ETB), 250-watt quartz halogen

Weight M1200 types 12.5 lbs, M600 10 lbs.



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