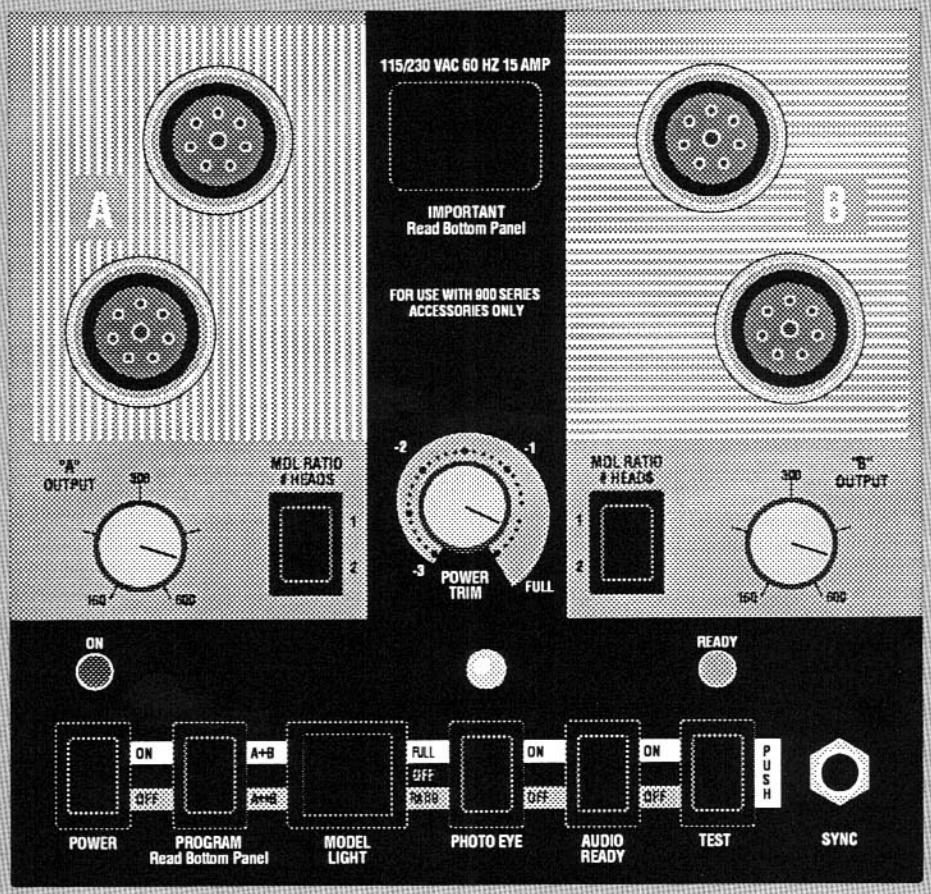
norman

# INSTRUCTION MANUAL




# P12/12

## *SAVE THESE INSTRUCTIONS*

### IMPORTANT SAFEGUARDS

In accordance with UL 122 and UL 1012 specifications for photographic equipment and power supplies.

When using your photographic equipment, basic safety precautions should always be followed, including the following:

1. Read and understand all instructions.
2. Care must be taken as burns could occur from touching the modeling lamp.
3. Do not operate the appliance with a damaged cord or if the appliance has been dropped or damaged until it has been examined by a qualified serviceman.
4. If an extension cord is necessary, a cord with a suitable current rating should be used. Cords rated for less amperage than the appliance may overheat. Care should be taken to arrange the cord so that it will not be tripped over or pulled.
5. When practical, unplug the appliance from the electric outlet when not in use. Never yank the cord to pull from the outlet. Grasp the plug and pull to disconnect.
6. To avoid electric shock hazard, do not disassemble this appliance, but take it to a qualified serviceman when service or repair work is required. Incorrect reassembly could cause an electric shock hazard when the appliance is subsequently used.
7. CAUTION - Designed for indoor use only. Do not operate outside in the rain or inclement weather or in the presence of standing water.

# EXPLANATION OF INDICATORS AND CONTROLS

## 1. AC Inlet

The AC power cable (Norman part number R4156, included) connects to the AC Inlet. Input voltages of 115V or 230V (50-60 HZ) may be used, and the unit automatically adjusts to either voltage.

**WARNING** — It is important to use the correct modeling lamps. Using a 115V modeling lamp at 230V will destroy the bulb.

**115-VOLT OPERATION**

- 150-watt, part # Q150CL/DC
  *(Included with each Norman lamphead)*
- 250-watt, part # Q250CL/DC (optional)

**230-VOLT OPERATION**
*(Lamps available from Norman)*

- 150-watt, part # JD1079-150w-BD
- 250-watt, part # JD1079-250w-BD

For accurate viewing it is recommended that all modeling lamps be of the same type and wattage.

## 2. POWER Switch & ON Light

Switches the power on/off to the flash circuits. The modeling lamps are controlled independently from the POWER Switch, via the MODEL LIGHT Switch.

The ON Light will illuminate when the POWER Switch is "on" and the power is reaching the circuits. If the ON light fails to illuminate, check to see that power is reaching the unit by switching on the modeling lamps or check whether the circuit breaker is activated (breaker is on rear panel).

## 3. MODEL LIGHT Switch

Turns the modeling lamps on/off, independently of the POWER Switch. There are three switch positions:

**FULL** – Modeling lamps are at full brightness.

**OFF** – Modeling lamps are off.

**RATIO** – Modeling lamps ratio to the flash outputs automatically. It is necessary to set the corresponding MDL RATIO # HEADS Switch to the number of lampheads being used on each channel respectively.

## 4. PROGRAM Switch

It is important to understand the operation of this switch, as it is the heart of the unique light distribution capabilities of the 12/12. For convenience, a brief description of the PROGRAM Switch functions is located on the bottom panel of the pack. There are two modes of operation:

### A+B Mode*

**All lights are equal power.** The flash output is controlled by the POWER TRIM Dial. All other light controls (the "A" & "B" OUTPUT Dials and MDL RATIO HEADS Switches) are non-operational in the "A"+"B" mode. The modeling lights will dim automatically to track with the setting on the POWER TRIM Dial, when the MODEL LIGHT Switch is set to the "Ratio" position.

| | |
|---|---|
| **1 Light** | **150-1200 w-s** |
| **2 Lights** | **75-600 w-s each** |
| **3 Lights** | **50-400 w-s each** |
| **4 Lights** | **37-300 w-s each** |

### A↔B Mode*

**Asymmetrical (Ratio) power.** In this mode, the 12/12 operates as two separate 600 w-s packs with two lamphead outlets each.

**"A" OUTPUT Dial —** Adjusts the light(s) on "A" from 150-600 w-s on one light and 75-300 w-s each when using two lights on "A".

**"B" OUTPUT Dial** — Adjusts the light(s) on "B" in the same manner as "A".

**MDL RATIO # HEADS Switches** Set the corresponding switch to the number of lights on each respective channel. This tells the 12/12 how to ratio to modeling lamps automatically.

**The POWER TRIM Dial** Adjusts the light output over a 3-stop range, while maintaining the light ratios which you selected (above). In this "A↔B" mode, the POWER TRIM will not dim the modeling lamps further, so that you can easily visualize your lighting with the modeling lamps.

* See diagrams on page 6.

## 5. Lamphead Connectors

Arc-protected lampheads may be connected or disconnected when the power is "on".
**It is recommended, however, that modeling lamps be OFF when connecting lampheads. This will prevent pitting of the pins from the modeling lamp AC current as the plug end is inserted into the connector.**

**Important - Only use Norman Series 900 Lampheads.** The 12/12 pack operates with all Norman Series 900 Lampheads. Do not connect lampheads made by other manufacturers, as damage could result.

## 6. READY Light

Illuminates "green" continuously, when the unit is at 100% charge. When adjusting the POWER TRIM Dial or the OUTPUT Dial(s), the READY Light will blink until the new setting has been achieved. Then, the READY Light will illuminate continuously once again.

When minimum recycle times are required, select the desired output using the POWER TRIM Dial as opposed to the "A" OUTPUT AND "B" OUTPUT Dials. (Please refer to the Specification Chart on page 5.)

## 7. AUDIO READY Switch

Switches the audio ready "beep" signal on/off. This signal can be handy when the 12/12 pack is placed in a position where the READY Light is not visible to the operator. Upon full charge, the unit will "beep" for about one second.

## 8. PHOTO EYE Switch

Switches the photo eye circuit on/off. When this feature is not needed, it is suggested that the switch be set to the off position, thereby preventing the possibility of the 12/12 pack being triggered by another flash unit.

The photo eye sensor is located physically about 3/4" above the PHOTO EYE Switch.

## 9. TEST Push Button

Press to flash the unit. Handy for testing purposes or when making multiple exposures on "open" shutter.

## 10. SYNC Outlet

The R4155 Sync Extension Cord connects to this outlet. The sync connector is a standard 1/4" monaural microphone connector. The advantages of this type of connector, over a 2-blade outlet, are:

1. It cannot be connected to an electrical wall outlet accidentally.
2. Polarity is always correct at the pack end of the cable.
3. The connectors are readily available at any electronic supply store.

Polarity at the sync cord end is important to prevent the unit from self-flashing or misfiring. To test polarity, touch the metal end of the PC camera connector to any exposed non-painted and non-anodized metal on the pack. If this causes the unit to flash, the polarity is reversed. To correct this, reverse the connection between the camera sync cable and sync extension cord.

The voltage and current on the SYNC Outlet is about 12-volts and 1/2 milli-amp.

## 11. 10-AMP and 15-AMP Circuit Breakers

The 10-amp breaker protects the circuit on 230-volt operation, and the 15-amp breaker protects it on 115-volt operation. The circuit breakers are located on the rear panel near the top plate.

If activated, the breaker will pop out about 1/4". To reset, wait about 30 seconds and depress.

## 12. Cooling Fan

The cooling fan is located on the rear panel. It's purpose is to lower the operating temperature inside the unit. This extends the duty cycle and reliability of the 12/12 for extended periods of use.

**IMPORTANT — Do not place objects within one inch of the fan; permit air circulation.**

## 13. Carrying Handle

The carrying handle is designed to tuck out of the way when not in use. This provides the operator with an unobstructed view of the control panel and permits the unit to fit into a smaller carrying case.

To store the handle, lower it toward the front of the pack, sliding it away from the edge. Then, push the handle against the front-side panel. The carrying handle is designed so it will not swing against the rear panel of the pack, since this would inhibit the proper operation of the circuit breakers.

## Auto Discharge

The 12/12 power pack is equipped with a circuit that automatically discharges the capacitors when the POWER Switch is turned off or when the AC power cable is disconnected. It is not necessary to flash the unit to discharge the capacitors.

## P 12/12 SPECIFICATIONS

| OUTPUT LEVEL (WATT-SECONDS) | 1200 | 600 | 300 | 150 | 75 | 37.5 | 18.75 |
|---|---|---|---|---|---|---|---|
| **RECYCLE TIME*** | | | | | | | |
| **Seconds to 100% at 115V** | | | | | | | |
| A+B Mode | 2.00 | 1.25 | 0.70 | 0.50 | N/A | N/A | N/A |
| A‹›B Mode | N/A | 2.00 | 1.25 | 0.70 | 0.35 | 0.23 | 0.15 |
| **Seconds to 100% at 230V** | | | | | | | |
| A+B Mode | 0.45 | 0.25 | 0.20 | 0.15 | N/A | N/A | N/A |
| A‹›B Mode | N/A | 0.20 | 0.15 | 0.13 | 0.12 | 0.10 | 0.10 |
| **GUIDE NUMBER (ISO 100)** | | | | | | | |
| Bare Bulb | 160 | 110 | 80 | 55 | 40 | 27.5 | 20 |
| 5DL Reflector | 160 | 110 | 80 | 55 | 40 | 27.5 | 20 |
| 5E Reflector | 320 | 220 | 160 | 110 | 80 | 55 | 40 |
| 5W Reflector | 300 | 210 | 150 | 105 | 75 | 53 | 38 |
| 5X Reflector | 140 | 98 | 70 | 49 | 35 | 25 | 18 |
| 5DL & White Umbrella | 190 | 133 | 95 | 67 | 48 | 33 | 24 |
| 5DL & Silver Umbrella | 224 | 320 | 112 | 160 | 56 | 80 | 28 |

FLASH DURATION:
One Light @ 1200 w-s = 1/400 sec.,
One Light @ 600 w-s, on A‹›B mode = 1/800 sec.
Varying the OUTPUT dials and the POWER TRIM dial has little effect on flash duration.

SIZE - Height 8", Length 7", Width 7"

WEIGHT - 12 lbs.

* To minimize RECYCLE TIME, vary the light output with the POWER TRIM Dial when practical, as opposed to using the "A" Output or "B" Output Dials.

AC INPUT VOLTAGE: (Dual voltage option)
105-135 Volt, 50-60Hz (sine wave)
200-240 Volt, 50-60Hz (sine wave)
***See warnings on page 3.***

DC OUTPUT VOLTAGE:
900 Volts stabilized

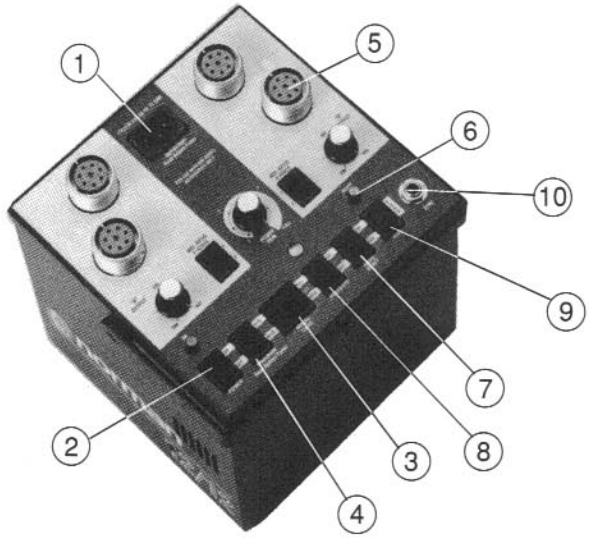
FUSE (Circuit Breaker)
15 Amperes (115V)
10 Amperes (230V)

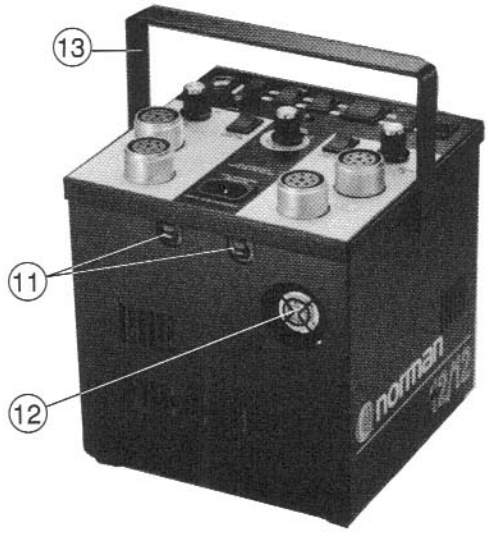
# P12/12

## Welcome to the Norman family of interchangeable flash equipment.

You have just purchased the 12/12 Power Supply which will provide years of dependable service. The 12/12 is loaded with the practical controls and features you have been asking for:

- 1200 w-s output on a single light
- 115V and 230V operation - Automatic, no switches to set
- Symmetrical and asymmetrical light distribution – Infinitely variable
- Automatic modeling light ratioing - No controls to adjust
- Power Trim - Varies output over a 3-stop range
- Built-in photo eye (switchable)
- Visual and audible 100% ready indicators (switchable)
- Fast recycling
  - From 1/5 to 2 seconds @ 115V depending on power setting
  - From 1/10 to 1 second @ 230V depending on power setting
- Dependable - Fan cooled for rugged durability
- Compact and light weight - 7" x 7" x 8", weighs only 12 lbs.
- 2-Year limited warranty - Parts and labor

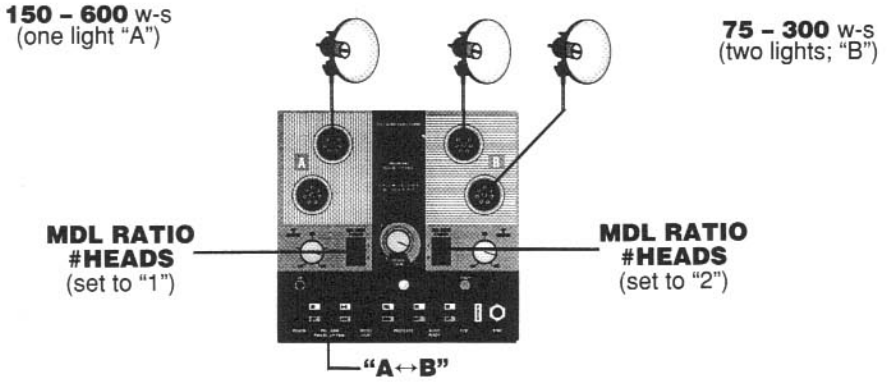



1. AC Inlet
2. POWER Switch & ON Light
3. MODEL LIGHT SWITCH
4. PROGRAM Switch
5. Lamphead Connectors
6. READY Light
7. AUDIO READY Switch
8. PHOTO EYE Switch
9. TEST Push Button
10. SYNC Outlet
11. Circuit Breakers
12. Cooling Fan
13. Carrying Handle

# Typical Lighting Setups

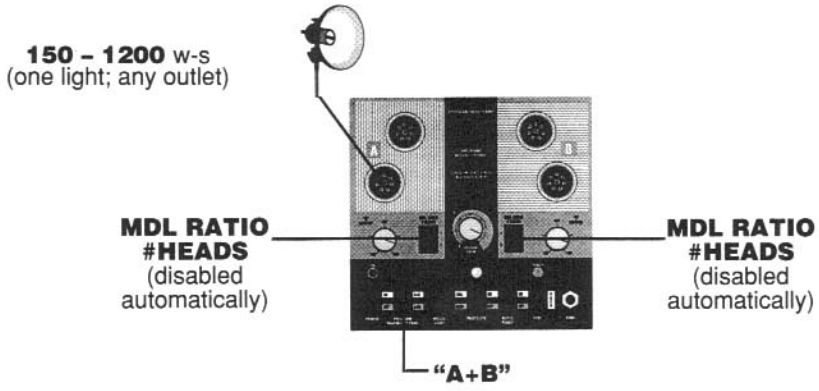
## With PROGRAM Switch in the "A↔B" mode:




The modeling lamps track automatically with the flash settings via the two Dials ("A" and "B").

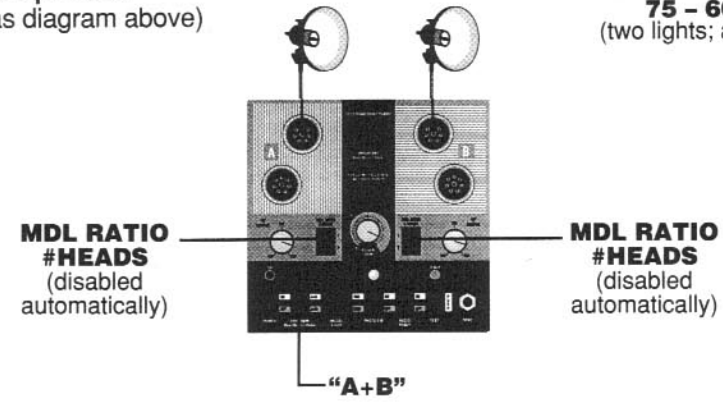
The POWER TRIM Dial varies the flash output over a 3-stop range, without affecting the lighting ratios nor the intensity of the modeling lamps.

## With PROGRAM Switch in the "A + B" mode:




The "A" OUTPUT and "B" OUTPUT Dials are disabled automatically, and the modeling lamps track automatically with the POWER TRIM Dial.

**Same as, above, except that the output is divided between two lampheads.**
(Same switch settings as diagram above)

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