LiteWare

# Satellite

**High output battery uplighter with wireless DMX and interchangeable RGB/white heads**

## User manual

Straight forward thinking

Manufactured in the UK by Global Design Solutions
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**Patent information**
LiteWare charging apparatus: UK Patent No. GB2473474B · US LiteWare charging apparatus: Pat. pending US12/598,330 · LiteWare V2: Pat. pending GB1103835.3 · Lighting apparatus: Pat. pending GB1107353.3 · LiteWare: EU Reg'd Design 001600362-0001 · LiteWare Charger Case: EU Reg'd Design 001774555-0001 · LiteWare US Pat. USD616,579.

**Firmware versions**
This manual refers to features available in firmware version 2.56. This firmware version is valid from: 1 November 2011. The firmware can be upgraded in LiteWare HO and Satellite units with a serial number higher than 3651, using a GDS wireless firmware updater unit (please contact your GDS International Sales Manager for enquiries regarding this device). LiteWare units with a serial number lower than 3651 cannot be upgraded due to incompatible hardware. User manuals for older firmware versions are available on the GDS website.

# Conformity

LiteWare Satellite conforms to the following standards:

CE

EN 61000-6-3: Light Industrial Emissions
EN 61000-4-2: Heavy Industrial Immunity

Further information can be obtained from technical@gds.uk.com

# Contents

# CHAPTER 1 Introduction

LiteWare Satellite with wireless DMX is a stand-alone light source with changeable heads. The unit can be controlled by DMX transmitted wirelessly and in stand-alone operation using 50 preset colours and 20 preset fade and snap sequences. There are three optional heads available for the system: RGB, cool white and warm white.

## Product features and specifications

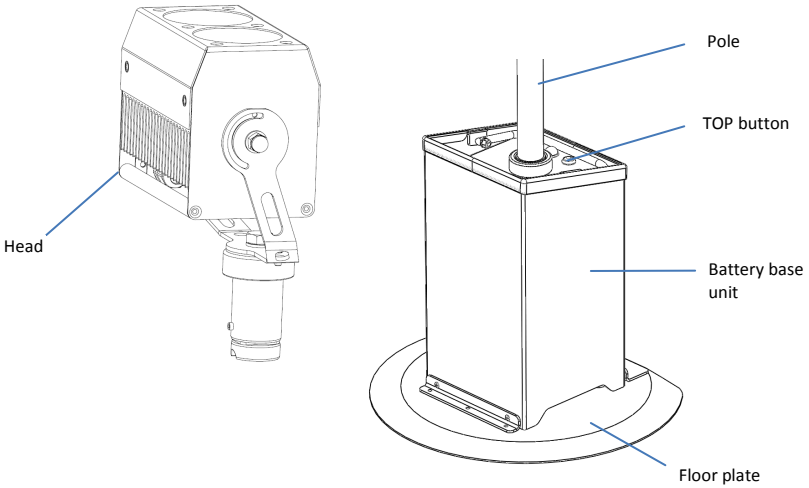
- Full RGB with 16-bit dimming curve
- W-DMX (standard), SHoW DMX and Lumen Radio (optional), CRMX control (not required)
- Standard 14 hour runtime from fully charged battery (charging cycle 6 hours)
- Standard 5 hour runtime on the warm white and cool white on full power
- Interchangeable heads: RGB; cool white; warm white
- 80 W RGB LED emitter
- Lumen output RGB 1650 lm in calibrated mode, personalities zero and one
- Lumen output RGB 1800 lm in un-calibrated mode, personalities two and three
- Lumen output warm white 2821 lm
- Lumen output cool white 4251 lm
- 50 preset colours, two-thirds Lee and Rosco colour swatch
- 20 preset colour snaps/fades
- Un-calibrated option for more user flexibility and higher output (see above)
- Six-channel control option with master fade and preset recall
- Finished in mirrored stainless steel to blend in with any surrounding
- Integral rugged aerial design
- IP45 – interior/exterior use
- Weatherproof design
- Available singularly or in flight cases with inbuilt charging
- Kensington Security lock ready
- Easily upgradable firmware on all models
- Low heat
- No cables
- No 230 Volt
- Made in UK

## System options

On LiteWare Satellite all of the below are options.

| Part code | Part |
|---|---|
| LWSBB | Battery base unit |

| Part code | Part |
|---|---|
| LWSHRGB | Head unit, RGB |
| LWSFP | Floor plate |
| LWSP | Pole |
| LWSBAG | Pole bag (four-way) |
| LWGC | Grindle cap |
| LWSFC4 | Flight case (four-way) |
| Alternative head units: | |
| LWSHWW | Head unit, warm white (3,000 K) |
| LWSHCW | Head unit, cool white (4,100 K) |




# Weights and dimensions

| Part | Weight, kg | Dimensions, cm |
|---|---|---|
| Battery base unit | 13.2 | Height: 35.0, Depth: 17.9, Width: 18.2 |
| Head | 2.4 | Length: 16.8, Height: 10.3, Depth: 13.2 |
| Pole | 1.4 | Length: 131.0, Diameter: 5.7 |
| Floor stand | 2.2 | Width: 40.0, Height: 34.5, Depth: 2.6 |
| Flightcase (empty) | 50.7 | Length: 79.0, Width: 50.0, Height: 75.0 (incl. wheels). |

# CHAPTER 2 Charging the system

There are two charging methods available for LiteWare Satellite.

- flight case charger system
- single unit charger

Both charger options are designed specifically for LiteWare Satellite. Please DO NOT use any other charging system as this can damage the battery base unit. The charging cycle is approximately six hours.

## Flight case charger system

1. Ensure that the flight case is plugged into a mains supply with the supplied mains lead.
2. Place the LiteWare Satellite into the flight case. The battery base unit starts charging. During charging, the button LED is on constantly. The battery is fully charged when the button LED flashes. LiteWare Satellite is now ready for use.

Upon disconnecting mains power to the flight case, all charged battery base unit s continue to flash the button LED. This is normal. To switch this flashing button LED off, briefly lift the battery base unit out of the case and replace.

## Single unit charger

Plug the supplied charger into the base of the battery base unit. During charging, the button LED is on constantly. The battery base unit is fully charged when the button LED flashes.

**Note**: If you leave the LiteWare Satellite connected to the single charger without the charger connected to mains power the battery will flatten.

## Low battery

When the battery voltage becomes too low, the battery base unit goes to sleep and the **TOP** button LED flashes at a fast rate. You must recharge the battery base unit before you can use it again.

## Battery care

The LiteWare Satellite Uplighter contains a sealed lead-acid battery. The battery should not be left in a discharged state for long periods because this will reduce its capacity. We recommend leaving LiteWare Satellite on charge permanently when not in use.

**Note**: If you remove the battery, please observe the correct polarity upon reconnection.

The following points should help maintain the long life of your LiteWare battery:

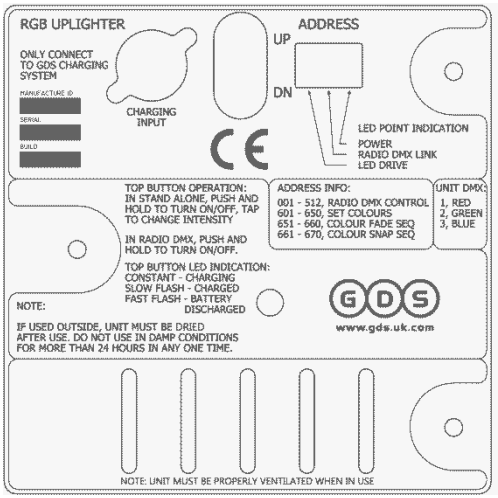
- When in use, LiteWare automatically switches off when the battery voltage reaches a set lower limit. This is to avoid any deep discharge damage of the battery. It is not recommended that LiteWare batteries be left for any prolonged period in this state.
- LiteWare should always be fully re-charged as soon as possible. Once fully charged LiteWare can be stored.
- If LiteWare is to be unused for long periods, we recommend LiteWare is charged every two months to keep the batteries topped up.
- If LiteWare is stored in hotter environments (above 20 degrees), we recommend a monthly storage charge.
- From market data, the estimated number of uses in a normal environment is around 200 cycles. This may be higher if LiteWare is not run to 'turning off automatically' every time. We recommend replacing LiteWare battery every two years.

# CHAPTER 3 Operating the system

This chapter describes:

- Assembly
- Switching the system on/off
- Operating modes (wireless and standalone)
- The controls and display
- Personalities

Full operating instructions are provided in this chapter. In addition, the bottom of the battery base unit has a label with various operational and safety information. Below is a schematic of the label:




## Assembly

**Attach a head**
Heads can either be inserted directly into the top of the battery base unit or can be attached on top of the pole, which in turn is attached to the battery base unit.

**Attach the Grindle cap**
Attach the Grindle cap to the top section of the battery base unit.

**Attach the pole to the battery base unit**
The pole is simply inserted into the battery base unit. The head is placed on top of the pole. To release the head from the pole, press the small release button then extract the head.

**Adjust the pole length**
To adjust the pole length, twist the collar anticlockwise to loosen the joint, then slide the two sections of the pole apart or together to lengthen or shorten, respectively. Do not to extend the pole past the red marker, which indicates full extension. Twist the collar clockwise to tighten the joint.

**Attach the battery base unit to the floor plate**
Once the battery base unit has been configured with the desired channels, it should be attached to the floor plate for stability.

1. Place the battery base unit on the floor plate with the four holes on the battery base unit aligned with the four lugs on the floor plate.
2. Loosen the clamp mechanism on the floor plate using the black knob.
3. Slide the clamp mechanism across so that the four lugs pass into the four holes of the battery base unit.
4. Tighten the clamp mechanism using the black knob.

## Changing heads

If you change heads to a different type (RGB or white head), and then power the battery base unit off then back on again, the battery base unit detects whether the head is of a different type and the addresses of the control channels change accordingly, reinstating the last address used for that head type.

For example:

1. **Let's say t**he battery base unit is set to address 401 with an RGB head.
2. You change the head to a white head.
3. You power off the battery base unit then power on again. The address changes to the last address used for that head type (or a default value if an address for that head type is not stored in the battery base unit).
4. You reattach the RGB head. Power off then on again. The address of 401 is reinstated.

# Switching the system on/off

Press and hold the **TOP** button for 1.5 seconds. The button LED switches on to show the battery base unit is on. Press and hold the **TOP** button again to switch off.

On powering up, the battery base unit automatically detects which type of head (RGB or white) is attached. When using the RGB head, a brief flash of red is observed, and then the battery base unit is ready for use.

# Operating modes

There are two operating modes:

- Wireless DMX mode (uses addresses in range 1-512)
- Stand-alone mode (uses addresses in the range 601-670)

Each address value corresponds to an output colour at the head. To select an address you use the UP and DN buttons, which are situated on the bottom of the battery base unit (see page 12 for instructions).

## Wireless DMX mode (address 001-512)

Wireless DMX mode uses addresses 001-512.

Output level in wireless DMX mode is controlled by the wireless DMX controller that you use with the system; the LiteWare Satellite battery base unit responds to the DMX levels it receives.

In RGB mode, DMX channel allocations are as follows:

| | |
|---|---|
| Start address | red level |
| Start address + 1 | green level |
| Start address + 2 | blue level |

For example, if your start address (the first channel that the unit listens to) is 001, then the red level is allocated to 001, green to 002 and blue to 003.

In wireless DMX mode, the battery base unit holds the last DMX value upon loss of signal or DMX. The battery base unit stores this level when turned off so it can be resumed when it is powered back up. If the battery is disconnected these values are lost.

**Wireless DMX linking and unlinking**
The link status is shown on the LED display on the base of the battery base unit when LiteWare Satellite is powered on.

When the battery base unit is placed in a flight case the link status can be observed as follows:

- Battery base units flash blue three times to indicate unit is currently linked to a transmitter.
- Battery base units flash green three times to indicate unit is not linked to a transmitter.

To unlink a battery base unit, do one of the following:

- When in flight case, press top button 3 times to force unlink.
- When on and in DMX mode (address 1 – 512) press top button 3 times.

The DMX buffer is cleared when unlinked to prevent any confusion when the unit is not linked to a transmitter.

Refer to your W-DMX transmitter user manual for further information about the linking process.

## Stand-alone mode (addresses 601-670)

Stand-alone mode uses addresses 601-670.

To control the output level, press the TOP button briefly: each time you press the TOP button the output is dimmed by a fixed amount. There are seven output levels. When the TOP button is pressed for the seventh time, the output returns to full level.

The table below describes the address ranges available in stand-alone mode.

| Range | What | Description |
|---|---|---|
| 601-650 | Fixed colours | The fixed colours are listed in 'Fixed colour table' on page 14. |
| 651-655 | Colour fade sequence 1 | A sequence of pre-programmed colour fade transitions using brilliant colours. The higher the address value, the slower the rate of transition. |
| 656-660 | Colour fade sequence 2 | As 'Colour fade sequence 1' but using pastel colours. |
| 661-665 | Colour snap sequence 1 | A sequence of pre-programmed colour snaps using brilliant colours. The higher the address value, the slower the rate of transition. |
| 666-670 | Colour snap sequence 2 | As 'Colour snap sequence 1' but using pastel colours. |

**Approximate run times for Satellite with white head**

| Percentage of maximum output | Number of pushes of top button | Run time (hours) |
|---|---|---|
| 100 | | 4.5 |
| 90 | 1 | 5.0 |
| 80 | 2 | 7.0 |
| 70 | 3 | 12.5 |
| 60 | 4 | 13.0 |
| 50 | 5 | 19.0 |
| 40 | 6 | 26.0 |

**Run times for Satellite with RGB head when on full white**

| Percentage of maximum output | Number of pushes of top button | Run time (hh:mm) |
|---|---|---|
| 100 | | 7:21 |
| 90 | 1 | 7:53 |
| 80 | 2 | 9:58 |
| 70 | 3 | 13:35 |
| 60 | 4 | 17:48 |
| 50 | 5 | 27:38 |
| 40 | 6 | 67:21 |

# The controls and display

On the bottom of the battery base unit are the UP and DN buttons, and the ADDRESS display panel.

## UP and DN buttons

The UP and DN buttons are used to select an address.

| Button | Behaviour |
|---|---|
| UP | Increments the address by 1. |
| DN | Decrements the address by 1 (001 is the lowest value). |

**Tip:** The casing of the battery base unit is cut away at the bottom which allows these buttons to be reached even when the battery base unit is standing vertically upright.

**Fast address searching and address boundaries**
If you press and hold the UP or DN button the address changes slowly then gradually speeds up. When the end of an address range is reached (see below) the address stays at that value. To select an address in the next range, release the button then use the UP or DN button again.

Fast searching and address ranges provide an easy way to select addresses quickly. The address ranges for both wireless DMX and stand-alone modes summarised in the table below. See page 14 for detailed descriptions of the stand-alone address ranges.

| Range | What |
|---|---|
| 001-512 | Wireless DMX mode address |
| 601-650 | Fixed colours (stand-alone mode) |
| 651-655 | Colour fade sequence 1 (stand-alone mode) |
| 656-660 | Colour fade sequence 2 (stand-alone mode) |
| 661-665 | Colour snap sequence 1 (stand-alone mode) |
| 666-670 | Colour snap sequence 2 (stand-alone mode) |

## The address display panel

The address panel displays the current address. The display goes mostly blank after five seconds of button inactivity.

When the display goes mostly blank, there are a few small LED point indicators that show information about the state of the battery base unit. These are described in the table below.

| Indicator | Description |
|---|---|
| POWER | Shows whether the battery base unit is on or off. |
| RADIO DMX LINK | Shows when a radio DMX link is present. |
| LED DRIVE | Shows when a channel is ‘on’. |

# Personalities

To access personalities press and hold the UP and DN buttons simultaneously until the display reads “Per”. The battery base unit is now in Personality mode.

To choose a personality use the UP and DN buttons (single presses, as for selecting normal addresses). Either wait for the display timeout or press the TOP button to accept the personality.

There are four personalities available, from P0 to P3:

| Personality ID | Description |
|---|---|
| P0 | Mimics the ‘Snap Off’ featured in LiteWare HO RevA. |
| P1 | Calibrated (balanced white) 3-channel RGB control without snap off. |
| P2 | Uncalibrated 3-channel RGB control without snap off. |
| P3 | 6-channel DMX mode. |

## Channel assignments for P3 mode (6-channel)

Channel 1: Red intensity
Channel 2: Green intensity
Channel 3: Blue intensity
Channel 4: Master intensity
Channel 5: Static colour select (see ‘Fixed colour table’ on page 14)
Channel 6: Control channel (see ‘Channel 6 control channel DMX values’ below)

## Channel 6 control channel DMX values

| Function | Min | Max |
|---|---|---|
| Calibrated | 0 | 49 |
| Uncalibrated | 50 | 99 |
| Spare | 100 | 149 |
| Spare | 150 | 199 |
| Spare | 200 | 255 |

# Fixed colour table

Address values and colours of the 'fixed colours' (addresses in the range 601-650):

| Address | Colour | LEE ref | ROSCO ref |
|---|---|---|---|
| 601 | RED | | |
| 602 | GREEN | | |
| 603 | BLUE | | |
| 604 | YELLOW | | |
| 605 | CYAN | | |
| 606 | MAGENTA | | |
| 607 | ORANGE | | |
| 608 | GOLD | | |
| 609 | PINK | | |
| 610 | VIOLET | | |
| 611 | AQUA | | |
| 612 | SKY BLUE | | |
| 613 | FULL WHITE | | |
| 614 | COOL WHITE | | |
| 615 | WARM WHITE | | |
| 616 | YELLOW | LEE 101 | |
| 617 | STRAW | LEE 103 | |
| 618 | ORANGE | LEE 105 | |
| 619 | PRIMARY RED | LEE 106 | |
| 620 | LIGHT ROSE | LEE 107 | |
| 621 | DARK PINK | LEE 111 | |
| 622 | MAGENTA | LEE 113 | |
| 623 | BLUE | LEE 115 | |
| 624 | MED BLUE GREEN | LEE 116 | |
| 625 | DARK BLUE | LEE 119 | |
| 626 | BRIGHT PINK | LEE 128 | |
| 627 | MEDIUM BLUE | LEE 132 | |
| 628 | GOLDEN AMBER | LEE 134 | |
| 629 | DEEP GOLDEN AMBER | LEE 135 | |
| 630 | PALE LAVENDER | LEE 136 | |
| 631 | APRICOT | LEE 147 | |
| 632 | DARK LAVENDER | LEE 180 | |
| 633 | CHOCOLATE | LEE 156 | |
| 634 | JUST BLUE | LEE 079 | |
| 635 | SURPRISE PINK | LEE 194 | |
| 636 | SCARLET | LEE 024 | |
| 637 | SURPRISE PEACH | LEE 017 | |
| 638 | FIRE | LEE 019 | |
| 639 | ENGLISH ROSE | LEE 108 | |
| 640 | MAUVE | LEE 126 | |
| 641 | BRIGHT BLUE | LEE 141 | |
| 642 | ALICE BLUE | | ROSCO 378 |
| 643 | ROSE INDIGO | | ROSCO 358 |
| 644 | URBAN BLUE | | ROSCO 081 |
| 645 | COOL BLUE | | ROSCO 066 |
| 646 | LIGHT SALMON | | ROSCO 030 |
| 647 | MAYAN SUN | | ROSCO 318 |
| 648 | CHERRY ROSE | | ROSCO 332 |
| 649 | FLESH PINK | | ROSCO 034 |
| 650 | SKELTON EXOTIC SANGRIA | | ROSCO 039 |

# CHAPTER 4 Troubleshooting

**I can only get turquoise, not all the colours**
When using an RGB head you only see turquoise and you can't access all the addresses.

This happens when you start up the battery base unit with the white head or no head attached, and then you connect the RGB head without powering it off and on again. When the battery base unit is in white mode it drives the green and blue channels together creating the turquoise colour.

Power off the battery base unit then power on again.

**There's nothing on the display**
The display goes mostly blank after about five seconds to save power. Press either the UP or DN button to wake the unit up.

# CHAPTER 5 Safety information

**Warning!** Class 2M LED product. Do not look into the beam from a distance of less than 40 cm (16 inches). Do not stare into the beam for extended periods at a short distance. Do not view the beam directly with optical instruments.

This product is for professional use only. It is not for household use. This product presents risks of severe injury or death due to fire hazards, electric shock and falls.

**READ THIS MANUAL** before installing, powering or servicing the fixture, follow the safety precautions listed below and observe all warnings in this manual and printed on the fixture. If you have questions about how to operate the fixture safely, please contact Global Design Solutions, www.gds.uk.com

**PROTECTION FROM FIRE**
Provide a minimum clearance of 0.1 m (4”) around fans and air vents.
Do not modify the fixture or install other than genuine GDS parts.
Do not stick filters, masks or other materials directly onto LEDs.
Do not operate the fixture if the ambient temperature (Ta) exceeds 40 °C (104 °F).

**PROTECTION FROM INJURY**
The LED emission presents a hazard to eyesight at a distance of 4–40 cm (1.6–16”) when the eye is exposed to the beam for longer than 0.25 seconds.
• Do not look at LEDs from a distance of less than 40 cm (16”) without suitable protective eyewear.
• Do not look at LEDs with magnifiers or similar optical instruments that may concentrate the light output.

**INSTALLATION**
Install fixtures on a level, stable surface where they do not present a hazard of tripping or falling.

**OUTDOOR USE**
If used outside, the unit must be dried after use. Do not use in damp conditions for more than 24 hours at a time.

**DISPOSING OF THIS PRODUCT**
Global Design Solutions products are supplied in compliance with Directive 2002/96/EC of the European Parliament and of the Council of the European Union on WEEE (Waste Electrical and Electronic Equipment), as amended by Directive 2003/108/EC, where applicable.

Help preserve the environment! Ensure that this product is recycled at the end of its life. Your supplier can give details of local arrangements for the disposal of Global Design Solutions products.