

Light is everything™

bowens

XMS Studio Flash

User Guide

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Congratulations on purchasing your new Bowens product.

Thank you for choosing the XMS range flash system.

The Bowens XMS monolight has been designed by working closely with photographers to develop a unit that meets the exacting high standards demanded by today's working professionals, while remaining simple and intuitive to use.

The XMS range flash system is available in 500, 750 and 1000 Ws/Joules versions, all with integrated radio trigger and remote control functionality. This operates on the worldwide 2.4GHz radio frequency band and has 16 channels and 8 groups available.

This unit is fully digital, ensuring consistent flash to flash power, colour temperature and short flash durations.

In order to obtain the full benefit from your purchase, please take a few moments to familiarise yourself with this user manual.

For more information about Bowens products or to find details of your nearest Bowens dealer, please visit the website.

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WARNING - Electrical Shock Hazard - High Voltage!

- This unit should only be connected to a mains socket outlet with a protective earth connection or to a suitably protected battery/mains inverter.
- Only use Bowens mains cables or extension cables.
- The mains cable and plug is regarded as an emergency disconnect device and should always be readily accessible so that it can be quickly removed.
- Do not open or disassemble the unit as it operates with a high voltage and contains capacitors that can remain electrically charged for a considerable time after the unit is turned off or is disconnected from the mains.
- Always disconnect the unit from the mains and avoid touching the flashtube or modelling lamp when changing reflectors or fitting an umbrella.

Safety Precautions

- Always study and understand this user guide and accompanying safety instructions before using this unit.
- Make sure that the Bowens User Guide and Safety Instructions always accompany this unit.
- Bowens products are intended for professional photographic use only and should not be used for any other purpose.
- Always remove the protective cap from the unit before use.
- Do not point the unit too close to persons.
- Do not use the modelling lamp if it is damaged or deformed.
- When replacing a modelling lamp avoid touching the bulb with bare hands, use a clean tissue or cloth.
- Do not touch any hot parts with bare fingers. The modelling lamp, flashtube and certain metal parts can become very hot. Allow the unit to cool before touching any user changeable parts.
- Ensure that the modelling lamp voltage and power rating corresponds with that in the user guide specification. A lamp with a lower rated power may be safely used but the voltage must always be correct for the power supply being used.
- Equipment should only be serviced, modified or repaired by authorised and competent service personnel.

Environmental Safety

- Do not place or use the unit where it could be exposed to moisture, dripping, splashing, extreme electromagnetic fields or in areas with flammable liquids, gases or dust.
- Do not expose the unit to rapid temperature changes in humid conditions as this can lead to internal condensation.
- When transporting the unit between cold and warm conditions always allow the unit to acclimatise for at least two hours before connecting to the mains.
- Do not obstruct the ventilation slots in any way with filters, diffusing materials, etc.
- Do not place any form of material over or close to the glass dome, modelling lamp or flash tube.

Radio Frequency

This equipment makes use of the radio spectrum for triggering and remote control and therefore receives and emits radio frequency energy. Ensure that all specifications within this document are followed, especially those concerning operating temperature and supply voltage range. Make sure that the unit is operated according to local regulations. The frequency spectrum that this unit uses is shared with other users so interference either with this unit or with other users is possible.

Final Disposal

This unit contains electrical and electronic components that could be harmful to the environment. Follow local legal requirements for separate disposal of waste, for instance WEEE directive for electrical and electronic equipment on the European market at the end of the product life.

FCC Information

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCCID: 2A12WXMS

FCC Caution: Changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

FCC Statement: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.



1. Protector Cap
2. Reflector
3. S-Mount
4. Accessory Release
5. Stand Mount
6. Angle Adjustment Lever
7. AC Input
8. 3.5mm Jack Sync
9. Power: On / Standby
10. Menu
11. Test / Open Flash
12. Rotary Control
13. Sync: Radio / Photocell
14. Ready Indications:
Beep / Dim
15. Lamp: Prop / Free
16. Photocell
17. Display
18. Handle
19. Umbrella Mount



Quick Start Guide

The following is a quick guide to the individual controls, display and functions.

Unless specified all push buttons operate as follow:

- Press the button briefly to toggle the related function On or Off.
- Press and hold the button to cycle through the options for the function.
- Release the button when the required option is indicated.

All states are indicated by the appropriate LEDs.

BUTTON	OPTIONS AND INDICATORS	DESCRIPTION
POWER	Standby Unlit = No power Lit = Standby Power Lit = On Flashing = Battery Save	Press to toggle the unit on or off. If the Power Save option is set and power to the unit is lost, the unit will power up next in the last state it was in when the power was lost.
MENU	Options: Unlit = Normal mode Lit = Options mode	Single press to enable the Menu. Each single press selects the next option. Use the turn dial to set the option value.
TEST	Ready Unlit = Charging Lit = Ready Flashing = Dumping	Single press to test / open flash the unit. When in Options mode, the Test button will select / exit value or function.
SYNC	Cell: Unlit = Cell sync. Off. Lit = Cell sync. On. Flashing = Pre-flash mode. On Radio: Unlit = Radio Sync. Off. Lit = Radio sync. On.	Single press to toggle on and off. Press and hold to cycle through the combinations. Note the Cell/Pre-flash and Radio can be selected at the same time. Wired sync is always enabled.
READY	Beep: Unlit = Ready beep off. Lit = Ready beep on. Dim: Unlit = Ready dim off. Lit = Ready dim on.	Single press to toggle on and off. Press and hold to cycle through options. The modelling must be on for the Ready dim to work.
LAMP	Prop: Unlit = Proportional off. Lit = Proportional on. Free: Unlit = Free off. Lit = Free on. Flashing = Free set.	Single press to toggle on and off. Press and hold to cycle through the options. Free set display alternates between 'LF' and value when not being changed and will time out. Use turn dial to set the Free value.

NOTE:

- Pressing ANY key will exit the Lamp Free Set mode immediately and set it to Free On mode with out having to wait for it to timeout.
- If the unit has entered the Lamp Save and/or Battery Save conditions pressing ANY key or the turn dial will return the unit to normal working.

Stand Mounting

1. Pull the Angle Adjustment Lever away from the main unit and extract the Stand Mount from the recess.
2. Push the Angle Adjustment Lever back in place to lock the Stand Mount in position.
3. Loosen the Stand Mount Thumb Screw on the Stand Mount and place the unit onto a support stand.
4. Rotate the unit into the desired position and fasten in place by tightening the Thumb Screw.

Head Angle Adjustment

1. Pull the Angle Adjustment Lever away from the unit to unlock the Angle Adjustment mechanism (making sure to hold the handle) and position as required.
2. Once in position close the Angle Adjustment Lever to lock and secure in place.

Reflector/Modifier Mounting

1. Engage the modifier with the slots in the S-mount then rotate clockwise until the spring mounts click and lock the modifier in place.
2. To remove a modifier, pull the Accessory Release latch away from the front end of the unit, then turn the modifier anti-clockwise and pull away from the XMS.

Umbrella Mounting

1. Slide the umbrella shaft into the umbrella bracket and secure in position using the thumb screw.

Power Connection

1. The unit should be connected to a suitably rated 95-130V AC or 195-265V AC, 50-60 Hz supply and will automatically adapt to the voltage and frequency. A suitably rated DC/Mains Inverter may also be used.
2. Ensure that an appropriately rated modelling lamp is fitted according to the voltage range being used. Refer to the Specification and the User Maintenance section.
3. Connect the power cable to the Power Input on the unit and to the power supply outlet.
4. Switch on the power supply.
5. The Standby indicator should be lit, indicating that the unit is connected to the power supply and is in Standby mode. This depends on the user option Power Switch State setting - see below.

Turning the Unit On

1. Press the On/Standby button.
2. The Standby indicator will be extinguished and the Power indicator will light up together with ALL other indicators for a period of 3 seconds. After this the indicators will change to show the last used setting. The defaults are SYNC = CELL OFF / MODELLING = PROP OFF / INDICATION = BEEP OFF.
3. A user option is available (Power Switch State) to remember if the unit was on or in standby mode if power is lost (see page 18). This ensures that the unit reverts to the last state when power is restored.

Flash Output Setting

Use the Rotary Control to change the flash output level.

1. The current flash energy is shown on the digital display in digital f-stops. All flash settings are related to the max setting (100%) which is shown as 10.
2. Turn the Rotary Control clockwise to increase the energy level in 1/10 f-stop increments, and counter-clockwise to decrease. Press and hold down the Rotary Control while turning to increase or decrease the setting in 1 f-stop increments.

F-STOP SETTING		FRACTIONAL ENERGY
10	-	$\frac{1}{1}$
9.0	-	$\frac{1}{2}$
8.0	-	$\frac{1}{4}$
7.0	-	$\frac{1}{8}$
6.0	-	$\frac{1}{16}$
5.0	-	$\frac{1}{32}$
4.0	-	$\frac{1}{64}$
3.0	-	$\frac{1}{128}$

Modelling Light Mode Setting

Use the LAMP button to select the modelling light:

1. To select proportional modelling, press and hold down the LAMP button until the PROP Indicator is illuminated. The modelling light intensity automatically adjusts to correspond to the flash energy level.
2. To select Free modelling, press and hold down the LAMP button until the FREE Indicator is illuminated. The last pre-set brightness level of Free modelling will be used.
3. To turn off the modelling light, briefly press the LAMP button. Both the indicators will be turned off.
4. Briefly press the LAMP button again to turn the modelling light back on.

Modelling Light Free Setting

To change the level of the FREE modelling light:

1. Press and hold the LAMP button until the FREE indicator flashes (FREE set mode).
2. While the indicator is flashing the display will alternately show LF and the current FREE value. This will timeout after 8 seconds and revert to FREE.

Modelling Light Free Setting continued.

3. While in FREE set mode, use the turn dial to change the FREE level. While an adjustment is being made it will stay in the FREE SET mode.
4. Adjust the turn-dial clockwise to increase the FREE level in 1/10 f-stop increments, and counter-clockwise to decrease. Press and hold down the turn-dial while turning to increase or decrease the setting in 1 f-stop increments.
5. Once satisfied with the setting, either wait for the FREE mode to timeout or press any button to set FREE mode to the new value.
6. The modelling light intensity is now set to the pre-set FREE value, independent of the flash energy level.

Test and Ready Indication

Use the TEST button to test/open flash the unit and confirm it is operating correctly. The Ready indicator is extinguished while the unit charges and illuminates when fully charged. When the power is reduced the Ready indicator flashes to indicate that excess energy is being dumped.

Flash Before Ready

It is always possible to flash the unit before the unit has fully recharged to ready. In this case the unit will display 'nr' together with a warbling sound (if warnings are enabled). This indicates that the flash energy has not reached the set level so the frame will be under-exposed. The degree of under-exposure depends on when in the recharge cycle the unit was flashed.

Ready Indication Setting

Use the READY button to select the Ready indication:

1. To select the Ready Beep sound, press and hold down the READY button until the BEEP Indicator is illuminated. The sounder will beep when the unit has fully recharged.
2. To select the DIM Indication, press and hold down the READY button until the DIM Indicator is illuminated. The modelling lamp dims while charging and resumes to the set brightness when ready. The lamp must be on for this to work.
3. To select the DIM & BEEP Indication, press and hold down the READY button until both the DIM and BEEP indicators are illuminated.

Ready Indication Setting continued.

4. To turn off the READY indications, briefly press the READY Button. Both the indicators will be turned off.
5. Briefly press the READY button again to turn the ready indications back on.

Photocell

The XMS photocell allows the unit to be triggered by another flash unit. The photocell is specially designed to work under studio light conditions. Direct light or other strong light sources may reduce the sensitivity of the cell.

The photocell has two operating modes:

- CELL - Any flash recognised by the photocell will trigger the unit.
- PRE CELL - The photocell can be set to detect and ignore on-camera flash pre-flashes.

Depending on the camera manufacturer and model, pre-flashes are variously used for focusing, exposure control and for reducing red eye. Normally the last flash detected will be the main flash, but a specific flash in a sequence of pre-flashes can be chosen to trigger the XMS using the photocell source settings.

When a camera pre-flash is active it will release one or more flashes before the main flash. The XMS will skip the set number of flashes and trigger on the one required, which should be the main flash.

NOTE: The cell pre-flash mode will not work with cameras that use a red eye reduction lamp. It will only work for cameras that use a pre-flash sequence emitted from the main flash.

Sync Source Setting

Use the SYNC button to select the cell:

1. To select the photocell, press and hold down the SYNC button until only the CELL Indicator is illuminated. The unit will be triggered by any infrared (IR) light pulse received from another flash unit or other suitable pulsed light source.

Sync Source Setting continued.

2. To select the Pre-flash photocell, press and hold down the SYNC button until only the CELL Indicator is illuminated. The unit will be triggered by an infrared (IR) light pulse received from another flash unit or other pulsed light source but only after a pre-set number of flashes have been received in a pre-set time frame (see page 15). This allows the unit to ignore any pre-flashes produced by the camera.
3. To select the radio, press and hold down the SYNC button until only the RADIO Indicator is illuminated. The unit will be triggered from an XMSR generated trigger signal.
4. To select the radio and the photocell together, press and hold down the SYNC button until both RADIO and CELL indicators are illuminated.
5. To select the radio and the pre-flash photocell together, press and hold down the SYNC button until the RADIO Indicator is illuminated and the CELL Indicator flashes.
6. To turn the sync sources off, briefly press the SYNC button. Both sync indicators will be turned off.
7. Briefly press the SYNC button again to turn the sync options back on.

Wired Sync

1. Regardless of the sync source setting, wired sync is always available.
2. To use the wired sync source connect a 3.5mm jack sync cable to the rear mounted jack socket, and the PC connector to the camera (or other sync source e.g. light meter).
3. The sync cable can be extended as required using an appropriate extension.
4. Remove the jack plug when not required.

Turning the Unit Off

1. Press the POWER Button to turn the unit off.
2. STDBY will be illuminated, highlighting that the unit is connected to mains power but is in standby mode.
3. All settings will be retained when the unit is switched to standby.
4. Remove the power cable.
5. Allow the unit to cool before packing away.

Note: Always turn the unit off by using the POWER button before removing the mains power supply. In the event that the mains supply is switched off or removed while the unit is on, the settings will be retained. If invalid settings are found when the unit is next turned on then default settings will be used.

User Menu

Use the MENU button to access various settings to allow function customisation of the unit.

Review and Adjustment

1. Select the required option by pressing the MENU button. Hold the MENU button down to advance quickly through the options.
2. Release the button when the desired option is displayed.
3. The displayed option will be shown alternating with its value.
4. Review or change the option value as required by using the Rotary Control. The value will remain displayed while being changed.
5. If no adjustment is made for approximately 10 seconds the menu mode will exit automatically. Alternatively, press and release the TEST button to exit immediately. In both cases any changes made will be saved.
6. While in options mode the MODELLING, READY, SYNC and TEST functions are disabled from their normal operation in order to prevent inadvertent changes being made.

The following table is a summary of the options available:

OPTION	DISPLAY	VALUES	DEFAULT
Pairing	Pr	nP = New Pair UP = Un-Pair CP = Clear ALL Pairs	nP
Remote Channel	Ch	1 to 16	1
Remote Group	Gr	1 to 9	1
Pre-Flash Number	Pn	0 = Auto count, 1 to 10 flashes inc. main.	1
Pre-Flash Time	Pt	0.5 or 1 to 8 seconds.	2.0
Pre-Flash Delay	Pd	0 to 15ms	2
Audible Ready Period	Au	15 to 90 x 10 (150ms to 900ms in 50ms steps)	35
Sounder Function	So	0 = Off (except READY if enabled) 1 = Warnings only 2 = Button clicks only 3 = Warnings and button clicks	0
Lamp Saver	LS	0 = Off, or 1 to 99 minutes	0
Battery Saver	bS	0 = Off, or 1 to 15 minutes	0
Power Switch State	PS	0 = Do not save, 1 = Save 0 = Keep current settings, 1 = Set defaults (does not affect radio pairing)	0
Options Defaults	dF		

Pairing (Pr)

This option allows the unit to be paired or un-paired with an XMSR as well as allowing all pairing associations to be cleared. Refer to the XMSR Radio Trigger and Remote Control section.

Remote Channel (Ch)

This allows selection of the radio remote channel for this unit. Note that when the radio is selected on units, the flash on ALL units using the same channel will be triggered regardless of the Group setting. Refer to the XMSR Radio Trigger and Remote Control section.

Remote Group (Gr)

This allows the radio remote group to be selected so units can be remotely controlled either individually or in groups. Units set to the same group can be simultaneously controlled. Note that the master remote control can adjust settings on any unit on the same Channel regardless of the Group. Refer to the XMSR Radio Trigger and Remote Control section.

Pre-Flash Number (Pn):

This option only needs to be employed when the pre-flash photocell sync is to be used. The Pre-Flash (Pn) number allows the number of pre-flashes to be detected by the unit; this can be set either manually, Pn = 1-10, or learnt, Pn = 0.

Pn = 0

If the number of Pre-flashes produced by the camera is not known then this option should be set to 0 for Auto. This will also automatically switch the photocell to the Pre-flash mode, if it is not already selected.

1. The XMS is now set to learn the number of flashes released by the camera and will wait indefinitely for at least one flash.
2. Use the on-camera flash and release a test exposure. If activated, the camera will release one or more pre-flashes followed by the main flash.
3. When the first flash is detected the time-frame will start during which any other flashes will be detected and counted.
4. At the end of the time-frame the display will show the number of flashes detected and the unit will flash.
5. If no change of setting is made for 10 seconds, the display will revert to normal mode with the Pre-flash mode selected ready for use using the detected value. Any new settings will be saved.

Pre-Flash Number (Pn) continued:

6. To exit the Auto mode if no flashes have been detected then either:
 - a) Select a Pre-flash setting greater than 0.
 - b) Choose another option and then allow the options display to time out. The Pre-flash value will be set to 1 (single main flash only).
 - c) Press the TEST button to exit immediately. The Pre-flash value will be set to 1 (single main flash only).

Pn = 1 - 10

If the number of Pre-flashes produced by the camera is known then this option allows this number to be manually set.

Set the value between 1 and 10 for the number of pre-flashes plus one for the main flash produced by the camera.

Pre-flash Time-frame (Pt)

Use this option to set the Pre-flash Time-frame (in seconds) during which all released pre-flashes together with the main flash must occur. The default value of 2 seconds is normally adequate for most purposes. Only increase this setting when the camera pre-flash procedure is longer than the XMS setting, or decrease it if the main flash occurs well within the window to reduce the possibility of flashes from other sources being detected. The time-frame value can be set between 0.5 and 8.0 seconds.

Pre-flash Delay Time (Pd)

Use this option to set the Pre-flash Delay Time (in milliseconds). This is the minimum permitted time delay between each pre-flash and also the main flash. Any flash in a sequence of flashes that occurs earlier than this will be ignored and cause the detection sequence to be restarted. The default value is 2ms and is normally adequate for most purposes. This setting may sometimes need to be changed for cameras using an LED Anti Red-Eye function. The Pre-flash delay can be set between 0 and 15ms where 0 allows all flashes to be detected regardless of the delay.

Audible Ready Beep Period (Au)

When more than one XMS is to be used this feature can create a recognisable 'ready' sound if different settings are used for each unit. This can make it easier to identify that all XMS units have fired and recycled. Use the options mode to select 'Au' and set the value between 15 and 90. This value (x 10) indicates the 'ready' beep period ranging from 150 to 900 milliseconds with a default period of 350 milliseconds.

Controls Sounder (So)

Use this option to select the beep sounder to 'Off, Warnings only, Button clicks only, or Both'. Note that the sounder will still produce a 'ready' beep regardless of this setting if the 'ready' beep is enabled.

Lamp Saver (LS)

This feature can be used to automatically dim the lamp to a minimum after a period of inactivity. It reduces the power consumed and any heat build up within the unit, and can also extend the life of the bulb.

Use the options mode to select 'LS' to set the time value between 0 and 99 minutes. A setting of 0 switches this feature off so that the lamp will remain on indefinitely.

Flashing the unit or using any control (local or remote), will re-instate the previous Lamp state and restart the time period. Note that the first press of a button or increment of the rotary control will not change any of the previous settings.

Battery Saver (bS)

Although this feature can be used when the unit is powered from the mains it is particularly useful when the unit is being powered from a portable battery inverter pack. The XMS automatically enters a low power 'sleep' mode after a period of inactivity. If the modelling lamp is on it will switch off to reduce the drain on the power source, all control functions and displays will also be disabled.

Use the options mode to select 'bS' to set the time value to between 0 and 15 minutes. A setting of 0 switches the Battery Saver feature off so that the lamp, and all control functions and displays will remain on indefinitely.

This feature can also be used in conjunction with the Lamp Saver mode to dim the lamp to minimum before the monolite enters sleep mode. To do this set the Lamp Saver to an earlier time than the Battery Saver time e.g. set the Lamp Saver to 5 minutes and the Battery Saver to 10 minutes. After 5 minutes of inactivity the lamp will dim to minimum, then after another 5 minutes the unit will go to sleep.

While in Battery Saver mode the Power On indicator will blink with all displays and buttons temporarily disabled. Use of any control, local or remote, will wake the unit and restart the time periods. Note that the first press of a button or increment of the turn dial will not change any of the previous settings.

Power Switch State (PS)

This option allows the last state of the Standby/Power switch to be remembered if power to the unit is suddenly lost. Set this option to 0 (Off) to always power up in Standby or 1 (On) to remember the last Power Switch state.

When set to on and power is lost and then restored, the unit will continue to operate in the same state that it was in before the power was lost. This feature may be useful if the unit is mounted in an inaccessible position, for instance on a HiGlide ceiling track system, where the mains power may be switched on and off remotely from the unit.

NOTE: If the unit was previously in the 'Head Off' state set via the remote control unit then this particular state will not be restored.

Since there can be no indication as to which state the unit will be in before power is applied it is recommended that this option is left switched off unless absolutely necessary for the reason given above.

Set Defaults (dF)

This option allows all options to be set to their default values. Set this option to 1 (On) to clear all previous settings and replace them with the default values when the options mode is exited.

General

The built-in XMSR radio trigger and remote control system is designed to be secure and interference tolerant. It allows the unit to be triggered and most functions to be controlled remotely. Refer to the instructions for the XMSR Remote Control.

To enable an XMS and a remote control to communicate they need to be 'paired' together. Each XMS may be 'paired' with more than one remote control (max 8), and each remote control may be 'paired' with more than one XMS (max 128).

Pairing (Pr)

Pairing an XMS is quick and, if successful, only needs to be done once for each XMS and master remote control used. Once 'paired' both the XMS and XMSR remote will remember the association until it is deleted. An individual association can be deleted but requires the original master remote that it was teamed with to carry this out. Alternatively, ALL associations can be deleted from an XMS without requiring a remote.

In addition to being 'paired' the XMSR remote control has the capability of addressing up to 16 radio channels, which are further sub-divided into 8 groups. The master remote control can address either an individual XMS, XMS using the same group, or XMS with different groups by using group 9 (all) on the remote. The XMS can only be set to one group out of a possible eight.

After an XMS and XMSR remote have successfully 'paired', both the channel and group may be changed. Any XMS that is on the same channel as the master remote, regardless of group, can be flashed / triggered by the master remote. A master remote may be set to trigger a single channel (1 to 8) or multiple channels (by using channel 9 / all). Only XMS units on the same channel and group as the master remote will have full remote control functionality.

If the XMS is not paired with any master remote control the right most decimal point of the display will blink approximately every two seconds.

Refer to the XMSR remote control instructions on how to carry out 'pairing' at the master end. Timeouts are provided on both the master remote and XMS so that if no appropriate action is taken within a certain time, both the master remote and XMS will timeout and revert to the previous settings.

Pairing With a Master (Pr/nP): Pr=pair / nP=new pair

1. Ensure both the XMSR and XMS units are switched on and in fairly close proximity so that the two displays can be seen.
2. On the XMS unit press the MENU button until the display shows 'Pr' to indicate 'Pairing' mode. The display will alternate between showing 'Pr' and 'nP' for 'new pair'.
3. Press the Rotary Control to request pairing with the XMSR.
4. The XMS unit will now display a steady 'nP'.
5. On the XMSR, scroll through the menu to the Start Pairing (SP) option. Press enter to start pairing.
6. The XMSR will now search for the XMS unit and attempt to 'Pair'.
7. When the XMS unit is found its display will change to display a random number alternating with 'nP'. If the Sounder is enabled then this is also accompanied by a short sequence of beeps. This operation could be almost instantaneous or take up to 30 seconds.
8. The XMS unit will automatically acknowledge 'Pairing' to the XMSR.
9. If successfully 'Paired' the display will show 'FP' for approximately 2 seconds indicating it has 'Finished Pairing' before reverting to normal operation. If the Sounder is enabled then this is also accompanied by a long beep.

Clearing Teaming With a Master (Pr/UP): Pr=pair / UP=unpair

1. Ensure that both the XMSR and XMS unit are switched on and in fairly close proximity so that the two displays can be seen.
2. On the XMS unit press the MENU button until the display shows 'Pr' to indicate 'Pairing' mode.
3. Use the Rotary Control to scroll through the pairing options until the display alternates between 'Pr' and 'UP' (Un-Pairing).
4. Press the Rotary Control to request un-pairing with the XMSR.
5. The XMS will now display a steady 'UP' to indicate it is ready to un-pair with a remote.
6. On the XMSR, scroll through the menu to the UN-Pairing (UP) option. Press enter to request un-pairing.
7. A 'Warning' message will be displayed on the XMSR. Press enter to confirm request and start un-pairing.
8. The XMSR will now search for the XMS unit and attempt to 'Un-Pair'.
9. When the XMS unit is found its display will change to display a random number alternating with 'UP'. If the Sounder is enabled then this is also accompanied by a short sequence of beeps. This operation could be almost instantaneous or take up to 30 seconds.
10. The XMS unit will automatically acknowledge 'Un-Pairing' to the XMSR.
11. If successfully 'Un-Paired' the display will show 'FP' for approximately 2 seconds indicating 'Finished Pairing' before reverting to normal operation. If the Sounder is enabled then this is also accompanied by a long beep.

Clearing All Pairing Associations (Pr/CP): Pr=pair / CP clear pairs

The XMS can be cleared of associations with ALL XMSR remotes without needing a remote. This can be useful if the XMS was originally 'paired' with a remote that is no longer available. Note that ALL pairing will be lost.

1. On the XMS unit press the MENU button until the display shows 'Pr' to indicate 'Pairing' mode.
2. Use the Rotary Control to scroll through the pairing options until the display alternates between 'Pr' and 'CP' (Clear-Pairing).
3. Press and hold the rotary control dial to clear ALL associations.
4. The display will show 'FP' for approximately 2 seconds indicating 'Finished Pairing' before reverting to normal operation. If the sounder is enabled the 'Finished Pairing' indication will be accompanied by a long beep.
5. If successful and if ALL associations have been removed, the right most decimal point of the display will flash at an interval of approximately two seconds.
6. The XMS should be turned off to complete clearing of all pairs.

Remote Channel (Ch)

This allows the radio remote channel to be selected to provide logical control separation of units. Note that when the Radio is selected on any unit, the flash on ALL units using the same channel will be triggered regardless of the Group setting.

Remote Group (Gr)

This allows the radio remote group to be selected, so that XMS units can be remotely controlled either individually or as groups. Units set to the same group can be simultaneously controlled. Note that the XMSR can write data to any unit on the same Channel regardless of the Group.

Thermal Management

Temperature sensors within the unit provide thermostatic control of the fan. Advanced circuitry prevents the fan from switching on and off too often.

If the unit is switched to standby while the fan is running it will continue to run for one minute to bring the internal temperature down. It is advisable to wait until the fan stops before removing the power from the unit.

Under extreme conditions of use the unit may indicate overheat (OH). This will cause the charging to stop and the modelling light to be turned off (if it is on). Once the unit has cooled it will automatically reset.

Modelling Lamp Fitting

1. Before fitting or removing a modelling lamp, always ensure the power is switched off and remove the mains cable from the unit.
2. Avoid touching the flashtube and glass envelope of the modelling bulb with bare fingers as this can leave grease on the glass which can shorten the life of the bulb.
3. Select the correctly rated modelling bulb for the local mains supply.
4. If a bulb is already fitted carefully unscrew it using a cloth.
5. Remove the new modelling bulb from its packaging by grasping the glass bulb with a clean tissue or cloth.
6. Continue holding the bulb with the tissue or cloth and carefully screw the bulb into the holder until it is held firmly. Do not over tighten.

Flashtube Replacement

1. Before fitting or removing a flashtube, always ensure the power is switched off and remove the mains cable from the unit; also remove the modelling lamp if fitted.
2. Avoid touching the new flashtube with bare fingers as this can leave grease on the glass which can shorten its life.
3. Carefully unwind the trigger wire from the flashtube support.
4. Grasp the flashtube with a cloth and carefully prise it out of the supporting connector holes by gently rocking it from side to side.
5. Remove the new flashtube from the packaging.
6. Grasp the new flashtube with a cloth and straighten out the trigger wire.
7. Carefully push the flashtube connectors/legs into the sockets in the flash head until fully inserted.
8. Wind the trigger wire tail around the top of the flashtube support.

Changing the Fuse

The modelling and flash circuitry are protected by a single 20mm fuse mounted in a draw next to the mains input.

A fuse may blow when the modelling lamp fails; always check the fuse when replacing a bulb. A spare fuse is located in the draw underneath the mains connection on the bottom of the unit. The fuse draw contains two fuses, the furthest inside the draw is the live fuse and the nearest one is a spare. Never replace the fuse with one of a different rating.

Always switch off the unit and disconnect the power supply before changing a fuse.

Warning and Error Management

The XMS is fitted with a comprehensive monitoring system to detect any mis-operation. If the display shows a Warning or an Error code and it does not automatically clear itself in a reasonable time then switch the unit to standby and back on again to see if it then clears.

Warnings: are normally only given because of transient problems. These normally reset automatically either shortly after the warning or after a period in the case of overheat.

DISPLAY	DESCRIPTION	POSSIBLE CAUSE
OH	Unit has Over-Heated	This can happen under extreme use or if the unit vents have been covered or the fan has failed. Check the conditions below. Should reset after a short period of cooling.
nF	not Flashed	This may happen near the end of the flash-tubes life, or if it has not been used for some-time, particularly at low powers. Try increasing the power to maximum and flash a few times to see if the fault clears.
nr	not ready	This is accompanied by a warble from the sounder, if on, and warns of a possible under exposed shot. This is because the flash trigger has occurred before the unit has fully charged.

In the event of an OH indication please check the following and rectify as shown:

CONDITION	STEPS TO RECTIFY
Case vents obstructed:	Clear vents of obstruction.
Excessive ambient temperature:	Lower the temperature or move to a cooler area.
Flash rate excessively fast:	

OH indication continued:

CONDITION	STEPS TO RECTIFY
Flash rate excessively fast:	Reduce the flash rate and/or only flash at a fast rate in blocks with longer cooling periods in between.
Fan not running or slow:	Unit requires repair.
OH does not clear:	Unit requires repair.

Radio Fault

If there is a fault with the radio system then the RADIO LED will blink when the radio sync source is selected. Normally, the unit can still be used with this fault by using one of the other sync sources. If the fault does not clear after switching off and on again then the unit needs to be serviced by an authorised repairer.

Errors

Errors are due to an internal fault that either cannot be cleared or re-occurs frequently. This includes the fan not running when OH is displayed. An Error displayed will require the unit to be checked and repaired by an authorised repairer. Failure to take steps to correct the error or having the repair carried out by an unauthorised repairer will invalidate the warranty.

DISPLAY	DESCRIPTION	POSSIBLE SOLUTION
E1	Open temperature sensor	Requires repair if persistent.
E2	Shorted temperature sensor	Requires repair if persistent.
E3	Failed to auto- dump	Requires repair if persistent.
E4	Failed to charge	Requires repair if persistent.
E5	Over voltage detected	Requires repair if persistent.

NOTE: Due to the capacitor charging system used, the XMS can make a slight audible ticking at rest or when charging. This is completely normal and can be regarded as a sign of correct operation.

Specifications

XMS500	Specifications
Energy (Ws/J)	500
Power Range (f-stops)	7
Power Range (Ws/J)	7.8 - 500
Power Range (Fraction)	1/1 - 1/64
Flash Duration (t=0.5)	f4.0 - f8.7 = 1/2480 - 1/5180 f8.8 - f10 = 1/3080 - 1/4000
Recycle Time Range @ 230V 50Hz @ 120V 60Hz	0.2 (min) - 1.0 (max) sec. 0.2 (min) - 1.5 (max) sec.
Replacement flashtube (part code)	BW3000
Weight	3.7kg / 8.1lb
XMS500 Part Code	BW5300

XMS750	Specifications
Energy (Ws/J)	750
Power Range (f-stops)	8
Power Range (Ws/J)	5.8 - 750
Power Range (Fraction)	1/1 - 1/128
Flash Duration (t=0.5)	f3.0 - F7.5 = 1/2700 - 1/4800 f7.6 - f8.8 = 1/3050 - 1/3700 f8.9 - f9.5 = 1/2500 - 1/3160 f9.6 - f10 = 1/2430 - 1/2770
Recycle Time Range @ 230V 50Hz @ 120V 60Hz	0.2 (min) - 1.3 (max) sec. 0.2 (min) - 1.8 (max) sec.
Replacement flashtube (part code)	BW3001
Weight	4.1kg / 9lb
XMS750 Part Code	BW5310

XMS1000	Specifications
Energy (Ws/J)	1000
Power Range (f-stops)	8
Power Range (Ws/J)	7.8 - 1000
Power Range (Fraction)	1/1 - 1/128
Flash Duration (t=0.5)	f3.0 - F7.7 = 1/2360 - 1/4440 f7.8 - f8.9 = 1/2400 - 1/3220 f9.0 - f9.5 = 1/2220 - 1/2540 f9.6 - f10 = 1/1900 - 1/2090
Recycle Time Range @ 230V 50Hz @ 120V 60Hz	0.2 (min) - 1.5 (max) sec. 0.2 (min) - 2.0 (max) sec.
Flashtube Part Code	BW3002
Weight	4.3kg / 9.4lb
XMS1000 Part Code	BW5320

Specifications

Features common to all units	Specifications
Power Increments (f-stop)	1/10-stop or 1-stop
Flash to flash consistency (f-stop)	±0.05
Nominal colour temperature	5600°K
Flash to flash colour temperature consistency (K)	+/-30°K
Multivoltage (fitted with appropriate rated modelling lamp)	Yes
Nominal operating voltage ranges (V)	100V / 120V / 230V +/-10%
Nominal operating mains frequencies (Hz)	50Hz / 60Hz +/-5%
Built-in fuse	T10AH 5x20
Modelling lamp for 120V	120V, 250W - BW1024/B
Modelling lamp for 230V	230V, 250W - BW1024
Modelling lamp modes	Off, proportional, free set
Ready indication modes	Off, beep, dim, beep and dim
Trigger sync modes	Cable, IR, IR pre-flash, radio
Typical radio trigger / control range (m)	>30m
Dimension: L x W x H (mm)	485 x 136 x 192
L x W x H (inches)	19 x 5.3 x 7.5
Length includes reflector, protector cap and handle Height includes stand mount.	

NOTE: The modelling and flash circuitry are protected by a single 20mm fuse mounted in the rear panel of the unit.

A fuse may blow when the modelling lamp fails; always check the fuse when replacing a bulb. A spare fuse is located in the draw underneath the mains connection at the rear of the unit. The fuse draw contains two fuses, the furthest fuse inside the draw is the live fuse and the nearest one is a spare. Never replace the fuse with one of a different rating.

Always switch off the unit and disconnect the power supply before changing a fuse.

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Light is everything™

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