



ESPRIT DIGITAL INSTRUCTIONS BWL-0324/1 11-1-02

BOWENS INTERNATIONAL LIMITED

355 OLD ROAD  
CLACTON-ON-SEA  
ESSEX CO15 3RH  
UNITED KINGDOM  
Tel: +44(0) 1255 422807  
Fax: +44(0) 1255 436342

[www.bowensinternational.com](http://www.bowensinternational.com)

OPERATING INSTRUCTIONS

FOR THE 1000DX (117V)

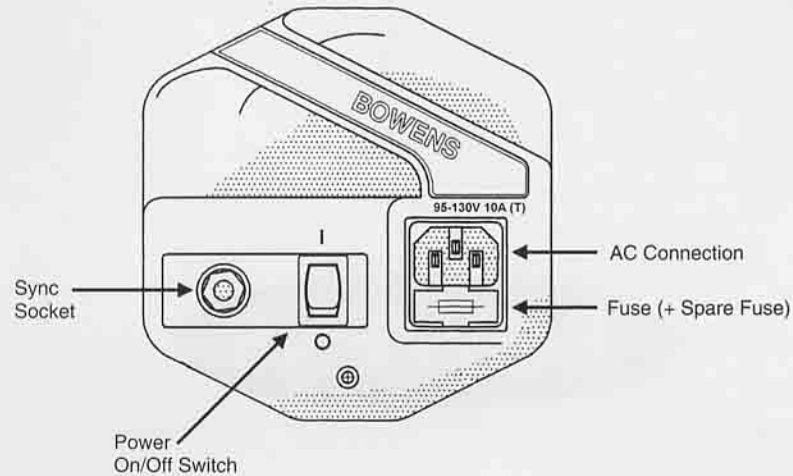


Figure 1

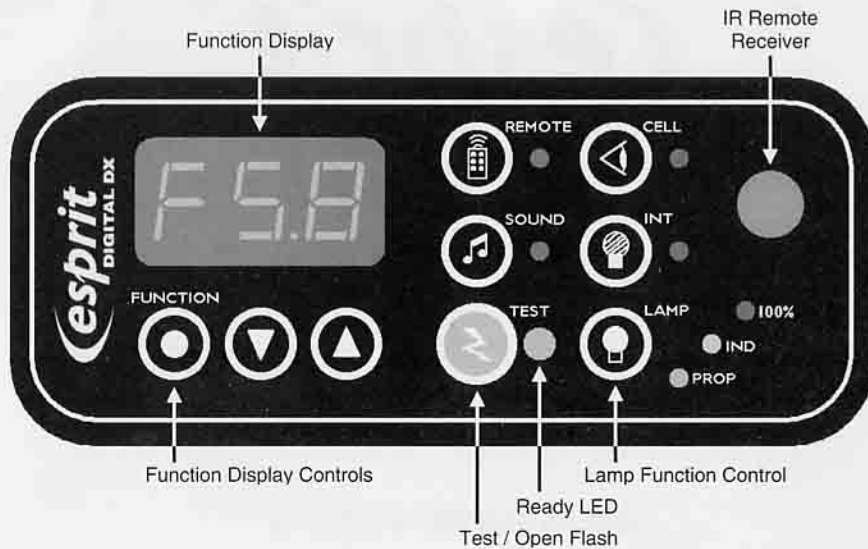


Figure 2

## GENERAL

Welcome to the world-wide family of Bowens flash equipment users, and congratulations on selecting the Esprit Digital. This has been designed using the latest technology to produce a unit that is simple to operate, yet has a powerful, highly controllable and accurate output. It is intended for studio use by professional photographers and should not be used for any other purpose. Please familiarise yourself with these instructions before operating the unit.

## SAFETY NOTES

- The Esprit Digital must not be used in an environment where moisture or flammable vapour is likely to come in contact with the unit.
- A fire hazard exists if flammable materials are placed in close proximity to either the flash tube or modelling bulb when the unit is in use.
- When moving the unit from extremes of temperature and humidity, allow at least one hour for the unit to stabilise at room temperature before connecting it to the supply.
- Do not restrict air vents while in use.
- The reflector and front end of the unit can become Very Hot. Care should be exercised when handling equipment that has been in use.
- Switch off and disconnect from the supply before changing fuse, modelling bulb or flash tube.
- A 10A (T) 20mm fuse mounted on the rear panel (Fig.1) protects the charging and modelling circuitry of the unit. Disconnect from the supply before changing the fuse. Never replace with a fuse of a different type or rating. A spare 10A (T) fuse is fitted in the fuse holder.
- Only connect the unit to a 3-wire, earthed (grounded), supply with an AC Line voltage within the range 95V to 130V with a nominal frequency of either 50Hz or 60Hz. Unregulated or poorly regulated generators should not be used.
- Avoid placing cables where they can be tripped over. Protect from heavy, sharp or hot objects, which may cause damage and replace damaged cables immediately.
- Never use a unit with damaged covers, mouldings, flash tube or modelling bulb. If the unit is dropped or damaged in any way always have it checked out before using.
- Due to the high voltage and high energy used in the Esprit Digital, an authorised Service Centre must carry out all servicing.

## CONTENTS OF CARTON

- Esprit Digital with flash tube
- Sync. cord
- Instructions
- Safety Leaflet

Additional items may be supplied for use in specific countries.

## QUICK START GUIDE

The Esprit Digital is very simple to operate once the user has become familiar with the controls. Detailed operating instructions are given after this Quick Start Guide.

### Mounting

Select a stand or support system of suitable weight and dimensions to ensure stable operation of the unit. The mounting bush on the "L" bracket allows the unit to be mounted two different ways (Fig. 3). Method A is preferred, however method B can be used if the light needs to point downwards. Ensure that the clamp knob is fully tightened.

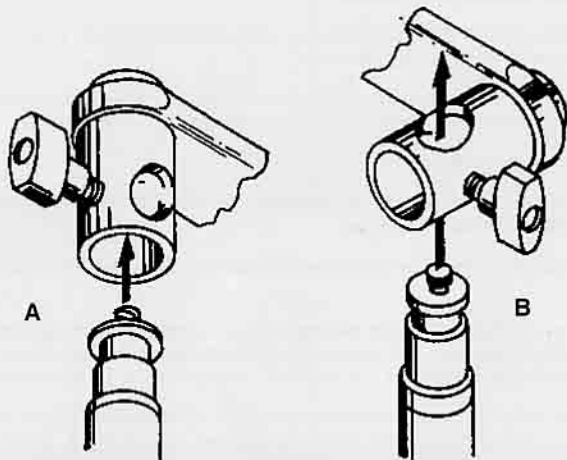


Figure 3

### Protective Cap

Push the latch knob back towards the rear of the unit, rotate and remove the plastic protective cap. Always refit the cap when transporting the unit to avoid damaging the flash tube or modelling lamp. NEVER operate the unit with the cap still in place.

### Modelling Lamp

Ensure that the unit is switched off and disconnected from the supply. Confirm that the lamp and flash tube are securely fitted, particularly before first use or after transporting the unit. Refer to the section on fitting the modelling lamp if required.

### Reflector/Accessory System

A range of reflectors and accessories are available for the Esprit units. Slide the neck of the reflector/accessory over the front of the unit. Align the three pegs with the three slots in the retaining ring, press down and turn clockwise to lock. Ensure that the latch knob is in the closed position.

To remove reflector, push the Latch Knob towards the rear of the unit, turn the reflector fully counter-clockwise and withdraw.

When an umbrella mount is required a 'Wide Angle Reflector' should be fitted. Then insert the umbrella through the hole in the Wide Angle Reflectors mounting bracket and lock in position with the knurled screw.

Note: Take care when fitting and removing reflectors/accessories not to damage the flash tube assembly. The flash tube is very delicate, avoid unnecessary handling of the glass tube. Always switch off and disconnect from the supply before changing the flash tube assembly.

### AC Supply

The unit operates from an AC Line voltage within the range 95V to 130V with a nominal frequency of either 50Hz or 60Hz. Ensure that the Power ON/OFF switch on the unit is set to OFF. Use a cable supplied by your Bowers dealer to connect to the AC supply. A 3-wire, earthed (grounded), supply system must be used to ensure safe and reliable operation of the unit.

### Triggering System

The Esprit Digital can be triggered by any of the following methods:

- **TEST/OPEN FLASH RELEASE Button**  
For testing or multiple flash applications the TEST button can be used. The unit will only flash if the unit is charged and the 'READY' LED is either lit or flashing.
- **EXTERNAL SYNCHRONISATION Socket**  
The standard ¼" jack-type socket on the rear panel may be used for direct connection to a camera set to "X" synchronisation. Remote triggering devices such as an Omni-cell may be plugged directly into the socket or via an extension lead. The unit will only trigger via the SYNC. socket if fully charged and the 'READY' LED is lit.
- **REMOTE PHOTO-CELL Button**  
The Esprit's built in photocell enables the unit to be triggered by the flash from another flash unit, IR Remote Trigger or small on-camera flash. The photocell is mounted behind the red transparent cover on the top of the unit. Switch the photocell on or off using the 'CELL' button on the control panel, the photocell is on when the associated LED is lit.

NOTE: The photocell is extremely sensitive but some experimentation with positioning may be necessary to ensure a reliable trigger, particularly if the cell is hidden from the source. Avoid directly illuminating the photocell from a continuous light source since this can prevent correct operation or in some circumstances result in spurious triggering.

### Operation

Set the Power ON/OFF switch to ON. The control panel display will light and, after a short time, the green 'READY' indicator should light. If this does not happen switch the unit off and refer to the fault finding section.

Adjust the FLASH & MODELLING controls to provide the desired settings and select any options required. Refer to the section on operation of the controls if required. Test flash the unit by pressing the TEST button.

Excess energy is automatically dumped when the flash power setting is reduced. Both increasing and decreasing the power setting generates heat inside the unit. Therefore avoid repetitive Up and Down power changes.

Refer to page 12 if you intend to make continuous use of the fast recycling feature of the unit.

NOTE: If the unit is left unused for 6 months or predominantly used at low power settings it is recommended that the power be increased to maximum and the unit left switched on occasionally for at least 30 minutes to help preserve the life of the capacitors.

You are now ready to use the system.

## MAIN CONTROLS & DISPLAY

Refer to Fig.2. The 'FUNCTION' button, the 'UP' ⬆, 'DOWN' ⬇ buttons and the three-digit display provide a simple means of setting and displaying the main functions. Other buttons are used to access individual functions.

The unit is designed to retain all settings indefinitely. If for any reason the memorised settings become corrupted then default settings will be used instead.

### 'FUNCTION' Button

The 'FUNCTION' button is the main display control and selects the required function for display or adjustment. Each press of the button selects the next available function as shown by the leftmost digit or digits. The remaining digits show the value of the function.

NOTE: Certain functions such as the IR Remote and Modelling have to be switched on before the 'FUNCTION' button can access them. When these are first selected the appropriate display will be automatically selected for checking or adjustment.

If the 'FUNCTION' or 'UP'/'DOWN' buttons are not pressed within 4 seconds then the controls and display will automatically return to the default 'FLASH' function. Use the 'FUNCTION' button to reselect if required.

Functions likely to require less frequent adjustment are accessible via an 'OPTIONS' sub-menu. This allows the user to customise certain functions without complicating the main controls.

### Function Selection

Momentarily press the 'FUNCTION' button to scroll through the available functions as follows:

Display	Range X.X	Description
<b>FX.X</b>	5.0 to 10	Display Flash power value. Use 'UP' or 'DOWN' to adjust.
<b>LX.X</b>	5.0 to 10	Display Lamp power value. Use 'UP' or 'DOWN' to adjust.
<b>CXX</b>	0 to 12	Display IR Remote Channel. Use 'UP' or 'DOWN' to select.

### Option Selection

Press and hold down the 'FUNCTION' button for approximately one second until the display changes to show one of the values below. Release the button. If the SOUNDER is on it will sound continuously while the 'FUNCTION' button is held down. Now momentarily press the 'FUNCTION' button to scroll through the options until the desired one is reached as follows:

Display	Range X.X	Description
<b>X.X.X</b>	0.0.0 to 9.9.9	Firmware version.
<b>di.X</b>	1 to 9	Display brightness value. Use 'UP' or 'DOWN' to adjust.
<b>Fd.X</b>	0 or 1	Flash dump 0 = OFF, 1 = ON. Use 'UP' or 'DOWN' to select.
<b>In.X</b>	0 or 1	Intermittent Lamp Operation 0 = NORMAL, 1 = PULSE MODE. Use 'UP' or 'DOWN' to select.

A more detailed explanation of these options is given in the OPTIONS section.

## UP & DOWN Buttons

Select the required 'FUNCTION' as detailed above.

Single presses of the 'UP' or 'DOWN' buttons will increment or decrement the value by one. Hold the appropriate button down to automatically increment or decrement the value. Release the button when the required value is reached and then use momentary presses to adjust if necessary.

NOTE: Attempting to exceed either the minimum or maximum values for any function will cause the display to flash. If the sounder is turned on then this will beep to indicate an out of range condition.

## FLASH CONTROLS & OPERATION

### 'F' - FLASH Display Mode

The FLASH mode is displayed by default and is indicated by an 'F' before the flash value as follows:

Display	Range X.X	Description
<b>FX.X</b>	<b>5.0 to 10</b>	Display Flash power value. Use 'UP' or 'DOWN' to adjust.

The FLASH power is adjustable over a 5 f-stop range (6 f-stops) in 1/10 f-stop increments using the UP and DOWN push buttons. The power is displayed in an easy to use decimal form where each whole number represents 1 f-stop. The control has a minimum setting of 5.0 and a maximum setting of 10. A single press of either the UP or DOWN button changes the value by 0.1 f-stop (1/10) to give a total of 51 values. E.g. If the current value shown is 9.4 then to reduce the power by 1 f-stop just reduce it to 8.4. The following table shows the whole decimal numbers and equivalent fractional power ratio:

Displayed Power	Fractional Equivalent
<b>F10</b>	1 (FULL)
<b>F9.0</b>	1/2
<b>F8.0</b>	1/4
<b>F7.0</b>	1/8
<b>F6.0</b>	1/16
<b>F5.0</b>	1/32 (MIN)

## MODELLING LAMP CONTROLS & OPERATION

Four modelling lamp modes are available. Each press of the LAMP FUNCTION button selects the next mode in sequence. The associated LED shows the mode selected as follows:

Mode	Description
<b>OFF</b>	Lamp switched off, no LED's lit.
<b>PROP</b>	Proportional - Lamp brightness linked directly to the current flash power setting.
<b>IND</b>	Independent - Lamp brightness adjustable independently from the flash setting.
<b>100%</b>	Lamp at full brightness.

# Esprit Digital Operating Instructions

## 'L' - LAMP Display Mode

When the 'LAMP FUNCTION' is switched to 'INDEPENDENT' mode the display and controls are automatically set to the 'LAMP' mode to allow adjustment. An 'L' before the displayed value indicates this mode:

Display	Range X.X	Description
<b>LX.X</b>	<b>5.0 to 10</b>	Display Lamp power value. Use 'UP' or 'DOWN' to adjust.

If no adjustment is attempted within 4 seconds then the display will revert to the default 'FLASH' mode. If the value needs to be reviewed or adjusted later then use the 'FUNCTION' button to select the 'LAMP' mode.

The LAMP power is adjustable over a 5 f-stop range (6 f-stops) in 1/10 f-stop increments using the 'UP' and 'DOWN' push buttons. Adjustment and display of the 'LAMP' power in 'INDEPENDENT' mode is identical to that of the 'FLASH' power.

## AUXILIARY FUNCTIONS

### SOUNDER Button

Switch the sounder on or off using the 'SOUND' button. The sounder is on when the associated LED is lit. The sounder will give a short beep whenever active keys are pressed. Longer beeps or repetitive beeps provide warnings, the meaning of which is given in the appropriate section.

### INTERMITTENT Button

This feature uses the Modelling Lamp to indicate that the unit has flashed correctly and recharged to 'READY', it is in addition to the normal indication. Press the 'INT' button to switch this function on or off. The associated LED is lit when 'INT' is selected. Depending on the 'OPTION' setting this mode may be unavailable when the Lamp is 'OFF'. When this is the case, and the sounder is on, a long warning beep will be given when the button is pressed to indicate that it cannot be selected.

The user may select one of two indicating modes for this function by means of the 'OPTIONS' sub-menu. See 'OPTIONS' for a description of how to access this mode.

The default setting is 'In.0', for Normal intermittent operation. The 'INTERMITTENT' function in this mode is only available when the lamp is switched ON (**PROP, IND or 100%**). When the unit is flashed the Modelling Lamp will extinguish while the unit recharges and will light again when the unit reaches 'READY'.

The optional setting is 'In.1', for Pulse Mode operation. The 'INTERMITTENT' function in this mode is available whether the lamp is on or off. After the unit is flashed and the unit recharges to 'READY' the Modelling Lamp will intensify to full brightness and then dim before returning to the previous setting (or to OFF). The exact effect will depend on the actual lamp setting.

If the unit fails to flash for any reason then the chosen sequence will not be followed. Note that the Modelling Lamp indication is relative slow compared to the normal LED and Sounder indication which means that the unit will actually be 'READY' and may, if required, be flashed before the sequence is complete.

### AUTO-DUMP Operation

'AUTO-DUMP' automatically discharges the capacitors when the power is reduced. The 'READY' indicator flashes while the unit is dumping. The user may select one of two DUMP methods by means of the 'OPTIONS' sub-menu. See 'OPTIONS' for a description of how to access this mode.

The default factory setting is 'Fd.0'. In this mode the unit resistively dumps excess energy whenever the flash setting is reduced. This is a relatively slow method and can take several seconds to reach the required value if the change is large. Use the 'TEST' button to manually flash dump the excess energy quickly if required.

The optional mode is 'Fd.1'. The unit attempts to automatically reduce the power to the desired setting in the shortest possible time. It does this by determining how long it would take to simply resistively dump the excess stored energy compared with flash dumping and then having to re-charge to the new setting.

To prevent multiple flashes occurring while the setting is being changed the unit waits until the 'DOWN' button is released before deciding whether or not to flash. The result is that small or slow decreases in the flash setting are unlikely to cause the unit to flash.

The unit is designed to automatically flash, if possible, when turned off. The resistive dump will continue to reduce any remaining energy while the unit is off. This safety feature cannot be disabled.

## INFRA-RED REMOTE CONTROL

The unit has a built in receiver for the optional Infrared Remote Control Transmitter. Switch the Infrared Remote Receiver on or off using the 'REMOTE' button. IR Remote Control is enabled when the associated LED is lit.

### 'C' - REMOTE CONTROL CHANNEL Display Mode

When the IR Remote is switched on the unit will automatically enter the 'CHANNEL' display mode to allow adjustment. The 'C' before the displayed value indicates this mode:

Display	Range X	Description
<b>CXX</b>	<b>0 - 12</b>	Display IR Channel number. Use 'UP' or 'DOWN' to select.

If no adjustment is attempted within 4 seconds then the display will revert to the default 'FLASH' mode. If the value needs to be reviewed or adjusted later then use the 'FUNCTION' button to select the 'CHANNEL' display mode.

### IR REMOTE Operation

The following assumes that 'REMOTE' has been switched on. The selected channel number has the following significance:

Location	Setting	Operation Description
Esprit Digital	<b>0</b>	Responds to a transmitter set to ANY channel number, 1 to 12 or ALL.
Esprit Digital	<b>1-12</b>	Responds to a transmitter set to the SAME channel number or ALL.
Remote Control	<b>ALL</b>	Causes ALL units, within range, to respond to the Transmitter regardless of the individual unit channel number.

All functions except 'REMOTE' On/Off can be controlled remotely. This allows the units remote control channel number to be changed using the current channel. The new channel number is only activated after the displayed 'C' function times out. Use this facility with care since remote control of an individual unit could be lost, requiring the Channel number to be manually reset on the unit.



## FAST RECYCLING OPERATION

As with any flash unit the useful life of the tube and the unit as a whole depends on the way it is used. Avoiding excessive HEAT is the key to long life.

The fast recycling feature of the Esprit Digital allows a rapid sequence of high power flashes to be obtained. However, this feature should be used sparingly since continuous rapid flashing can cause overheating and subsequent damage to the flash tube and possibly the internal electronics. Rapid sequences of flashes should always be followed by a reasonable cooling period, at least 10 to 20 minutes is advised either without flashing or at a substantially reduced rate. The Esprit Digital 1000DX is fitted with a cooling fan and will cool faster if left switched on.

The unit is equipped with overheat protection, not to limit performance but to prevent damage under abnormal operating conditions. Repeated operation of the overheat protection should be avoided by decreasing the flash power or repetition rate. Dimming or turning the modelling lamp off will help prevent overheating.

Whenever possible, avoid rapid high power flashing when using restrictive reflectors such as a snoot or grid reflector, particularly if the unit is pointing downwards.

The table below shows maximum number of flashes permissible at various flash rates and flash settings before allowing the unit to cool. This cannot cover all combinations but should be used as a guide to determine the maximum flash rate to meet your requirements.

### ESPRIT DIGITAL 1000DX

FLASH POWER	REPETITION RATE	MAXIMUM NO. OF FLASHES	OPERATING TIME
F10	10 seconds	400	60 Minutes
F10	5 seconds	200	15 Minutes
F5	≈2 second	1200	40 Minutes

## FITTING THE MODELLING LAMP

Always switch off and disconnect from the supply before fitting or replacing the modelling lamp. Wait a few minutes for the lamp and tube to cool and for the unit to self-discharge. The unit has a flash off and auto-dump feature that operates whenever the unit is switched off. This is designed to quickly reduce the capacitor voltage to a 'safe' value but it is still advisable to leave the unit for as long as possible before changing either the lamp or flash tube.

Screw the modelling lamp into the ES lamp holder in the centre of the reflector. If the new lamp fails to light then check the fuse, as this may blow when a lamp fails. Replace a blown fuse with one of the correct type and rating.

**Note:** A Photoflood or Halostar bulb with a maximum wattage of 275W is recommended for use in Esprit Digital units. The manufacturer will not accept liability for the use of any lamp with a rating exceeding 275W.

The unit has a built-in 'soft start' feature to enhance lamp life but this can be improved further by dimming or turning the lamp OFF whenever possible. This will also reduce the heat dissipated by the unit. Avoid moving or knocking the unit when the lamp is switched on or when it has just been turned off since lamp filaments can be damaged when hot.

## FLASH TUBE REPLACEMENT

Ensure that the unit is switched off and disconnected from the supply before replacing the flash tube assembly. Wait a few minutes for the lamp and tube to cool and for the unit to self-discharge, it is advisable to leave the unit for as long as possible before changing the flash tube.

Remove the protective cap and unwind the twisted Trigger wire from the trigger terminal.

Carefully pull the flash tube assembly out of the unit. To replace, hold the replacement flash tube assembly as shown in Fig.4, locate the three brass sockets onto the plugs in the front of the unit. Press down evenly until all of the plugs and sockets are fully engaged. Pass the trigger wire through the hole in the trigger terminal tag and wind around the tag, ensuring the trigger wire is kept well clear of the metal top hat. Excess wire may be trimmed off.

Always replace with the correct flash tube assembly, BW-1079 UV coated.

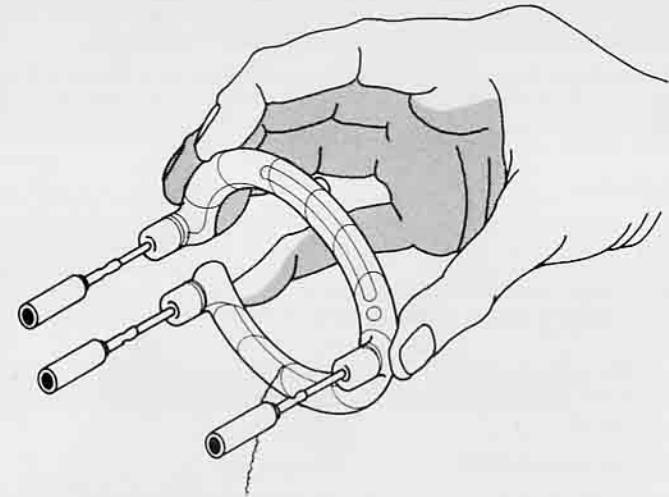


Figure 4

# Esprit Digital Operating Instructions

## WARNINGS & FAULT FINDING

If the unit appears to have developed a fault, first establish that it is a genuine internal fault and not a case of normal operation such as overheat. Carry out the following checks to eliminate any external causes. If no obvious problem can be found and replacement of the modelling lamp, flash tube or fuse does not effect a cure then it is likely that an internal fault has developed. Always return the unit to an authorised service centre if a fault is suspected after these checks. UNDER NO CIRCUMSTANCES SHOULD YOU ATTEMPT ANY REPAIR yourself.

### **MIS-FIRE Warning**

If the unit receives a trigger signal from any of the valid sources (TEST, IR REMOTE, IR TRIGGER, SYNC) but fails to flash for any reason then the display will flash continuously and the sounder will beep (if on). Press any button, apart from TEST, to stop this alarm. Increase the power setting to maximum and use the TEST button to try and flash again. If the problem continues to happen on more than the odd occasion, particularly at lower power settings, then it is likely that the tube is wearing out. Before replacing the tube, check that the trigger wire is correctly connected and is not shorted to or in close proximity to the metal reflector. If the unit fails to flash at all then check the flash tube for signs of damage or overheating.

If the unit fails to flash and the display warning is not given then the Sync. lead and/or camera should be suspected. If possible check these with another flash system. Check the polarity of the Sync. from the camera and use an adapter to reverse it if necessary. The ESPRIT DIGITAL supplies a SYNC. voltage of +14V with respect to the chassis Ground.

### **OVERHEAT Warning**

The unit is fitted with overheat protection that turns the modelling lamp off and inhibits charging until the unit has cooled sufficiently. The display flashes 'OH' while the overheat condition exists. An audible warning is not given since this may last for some time. Overheat will normally only occur if the unit is flashed repeatedly at a fast repetition rate. Slowing down the repetition rate will normally help keep the unit out of overheat. Dimming the modelling lamp or turning it off may also help.

NOTE: The controls are inhibited during overheat to prevent inadvertent changes being made. If the lamp was on before the OH condition existed then the lamp display will show it as being temporarily switched off.

### **The Control Panel Does Not Light**

If the control panel does not light when the unit is switched on then first check that the AC power supply to the unit is OK. Under exceptional conditions of use the fuse may blow. This is normal and is designed to protect the unit. Confirm that the fuse is intact and if in doubt replace. A spare fuse is fitted in the fuse holder, always replace with a fuse of the correct type and rating.

If the fuse blows immediately the unit is switched on remove the modelling lamp, replace the fuse and try again. If the fuse blows again there is an internal fault.

### **The Control Panel Lights but Does Not come To 'READY'**

If this happens then first confirm that the AC power supply is adequate and within the prescribed limits. Try switching the unit off, wait a minute, and then switch on again.

### **The Modelling Lamp Does Not Light.**

Check the fuse and the modelling lamp itself. Replace as required.

## SPECIFICATION

Esprit Digital:	1000DX
Stored Energy (Max)	1000Ws
Typical Recycle Time (Full Power 117V 60Hz)	2.9 seconds
Supply Voltage AC	95-130V 50 or 60Hz
Stabilisation	+/- 0.05 f-stop
Modelling Lamp	Max 275W
Ready Indication	Green 'READY' LED at 100% Audible and Modelling light indication as selected.
Fuse	10A (T) 20mm
Nominal Sync. Voltage	14V
Photocell	On/Off
Sounder	On/Off
Modelling Power Control	Off / Proportional / Independent / 100%
IR Remote Control	Full control, 12 channels, No. depends on transmitter
Guide Number: Full power, 50° Keylite, ISO 100	120m
Flash Duration (Full Power) t=0.5	1/1500s
Flash Colour Temperature	Approx. 5600K (UV coated)
Flash Power Control	Full to 1/32 5 f-stop in 1/10 increments
Recommended Modelling Lamp	250W 120V Halostar                      BW-1024/B 275W 120V Photoflood
Flash Tube Assembly	UV-Coated                                      BW-1079
Dimensions	L =450mm W=170mm H =125mm
Weight	4.4Kg

Due to our policy of constant product improvement Bowens International Limited reserve the right to change equipment specifications without notice.

## ACCESSORIES

For details of all related products please contact your local distributor.