MEGARAY SEARCH LIGHT SYSTEM

MR4300

OPERATOR MANUAL

MR4300 – The World's Best Ultra High Intensity Searchlight

MEGARAY A (PTY) LTD

Somerse dburg, 2194, South Africa
All corresp Sandton, 2146, South Africa
Tel: +27 11 326 1167, Fax +27 11 326 1165
e-mail: info@megaray.com web: www.megaray.com

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1. Component Identification

The Search light system consists of the components showed and labelled as shown in Figure 1-1 and Table 1-1 below.

Figure 1-1: Major Components

Item	Description
1	Megaray Light Unit
2	Remote Control Unit
3	Communications Interface Loom
4	Power Supply Loom

Table 1-1: Major Components

2. Getting Started

2.1. Step 1:

Connect the communications Interface Loom to the Remote Control unit as shown in Figure 2-1 below.

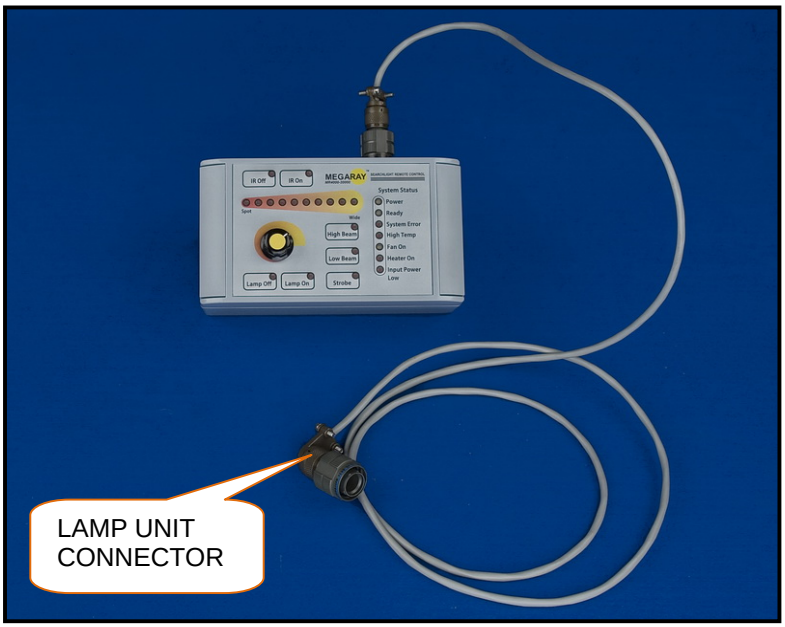

Figure 2-1: Remote Control Unit Connections

2.2. Step 2:

Connect the Power Supply Loom and the Communication interface Loom to the Lamp Unit. Access to the connectors on the Lamp Unit is through a cut-out on the bottom of the Lamp Unit.

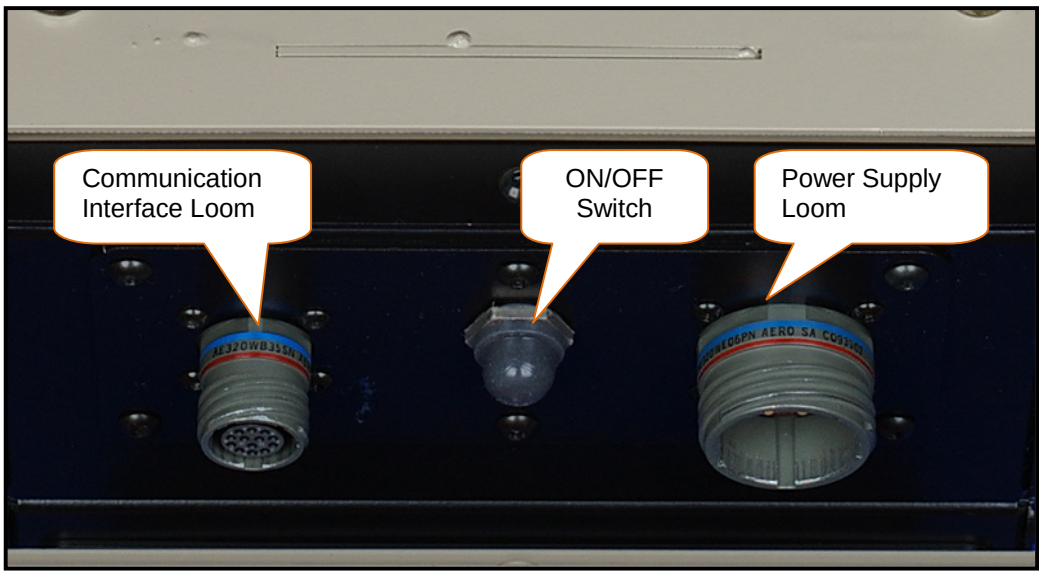

Figure 2-2: Lamp Unit Connections

2.3. Step 3:

Connect the open end of the Power Supply Loom to a suitable Power Supply. The Power Supply should have an output voltage of between 12Vdc and 30Vdc. The Power Supply should be able to supply at least 250W at the selected voltage to ensure proper functionality of the unit. For example if the input voltage is 24Vdc the current requirement is 250 divided by 24 which are 10.42A.

2.4. Step 4:

Switch on the Power Supply to the unit.

2.5. Step 5:

If the lights on the Remote Control Unit light up then the unit is ready to be operated. If not then press the ON/OFF switch shown in Figure 2-2. If the ON/OFF switch is in the ON position with the Power Supply switched ON there will be a RED light just below the switch.

2.6. Step 6:

The lights on the Remote Control Unit should now indicate the status of the unit. Press the "Lamp ON" switch on the Remote Control Unit to switch the Lamp ON.

3. Remote Control Unit Description

The remote control unit interface is divided into 2 parts. The left hand side features all the controls and the right hand side gives the status information.

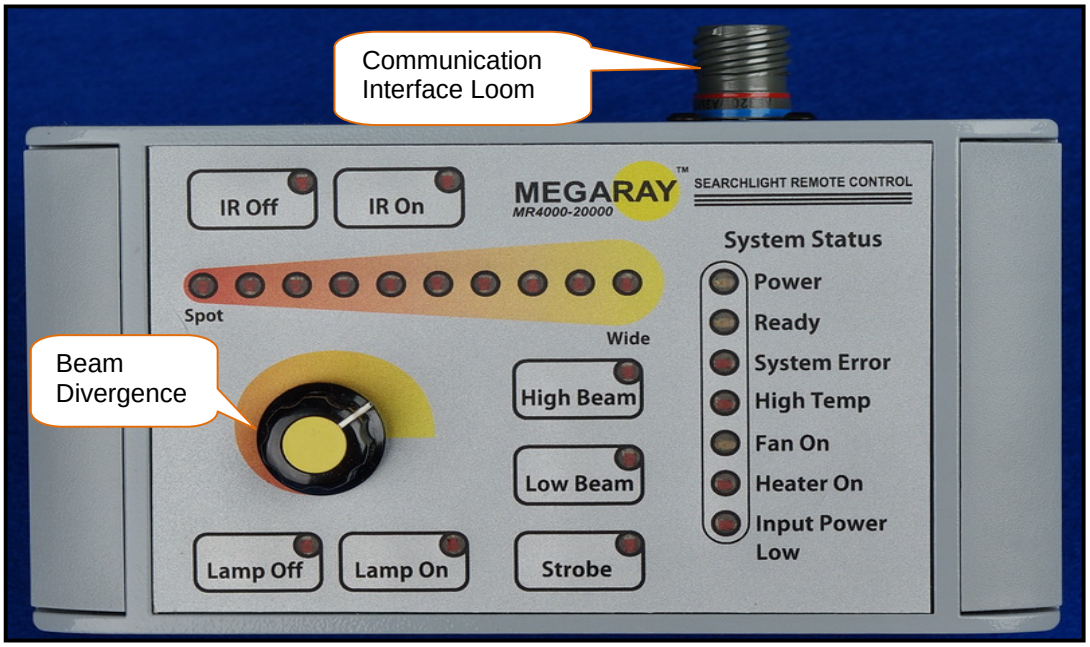

Figure 3-1: Remote Control Unit

3.1. System Status Feedback

- **Power**: The Power LED will illuminate when the lamp unit has received the command to switch ON and the input power is present on the lamp unit
- **Ready**: The Ready LED will illuminate when the input power is present and the unit is ready to be switched ON.
- **System Error**: The System Error LED illuminates when an error has occurred. The error can be either a failure in the communication between the lamp unit and the remote control unit or an over temperature condition has occurred in the lamp unit.
- **High Temp**: The High Temp LED illuminates when the lamp unit is in an over temperature condition. The lamp unit will not switch ON in this condition. This LED needs to be OFF before the unit can be switched ON
- **Fan ON**: The Fan ON LED illuminates to indicate that the fan in the light unit has been switched ON. This LED will normally be ON when the lamp is switched ON.
- **Heater ON**: The Heater ON LED illuminates to indicate that the heater is switched on when used in very cold environments. This only works when fitted. This is an option on most units.
- **Input Power Low**: The Input Power Low LED illuminates when the unit senses that the input power has dropped below the acceptable levels. Once the LED has illuminated the input power to the lamp unit needs to be switched off before the lamp unit will function normally again. The lamp unit automatically determines the type of supply by voltage discrimination and applies one of two input low limits.
    - **Battery**: When the input voltage at switch on is between 18V and 26V then the input low limit is set to 18V
    - **Supply**: When the input voltage at switch on is either below 18V or above 26V, then the input low limit is set to 11V

3.2. System Control Interfaces

Each of the following control functions has a switch and a LED in the graphical block on the remote control unit.

- **IR OFF**: The IR OFF LED will illuminate when the IR filter is not selected. The switch is used to send a command to the lamp unit to deselect the IR filter if selected. If the command is successful the LED will illuminate
- **IR ON**: The IR ON LED will illuminate when the IR filter is selected. The switch is used to send a command to the lamp unit to select the IR filter. If the command is successful the LED will illuminate
- **Lamp OFF**: The Lamp OFF LED will illuminate when the Lamp is off or has failed to switch on. The switch is used to send a command to the unit to switch off the lamp.
- **Lamp ON**: The Lamp ON LED will illuminate when the Lamp has successfully been switched on. The switch is used to send a command to the unit to switch on the lamp.
- **High Beam**: The High Beam LED will illuminate when the high beam mode has been selected. The switch is used to send a command to the unit to select the high beam mode.
- **Low Beam**: The Low Beam LED will illuminate when the low beam mode has been selected. The switch is used to send a command to the unit to select the low beam mode.
- **Strobe**: The Strobe LED will illuminate when the strobe mode has been selected. The switch is used to send a command to the unit to select the strobe mode.
- **Beam Divergence**: The Focus Knob is used to adjust the beam divergence. The row of 10 LEDs above the knob indicates the divergence of the beam. When the knob is turned fully anti clockwise the beam divergence is a 2º or Spot. When the knob is turned fully clockwise the beam divergence is a 6º or Wide.

4. Loom Diagram

The information needed for the manufacturing of the Power Supply Loom and the Communication