



# INSTALLATION & OPERATION MANUAL

## SAGA1-L8

### FCC ID: NCTSAGA1-L8

#### Wireless Remote Controls

6/14/2002

## Safety Considerations

This product and related documentation must be reviewed for familiarization with safety markings and instructions before operation.

### Safety Symbols

The following symbols may be found on the remote control or throughout the remote control's documentation.



#### Refer to Manual

When product is marked with this symbol refer to instruction manual for additional information.



#### High Voltage

Indicates presence of hazardous voltage. Unsafe practice could result in severe personal injury.



#### Protective Earth Ground

Indicates protective earth terminal.



#### Warning

Denotes a hazard. Included text gives proper procedures. Failure to follow instructions could result in severe personal injury and /or property damage.



#### Caution

Denotes a hazard. Included text gives proper procedures. Failure to follow instructions could result in minor personal injury and/or properly damage.



# Warranty

Gain Electronic Co., Ltd. guarantees that this product meets its published specification at the time of shipment from the factory. Under proper installation it should work as expected. However, GAIN does not guarantee that operation in SAGA1 system is error free or without intermission.

This equipment is warranted against defects in material and manufacturing for a period of one year from the date of shipment. During the warranty period, GAIN is responsible for necessary repairs as long as the product can be proved to be defective.

For warranty service or repair this product must be returned to a service facility designated by GAIN. Buyer will pay shipping charges to GAIN while GAIN will pay return shipping charges.

This warranty does not include consumptive parts such as batteries, fuses, buttons, relays. Also this warranty does not cover defects caused by improper installation, improper or insufficient maintenance, unauthorized modification, improper operation, ignorance of environmental specifications, or improper software or interfacing.

No other warranty is expressed or implied, except for the above mentioned.

The remedies provided herein are the buyer's sole and exclusive remedies.

GAIN shall not be liable for any direct, indirect, special, incidental or consequential damages.



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# 1.0

## Standard Accessories for SAGA1-L8

Open the shipping carton and get a standard SAGA1-L8, it includes the following item:

1. Transmitter, one unit
2. Receiver, one unit



## 2.0

### ● SPECIFICATION

#### 1) General:

1. Enclosure: IP65	5. Hamming distance 4
2. Structure: Glass Fiber	6. Static >15KV
3. Relay: 10A/250VAC	7. ID Code Registration
4. ID Code: 32bit	

#### 2) Transmitter:



1. L x W x H: 120 x 55 x 25mm	6. Shock resistance
2. Weight: 155g (w/batteries)	7. 8pushbuttons with 1-step (Start, Stop, Up, DW, East, West, South, North)
3. 2 AA size alkaline batteries	8. Normal power consumption: 10mA
4. Low power indicator (LED flash red)	9. Sleep mode consumption: less 1μA
5. Pushbutton jammed detector	10. Modulation: FM

### 3) Receiver



1. L x W x H: 161 x 74 x 52 mm
2. Weight: 1100g (w/out cable)
3. Shock resistance
4. 4 independent COM Line U/D, E/W, S/N and R0 for SAGA1-L8
5. Input Voltage: 110VAC(50/60Hz) ,  $\pm 10\%$

## 3.0



### EMERGENCY PROCEDURES

In case of any emergency occurred, please:

1) Press **STOP** pushbutton

2) Switch off the main power of crane

and then contact your local distributor for the service and find out the reason.

Press **STOP**  
pushbutton





## 4.0



### GENERAL OPERATION

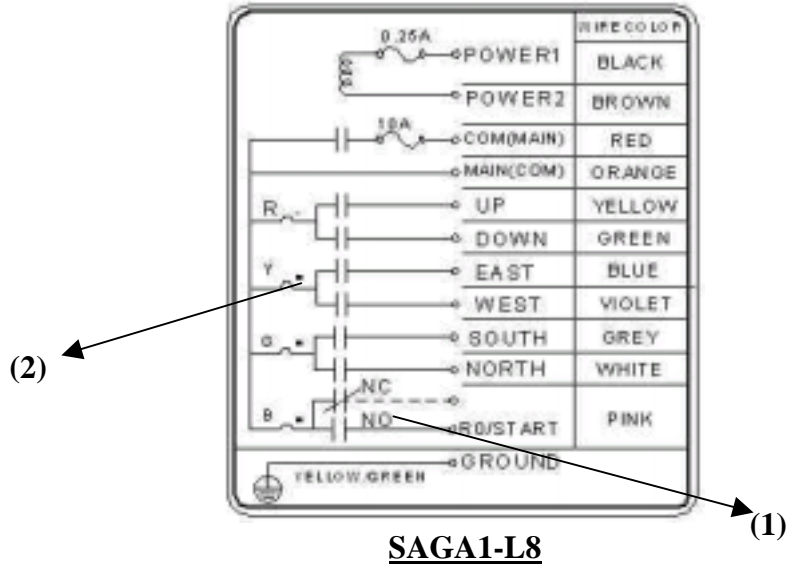
- 1) Turn-on the main power switch of the equipment (Crane)
- 2) Install two AA size Alkaline batteries in the transmitter
- 3) Press the Start/R0 pushbutton to turn on the main relay inside receiver
- 4) Operate normally according to the function setting have been done
- 5) Please proceed the following procedures after operation:
  - a) Press **STOP** pushbutton
  - b) Put the transmitter in place
  - c) Switch Off the main power switch of the equipment (Crane)



Press the Start/R0 pushbutton to turn on the main relay inside receiver

## 5.0

- WIRE DIAGRAM OF SAGA1-L8:

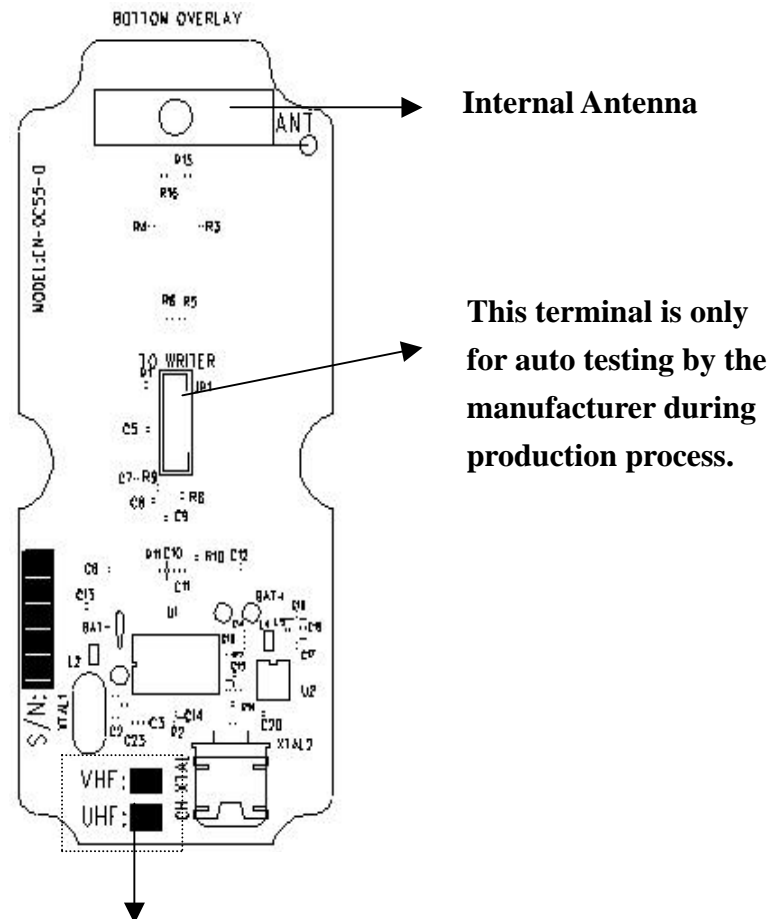


**Remark: (1) The R0/START could be N.C. or N.O.**

**(2) The com lines have been arranged prior to shipment, if an independent com line is required, please refer to page:12/18.**

## 6.0

### ● TRANSMITTER PCB LAYOUT:



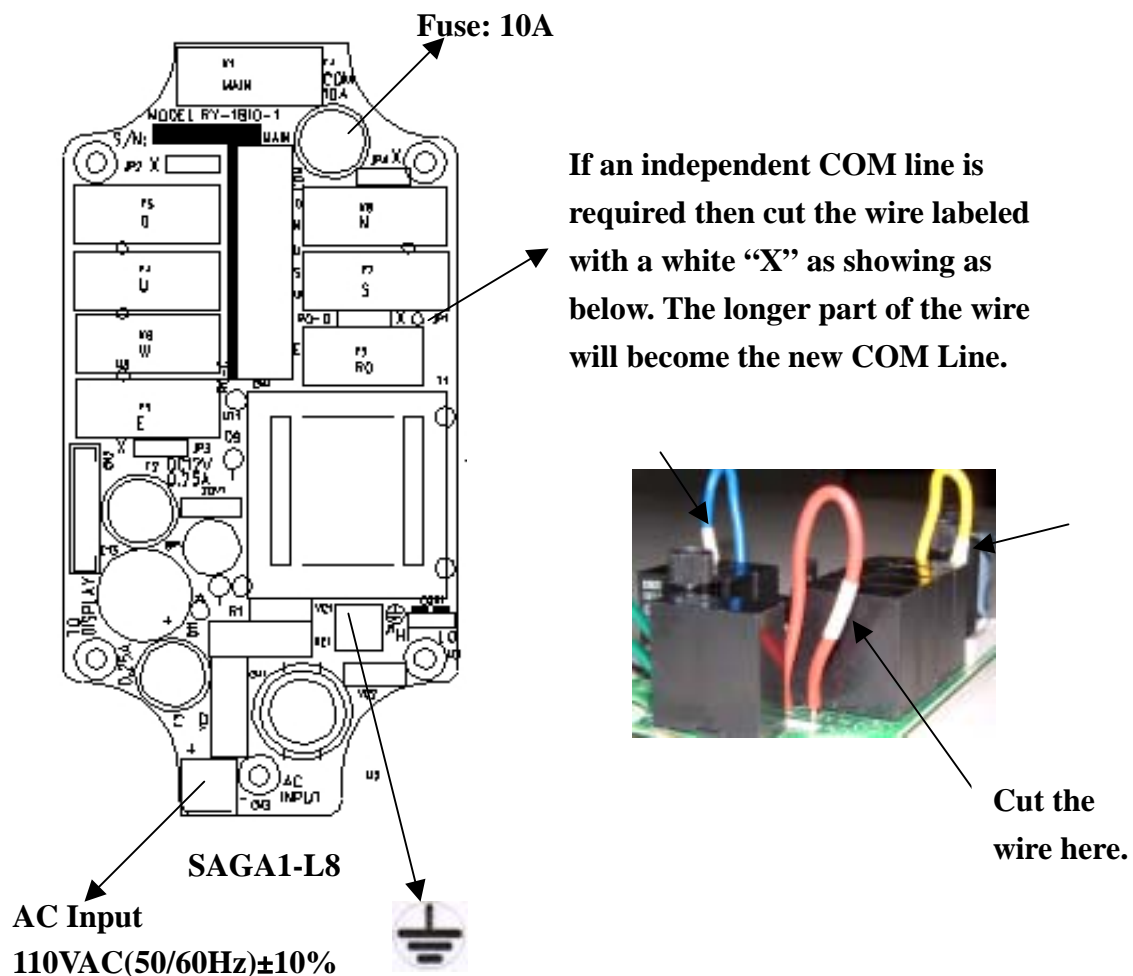
There are two kinds of frequencies VHF and UHF are available marking with a check is the current frequency band and please make sure not to replace a VHF crystal unit into UHF PC board or visa versa.

VHF:310~320MHz

# 7.0

## ● RECEIVER PCB DIAGRAM:

### 7-1. Relay Board for SAGA1-L8



The GND (ground) of the receiver must be connected with metal part of equipment, or electrical shock may occur.

## 7-2. Independent COM Line:

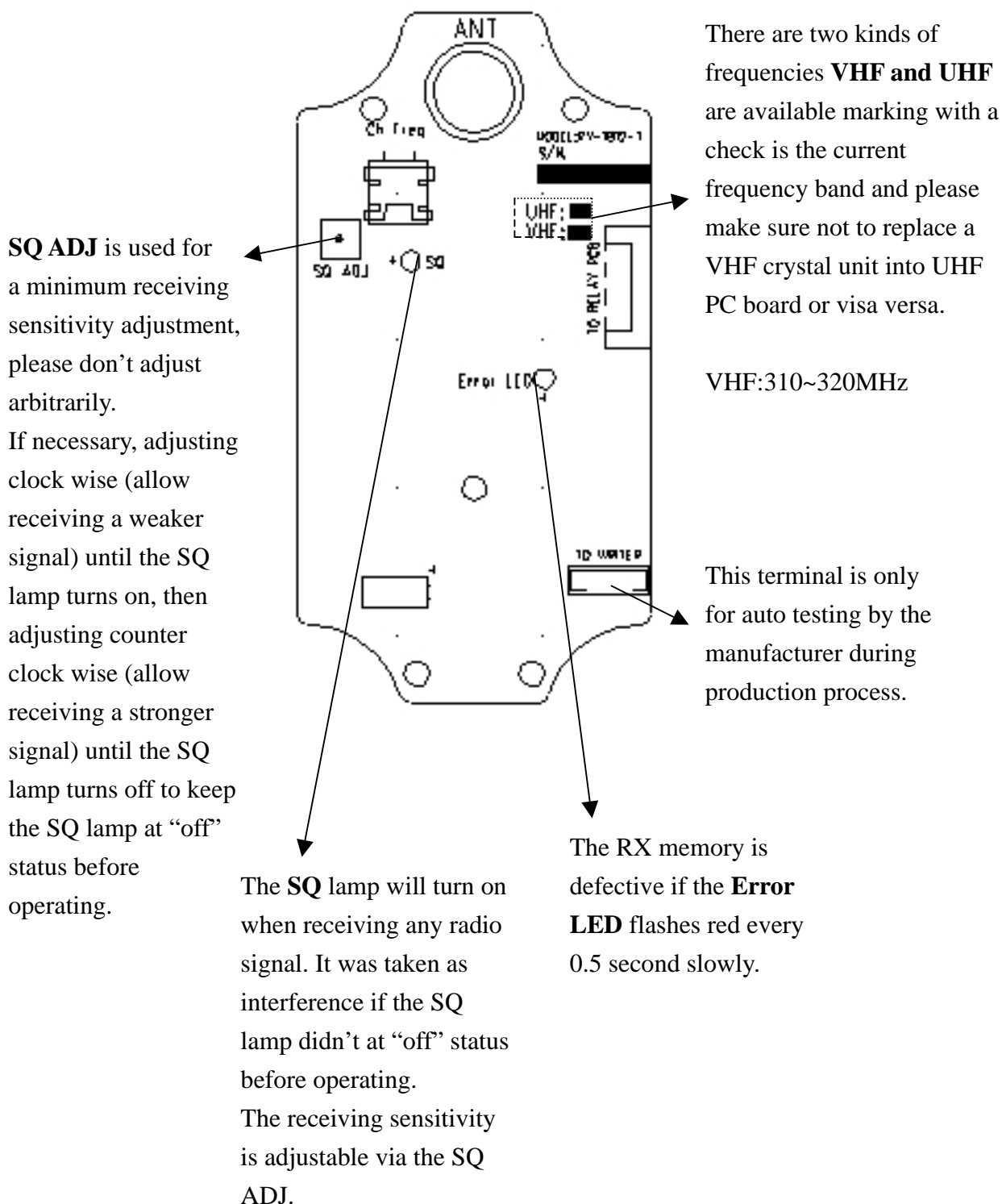
The SAGA1-L8 offer optional independent COM lines as:

<b>SAGA1-L8</b>	4 independent COM lines	Up/Down, East/West, South/North and R0
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*Please refer to the above figures of receiver relay boards and if an independent COM line is required then cut the wire labeled with a white “X”. The longer part of the wire will become the new COM Line. Then you may connect this new COM wire with an existed spare output wire, otherwise, you have to use an extra wire made by yourself.*

### 7-3. RX Board for SAGA1-L8



## 8.0

- **CHANGE OF FUSE**

Depress the fuse cover and turn counter-clockwise with a flat screwdriver to open up the fuse cover. Then remove the old fuse and insert the new correct fuse into the cover first. Place this fuse along with cover into the fuse holder base, and depress the fuse cover and turn clockwise with flat screwdriver.

# 9.0

## ● BATTERIES

Two AA size alkaline batteries are required for the transmitter. The LED will flash green when the battery power is sufficient. The LED will flash red when the battery power is low.

- The operating distance will become shorter when the battery is low.
- Replace with new battery when battery power is low.



**Don't use rechargeable batteries.**

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.

### NOTE

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. This equipment generates, uses and can radiated 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.

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



# 10.0

## • TROUBLESHOOTING

Item	Phenomenon	Cause	Action Required
1	Red LED flashing quickly (every 0.2 sec.) when any motion pushbutton is pressed.	a) One of the pushbutton is jammed. b) The system is not properly powered according to the instruction.	a) Replace the pushbutton. b) Power on again according to the instruction.
2	TX LED flashes red and yellow reciprocally and slowly (every 0.5 sec.)	The memory of the TX is defective.	Send back the Manufacturer.
3	TX LED flashes red every 2 sec., when any motion pushbutton is pressed.	The transmitter batteries is at low power.	Replace the 2 AA size Alkaline batteries at once.
4	RX Error LED flashes red slowly (every 0.5 sec.)	The memory of the RX is defective.	Send back the Manufacturer.
5	The operating distance is shorter or an intermittent operation is happened.	It was interfered by other Radio Remote Controller /or unknowing signal with the same frequency.	Replace the crystal of both TX and RX to change the frequency.

**Remark:** The memory of the TX and RX has Anti-copy function design, any inadequate action on decoding the firmware of the memory will cause the trouble as the above item 2 and 4.



If any problem couldn't be solved or any comments, suggestions please fax to 886-7-8125705