

Rev. 1



# WARRANTY

JREMO® SERIES Remote Controllers must be handled, installed, operated, and maintained by (an) authorized and (a) qualified person(s), and

Upon the above condition guaranty period from the date of (delivery, installation, inspection) shall be one calendar year,

Subject to confirming defects not caused by improper installation, improper operation and/or insufficient maintenance, unauthorized modification, ignorance of environmental specifications, or improper interfacing, irresistible forces such as war(s), strike(s), Act(s) of God, and so on; all such the defects shall be treated as in no warranty.

JEICO® INDUSTRIAL REMOTE CONTROLLER					
MODEL NAME	JREMO 8K	10K 14	K JREMO 8K	10K 14K	
SERIAL NO.					
CHANNEL NO.					
LOT. NO.					

#### **PRECAUTIONS**

#### A. ANNOUNCEMENT

- © This O&M Manual is both for JREMO® 8K, 10K, 14K and for 8EX, 10EX, and the specification in each model is referred to Chapter 1.
- © Before installation and operation look through this manual and make sure having a full acknowledgement of this manual.
- ◎ JREMO® series' remote controllers compose a High-Tech systemized, and a full knowledge of this manual is a must in advance of installation as well as operation of this remote controllers.
- © Do not try to dismantle or unscrew JREMO® series except a skilful, an expert, and an authorized.
- © This manual is for reference and good for installation and for maintenance. For more details consult an adjacent agent and/or supplier.
- © Each and all the JREMO® series' remote controller is tested under severe condition and passed without any default found at factory and is ready for an immediate use for a normal/insufficient condition or so, however, in an emergency and/or in an any dangerous possibility, do not use.
- O After use switch off the main power of the equipment(ex. crane) and confirm the receiver power off, and then turn off the rotary key of the transmitter before pull out the key, and store the key in an isolated area.
- O When not in use stay the transmitter in a safety area and do not allow an unauthorized to attempt to use it.
- © Equipment(ex. crane) using this remote controller must have main relays, limit switches, separate COM lines, and other appropriate devices for safety operation.
- O When metal container for receiver casing is used make sure Ground(GND) to be sure connected to metal part of equipment(ex. crane).
- O Do not use in a severe interfered area and/or lightening or so.
- O Make sure power sources are correct.
- O Power off and do not use during installation and/or maintenance so as to avoid any electric shock or so.
- O Do not try to copy, modify, or release this remote controllers without

permission in advance by Remohand, such an action is illegal. **JREMO®** series' remote controller have many international patents, certificates, and so on.

O Without notice in advance and within Remohand's discretion this manual may be revised, added, and/or deleted for better use.

#### **B. GENERAL CAUTIONS**

- ☆ Operator must be healthy both physically and mentally.
- ★ Even though this remote controller is versatile, durable, and good for outdoor use try to avoid an excessive shock, pressure, wind, snow, rain, ices, or sunlight, high temperature, humid, gas, and etc.
- ☆ During operation when found power is weak replace all the batteries with all new 4 AA batteries.
- ★ When rechargeable batteries (however, it is not recommended because of shorter life) are used, use of AA 1.2V Ni-MH 2,500 mAH or above.
- ☆ When not in use take out batteries from the transmitter and put aside in a different area.
- ☆ In an emergency follow up the below emergency measures.

#### C. EMERGENCY MEASURES

JREMO® series has designed for safety, meeting with various kind of emergencies and for self-recovering. Billions of different I.D. code, Self-Diagnoses, super qualified and isolated protection against voltage surges and/or interferes, etc. are the basic integral functions for solving any unexpected accident or trouble in an emergency. So when such an emergent function is detected, F25 series will off the work immediately and stop all the function automatically.

For emergency follow up the below procedure in advance and then call an adjacent **JEICO**<sup>®</sup> agent and/or supplier for an emergency service.

- 1. Press EMS(Emergency Stop) Button. (red mushroom at top left)
- 2. Off the rotary key and pull out the key. (green key at top right)
- 3. Power off receiver power. Power off main power of Equipment.
- 4. Inquire adjacent **JEICO®** agent and or supplier.

#### CHAPTER I: GENERAL SPECIFICATIONS

#### 1.1. COMMON SPECIFICATION

- Frequency Ranges & Channel Numbers

433 Bands : 433.050~434.7750 Mhz, 70 channels 447 Bands : 447.600~447.9875 Mhz, 32 channels 173 Bands : 173.025~173.7875 Mhz, 35 channels

I.D. Code
Temperature
Remote Distance
Glass-Fiber

- Protection Grade : (Tx) IP55 / (Rx) IP66

#### 1.2 Transmitter(Tx) JEMO 8K(8EX)/10K(10EX)/14K

- Batt. Power: 4 x 1.5 V Alkaline Batteries (LR6 AA Size)

Type
Single or Double Push Button Type
Size
173/193/233 x 62 x 46 mm (L x W x H)
Weight
Approx. 355/395/450 gr. (Batteries Incl.)

#### 1.3 Receiver(Rx)

- Casing : RX2/RX3/RX4

- Power : AC100~240V, DC12~40V(OPT.~60V)

- Type : Remote Main Lamp Indication

- Ralay : AC =>"A" Contact, 250VAC/5A, 125VAC/10A

DC =>"A" Contact, 24VDC/15A, 120VAC/15A

- Size, mm : RX2/RX3 : 90x152/215x105, RX4 : 107x200x165

- Weight, gr.: Rx2/RX3/RX4: 950/1350/1220

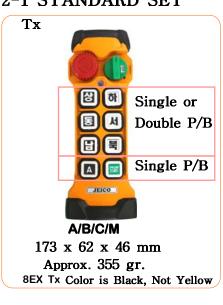
(Cable Incl. except RX4)

#### 1.4 Model Naming → RX Size(Normally not indicated) JREMO 8K A (RX2) Rx Casing Size Model MODEL Suffix 8K 10K Suffix 14K 8EX 10EX STD 8P/B :JREMO 8K Α Single P/B RX2 RX3 RX3\* 10P/B:JREMO 10K В Double P/B RX3 RX3 RX4 14P/B:**JREMO 14K** C U/D Creep RX2 RX3 RX3\* EXP D \_ Double P/B RX3 RX4 8P/B: JREMO 8EX M Mobile for DC Rx RX3 RX3 RX4 10P/B: **JREMO 10EX** \* Optional Rx casing RX4 for 14K A & C

## CHAPTER II JREMO 8K, 8EX Standard Set

JREMO 8K, 8EX Standard Set comprises one transmitter and one receiver as following as a set

#### 2-1 STANDARD SET



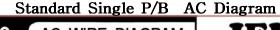


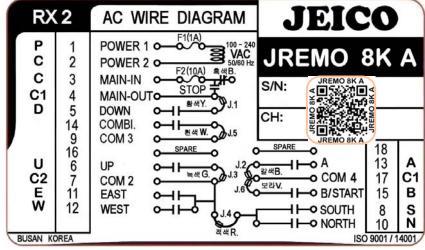
■ FUNCTIONS MODEL NAME RECEIVER
Single P/B : JREMO 8K A ==> RX2 (18 Core Cable)

U/D Creep P/B : JREMO 8K C ==> RX2 (18 Core Cable)
Double P/B : JREMO 8K B ==> RX3 (24 Core Cable)
Single P/B for D.C. : JREMO 8K M ==> RX3 (16 Core Cable)

#### 2-2 CONTROL CONTACT WIRE DIAGRAM

#### **■ JREMO 8K A**

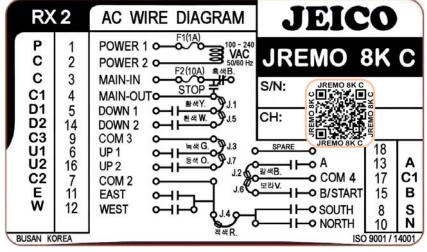






#### **■ JREMO 8K C**

Double Creep P/B AC Diagram





■ RECEIVER : RX2

SIZE : 90 x 152 x 105 mm, approx. 950 gr.

■ CABLE SPEC.: 0.75 Sq, 600VAC, 18 Core,

approx. 1.7 m long, numbered

■ RELAY SPEC.: 250VAC/5A, 125VAC/10A

"A" Contact

■ INPUT POWER: AC 100~240V 60/60Hz

■ FUSE SPEC. : 1A(F1) / 10A(F2), 20MM Column Fuse

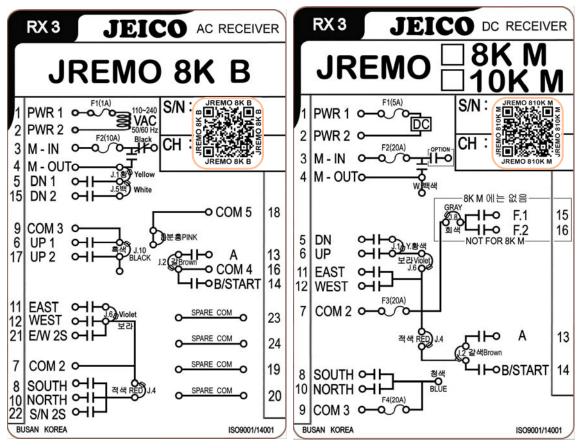
■ COMBINATION: Only for suffix A as an optional function.

#### ■ JREMO 8K B

Standard Double P/B

#### ■ JREMO 8K M

Standard Single P/B for DC



_	JREMO 8K B	JREMO 8K M		
■ RECEIVER	<b>RX3</b> , 90 x 215 x 105 mm, approx. 1,350 gr.			
■ CABLE	24Core Cable	16Core Cable		
■ CADLE	0.75 Sq, 600VAC, approx. 1.7m long, numbered			
■ RELAY	250VAC/5A 125VAC/10A	24VDC/15A 120VAC/15A		
	F1(1A) / F2(10A)	5A(F1) / 20A(F2,F3,F4)		
<b>■</b> FUSE	20MM Column Fuse			
■ INPUT POWER	AC 100~240V 60/60Hz	DC 12~40V (opt. ~60V)		



#### CHAPTER 4 JREMO 10K, 10EX Standard Set

JREMO 10K, 10EX Standard Set comprises one transmitter and one

receiver as following as a set

#### 4-1 STANDARD SET





FUNCTIONS MODEL NAME RECEIVER

Single P/B : JREMO 10K A ==> RX3 (24 Core Cable)

U/D Creep P/B : **JREMO 10K C** ==> RX3 (24 Core Cable) 6 Double P/B : **JREMO 10K B** ==> RX3 (24 Core Cable)

8 Double P/B : JREMO 10K D ==> RX3 (24 Core Cable)

Single P/B for DC: JREMO 10K M ==> RX3 (16 Core Cable)

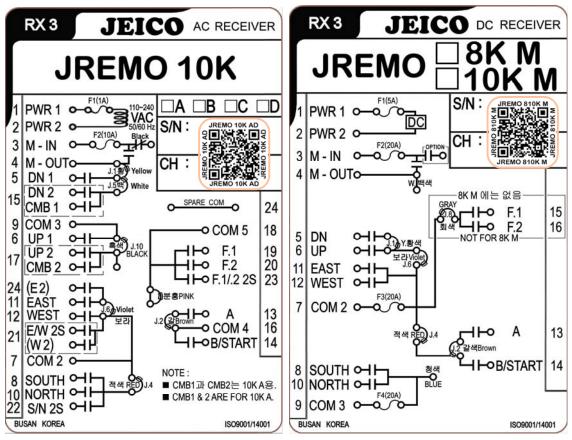
JREMO 10EX for Explosion Proof Type

with RX3 (24 Core Cable).

Note: RX casing for JREMO 10EX may not be used in case internal parts of RX to be placed in an Exp. Proof Box.

#### 4-2 CONTROL CONTACT WIRE DIAGRAM

## ■ JREMO 10K(10EX) A/B/C/D ■ JREMO 10K M Single & Double P/B AC Diagram Single P/B DC Diagram



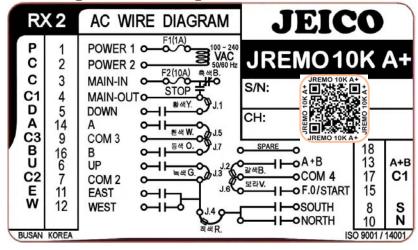
	JREMO 10K(10EX) A~D	JREMO 10K M	
■ RECEIVER	<b>RX3</b> , 90 x 215 x 105 mm, approx. 1,350 gr.		
■ CABLE	24Core Cable	16Core Cable	
■ CADLE	0.75 Sq, 600VAC, approx. 1.7m long, numbered		
■ RELAY	250VAC/5A 125VAC/10A	24VDC/15A 120VAC/15A	
	F1(1A) / F2(10A)	F1(5A) / F2,F3,F4(20A)	
<b>■</b> FUSE	20MM Column Fuse		
■ INPUT POWER	AC 100~240V 60/60Hz	DC 12~40V (opt. ~60V)	

Note1: Combination(CMB 1 & CMB 2) functions are only for single p/b type models JREMO 10K A & JREMO 10EX A.

Note2: Refer to page 11 for Single and/or Double Buttons arrangements.

■ JREMO 10K A+ ( a special JREMO 10K suffix model)

Single P/B AC Diagram for A+B Function





■ RECEIVER : RX2

SIZE : 90 x 152 x 105 mm, approx. 950 gr.

■ CABLE SPEC.: 0.75 Sq, 600VAC, 18 Core,

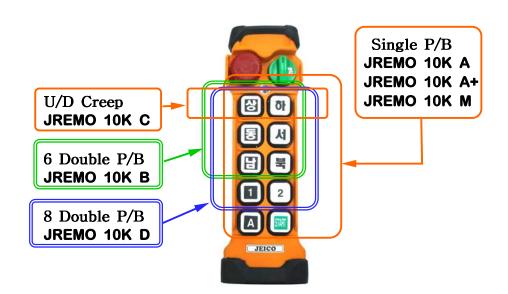
approx. 1.7 m long, numbered

■ RELAY SPEC. : 250VAC/5A, 125VAC/10A

"A" Contact

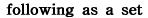
■ INPUT POWER: AC 100~240V 50/60Hz

■ FUSE SPEC. : 1A(F1) / 10A(F2), 20MM Column Fuse



#### CHAPTER 5 JREMO 14K Standard Set

JREMO 14K Standard Set comprises one transmitter and one receiver as



#### 5-1 STANDARD SET









Rx Antenna included

107 x 200 x 165 mm

Approx. 1,220 gr.(Cable Exc.)

Double P/B : 32 Core Cable

For Single DC: 32 Core Cable

STANDARD SET MODEL NAME RECEIVER

Single P/B : JREMO 14K A ==> RX3 (24 Core Cable)

opt. RX4 (32 Core Cable)

Creep P/B : JREMO 14K C ==> RX3 (24 Core Cable)

opt. **RX4** (32 Core Cable)

4 Double Creep: **JREMO 14K CC\*** ==> **RX4** (32 Core Cable)

6 Double P/B : JREMO 14K B ==> RX4 (32 Core Cable)

8 Double P/B : JREMO 14K BB\* ==> RX4 (32 Core Cable)

12 Double P/B : JREMO 14K D ==> RX4 (32 Core Cable)

Single P/B for DC: JREMO 14K M ==> RX4 (32 Core Cable)

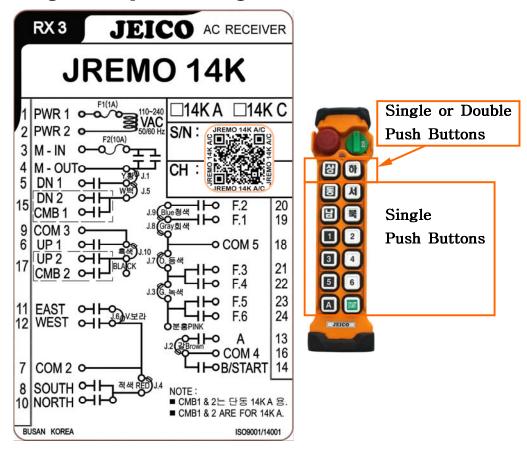
Note\*: Suffix "CC" and "BB" are only for factory production purpose and after production they will be released to be suffixed each "B" instead "CC" and "D" instead "BB".

For heavy duty or upon request JREMO 14K A&C can be released with RX4 casing receiver as an optional instead of with RX3 casing.

#### 5-2 CONTROL CONTACT WIRE DIAGRAM

#### ■ JREMO 14K A & C (with RX3 Casing Receiver)

Single & Creep P/B AC Diagram



■ RECEIVER : RX3

SIZE : 90 x 215 x 105 mm, approx.1,350 gr.

■ CABLE SPEC.: 0.75 Sq, 600VAC, 24 Core,

approx. 1.7 m long, numbered

■ RELAY SEPC.: 250VAC/5A, 125VAC/10A

"A" Contact

■ IN. POWER : AC 100~240V 50/60Hz

 $\blacksquare$  FUSE SPEC. : 1A(F1) / 10A(F2),

20MM column fuse

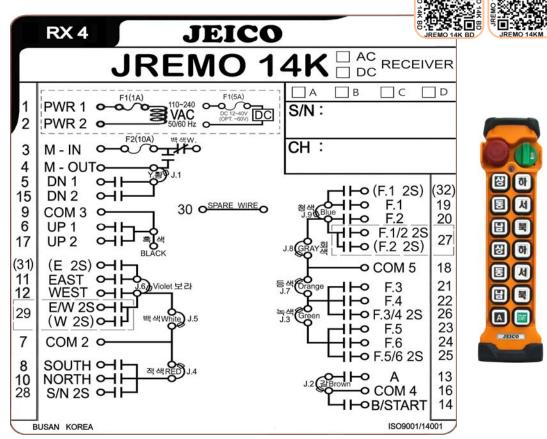
Note1: Combination(CMB 1 & CMB 2) functions are only for single p/b

type model JREMO 14K A.

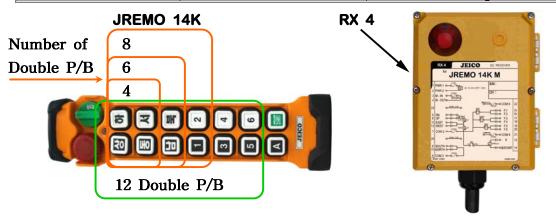
Note2: For more than 4 double p/b use RX4 receiver casing.

Note3: RX4 receiver for JREMO 14K A&C is option.

- JREMO 14K B & D (with RX4 Casing Receiver), and
- JREMO 14K M (with RX4 Casing Receiver) Diagram



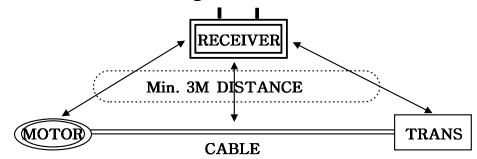
■ MODEL NAME	JREMO 14K B & D	JREMO 14K M		
■ RECEIVER	<b>RX4</b> , 107 x 200 x 165 mm, approx. 1,220 gr.			
■ CABLE	32Core Number Cable	32Core Number Cable		
■ CABLE	0.75 Sq, 600VAC, approx. 1.7m long			
■ RELAY	240VAC/7.5A	24VDC/15A		
	120VAC/15A	120VAC/15A		
■ FUSE	F1(1A) / F2(10A)	F1(1A) / F2(10A)		
■ FUSE	20MM Column Fuse			
■ INPUT POWER	AC 100~240V 50/60Hz	DC 12~40V (opt. ~60V)		



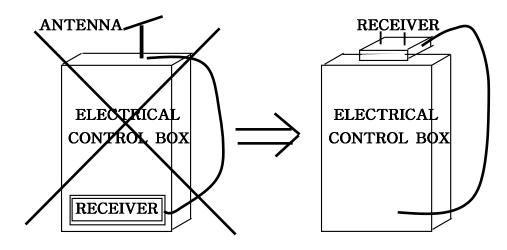
## **CHAPTER 6: INSTALLATION & FUNCTION SETTING**

#### 6-1 CAUTIONS FOR INSTALLATION

- 1. Follow up all the safety rule of equipment (ex. crane)
- 2. Switch off the main power of equipment (ex. crane) in a first action.
- 3. Install receiver where there will have any other obstructions.
- 4. Fix receiver firmly.
- 5. Use an optional external antenna in case receiver installs inside the metal closed box or electrical panel.
- 6. Check safety devices of equipment(ex. crane) before installation and confirm it is under utmost safety condition.
- 7. Do not try to install without gaining in skill for electrical circuit diagrams and operation circuits of equipment(ex. crane), remote controller's functions, etc for avoiding an unexpected accident, wrong functions, etc.
- 8. For avoiding any possible interferes install receiver far from motor and transducer as following illustration:



9. Install receiver top outside of electrical control box and installation in inside the control box is not a proper method.



### 6-2 HOW TO INSTALL JREMO® SERIES TX

#### 6-2-1. BATTERIES

A. Insert 4 AA batteries at right position with + and -.

An opposite position will cause an excessive heat to cause battery leakage, burning, and so on, any malfunction caused by such the poor batteries' handling will not be of free recovery no matter how long the guarantee period remained.

#### **B.** Precautions

- 1 : Do not use low power type rechargeable batteries. Recommend : Use 2500mAH or above.
- 2: Use all new & fully charged batteries for replacement.

  Any un-fully charged one(s) may cause the same to the above clause 5-2-1 A matters.
- B. Change of Batteries: When led signals with yellow it shows battery low. Replace them all immediately with new ones.
- C. When not in use turn the rotary switch to the left position OFF for saving battery life as well as off the battery power.

#### 6-2-2. FUNCTION SETTING & COPYING

In case to change either Tx or Rx, or modify functions its mating transmitter and receiver must be identical and set both at the same time for sure identification. Function settings can be done either by the copier or by PC software, or from direct Rx-Rf at Rx to/from Tx. Either method is an optional.

#### A. Function set by Copier

- 1. Unscrew Battery Cap at Tx and Open the top cover at Rx. (Please note when the Copier to use both Tx and Rx power should be shut down.)
- 2. Connect Copier either to Tx or Rx.
- 3. Follow the instruction of Copier Manual that will be provided as an optional order.

#### B. Function set by Software

- 1. Software can be provided as an optional order and,
- 2. It needs another connector (i.e. Gender) with the software.

#### C. Direct Copying from Rx

- 1. Connect Tx and Rx by a connector cable (an optional provision).
- 2. Place the COPY-RUN s/w nob to COPY position, and Tx Led will blink with green light.
- 3. Paring (Copying) from Rx to Tx done.
- 4. Unplug the connector and place the s/w to RUN posion.
- 3. Consult **JEICO** distributor and/or agent for further support. 6-3 HOW TO INSTALL **JREMO®** SERIES RX

#### 6-3-1. PREPARATIONS

- A. Prepare tools.
- B. Select a proper place for installation.
  - 1. Choose a safe area, a visible area of receiver or antenna.
  - 2. Avoid a spark area (ex. motors, relays, magnet switches, electric cables are likely generating sparks and interferes)
  - 3. Avoid high voltage and current area.
  - 4. Receiver is to be distanced at least 3cm from obstacles.
- C. Match receiver power
  - 1. Check input power source and make sure to connect to the right position.
  - 2. In case DC power, make sure receiver is also for DC.
  - 3. AC Power

Use AC Receiver.

Standard AC power source is  $100 \sim 240V$  Free Volts. 24V, 48V, 380V, 440V etc. are optional.

3. DC Power

Use DC Receiver.

Standard DC power source is DC12~40V Free Volts.

For 48VDC, 60VDC consult **JEICO** distributor and/or agent.

#### 6-3-2. INSTALLATION SEQUENCE

- A. Power off equipment(ex. crane).
- B. To install receiver always try to use with the Fixing Plate when applicable.
- C. Connect each wire end of receiver cable to a mating connector of equipment(ex. crane).
  - 1. Confirm both circuit diagram of receiver and equipment(ex. crane) are in sequence and connected correctly.
  - 2. Confirm ground is o.k.
  - 3. Check and confirm power source.
  - 4. Make sure the selector switch positioned to pendent.
- D. Power on transmitter:
  - 1. Turn on the rotary s/w after released up the EMS button.
  - 2. Press Start Pushbutton of the transmitter and,
  - 3. Confirm if the receiver MAIN Lamp is on.
- E. Press each function button of transmitter and confirm remote operation in a good working condition by confirming led lights inside the relay board of receiver.
- F. Close upper case of receiver and set the selector switch to remote position.

#### 6-4 HOW TO START & USE PASSWORD(PWD)

For the safety and secure operation **JREMO** series has adopted several types of start functions as following to achieve enhanced safety:

#### ■ Main ON Function

Std: EMS UP ⇒ Rotary S/W ON ⇒ (PWD) ⇒ Any button, Main ON Opt.: EMS UP ⇒ Rotary S/W ON ⇒ (PWD) ⇒ Start P/B, Main ON

#### ■ PWD setting

An optional setting method may be used by referring to a separate PWD setting manual which is not included for a standard provision.

### **CHAPTER 7: MAINTENANCE**

#### 7-1 STANDARD OPERATION

- A. Twist up the EMS button of Tx and do as START ON function procedure preset and find the Rx Main Lamp ON. During normal operation see if the Tx led shows Green light which is normal, and if the battery power of Tx goes weak then the Tx led light will turn to red and green color. In this case stop the operation before any abnormal functions such as delay responses, intermitting runs, no stops, etc during working with red and green led signalling.
- B. Push the EMS button when every normal operation finished and/or in any emergency situation may occur do the same immediately, and position the Rotary S/W to OFF after the EMS button pushed down.
- C. In case not in use for a long-term operation, take off all the batteries from tx for avoid of any contamination and/or unnecessary consumption of battery power.

#### 7-2 FUSES

- A. A replaceable fuse is put inside the fuse column.
- B. For replacement of fuse, use a flathead screwdriver or by hand to push down head of the fuse cap by rotating 90°anticlockwise to open the cap.
- C. Replace with a new fuse and close the cap in opposite procedure.

## **CHAPTER 8: TROUBLESHOOTING**

#### 8-1 SELF DIAGNOSIS (LED SIGNAL ERROR MESSAGE)

**JEICO** remote controllers have a renewed method of self diagnostic troubleshooting against so much complicated and riddled electronic structures, and yet it is easy to check and find causes and measures for any malfunctions may occur. **JEICO** takes a type of Led signaling error message for better, quick restoration in normal even at site.

#### 8-2 LED Diagnosis

	Causes	LED Signals	Measures	
	EMS Button not up	Red Light	Pull up EMS Button	
	Rotary S/W not ON	Red Light	Set to ON position	
	Push Button defect	Red Flash	Replace with new button(s)	
Transmitter	Encoder Module defect	No Signal	Replace with a new module	
(TX)	Batteries Consumed	No Signal	Replace with new batteries	
	Low Power	Red and Green Flashes	Replace with new batteries	
	Decoder defect	Lamp Off	Replace with a new Rx/Rf	
Descione	Wrong Power Source	Lamp Off	Replace Fuses and/or Replace Relay Board	
Receiver (RX)			Connect Right Power	
(-4)	Main Relay defect	Lamp Off	Replace Main Relay	
	Rx-Rf COPY position	Lamp Off   Set to RUN position		
	Main Power Off	Lamp Off	Engage Main Power	

## 8-3 Troubleshooting

Appearances	Causes	Measures
Tx Led No Signal & Not Working	<ol> <li>Wrong Bat. Direction</li> <li>Battery Consumed</li> <li>Old Batteries</li> <li>Encoder Module defect</li> </ol>	<ol> <li>Place in right pole direction</li> <li>Replace with new batteries</li> <li>Replace with new batteries</li> <li>Replace with new module</li> </ol>
Tx Led Red Light & Not Working	1. EMS Button Not Up 2. Roraty S/W Not ON 3. Very Low Batteries 4. Old Batteries 5. Button Jam	1. Twist Up EMS Button 2. Rotate Rotary S/W to ON 3. Replace with new batteries 4. Replace with new batteries 5. Replace with new buttons
Tx Led Red & Green Flashes & Working	<ol> <li>Low Battery Power</li> <li>Old Batteries</li> </ol>	<ol> <li>Replace with new batteries</li> <li>Replace with new batteries</li> </ol>
Tx Led Green Flashes & Not Working	<ol> <li>Tx Antenna defect</li> <li>Rx/Rf Module defect</li> <li>Rx Antenna defect</li> <li>Wrong Rx Power</li> <li>Cable Short-circuit</li> <li>No Remote Positioned</li> <li>Frequency Interferes</li> </ol>	<ol> <li>Replace with new antenna</li> <li>Replace with new Rx/Rf</li> <li>Replace with new antenna</li> <li>Correct Rx power source</li> <li>Change with new Cable</li> <li>Set to Remote Position</li> <li>Set to other channel</li> </ol>
Rx Lamp ON & Not Working	<ol> <li>Cable Short-circuit</li> <li>No Remote Positioned</li> <li>Frequency Interferes</li> <li>Relay defect</li> <li>Out of distance</li> </ol>	<ol> <li>Change with new Cable</li> <li>Set to Remote Position</li> <li>Set to other channel</li> <li>Replace relay with new one</li> <li>Be in a running area</li> </ol>
Rx Lamp OFF & Not Working	<ol> <li>Tx Antenna defect</li> <li>Rx Antenna defect</li> <li>Rx/Rf Module defect</li> <li>Power Short-circuit</li> <li>Frequency Interferes</li> <li>Main Fuse Burned</li> <li>Main Relay defect</li> <li>Rx-Rx COPY position</li> </ol>	<ol> <li>Replace with new antenna</li> <li>Replace with new antenna</li> <li>Replace with new Rx/Rf</li> <li>Change with new Cable</li> <li>Set to other channel</li> <li>Replace fuse with new one</li> <li>Replace relay with new one</li> <li>Set to RUN position</li> </ol>

## APPENDIX I: 433 BAND FREQUENCY TABLE

**TOTAL NUMBERS: 70 CHANNELS** 

Channel Spacing: 25 Kc

CH. NO.	MHz
001	433.050
002	433.075
003	433.100
004	433.125
005	433.150
006	433.175
007	433.200
008	433.225
009	433.250
010	433.275
011	433.300
012	433.325
013	433.350
014	433.375
015	433.400
016	433.425
017	433.450
018	433.475
019	433.500
020	433.525
021	433.550
022	433.575
023	433.600
024	433.625
025	433.650
026	433.675
027	433.700
028	433.725
029	433.750
030	433.775
031	433.800
032	433.825
033	433.850
034	433.875
035	433.900

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CH. NO.	MHz
036	433.925
037	433.950
038	433.975
039	434.000
040	434.025
041	434.050
042	434.075
043	434.100
044	434.125
045	434.150
046	434.175
047	434.200
048	434.225
049	434.250
050	434.275
051	434.300
052	434.325
053	434.350
054	434.375
055	434.400
056	434.425
057	434.450
058	434.475
059	434.500
060	434.525
061	434.550
062	434.575
063	434.600
064	434.625
065	434.650
066	434.675
067	434.700
068	434.725
069	434.750
070	434.775

Calculation : Mhz =  $433.050 + (N-1) \times 0.025$ ,  $01 \le N \le 70$ 

## APPENDIX II: 447 & 173 FREQUENCY TABLE

TOTATAL NUMBERS: 32 (447 Bands) / 35 (173 Bands) CHANNELS Channel Spacing: 12.5Kc

CH. NO.	MHz
001	447.6000
002	447.6125
003	447.6250
004	447.6375
005	447.6500
006	447.6625
007	447.6750
008	447.6875
009	447.7800
010	447.7125
011	447.7250
012	447.7375
013	447.7500
014	447.7625
015	447.7750
016	447.7875
017	447.8000
018	447.8125
019	447.8250
020	447.8375
021	447.8500
022	447.8625
023	447.8750
024	447.8875
025	447.9000
026	447.9125
027	447.9250
028	447.9375
029	447.9500
030	447.9625
031	447.9750
032	447.9875
033	-
034	-
035	_

MHz
173.0250
173.0375
173.0500
173.0625
173.0750
173.0875
173.1000
173.1125
173.1250
173.1375
173.1500
173.1625
173.1750
173.1875
173.2000
173.2125
173.2250
173.2375
173.2500
173.2625
173.2750
173.6250
173.6375
173.6500
173.5625
173.6750
173.6875
173.7000
173.7125
173.250
173.7375
173.7500
173.7625
173.7750
173.7875

Calculation : Mhz = 447.600 + (N-1) x 0.0125,  $01 \le N \le 32$ Calculation : Mhz = 173.025 + (N-1) x 0.0125,  $01 \le N \le 21$ Calculation : Mhz = 173.350 + (N-1) x 0.0125,  $22 \le N \le 35$ 

## APPENDIX III: OPTIONAL ACCESSORIES



RAIN/DUST COVER



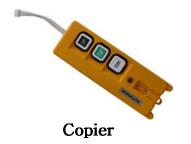
TX HOOK



**MAGNET ANTENNA** 

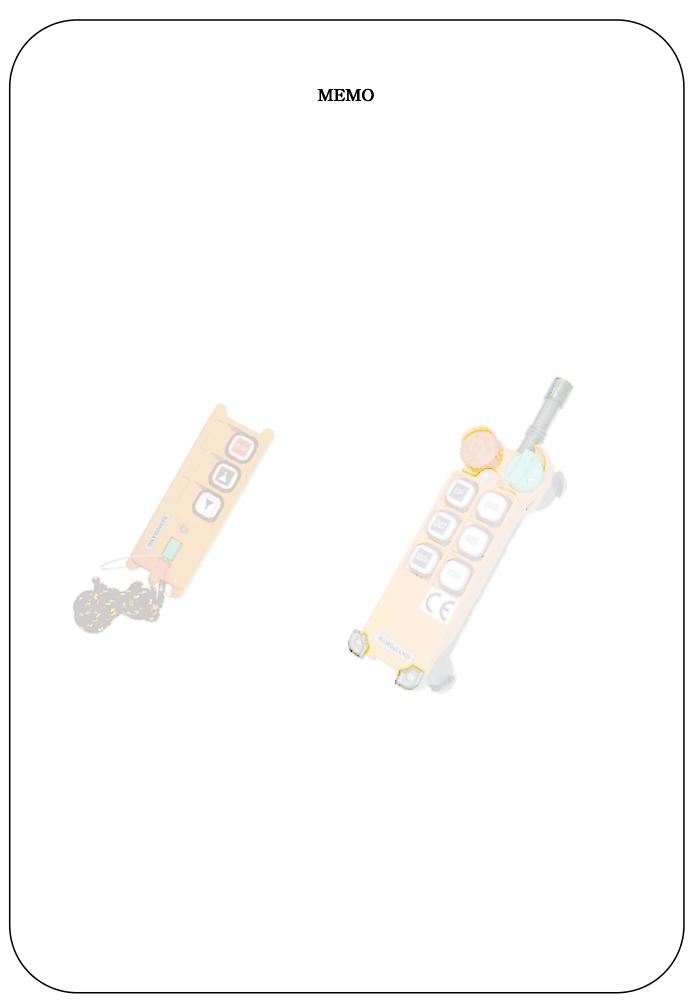


Rx Fixing Plate or Bracket





PC Gender & Software



J

E

I

C

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