

SAFETY SYSTEM FOR  
SPECIAL SHORT-RANGE WIRELESS EQUIPMENT

NOTE: THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

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## 1. GENERAL DESCRIPTION

### 1-1 INTRODUCTION

This device is a safety system for short-range wireless equipment named as "DK-SEVA-01" which uses UHF 447.725 MHz frequency.

This device is remote controller to be used for an emergency when weapon detector system is being operated.

### 1-2 TECHNICAL FEATURES

1-2-1 This device is designed to use semiconductor and integrated circuit system for the high credibility.

1-2-2 This device is designed to meet the need of legal frequency tolerances and frequency range by adopting the crystal oscillating circuit system.

1-2-3 Voltage is applied by 3 VDC button cell battery

### 1-3 COMPOSITION

This device is composed of as follows

- Transmission unit
  - \* RF section
  - \* CPU section
- Antenna
- Battery
- Mechanical parts

## 2. SPECIFICATION

2-1 Radio Frequency : 447.7250 MHz

2-2 Channel Spacing : 12.5 KHz

2-3 Frequency Stability : +/- 7 ppm

2-4 Max. Frequency Deviation : +/- 2.5 KHz

2-5 Modulation : FSK

2-6 Emission Mode : F1D

2-7 Transmission Power : 10 mW

2-8 Transmission : One Way

2-9 Code Format : 24 bit Address, 4 bit Data

2-10 Code Memory : CPU ROM

2-11 Power Supply : One 3.0 VDC Button Cell Battery

2-12 Operating Temperature : -10 to +60

2-13 Dimension : Approx. 53 mm x 32 mm x 13 mm

2-14 Weight : Max. 100g

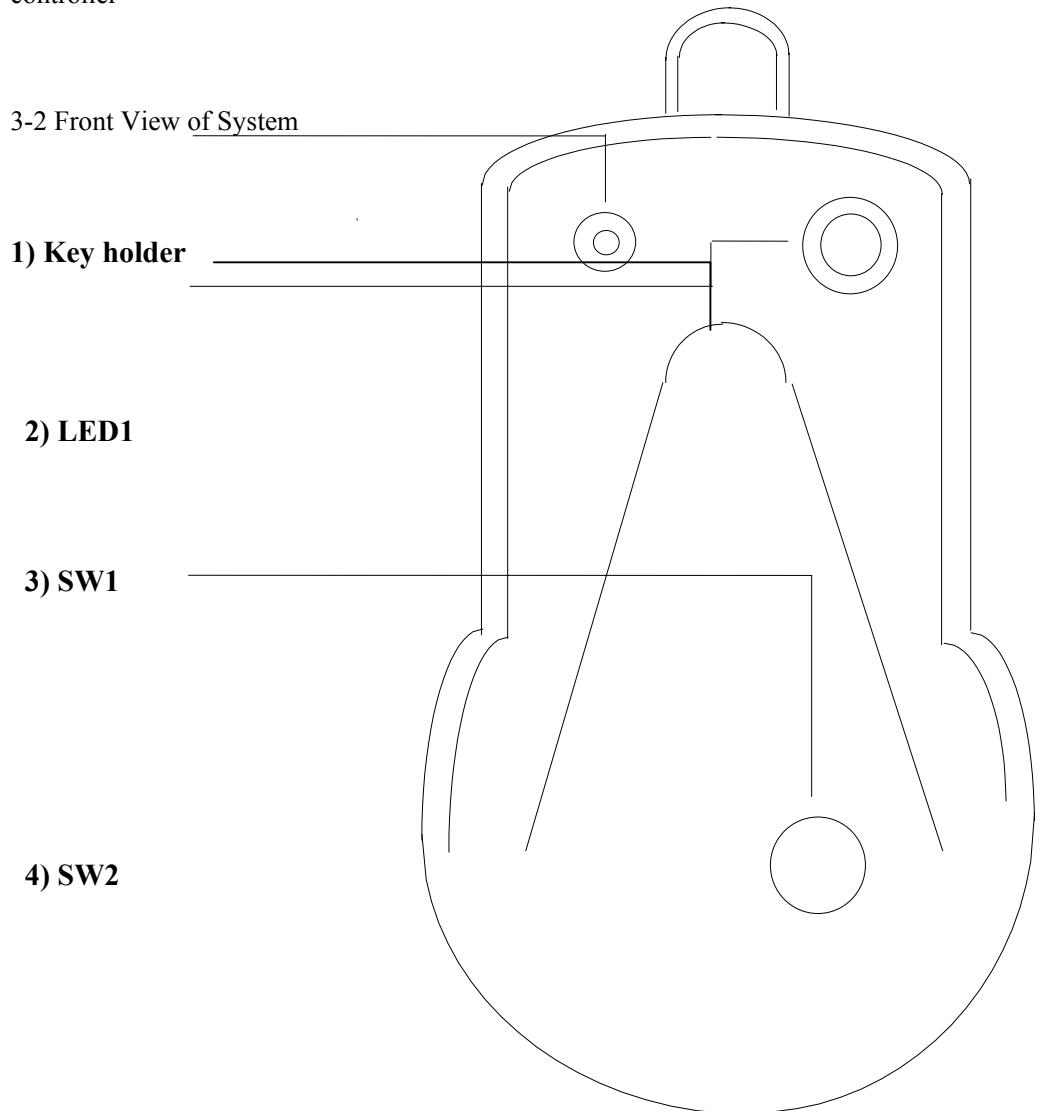
### 3. FUNCTIONAL DESCRIPTION

#### 3-1 Operation Switches and indicator

3-1-1 LED : It is lighted when remote control button is pressed

3-1-2 Switch 1 : It activates remote controller

3-1-3 Switch 2 : It deactivates Switch 1 and cancels the phone calls from the system controller



#### 4. ADJUSTMENT

##### 4-1 Measuring Equipment

- Frequency Counter
- DC Power Supply
- Modulation Meter
- RF Transmission Zig
- RF Amplifier

##### 4-2 Measuring Method

###### 4-2-1 Equipment Connection

< Measuring Equipment Connection Diagram >

###### 4-2-2 Adjustment Method

NO.	Items	Method	Points*	Limits
1	RF Out Power	DC 3V Supply	VC1	10mW
2	Frequency	DC 3V Supply	VC2	447.3500MHz 447.4250 MHz +/- 7 ppm
3	Modulation dev.	DC 3V Supply	C6 = 8pF	+/- 2.5 KHz

\* reference : parts layout

#### 5. MAINTENANCE AND TROUBLE SHOOTING

##### 5-1 Checking

- 5-1-1 Are all buttons operating ?
- 5-1-2 Is LED operating ?
- 5-1-3 Is batter voltage correct ?
- 5-1-4 Check if trouble is from RF or Control section

##### 5-2 The cause of the trouble

- 5-2-1 Remote controller does not operate at all
  - Dead battery or bad wire connection
  - Bad connection at switch
  - Bad CPU

##### 5-2-2 LED does not light

- Bad LED
- Bad R20 resister
- Bad CPU

##### 5-2-3 Week Transmission Power

- Battery change
- Mis-tuning ( power or frequency re-tuning )
- Bad Q4, Q5, Q6 at high power
- Bad pin 3 of CPU at high power