

## **ATTACHMENT K – OPERATIONAL DESCRIPTION**

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## 1. GENERAL

### 1.1 GENERAL

This equipment, JDG-415H is called 2 way portable handheld radios.  
The frequency range is 462.5625~462.7250MHz, UHF operating  
Channels for international 2 way portable radios.

### 1.2 CHARACTERISTIC

- a) All active device in this radio is composed of semiconductor and high density IC.
- b) To design this radio in compact and weight approximately 140g including battery.
- c) CPU of this equipment is HD4074889TE from HITACH.
- d) It's power can operate by use of alkaline 4 cell(1.5V AAA) battery

### 1.3 COMPOSITION

This radio is composed of following.

- a) Transmitter(W/Antenna)
- b) Belt clip

## 2. SPECIFICATION

### 2.1 GENERAL SPECIFICATIONS

- a) Frequency Range : 462.5625 ~ 462.7250 MHz
- b) Output Impedance : 50Ω Unbalanced
- c) Modulation Type : 8KOF3E
- d) Communication Mode : Half duplex
- e) Channel Capacity : 15 channel
- f) Channel spacing : 12.5 KHz
- g) Power : 6.0V(alkaline)
- h) Battery Life : ALCA.1000mAh >14.5 hours (Tx5%, Rx5%, Stand-by 90%)
- i) Operating Temperature : -20°C ~ +60°C
- j) Dimension : 95.5(H)x 50(W)x 26(D)mm
- k) Weight : 140g(with Battery)

### 2.2 ELECTRICAL SPECIFICATION

#### a) TRANSMITTER

- 1) Output power : Max. 2W
- 2) Frequency Stability :  $\pm 5$  ppm(-20°C ~ +60°C)
- 3) Modulation Method : FM
- 4) Oscillation Method : PLL SYNTHESIZER
- 5) Max. Frequency Deviation :  $< \pm 2.5$  KHz (with tone)
- 6) Cooling Method : air-cooling Method
- 7) Spurious Emission :  $< -46$ dBc
- 8) FM Hum/Noise :  $> -40$ dB(1kHz 60% modulation,w/CCITT)
- 9) Distortion :  $< 5\%$  (1kHz 60% modulation)
- 10) Tx Audio Response : 6dB /OCT  $\pm 3$ dB PRE-EMPHASIS(300Hz ~ 2.5kHz)

#### b) RECEIVER

- 1) Receive Method : Double Super Heterodyne
- 2) Receive Sensitivity : -119dBm (12dB SINAD)
- 3) Squelch Sensitivity : -122dBm (12dB SINAD)
- 4) Bandwidth :  $> 3$ kHz(6dB ATT point)
- 5) Selectivity :  $< -50$ dB(25kHz)
- 6) Local Frequency Stability :  $\pm 5$ ppm(-20°C ~ +60°C)
- 7) Spurious Response :  $> 50$ dB
- 8) Audio output : 200mW(Internal 8Ω load THD 10%) Ext 100mW
- 9) Distortion :  $< 5\%$  (1kHz 60% Modulation)
- 10) RX Audio Response : 6dB/OCT  $\pm 3$ dB DE-EMPHASIS(300Hz ~ 2.5kHz)
- 11) S/N Ratio :  $< 40$ dB(1kHz 60% modulation W/CCITT)

12) IF : 1'st IF = 21.7MHz

2'nd IF = 450kHz

13) Local Frequency : 1st Local Frequency =  $f_c - 21.7\text{MHz}$

2nd Local Frequency = 21.25MHz