ATTACHMENT E.

- USER'S MANUAL

Service Manual

(DN-308R)

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Rev 1.0

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Federal Communications Commission Requirements

Warning : Changes or modifications not expressly approved by the party responsible for compliance with the FCC'S rules could void the user's authority to operate the equipment.

Because of the limited space on the model DN-308R UHF Wireless Remote Controller case, the notice of compliance with FCC Rules is printed here

Dyne Telecom Co., Ltd

FCC ID : N5ZDN308R

THIS DEVICE COMPLIES WITH PARTS 15 OF 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.

1. Description

The Remote Controller of the DN-308R is the UHF Wireless Remote Controller that can wireless trans control the Recording and Stop Functions. It is very handiness operate remote controller.

2. Control and Function

- REC : Recording Start
- STOP : Recording Stop

3. Operating Instructions

To Record the Voice with Wireless Remote Controller :
To Start the Recording : Press the “REC” key once.
To Stop the Recording : Press the “STOP” key once(After Recording the unit will be turn off automatically in one Min).

4. General Specifications

Temperature Range	-20 °C ~ +60°C
Frequency Error	±30 ppm
Voltage Range	2.7V ~ 3.6V
Channel No	1 Ch
Max Deviation	±15KHz

5. Transmitter Specifications

Output Power	Max 1mW (ERP)
Frequency Band	315.16MHz
Modulation Type	FSK
Frequency Deviation	±15KHz
Maximum Bit Rate	20Kbit/s
Transmitt supply Current	Max 20mA
Antenna Type	50Ω Helical ANT
Weight	15g (With Battery)

6. Theory of Operation

6-1. CPU & Key Control

The unit always supply the power to the IC2(CPU). During Sleep Mode, user can Switch the unit mode from the Sleep Mode to Active Mode by pressing “REC” or “STOP” Key.

CPU’s 2pin may change the condition from “L” to “H” by pressing “REC” Key, also the ‘LED1’ will be Turn On Mode for a moments.
On this Moments, the DATA-IN(3pin) of the CPU will output the Recording Code/Stop Code Data.

6-2. RF Tranceiver

The 19pin of the IC1 is the Pin that can select the Transmit/Receive Mode. It always support “H” condition to Transmit.
18pin of the IC1 may supply the Transmit Power to the unit when it switched to “H” condition by 2pin of the IC2.

6-3. Modulation

After inputting the fixed REC/STOP code from 3pin of IC2 into the 9pin of IC, the data should approve the Loop Filter of the PLL to Modulate the FSK
method.

6-4. VCO(voltage Control Oscillator)

The L1, C19's L/C OSC will activate to 300MHz Frequency by 5&6pin of IC1. The VCO will lock to Frequency 315.15MHz by IC1's internal PLL. Upgrade the Frequency Quality by using High Frequency Inductor.

6-5. PLL Frequency Synthesizer

The Phase Comparator, Lock Detector and Oscillator are built-in inside of IC1. The 1&20pin of IC1 may OSC by X-Tal Oscillator(4MHz) to active the R-Counter. Load Cap C1, C2 may support safe Frequency activating. The structure of C6, R9 and C7 may minimize the Phase Noise for smooth Data Transfer.

6-6. Power Amplifier

The Level of the output power may decided by R2 what connected with 11pin of IC1. The RF Low Noise TR built inside of IC1 and it covers the level until max 10dBm@400Ω.

6-7. ANT Matching

The impedance of the Power AMP of IC1 is 400Ω.The Impedance of the Helical ANT matched with 50Ω by L2, C11.Matching 50Ω can maximize the Output Power Lever.