PRODUCT SPECIFICATION AND MANUAL

2020.07

BUYER /PROJECT	THOR / SWC20
BUYER MODEL	PCB PACKAGE ASSY – SWC
PART No.	
COMPANY	NAMSUNG Co,.
MAKER/NATION	NAMSUNG Co,./Republic of Korea
DRAFT PART	Research Center
DRAFTER	JEONG WOO SEOK

Table of Contents

Title	Certification Request Document		
Project	SWC20	Drawn	2020-07-20
Model Name		Releas	2020-07-20
		Made	JEONG W.S

1. Contents

TYPE	Wireless controller about wireless electronic equipment of specific low output radio station
MODEL NAME	
USE	Vehicle of AVN(Audio Video Navigation system) controller what use 433.92 MHz
SUMMARY	1. This equipment use semiconductor and integrated circuit, so it designs to get high reliability. 2. This equipment use oscillation circuit of crystal, so it designs to satisfy about legally frequency an allowable error and bandwidth of exclusive frequency. 3. The transmitter has each other specific identification code. 4. The power use Li-ion coin Battery (DC 3.0V)
COMPOSITION	1. RF Transmitter part 2. Pattern Antenna

2. ELECTRONIC SPEC

UNIT / List	TRANSMITTER(FOB)
Rated voltage	DC 3.0V
Voltage range	UNIT 2.1 ~ 3.6V (except Battery influence)
Operating Temperature range	-20 ~ +60℃
Storage temperature range	-30 ~ +80℃
Dark current	Not relevant (Power Off in Normal State)

3. Specification

TYPE	TRANSMITTER ASSY – SWC
NAME	Wireless controller about wireless electronic equipment of
Equipment List	
Frequency	TX: 433.920MHz
Antenna Composition	Pattern ANTENNA
Oscillation method	Crystal oscillation
Modulation method	FSK
Communication	One-Way Communication
Frequency multiplier	32 multiplier

4. Repair of Unit & Circuit Explanation

4.1 Repair of Unit

Exchange an old unit.

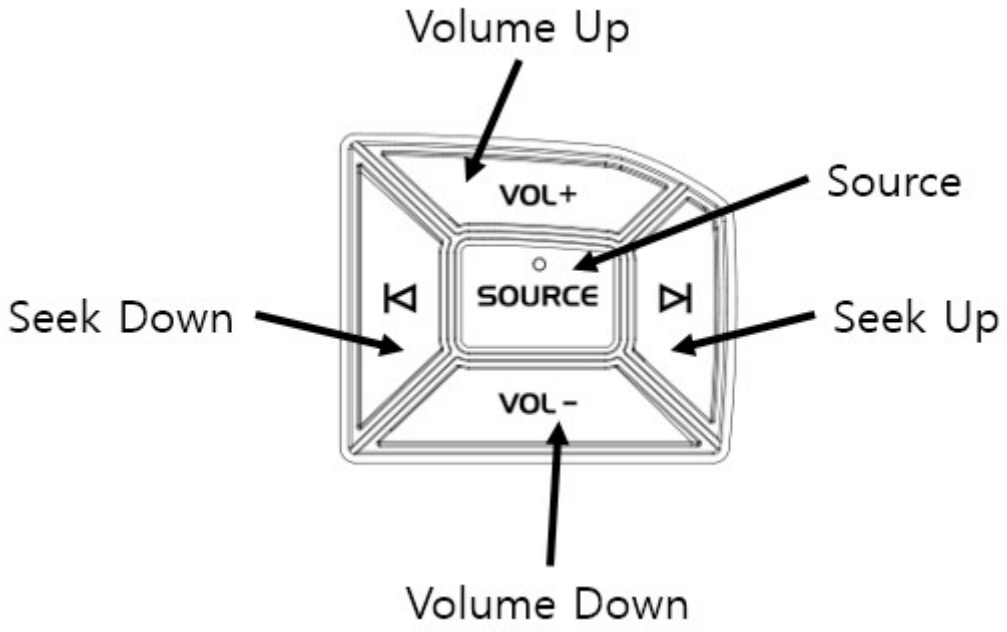
4.2 Circuit Explanation

If User presses specific Switch of transmitter, MCU makes inherent serial value and Encryption value, so it print what CPU make data, at the same time , RF IC get to be ENABLE.

Printing data are falsified into TxIC and it synthesize through CRYSTAL. Compounded frequency is amplified by TxIC and it transmits through antenna from matching circuit diagram of output.

5. The Method of Unit Operating

5.1 SWC



Function	Descryption
Volume Up	SHORT PRESSING BUTTON less 0.5s -Volume Up
Volume Down	SHORT PRESSING BUTTON less 0.5s -Volume Down
Seek Up	SHORT PRESSING BUTTON less 0.5s -Seek Up
Seek Down	SHORT PRESSING BUTTON less 0.5s -Seek Down
Source	SHORT PRESSING BUTTON less 0.5s -Mode Change

6. The System of Each Unit Code Discrimination

6.1 TRANSMISSION CODE

<RF Transmit>

Item	bit	Note
preamble	150	
header	4	1100
start bit	2	10
Counter	16	
Seiral	24	
Data	8	
CRC8	8	
Stop bit	1	

FCC

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.

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 against harmful interference in a residential installation. This equipment generates, uses and can radiate 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.

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