

# WOWtv RCU



## WOWtv RCU Instructions

1、When the WOWtv RCU is not connected to the set-top box, the infrared key value is sent; when the set-top box Bluetooth is connected, the WOWtv RCU sends the Bluetooth key value;

2、"OK + up" is the switch key of TV/STB. In the TV state, the learned infrared code is sent to control the TV, and in the STB state, the Bluetooth code is sent to control the box.

3、"power, mute, volume+/-, input" are SSU learning keys, among which "power,

mute, volume+/-" are multiplexed.

4、Infrared State: After the WOWtv RCU is powered on, press the button once and the indicator flashes once, until the button is raised or stops flashing after 1 minute. When using voice, the indicator is always on and the indicator is red.

5、Pairing function: When the "OK" and "Vol-" keys are kept down for three seconds, while the LED are blinking;

WOWtv RCU distance>10m;

6、Unpairing function: When pressing the "OK" and "Vol+" buttons simultaneously for three seconds, and the indicator light flashes 3 times, cancel Bluetooth pairing.

7、Bluetooth WOWtv RCU to support the online upgrade, box on the power automatically detect the version of the remote, version less than the server push version automatically upgrade;

8、Bluetooth device Name:WOW tv+ RCU.

9、Support for "OK + back" upload bug report feature.

10、Can play PAC Man games under Bluetooth.

11、After the SSU study is successful, the learn button controls the TV.

#### other WOWtv RCU requirements:

1、The pairing feature requires that no Bluetooth devices be scanned or not paired up (including a continuous press pairing key for a short period of time), verify that ensure no problem;

2、BT Long connection: The remote does not actively disconnect the Bluetooth connection, disconnect if the return timeout to enter the deep sleep mode, the Next button to wake up the connection, no return to the problem, including the box power back, WOWtv RCU power back, static 2 hour back, please verify that times to ensure no problems;

3、anti-jamming features require: there must be no problem with a very strong host WiFi throughput, make sure that the host side WiFi throughput is normal when the remote is connected;

4、Performance requirements: Require support  $\leq 10m$ , there must be no voice calls Cotton, lost and the WOWtv RCU button cotton, missing code or even key problems;

5、Power Requirements: WOWtv RCU can be used consistently for at least 6 months or more.

#### Voice Control:

1、Press the Voice key to start recording, the WOWtv RCU receives the voice engine issued stop recording instructions after stop recording;

2、After entering speech mode, the WOWtv RCU actively quits speech mode after 30S (this is mainly to save power).

3、Voice protocol: Google Standard Agreement.

4、The WOWtv RCU needs to support Bluetooth 5.0 devices

5、The harmonic (THD) must be less than 5%@1KHz; in the frequency range of 200Hz to 8KHz, the amplitude is +/-5dB; 94dB SPL reference sound pressure level 1KHz;

6、Support the WOWtv RCU MIC and other MIC (such as the recording button on the phone APK) alternately to switch voice input

	Transmission O/P power	Voice	D-Pad	Voice Operation Range	D-Pad Operation Range
TICC2541	2 dBm	25 mA	1200 uA	7m	10m
TICC2560	5 dBm	11 mA	300 uA	10m	15m

7、Interval is 20ms when voice is not used, and 10ms when voice is used; voice sampling is 8K.

<b>Interval</b>	<b>20ms</b>	<b>10ms</b>
<b>Slave latency</b>	<b>49</b>	<b>0</b>
<b>Supervision timeout</b>	<b>2.2</b>	<b>1</b>

#### LEDs Status:

##### Keys:

IR keys: red light, bright 100ms, out of 100ms, long press and long flash;  
BT keys: Red light, bright 100ms, out of 100ms, long press and long flash;

##### Paring Status:

Paring status: red light, bright 250ms, out of 250ms, BT connection successful or failed end, The discovery time was 30s.

Pairing successful: red light, turned on for 3s and extinguished;

Paring fail: red light, bright 500ms, out of 500ms, flashing 3 times;

##### Low Power Status:

Low power Status: red light, bright 300ms, out of 300ms, flashing 5 times, Low electrical voltage of 2.4 V.

##### Voice:

Voice status: red light, always bright in the process of speech;

##### Backlight status

After pressing the key, the backlight will be on for 3s.

Pick up the WOWtv RCU and shake it, the backlight will be on for 3s.

##### Call package

Keys	Manufacturer Data	Company ID	Vendor info	key	Mac addr	Key index
Power key	0xff	0xff0xff	0x41,0x6d,0x6c,0x6f,0x67,0x69,0x63	0x01	host mac addr	累加
Netflix key	0xff	0xff0xff	0x41,0x6d,0x6c,0x6f,0x67,0x69,0x63	0x02	xx xx xx xx xx xx	累加

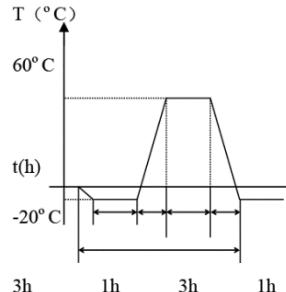
#### WOWtv RCU test conditions and parameters

NO.	Description Project	Technical Specifications	Note
1	Number of keys	37 Keys	
2	WOWtv RCU size	173*21*42mm	
3	Button Free Height	$\leq 2\text{mm}$	
4	The height after the key action	$\geq 0.15\text{mm}$	

5	Key force	160g	metaldome
6	Shell Plastic Material	ABS raw material (tasteless, no blending), thickness $\geq 2.0\text{mm}$	
7	Shell Color	Solid color injection black,	
8	Screen printing	Acid-resistant and alcohol-resistant	
9	PCB Circuit board Material		
10	PCB Cabling line width and spacing	$\geq 0.3\text{mm}$	
11	Surface Coating Treatment	See the WOWtv RCU «appearance and process requirements» in detail	
		Surface should be flat and firm, not allowed to have scratches, spot defects, flow hanging, peeling and breakage	
12	Board Production requirements	All printed circuit boards shall be corrosion resistant	
		No flying lines are allowed	
		Solder joints full, no virtual welding, off welding, Lianxi	
13	Key requirements	Key adhesive edge structure should be added "waterproof wall", in order to achieve the key assembly, the finger buckle can not be out of the plastic shell button hole, key surface positioning through the hole using silicone rubber bag plastic design, so that the entire silicone button surface has no holes to ensure that the use of a long plate surface neat, silicone key need to be hard	
14	Conductive adhesive Material	Must use silicone material (no powder) and no pungent odor	
15	Metal Dome (pot slices)	WOWtv RCU all keys to use the metal Dome button, and the life must be $\geq 5\text{million times}$ , continuous press test number $\geq 3\text{ million times}$ , can restore to the original load	

#### Product Specifications

NO.	Project	Specification parameter	Note
1	Operating temperature	$0\sim 50^\circ\text{C}$	

2	Relative humidity	$\leq 95\%$	
3	Atmospheric pressure	86~106Kpa	
4	Ambient illumination	Natural light or fluorescent lights $200 \pm 50\text{LX}$	
5	MCU	WNF171	
6	Shell material	ABS	
7	Sample Color	Reference Customer Requirements Specifications	
8	Battery specification	AAA 1.5*2	
9	Free Drop test	From a height of 0.8 m, the floor is free to fall in a wooden floor of not less than 3 cm in sequence, and three cycles.	
10	Electrostatic environment test	$\pm 8\text{KV}$	
11	High Temperature Storage test	60°C	
12	Low Temperature storage test	-20°C	
13	Constant damp heat test	40°C Relative Humidity $90 \pm 2\%$	
14	Temperature Cycle Change Test	 <p>The graph illustrates a temperature cycle test. The vertical axis is labeled T (°C) with markers for 60°C and -20°C. The horizontal axis is labeled t(h) with markers for 3h, 1h, 3h, and 1h. The cycle starts at -20°C, rises linearly over 3 hours to 60°C, remains at 60°C for 1 hour, falls linearly over 3 hours back to -20°C, and remains at -20°C for 1 hour. This sequence repeats.</p>	
15	Acceptance criteria MIL-STD-105E-LEVEL (II) AQL	Heavy defects (A Class) aql=0.65 Light defect (C Class) aql=1.5	
16	WOWtv RCU transport and storage conditions	<p>In transit should avoid direct attack of rain or snow or strong impact.</p> <p>The WOWtv RCU should be stored at ambient temperature <math>-20^\circ\text{C} \sim +60^\circ\text{C}</math>, the relative humidity is not greater than the 80%, with no strong magnetic field, corrosive substances and other harmful gases</p>	

		in the storehouse, the storage period is one year. After the product has been reassessed for more than one year, it can be brought into the market.	
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### Product Specifications (BLE Part)

No.	Project	Describe	Note
1	Use battery	Alkaline Environmental Protection Battery	
2	Supply voltage	2.2-3.6V	
3	Current description	≤3mA standby power (Link to box) ≤5mA emission power consumption (general key) ≤25mA recording feature (voice function)	
4	Audio output	Mono, 16K sampling rate, 16bitPrecision Audio output	
5	Transmission Distance (Bluetooth)	≥12m (no shelter around)	
6	Bluetooth protocol (Bluetooth)	Bluetooth 5.0 protocol	
7	Signal requirements (Bluetooth)	Meet the communication transmission distance requirements, while complying with the Bluetooth BQB Certification Requirements	
8	Voice requirements (Bluetooth)	The speech software recognition rate ≥ 90% (sentence), has the interference case: the speech recognition rate ≥ 85% (needs to confirm and the set-top box and the software normal state)	
9	Connection response (Bluetooth)	≤200ms, this refers to the speed at which the connection is restored, the time interval at which the test begins broadcasting to the connected	
10	Other common Bluetooth device impact	HOST End Adapter driver, or affect the original Bluetooth universal device support, such as Bluetooth headset /Audio (HSP/HFP, A2DP, etc.), Bluetooth keyboard, Bluetooth mouse, game handles and so on.	

11	Audio Transmission Requirements	No abnormal audio transmission, no obvious interference, loss of data, cutting amplitude and other phenomena	
12	Microphone Sensitivity	Sensitivity $-42 \pm 3\text{dB}$	
13	Microphone Signal-to-noise ratio	cannot be less than 58dB	

**FCC Caution:** Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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 device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

NOTE: 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.

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction

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