

ERF6T80H TV Remote User Manual

V1.0

2025-7-8

Revision History:

[illegible]

1 Introduction

ERF6T80H is a BLE voice remote based on the A624KO MCU.

ERF6T80H uses BLE and infrared for data transmission. It supports the functions of voice control, OTA upgrade, Find me etc. The receiver uses a USB interface to connect with the host. These functions are virtualized into different HID devices or standard USB audio devices.

2 Structure information

2.1 Schematic diagram of product appearance



This drawing is a sketch of the appearance.
The actual appearance shall be subject to the specifications of the parts.

3 Software Function Description

- 1) The voice function can wake up the system by long pressing the "MIC" button, and send the voice key value. The Bluetooth SOC starts the near-field microphone to receive the voice, and sends the voice to the TV through Bluetooth to turn on the voice.
- 2) When any button was pressed more than 3 minutes the remote control will stop working and automatically enter the standby state, when the button is released, the remote control resumes normal operation; When the remote control enters the standby state due to abnormal or low power, it needs to reset the port state and then enter the protection mode. Note: press "menu" button long, and after 3S, send 30S pairing broadcast, if the button is not lifted, also enter standby; or if the pairing / match is successful, if the button is not lifted, also enter standby.
- 3) When you press 10 times button each time, the remote control needs to perform a battery test, and send the corresponding battery data or key value to TV; When the battery is low (less than 2.4V), the indicator light (red) flashes to indicate that the battery is insufficient, and the "low battery" key value is sent once; when the battery is seriously low (less than 2.2V), all the indicators are off, and press any None of the keys work;
- 4) Wireless upgrade function: wireless OTA upgrade can be carried out through Bluetooth via dedicated APP software;
- 5) When the user performs infrared and bluetooth button operations, the indicator lights are off;
- 6) Pairing method
Turn on AC power on the TV, and pressed menu key on the remote control more than 2 seconds starts to pairing operation, during the pairing process, the red indicator light flashes (once every second, on for 500ms, off for 500ms), if remote control pairing successful, the indicator (blue) flashes three times (once per second, on for 500ms, off for 500ms); If the pairing is not successful, the indicator light returns to normal.
After the pairing is successful, when pairing is performed again, the unpairing operation will be performed. After the unpairing is successful, the indicator lights (blue and red) will flash three times (once every second, on for 500ms, off for 500ms);
- 7) After the buzzer is started, the buzzer will stop ringing after 1 minute without key operation; When the buzzer buzzes, press any key to stop the buzzer, and the key operation is effective.

4 Technique Characteristics

Item	Specification	Note
Protocol	BLE	
Frequency Range	2.400GHz -2.4835GHz	
Number of keys	27	
Power	Two AAA batteries	
Operation Voltage Range	2.2-3.3V	
Peak Irradiance of Infrared Light	$\geq 60 \mu\text{W}/\text{cm}^2$	
Directivity	$\geq 30 \mu\text{W}/\text{cm}^2$ ($\pm 15^\circ$)	
RF output power	-6dbm-+3dbm	
Frequency offset	$\pm 30\text{kHz}$	
Center Frequency	2.442GHz	
Wake Up Time by Key	<100ms	
Key Operation Distance (Paired)	>12m	
Average Static Standby Current(Paired)	<100uA	
Average Key Working Current (Paired)	<10mA	
Static Standby Current (Before Pairing)	<10uA	
Average Key Working Current(Before Pairing)	<30mA	
Voice Working Current	<25mA	
Buzzer Working Current	<80mA	
Required Operating Environment Temperature	-10°C ~ +45°C	
Required Operating Relative Humidity	$\leq 85\%$	
Maximum Voice Operation Distance	8m	

5 Key Code Table

序号	按键名称	红外(NEC)		蓝牙		备注
		系统码	键值	Usage page	Usage data	
						ERF6T80H V1.1
1	Power	027D	0x46	07	0x0066	S1, power键蓝牙码值默认不发送
2	Input	027D	0xA6	0C	0x0281	S2
3	PrimeVideo	027D	0xA1	FF	0xA1	S3, Partner Button 1
4	Netflix	027D	0x5F	FF	0xA2	S4, Partner Button 2
5	Disney+	027D	0xA4	FF	0xA3	S5, Partner Button 3
6	YouTube	027D	0xA5	FF	0xA4	S6, Partner Button 4
7	Amazon music	027D	0xB5	0C	0x02A0	S7, Partner Button 5
8	APPS	027D	0xB6	0C	0x02A1	S8, Partner Button 6
9	Guide	027D	0x14	0C	0x8D	S9
10	Alexa	027D	0xA0	0C	0x0221	S10, Voice
11	Settings	027D	0xC3	0C	0x0242	S11
12	Up	027D	0x48	07	0x0052	S12
13	Down	027D	0x4D	07	0x51	S16
14	Left	027D	0x4E	07	0x50	S13
15	Right	027D	0x49	07	0x4F	S15
16	OK (Select)	027D	0x4A	07	0x58	S14
17	Back	027D	0x0D	07	0xF1	S17
18	Home	027D	0x9F	0C	0x0223	S18
19	Menu	027D	0x45	0C	0x40	S19
20	Volume+	027D	0x0C	0C	0xE9	S20
21	Volume-	027D	0x19	0C	0xEA	S23
22	Mute	027D	0x4C	0C	0xE2	S22
23	Channel+	027D	0x0F	0C	0x9C	S21
24	Channel-	027D	0x5A	0C	0x9D	S24
25	Rewind	027D	0x16	0C	0xB4	S25
26	Play/Pause	027D	0x5B	0C	0x00CD	S26
27	Forward	027D	0x17	0C	0xB3	S27

6 Packaging Information

Outer packaging	Carton
Inner packaging	Plastic bag

6.1 Package picture



This picture is for packaging reference only.

7 Storage and Transportation Requirements

7.1 Logistics packaging standards

Packaging	Logistics mode	Handling requirements
Carton/Crate	Highway transportation	Forklift/Pallet

7.2 Storage conditions

Storage container	Temperature Requirement	Humidity Requirement	Whether the remote needs dust prevention	Storage packaging and dust-preventing requirement	Whether the remote needs ESD prevention	ESD prevention requirement
Original Packaging	-10℃~40℃	≤90%	Y	Do not place the remote on site without packaging;	Y	<8KV

7.3 Storage period standard

Validity period for initial inspection	Validity period for re-inspection	Maximum storage period
6 months	3 months	24 months

7.4 Stacking standard

Model	Stacking layer limit
ERF6T80H	6

FCC Warning Statement:

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.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your 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.

The device has been evaluated to meet general RF exposure requirement.