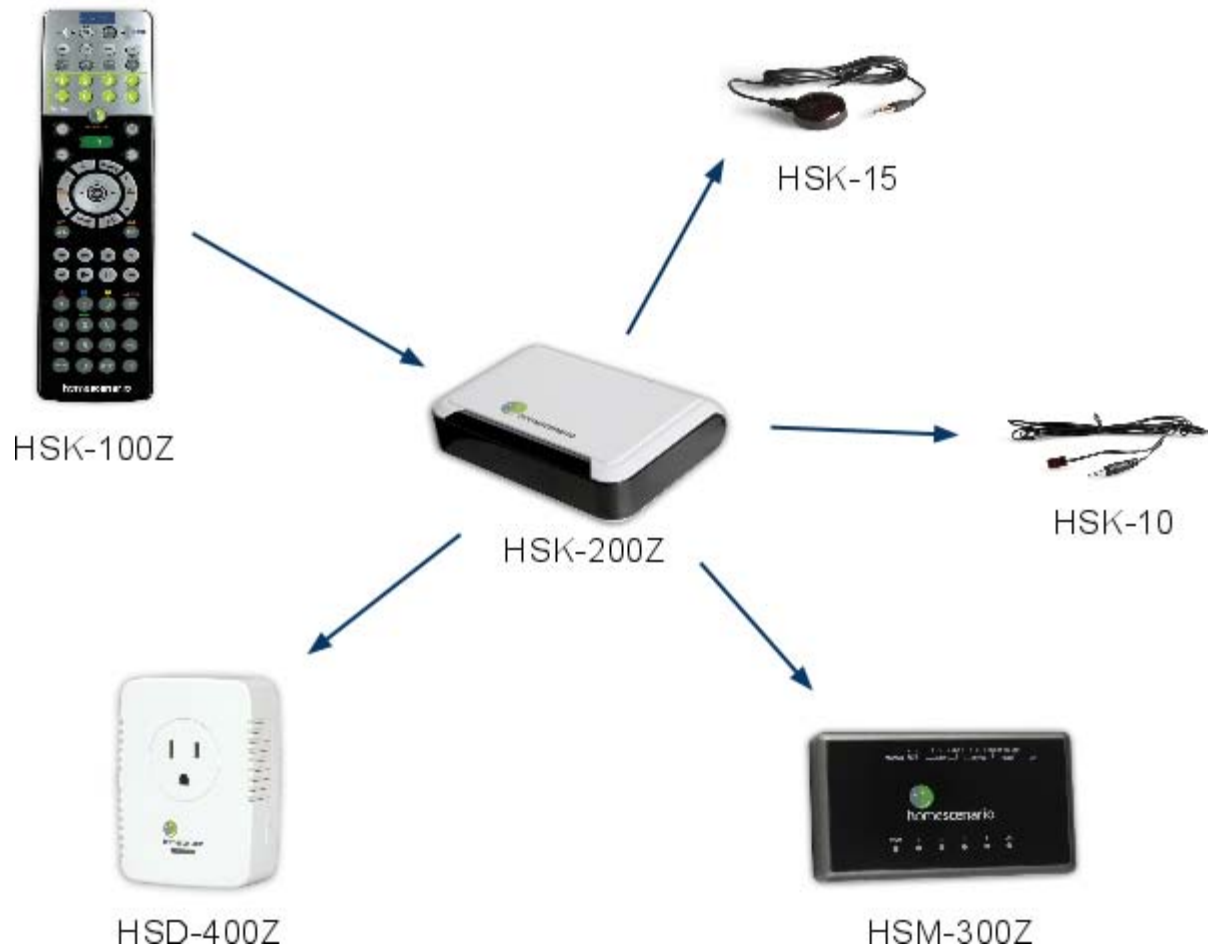
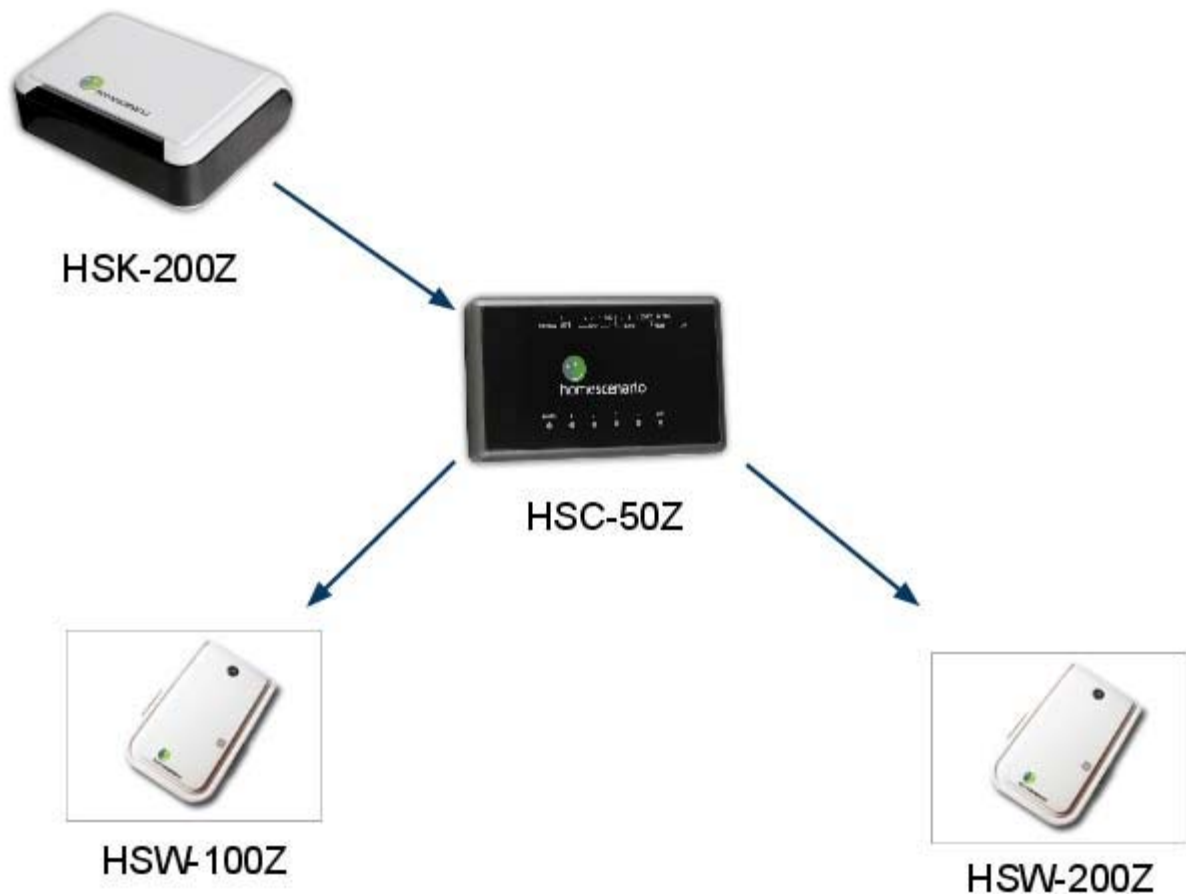


# User's manual of HSK-200Z

## 1. Introduction



The HSK-200Z often work with the HSD-400Z, HSM-300Z and HSK-100Z as the above picture.



The HSK-200Z is the bridge lights through HSC-50Z as the above picture.

These devices provides functionalities required by a typical home theater or meeting room integration. In this starter kit, we include

- One HSK-200Z scenario hub
- Two HSD-400Z power meter
- One HSK-100Z Universal IR remote controller with Z\_Wave repeater.
- One HSM-300Z projector screen cotroller

In addition, it can work with other window shade device or switch/dimmer as well.

In this document, we assume that we use HSK-100Z as the primary controller. The HSK-200Z can work with any Z-Wave compatible primary controller, which support ASSOCIATION and CONFIGURATION command classes. Please refer to the manual of your controller for the details.

## 2. Specifications

### 3. Supported command class

Power	5V 1A
Signal	908.42Mhz(US), 868Mhz(EU)
Range	Up to 100 feet line of sight between the wireless controller and the HSK-200Z.

IR	270 degree builtin IR emitter. Two IR laser or emitter can be used to extend the coverage by wires.
Serial port	RS485
Program button	To include/exclude/calibrate the HSK-200Z

The HSK-200Z is AV controller which supports the following command classes

- BASIC
- Simple AV Control
- Version
- Manufacturer Specific
- Association
- Configuration

### 3.1. BASIC command class

The basic command class is mapped to the scene activation command classes. The value of it is the scene ID. If the value is higher than 3, it will be mapped into 3. The basic get will return the last invoked scene.

### 3.2. Simple AV control

The simple AV control can be used to send IR signals from the internal database. Please refer to the table in the appendix.

### 3.3. Association

The HSK-200 supports the following groups.

Group number	Function
1	Main Light Group
2	Axiliary Light group
3	Curtain group
4	Projector screen group
5	Projector meter
6	DVD meter
7	AVR meter
8	The HSC-50Z

## 3.4. Configuration

This configuration command classes allow us to fine tune the behaviour of

Configuration	
1	Node id of the projector meter.
2	Node id of the DVD meter.
3	Node id of the AVR meter.
4	Node id of the TV meter
5	Number of key which is used to turn off the power of the projector.
6	Node id of the HSC-50Z
7	Enable/Disable projector activation function. When we detect the projector is turned on, we will execute the scene 1 Default is disabled.
8	Enable/disable the DVD activation function. When we detect the DVD is turned on, we will execute the scene 2.

## 4. Installation

### 4.1. Inclusion

Put the HSK-100Z into add node mode by using ADD/DEVICE.

Press and release the program button in the bottom of the device by using a needle. The device will broadcast node information and enter learning mode.

The HSK-100Z will add the HSK-200Z from the network and show solid OK LED. If there is any error, the Error LED will be turn on instead.



HSK-200Z

## 4.2. Exclusion

Put the HSK-100Z into add node mode by using DELETE/DEVICE.

Press and release the program button in the bottom of the device by using a needle. The device will broadcast node information and enter learning mode.

The HSK-100Z will delete the HSK-200Z from the network and show solid OK LED. If there is any error, the Error LED will be turned on instead.

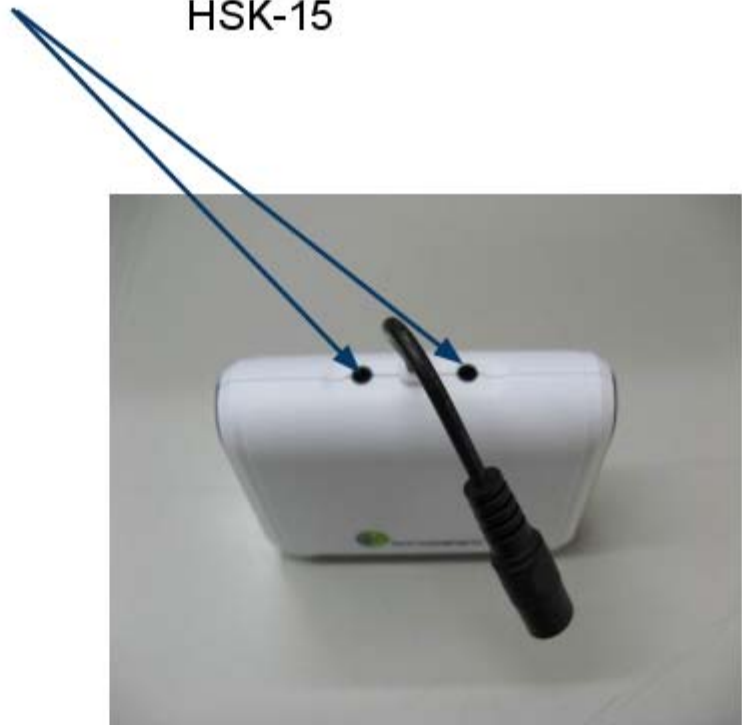
### 4.3. Install the IR cable



HSK-10



HSK-15



HSK-200Z

Put the HSK-10 or HSK-15 to plug in the socket of HSK-200Z.



The LED in front will blink when emit the IR keys successfully.

## 4.4. Power meter

### Add power meter

The HSK200Z support up to three power meter to control three AV devices. They are associated to the following IR codes.

Projector Power (key xxx)  
AV power (key xxx)  
AVR power (key xxx)

We can use the ASSOC key of HSK-500Z to include a power meter. Please use the following table to select the group to associate.

No	Name	
3	Projector power meter group	
4	AV power meter group	
5	AVR power meter group	



When the HSK-200Z starts, it will query the associated power meter to get the current setup.

### **Auto scene activator**

This function enable us to start the scenario when the power meter detect that the associated device is turned on. Usually, the power meter notify the HSK-200Z for its status only. However, it can be used to trigger the scenario as well. For example, if the projector power meter detects the projector is on, the HSK-200 will execute the whole scene 1 if the configuration xxx is non-zero.

In this way, we can use the power button of the projector to start the presentation mode. In addition, the AV power meter can be used to trigger the normal mode and the AVR power meter can be used to start the meeting mode.

This function is disabled by default. In order to start this function, please use the CONF key of HSK-100 to setup the configuration 7&8.

## **4.5. Device calibration**

The HSD-400Z will send SCENE ID 1 to all devices listed in the group 1 when the current exceed the value specified in Configuration 1. In addition, it will send SCENE ID 2 to all devices listed in the group 2.

However, these values may not be able to detect the current consumption of your devices. We may need to determine a good high threshold and a low threshold. We can use the HSK-100Z to adjust these configurations. This is inconvenient since we need to adjust the value and verify it. If it does not work, we need to retry again. The device calibration is a special mode of the HSK-200Z. The procedure is

Use HSK-100Z to add power meter into the HSK-200Z.

Press and hold the program button of the HSK-200Z.

The LED of HSK-200Z will start to blinking.

Press the power button of the device attached to the power meter.

Wait the device is completely on or off.

- Repeat press the power button until the LED stop blinking. The calibrated values will be saved at configuration 1 & 2 of the power meter.

## **4.6. Add IR keys**

The AV starter kit provides 20 IR keys which will be sent in pre-defined scenarios.

## **4.7. Define key for power off**

For most projectors, we need to press power key twice in order to turn off the projector.

## 4.8. Curtain

The curtain can be added into the curtain group. Actually, any motor device can be added into group 3.

## 4.9. Projector screen

The projector screen will be lower only in the presentation mode. Please associate the HSM-300Z or other projector motor controller into the group #4.

## 4.10. Lights

In order to add lights into different scenarios, you can use the following procedure at HSK-100Z.

- Press
- Press Scene
- Press the number 1-8
- Press the the device button, which can send a Z-Wave Node Information frame.
- Adjust the device to the desired setup.
- Press the Scene button

Devices can be added into different scene key by using different values so that we can define the status of devices in different scenes.

However, light defined in the above procedure can be activated from the HSK-100Z only. If you want to use other devices, such as HSK-50 or any scene controller, you need to add a HSC-50Z light scenario controller by using HSK-100Z so that the HSK-200Z can relay the scene activation commands to the HSC-50Z.

# 5. WARRANTY

### Limited One (1) Year Warranty

This warranty does not cover or apply to:

(a) damage to the product due to misuse, mishandling, and abuse, (b) products not used in accordance with manufacturer's instructions or recommendations, (c) product not assembled or installed according to manufacturer's instructions, (d) normal wear and tear, (e) wearing of the cover due to improper installation of cover and goods (f) damage to the contents of the shelter, (g) permits required due to zoning issues, (h) damage that has occurred during shipping, (i) acts of God. In addition consequential damage and

incidental damages, such as damage to persons or property are not coverable under this warranty, and you should refer to your homeowner's insurance policy as with any other outside structure. Note: Some states do not allow the exclusion or limitation of certain damages, and in those cases these limitations do not apply.

## 6. Certification Notice

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

This device may not cause harmful interference

This device must accept any 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 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 installation instructions, may cause harmful interference to radio communication. 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

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the 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