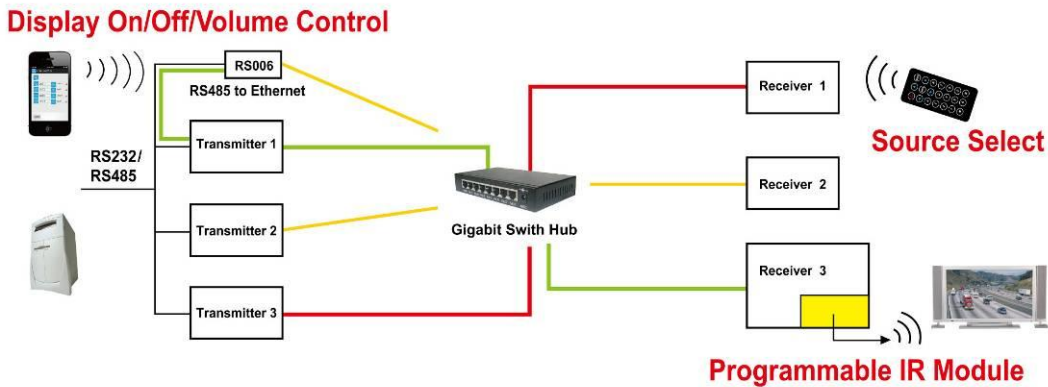


Programmable IR module

ITEM NO: IRM01: Programmable IR module for HKM01BR, VDKM01 Receiver

When TV which do not support RS232 interface for remote control, you could use IRM01 module to learn the IR remote key and send RS232 command from PC to send the learned IR key. Each module has to learn IR remote key independently to fit the TV which connect to the receiver. All IRM01 of receivers will run same command from transmitter at the same time or separated by MAC address, IP address, Group No., Device No or Party No. for flexible application

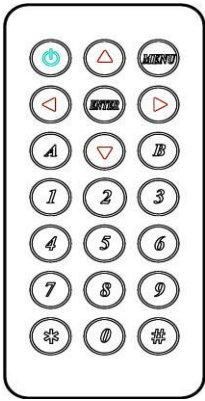
Application View:



LED Indication Status:



Power (Green LED):	Flash ON	Booting Boot completed
Link (Blue LED):	Flash ON	Connecting or connected but no HDMI input Transmitter connected with Receiver
Receiver IR (Red LED):	On Flash	Received IR signal IR signal status / Enter IR learning mode

Remote Control Function:
























If you do not use PC computer management to setup receiver, then you could use the IR infrared remote control to preset channel selection. Using the IR remote control to the front of receiver will be ok.

Initial at first time use the remote control or after change battery of remote control, the IR remote control and the equipment Remote ID must be using same ID. The default Remote ID is 8.




To setting the Remote ID, Press and hold power button, then press button 8 to complete the setting.  +  (for example)



Remote Control Button Function:

Symbol	Function
	Power Temporarily turn off the screen output /setup remote control Remote ID
	MENU Menu selection, input numbers after press menu button
	LEFT Previous channel
	RIGHT Next channel
	UP Previous quick Menu selection
	DOWN Next quick Menu selection
	ENTER Confirmation / display the current channel
	1 Number 1
	2 Number 2
	3 Number 3
	4 Number 4
	5 Number 5
	6 Number 6
	7 Number 7
	8 Number 8
	9 Number 9
	0 Number 0
	* Cancel / exit
	# Clear input number
	A No function
	B No function

Remote Control Operation:

Select Function :

Mode 1: use  or  select function, press  to confirm.

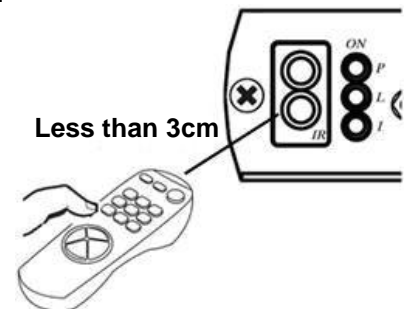
Mode 2: press , then input function number as below , press  to confirm.

IR Module Menu Number: (display when IR module be installed)







30	Send IR Key	Send learned IR Key 0~31
31	Learn IR Key	Learn IR Key 0~31
32	Delete IR Key	Delete learned IR Key 0~31
301	Delete All IR Key	Delete all learned IR Key







IR Key Learning :

IR KEY function is use IR module which built-in HKM01BR receiver to learn IR signal of TV remote control and saved in the module, then you could use programmable RS232 command from HKM01BT transmitter to control the IR module send and IR signal to TV. It could control all kinds of TV but do not need RS232 port on it.



How To Learn IR Key :

First, press the menu: e.g. IR Key 0 press     (Learn IR Key) then press  , the screen OSD will show "Start IR Learning Key 0" , press the button of the remote control you want to learn and closed to (3cm) IR receiver of receiver in 10 seconds. It will show "Learn Succeed" or "IR Key 0 Learning Error. Try Again" after learning.

After learning you could double check if it works correctly, e.g. press     (Send IR Key) then press  , it will send the IR Key 0 immediately.

RS-232 Control command :

User could use RS-232 port of transmitters at baud rate 115200bps (8-N-1) to operate/setup the receivers at same channel

Command format: >CMD_Address> Command Parameters

All accord receivers will run the command and parameters, we also add 3 kinds of user defined numbers except MAC & IP (Device No · Group No · Party No) for flexible application:

Mxxxx	The last 4 digits of MAC Address	e.g.: 221868860123 = M0123
Ixxxx	The last 2 column of IP Address (HEX)	e.g.: 169.254.012.034 = I0C22
Dxxxx	Device No	e.g.: Device No 1234 = D1234
Gxx	Group No	e.g.: Group No 12 = G12
Pxx	Party No	e.g.: Party No 34 = P34
CHx	Channel No (HEX)	e.g.: Channel 12 = CHC
ALL	All receivers	

Response format: <ACK_Address< Response character

Receivers will response message to transmitter as above format, if multiple receivers operate at the same time they will not response to the transmitter by default.

To enforce response function please add "!" before commands and receivers will respond in sequence by device number X 15ms.

Command and Parameters List:

Command	Function	Parameters	Response
CHANNEL	Select Channel	0 ~ 15 (Channel No.) ? (display setting)	OK = Setting successful ERROR = Setting fail
REMOTE_ID	Set Remote ID	0-9 (Remote ID No.) ? (display Remote ID No.)	OK = Setting successful ERROR = Setting fail
BUTTON	Set button	ON OFF ? (display setting)	OK = Setting successful ERROR = Setting fail
IR_REMOTE	Set IR remote	ON OFF ? (display setting)	OK = Setting successful ERROR = Setting fail
IR_EXTENDER	Set IR Extender	ON OFF ? (display setting)	OK = Setting successful ERROR = Setting fail
DEVICE	Set Device Number	0 ~ 9999 (Device No.) ? (display setting)	OK = Setting successful ERROR = Setting fail
GROUP	Set Group Number	0 ~ 99 (Group No.) ? (display setting)	OK = Setting successful ERROR = Setting fail
PARTY	Set Party Number	0 ~ 99 (Party No.) ? (display setting)	OK = Setting successful ERROR = Setting fail
OSD_ON	Display character on screen 60 seconds	Character (alphabet and numbers)	OK = Setting successful ERROR = Setting fail
OSD_OFF	Turn off the OSD	0 ~ 60000 (Delay time , based on ms)	OK = Setting successful ERROR = Setting fail
SCREEN	Turn on/off screen	ON OFF	OK = Setting successful ERROR = Setting fail
REBOOT	System reboot	N/A	SYSTEM REBOOT
MODULE	Display installed IR module	N/A	US / EU = module installed NI / no response = module not installed
IR_KEY	Send IR KEY	0 ~ 31 (IR Key numbers)	OK = IR KEY Send completed ERROR = module not installed

			NOT LEARN = the IR KEY not learned
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※ The maximum of OSD_ON is 30 characters, not support comma sign「,」, some characters must use \x## format to display, ## means the characters number in ASCII 16 code
e.g.: \x0a is change to next line, \x28 is (brackets sign, \x22 is “ sign

e.g.:

>CMD_M1234> CHANNEL 12 (Set receivers which last 4 digits MAC Address is 1234 to Channel 12)
<ACK_M1234< OK (All receivers which last 4 digits MAC Address is 1234 response OK)

>CMD_D123> BUTTON OFF (Turn off the button function of the receiver which Device number is 123)
<ACK_D123< OK (Receiver which Device number is 123 response OK)

>CMD_P5> !IR_KEY 31 All receivers which Party number is 5 send IR Key 31 and response.
<ACK_M0219< OK Receiver which last 4 digits MAC Address is 0129 response OK
<ACK_M021B< NO LEARN Receiver which last 4 digits MAC Address is 021B response NO LEARN

>CMD_ALL> !OSD_ON Hello! \x28123\x29 \x22ABC\x22 Show 「Hello! (123) “ABC”」 to all monitor and send response
<ACK_M0219< OK Receiver which last 4 digits MAC Address is 0129 response OK
<ACK_M021B< OK Receiver which last 4 digits MAC Address is 021B response OK
<ACK_M021C< OK Receiver which last 4 digits MAC Address is 021C response OK
>CMD_ALL> OSD_OFF 10000 All receiver turn off OSD after 10 seconds

Specification:

ITEM NO.	HKM01BT	DKM01BT	VKM03BT
Support Resolution	480i / 480p / 720p / 1080i / 1080p @ 24Hz、25Hz、30Hz、50Hz、60Hz		
Transmission Distance	CAT.5e : 150M / CAT.6 : 180M (Max)		
USB Connector	USB Type B x 1		
RS232 Connector	DB9 (Female) x 1		
Video Input Connector	HDMI type A x 1	DVI-I x 1 (29 Pin) Digital Only	15-pin Mini D-sub
Video Loop Output Connector	HDMI type A x 1	DVI-I x 1 (29 Pin) Digital Only	15-pin Mini D-sub
Link Connector	RJ45 x 1		
Audio Connector	3.5 mm Phone Jack x 2 (10KΩ / 1Vpp)		
IR Receiver (Internal)	30-60Khz / ±45° / 5M		
IR Emitter (External)	3.5mm Stereo Phone Jack		
Power Supply	DC 5V 2A		
Power Consumption	750mA (Typical) / 1000mA (Max)		
Temperature	Operation: 0 to 55°C, Storage: -20 TO 85°C, Humidity: up to 95%		
Dimensions mm	167x105.5x40	167x105.5x40	
Weight g	470	470	

ITEM NO.	HKM01BR	VDKM01BR
Support Resolution	480i / 480p / 720p / 1080i / 1080p @ 24Hz、25Hz、30Hz、50Hz、60Hz	
Transmission Distance	CAT.5e : 150M / CAT.6 : 180M (Max)	
USB Connector	USB Type A x 4	
RS232 Connector	DB9 (Male) x 1	
Video Output Connector	HDMI Type A x 1	DVI-I x 1 (29 Pin) Digital Only / 15-pin Mini D-sub
Link Connector	RJ45 x 1	
Audio Connector	3.5 mm Phone Jack x 2 (10KΩ / 1Vpp)	
IR Receiver (Internal)	30-60Khz / ±45° / 5M	
IR Emitter (External)	3.5mm Stereo Phone Jack	
Power Supply	DC 5V 2A	
Power Consumption	750mA (Typical) / 1000mA (Max) Without USB Power Consumption	
Temperature	Operation: 0 to 55°C, Storage: -20 TO 85°C, Humidity: up to 95%	
Dimensions mm	125x140x30	167x105.5x40
Weight g	390	480



Rev. A