Smart Controller

User Operation Guide

Model:

SKP-15i

rev.2021.07Jul.21

User Operation Guide

GETTING STARTED

Software Operation Guide

**Specifications are subject to changes without notice.*

OVERVIEW

The SKP-15i smart keypads are designed to enable users to have simple yet effective control over their PC and AV system. It is able to control any RS232 enabled devices through RS232 and also a PC when connected to a USB port of the PC.

This unique keypad is able to control any PC (Win 10) to launch apps, open websites and input any predetermined keyboard shortcuts. At the same time, it can also control any AV equipment through RS-232. It has 15 LED keys that are completely user customizable. Users can input their own icons, text and even organize keys into separate folders. Any changes made on the software are reflected onto the keypad in real-time.

The keypad comes with easy to use software that also includes an option to include a password to restrict unauthorized access.

Software Download Link

Scan the QR code or click on the link to download the Smart Controller software. (supports Windows 10 , 64bit)

http://avmedia.com.sg/wp-content/uploads/15/Smart-Controller.exe

User Operation Guide

PRODUCT FEATURES

- 4.3” TFT LCD Screen with 15 fully customizable buttons
- Support RS-232 and USB controls
- Full coloured LCD keys (16.7 million colours) with adjustable brightness
- Able to control any AV equipment via RS-232
- Able to control PC via USB
- Able to turn OFF PC, launch APPs, store passwords, launch websites and etc simply by pressing on a key
- Able to group keys into multiple pages
- Stand alone AV controller, no control processor required
- Simple and effective design
- Ideal for controlling PC and AV system

TECHNICAL SPECIFICATIONS

Output: 1 × RS-232
1 x USB

Software: Requires Win 10 (64bits)

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Reommmend Applications

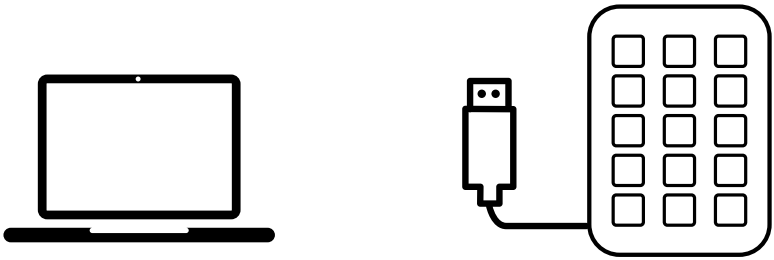
User Operation Guide

SYSTEM OPERATIONS

Settings up with a PC

1.1 Download the Smart Controller software

Remove the Smart Controller from the package and connect the USB port to a PC.

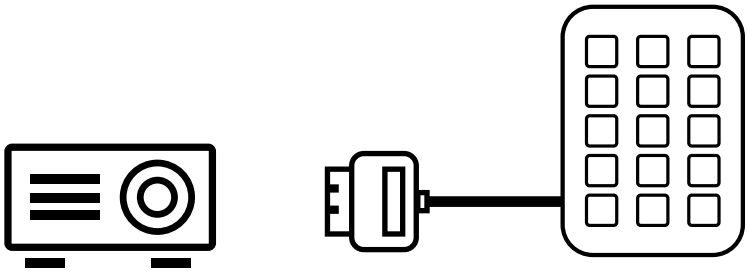


Install the Smart Controller Software onto the PC and run the software. Please ensure that the PC is running on Windows 10 (64 bit)

Using the software, customize the keys on the Smart Controller to allow the Smart Controller to execute saved actions on the PC.

1.2 Connecting to a serial device

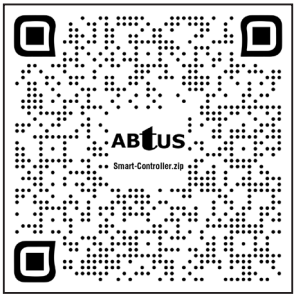
To control a RS-232 enabled equipment, connect the RS-232 port to the equipment.



SYSTEM OPERATIONS

Use the Smart Controller software settings to adjust the baud rate, parity and stop bit to match that of the equipment. Next configure the commands for the equipment using the serial communication function in the software.

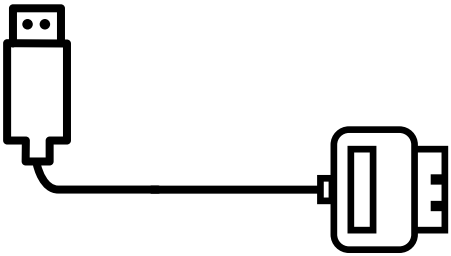
For more information on how to set up the keys using the Smart controller software, please download the Smart Controller Software Guide by scanning on the QR code or clicking on the following link:



Setting up as a stand alone controller

2.1 Preparations

Remove the Smart Controller from the package and prepare a PC to configure the Smart Controller. For PC without existing serial port, a USB to Serial (Female) cable is required

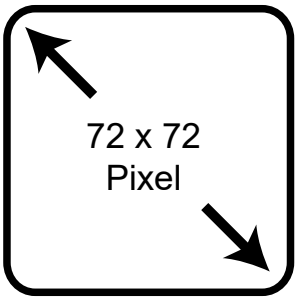


There's no need to install or launch the Smart Controller software when programming for the Smart Controller to act as a standalone controller. If the Smart Controller software is running, close and remove it from the task manager before connecting the Smart Controller to the PC.

SYSTEM OPERATIONS

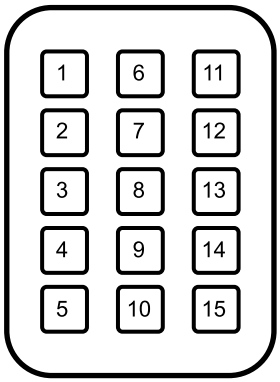
2.2.1 Creating icons

Prepare icons of 72x72 pixels in .jpg or .png and name them as numbers 1, 2 and etc. in accordance to the position where the icons should appear on the Smart Controller.

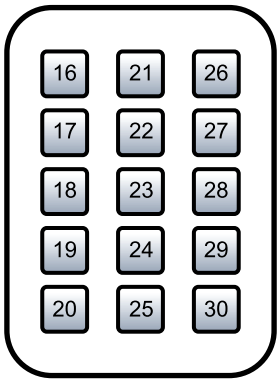


For example: Name an icon that is meant for button 1 as 1.jpg and an icon that is meant for button 11 as 11.jpg.

For buttons with 2 states (push and pop), prepare another set of icons for the pushed state and label then from 16 to 30.



Numbering for active keys
(Pop state)



Numbering for 2nd layer keys
(Push state)

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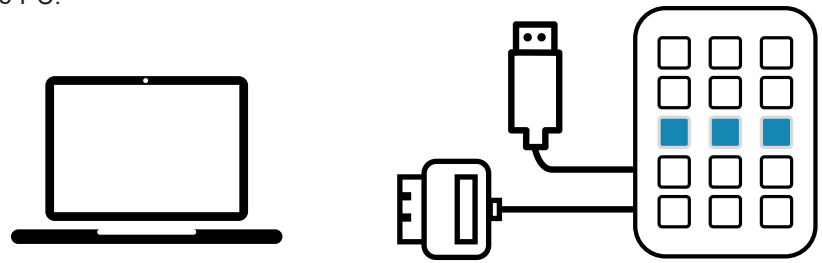
2.2.2 Default icons

In the event that the application requires the Smart Controller to show a different set of icons when powered on, create another set of 15 icons and name them boot_1.jpg, boot_2.jpg and etc.

This will allow the panel to show these boot icons automatically when powered on.

2.3 Saving icons into the Smart Controller

Press and hold the 3 buttons in the middle (button 3 + 8 +13) and plug the USB cable into the PC.



Once connected, the Smart Controller will show up as a device along with other devices and drives that's currently on the PC.

Locate the device and drop the previously prepared icons files into the Smart Controller.

2.4 Configuring the Smart Controller

To assign a hex command to a specific key, connect the RS-232 cable to the PC. (Use a RS-232 to USB adaptor if required)

Use any scripting software and establish connection with the Smart Controller.

Send a command to the Smart Controller using the following format:

Field	StartCode		Length		CRC16		AT Command	Data 1	Data 2	Data 3	End Code	
Value (hex)	55	AA	...	...	FF	FF	53 43 4D 44	...	...	...	0D	0A
Description	Fixed		low byte	high byte	Skip CRC check		SCMD	P or R (Button state)	Button index	command	Fixed	

Note: Under "Data 1", "P" denotes Press and "R" denotes Release. "Data 3" denotes the command code required to control the connected equipment

For example: To assign a command “PON” (50 4F 4E in hex) to button 1 so button 1 will send this command to the equipment on press, send 55 AA 0A 00 FF FF 53 43 4D 44 50 50 4F 4E 0D 0A to the Smart Controller.

After successfully assign a command to button 1, continue to assign commands to the rest of the keys. (Note: Define when the command is sent by programming “P” (push) on button state to send command on press or “R” (release) on button state to send command only on release)

2.5 Configuring a response from a connected equipment

Use the following functions to program how the icons on each key should change when the Smart Controller receives a command or a feedback from its connected equipment.

Show Gallery Image on Button function allows the user to specify a particular icon to show when an unique command/feedback is received.

Show Gallery on Multiple Button function allows the user to show more than one icons when an unique command/feedback is received.

Clear Screen function allows user to clear all icons on the screen with a specific command/ feedback.

Show Gallery Image on Button — Table 2

Field	StartCode		Length		CRC16		AT Command	Data 1	Data 2	Data 3	End Code	
Value (hex)	55	AA	...	...	FF	FF	53 47 49 42	...	...	...	0D	0A
Description	Fixed		low byte	high byte	Skip CRC check		SGIB	Button Index	Gallery Index		Fixed	

Show Gallery on Multiple Button — Table 3

Field	StartCode		Length		CRC16		AT Command	Data 1	Data 2	Data 3	End Code	
Value (hex)	55	AA	...	...	FF	FF	53 47 4D 42	...	...	...	0D	0A
Description	Fixed		low byte	high byte	Skip CRC check		SGMB	Pair #	Button Index	Gallery Index	Fixed	

Clear Screen — Table 4

Field	StartCode		Length		CRC16		AT Command	Data 1	Data 2	Data 3	End Code	
Value (hex)	55	AA	...	...	FF	FF	43 4C 53	...	...	...	0D	0A
Description	Fixed		low byte	high byte	Skip CRC check		CLS	R value	G value	B value	Fixed	

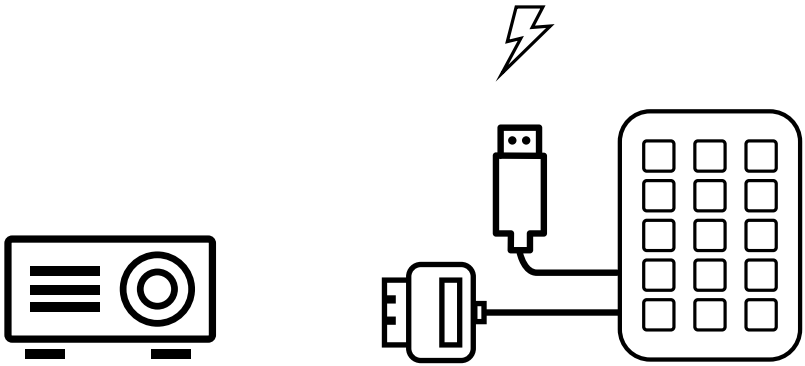
Protocol Format — Table 5

Field	StartCode		Length		CRC16		AT Command	Data 1	Data 2	Data 3	End Code	
Value (hex)	55	AA	...	...	FF	FF	...	...	...	...	0D	0A
Description	Fixed		Depending on AT Command		skip the CRC check		Depending on AT Command				Fixed	

2.6 Connecting to an RS232 enabled equipment

Once all desired commands were assigned, close the connection between the PC and the Smart controller. Remove both the USB and the RS232 cables from the PC.

Next connect the RS-232 port to a RS232 enabled equipment and the USB port to a DC 5V wall plug.



Once the Smart Controller is powered, it is ready for use

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