STICK Remote Protocol

1 – Quick Triggering

If you just want to start a specific scenario use the following kind of packet:

Send a UDP packet to port 2430, or TCP packet (* see end of document) to port 2431.

Field	Name	Size	Description
1	ID[8]	8 bytes	Array of 8 characters. Value must be “Stick_3A”
2	OpCode	2 bytes	Operation code. Value must be 109
3	Scene nr.	2 bytes	Scene number
4	Zone Sync id.	1 byte	For synchronising zones between controllers
5	Command	1 byte	The scene state - paused/stoped
6	Dimmer val.	2 bytes	The configured dimmer value
7	Speed val.	2 bytes	The configured Speed Value
8	Unused	1Byte	Alignement
9	Unused	1Byte	Alignement
10	Color val.	4 bytes	The configured color value

Quick triggering commands:

Scene Off	0
Scene On	1
Scene Pause Off	2
Scene Pause On	3
Scene Reset	4
Scene Dimmer Set	5
Scene Speed Set	6
Scene Color Set	7
Black Out Off	8
Black Out On	9

Example:
All the packets must be sent via TCP protocol, on the 2431 port.
To trigger a scene: Scene Number = Page Number * 50 + SceneNumber
The maximum number of scenes per page is 50. If more than 50 scenes have been added to a page, a second page will be allocated even if it does not appear this way on the display.

For triggering scene 5 on page A (page 0):
(0x53 0x74 0x69 0x63 0x6b 0x5f 0x33 0x41) (0x6D 0x00) (0x05 0x00)(0x00)(0x01)
(0x00 0x00)(0x00 0x00)(0x00 x00)(0x00 0x00 0x00 0x00)

For triggering scene 5 on page B (page 1 as pages are numbered from 0):
(0x53 0x74 0x69 0x63 0x6b 0x5f 0x33 0x41) (0x6D 0x00) (0x37 0x00)(0x00)(0x01)
(0x00 0x00)(0x00 0x00)(0x00 x00)(0x00 0x00 0x00 0x00)

For setting color RGB-FFFFFF for scene 5 on page B:
(0x53 0x74 0x69 0x63 0x6b 0x5f 0x33 0x41) (0x6D 0x00) (0x37 0x00)(0x00)(0x07)
(0x00 0x00)(0x00 0x00)(0xFF 0xFF 0xFF 0x00)

Note: to send a scene number higher than 255, set the 2nd scene byte to Ox01

2 – Button Simulation

Send TCP Packet to port 2431 to trigger STICK's buttons.

Field	Name	Size	Description
1	ID[8]	8 bytes	Array of 8 characters. Value must be “Stick_3A”
2	OpCode	2 byte	Operation code. Value must be 101
3	Button_ID Mask	1 byte	The number of button
4	Button Event Mask	1 byte	Button Event - SingleClick/Touched/Released
5	aValue	2 byte	Represents the slider's value you want to set

Button ID		
ButtonLeft	7	Button on left side to the screen
Button ON_OFF	1	Button to Turn on/off the device
Button Right	2	Button on right side to the screen
Button UNDO	5	Button to acknowledge last changes
Button COLORCONF	9	Start colorconfig screen
Button DIMMERCONF	8	Start Dimmer screen
Button SPEED	4	Change the speed of the current speed
Button SCENE	3	Start scene screen
Button Set	0	Used in menu to set value
Button Cancel	6	Used in menu to cancel operation
Slider	10	Moving slider
Button Event		
Single Click	1	Button Touched and released
Touched	2	Button Touched
Released	3	Button Released after touched
Double CLick	4	Button Touched and Released Twice in defined time
Long Touch	5	Button Touched for longer defined time
Ultra Long	6	Button Touched for long defined time, mostly used for hidden functions
Semi Touch	7	Touch longer than click,but much shorter than long touch. Used by slider during sliding on.
No Event	8	

Examples:
Single Click on Scene Button datagram:
(Stick_3A) (101) (003 001 000 000)
>>>
(0x53 0x74 0x69 0x63 0x6b 0x5f 0x33 0x41) (0x65 0x00) (0x03 0x01 0x00 0x00)
Long Touch on Arrow Left Button datagram:
(Stick_3A) (101) (007 005 000 000)
>>>
(0x53 0x74 0x69 0x63 0x6b 0x5f 0x33 0x41) (0x65 0x00) (0x07 0x05 0x00 0x00)
Changing slider value to 60% datagram **:
(Stick_3A) (101) (00A 008 055 000)
>>>
(0x53 0x74 0x69 0x63 0x6b 0x5f 0x33 0x41) (0x65 0x00) (0x0A 0x01 0x55 0x00)

The status message:

As soon you will get connected to Stick3 on port 2431, the STICK will send you a status packet every 5s.

Field	Name	Size	Description
1	ID[8]	8 bytes	Array of 8 characters. Value must be “Stick_3A”
2	OpCode	1 bytes	Operation code.
3	Version nr	1 byte	0x02
4	Scene nr	2 bytes	The number displayed on the scene screen
5	Scene Name[12]	12 bytes	The currently played scene Name 12 characters
6	Zone number	1 byte	The currently dispalyed zone on scene screen
7	Zone name[12]	12 bytes	The Currently displayed zone name
8	Dimmer value	2 bytes	The number displayed on the dimmer screen
9	Color Value R	1 byte	The red value displayed on the color screen
10	Color Value G	1 byte	The green value displayed on the color screen
11	Color Value B	1 byte	The blue value displayed on the color screen
12	Speed Value	2 bytes	The number displayed on the speed screen
13	Speed Icon Visible	1 byte	indicator if speed icon is visible/have been modified
14	Color Icon Visible	1 byte	indicator if color icon is visible/have been modified
15	Dimmer Icon Visible	1 byte	indicator if dimmer icon is visible/have been modified
16	Remote Clients Count	1 byte	Number of connected remote clients
17	Live Mode Is Activated	1 byte	Live mode is activated by ethernet or USB client
18	Screen Current	1 byte	The currently displayed screen
19	Led Status	1 byte	The current status of onboard leds
20	Zone Count	1 byte	The current status of onboard ledsCount of configured zones
21	Scene State	1 byte	Number of configured zones The currently displayed scene state¨ The currently displayed scene state¨
22	Is Image Displayed	1 byte	The scene picture
23	Is Image OnFulscreen	1 byte	if the scene picture is displayed in fullscreen mode or not

Packets must be sent to the stick via TCP on port 2431.
A maximum of 6 remote clients can be connected to one Stick_3A device.

*** Important : Changes to TCP Communication, Firmware v2+**

If you had previously implemented TCP communication with a STICK running firmware 1.xx you may notice that updating to 2.xx prevents the STICK responding.

TCP communication now requires *authentication*. This has been implemented to allow secure communication over the Internet between a STICK and our LS Cloud Service (not yet released).

You could decide to use UDP with Quick Triggering packets from (see page 1) which has no authentication layer. If you need to use TCP packets, you have 2 options:

1. Implement TCP authentication in your software.
   Ask support for the Nicolaudie Network Protocol (Remote Control) documentation and refer to the section on STICK3. This document is aimed at developers.
   OR

2. Disable *Security for Cloud Access.* We advise that you choose this option only if the STICK is connected to a secure network that, ideally, is not connected to the Internet. Disabling security will allow anyone with access to the network to the control the STICK without authentication. If you understand the risks, please take the steps below :

   - Download latest HardwareManager (links below), connect STICK via USB & open software. PC: https://storage.googleapis.com/nicolaudie-eu-tools/Release/SuidiDrivers.exe
   https://storage.googleapis.com/nicolaudie-eu-tools/Release/HardwareManager.exe
   Mac: https://storage.googleapis.com/nicolaudie-eu-tools/Release/HardwareManager.dmg
   - Select Firmware > Beta from menu
   - On Firmware Screen upgrade to latest 2.2x+ firmware.
   - Go to Settings screen and uncheck 'Security for Cloud Access'. (You will only see this setting if your STICK is running Firmware 2.22+). Press *Store Settings*.

   You should now be able to use the TCP Quick Trigger and Button Simulation commands.

** The relationship between the slider input aValue and the output slider percentage is non-linear and not designed to give precise control. The output slider value will also be different depending on which current mode is selected. For example ...
aValue : 255/ 0xff = 200% dimmer or 600% speed
aValue : 127 / 0x7f = 100% dimmer & speed

Byte Order
If you have a value of 0x65 with 2 bytes, do you write it 0x00 0x65 or 0x65 0x00 ? The correct answer is 0x65 0x00. This uses Big Endian (AB) encoding. You can use the tool at the following link to convert a value to 'UINT16 - Big Endian (AB)' : https://www.scadacore.com/tools/programming-calculators/online-hex-converter/