Instruction manual: Lutron HomeWorks® QS control of Systemline 7

NetServer

NetAmp

Systemline 7 NetServer & NetAmp

Systemline 7 NetServer, used with S7 NetAmp only &
Systemline 7 NetAmp, 2 zone smart multi-roon amplifier

SN2030 / SN2100
SN2200 & SN1100
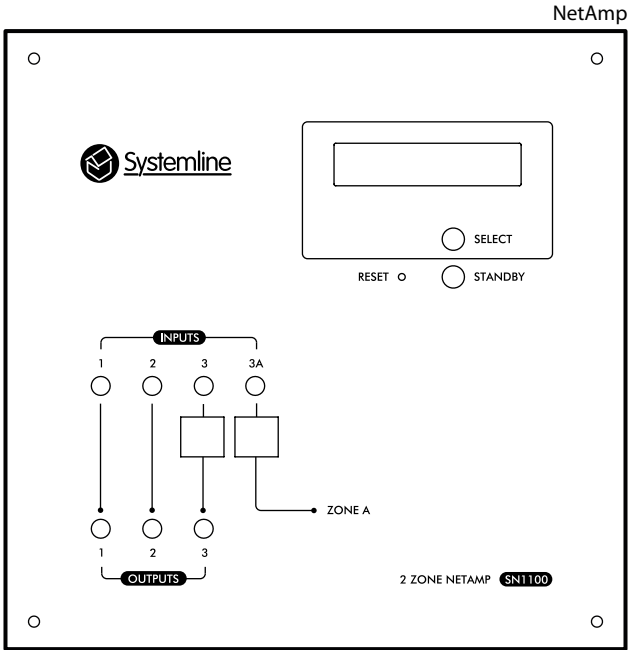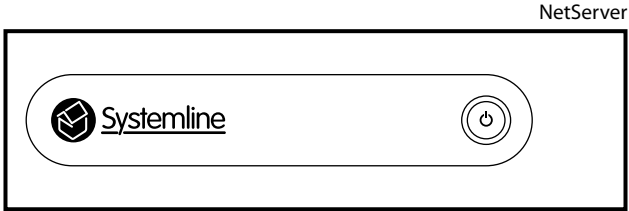
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1.0 Introduction

Lutron HomeWorks QS has the ability to define a 3rd party device connected to the same local area network, and to send control commands to this device if the IP address and port number are entered into the QS configuration software.

Systemline 7 has been designed so that other control systems such as Lutron HomeWorks can connect to S7 and send some commands. All the control protocol to achieve this is published on the Systemline 7 web page : http://www.systemline.co.uk/systemline/s7.htm

It is important to configure the appropriate type of control at each device to give a simple and reliable end user experience. Lutron control panels usually have from 5 to 12 buttons that can be labelled with their functions, such as Scene 1 or Off for lighting control. The ideal audio function on these hard button keypads is to simply select a radio station or playlist and adjust the volume. Radio stations can be stored as favourites on an S7 system with a server using the S7 App, and these are listed numerically on the App as shown below:
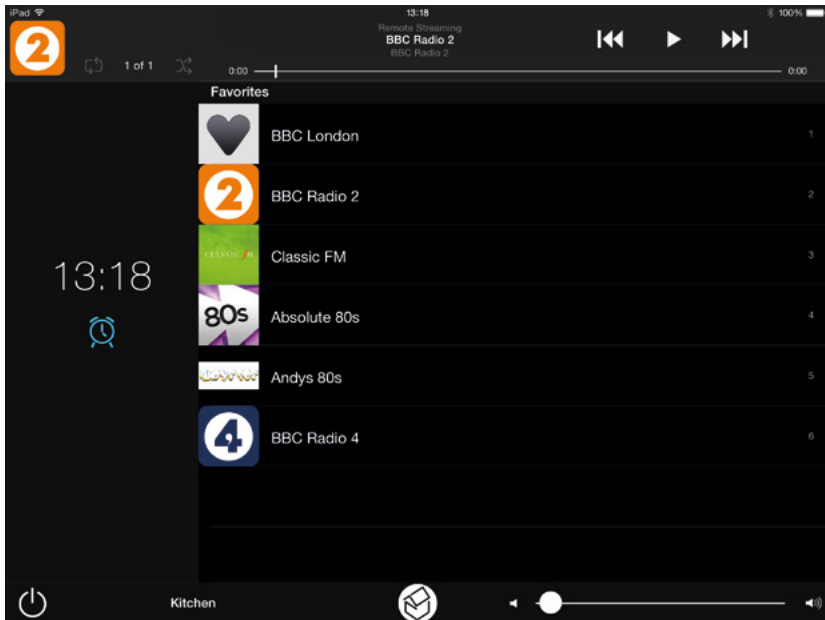
In order for the Lutron system to select a favourite in a zone, it must communicate with the server and also the NetAmp controlling the zone. To adjust the volume, the QS system need only send a command to the NetAmp.

Favourites can also be playlists of music as stored by the end user, in which case you may also consider adding in play, stop, pause, and skip commands as button functions.

Once the QS system has been configured to include the NetServer and NetAmp as 3rd party devices, and the commands to select favourites, sources and volume are added to button presses, the end user will be able to use Lutron QS keypads to select favourites and adjust the volume without the need to open up an App.

A HomeWorks QS project titled *S7 Control* is available to download from the Systemline 7 website downloads section. This already has a NetAmp and NetServer with the command sets and a keypad configured for control.

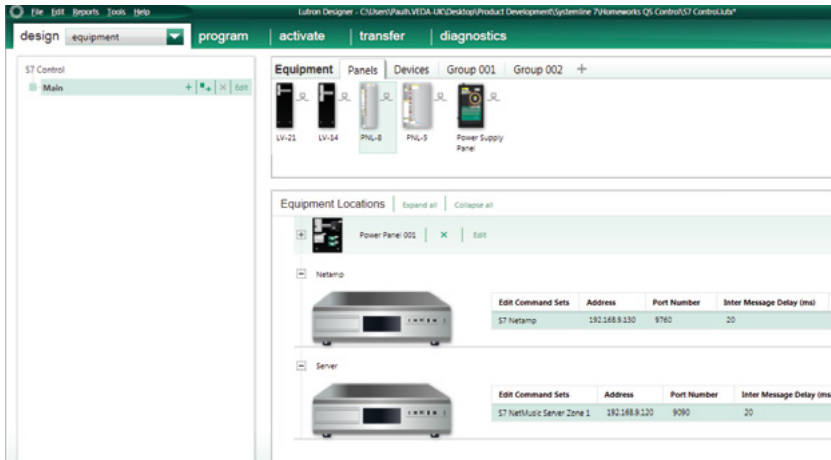## 2.0 Adding the NetServer and NetAmp as 3rd Party Devices

You should give all S7 devices fixed IP addresses to ensure consistent control from the QS system and make a note of these.

2.1 Open up the *Lutron Designer* software and your project, select *Design equipment* and ensure that you have *Control 3rd Party* as equipment in your toolbox.

2.2 Add two Control 3rd Party devices and name one *S7 NetAmp* and one *S7 NetServer* or other names of your choice. If you are controlling more than two zones then you will need to add more NetAmp devices.

2.3 Type in the IP address of the NetAmp and enter port number *9760* and *20* Inter Message Delay.

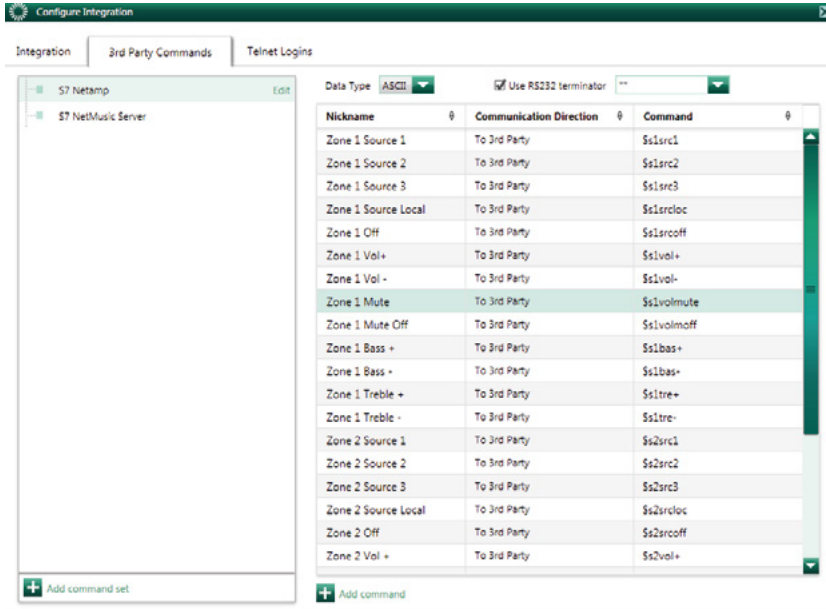2.4 Type in the IP address of the S7 NetSever and enter port number *9090* and *20* Inter Message Delay.

2.5 Add a command set for NetAmp and enter the commands for both zones 1 and 2, making sure you check the box *Use RS232 terminator* and select *<CR> <LF> (0D 0A)* and select *ASCII* data type. You can copy the commands from Appendix 1 at the end of this document.

2.6 Add a command set for the S7 NetServer for zone 1, each zone requires its own unique set of commands which includes the unique MAC address of the zone. This MAC address can be obtained from the NetAmp web page. Source 3A corresponds to zone A, source 3 corresponds to zone B. You can copy this address and edit the list of commands from Appendix 2. Make sure you tick the check box *Use RS232 terminator* and select *<CR> <LF> (0D 0A)* and select *ASCII* data type.
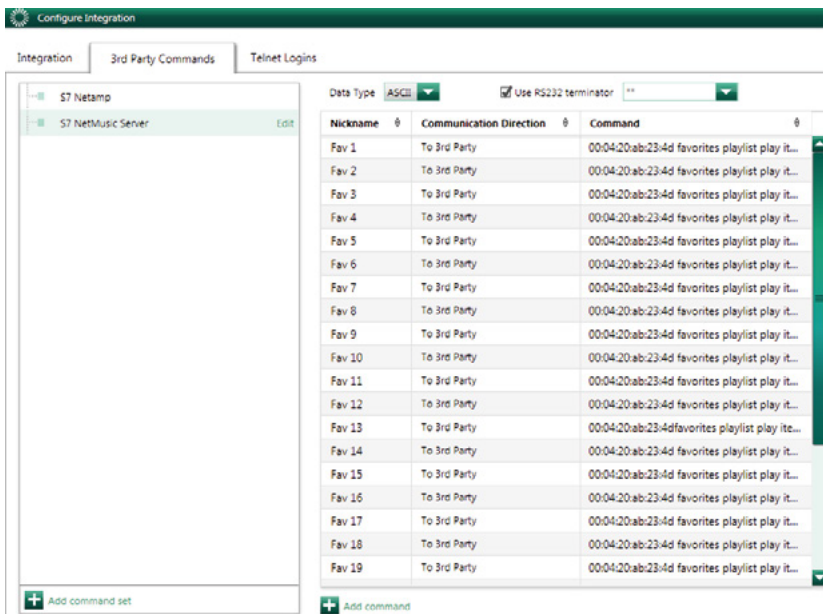
2.7 Navigate to *Program devices* and select the keypad to include audio control.

A button selecting a favourite will need to turn the NetAmp onto source 3 and also select the desired favourite. Add the two commands to the button as a normal single action button type.

Type		Item Description		Setting		Fade	Delay	
Control 3rd Party	⊙	Main ▸ Netamp		Zone 1 Source 3		-	-	
Control 3rd Party	⊙	Main ▸ Server		Fav 1		-	-	

Repeat this for other favourite buttons, always selecting source 3 and then the desired favourite command.

2.8 A button turning the zone off will also need two commands, one to turn off the NetAmp and one to stop the server.

Type		Item Description		Setting		Fade	Delay	
Control 3rd Party	⊙	Main ▸ Netamp		Zone 1 Off		-	-	
Control 3rd Party	⊙	Main ▸ Server		Standby		-	-	

2.9 Buttons to skip track or play/pause can be simple single commands to the server.

2.10 A button adjusting the volume should be configured to start an automatic sequence when pressed and stop the sequence when released. Firstly set up an automatic sequence for volume up and volume down.
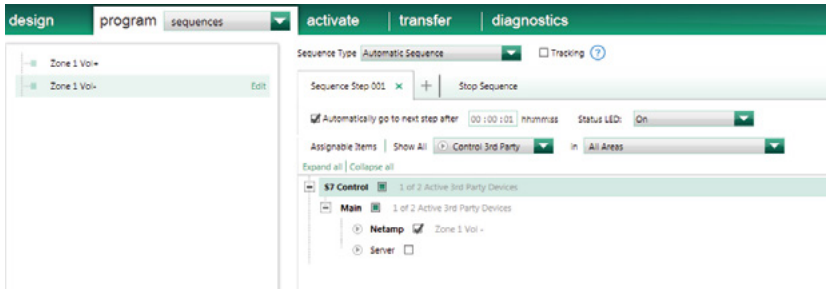
You should set up just one step with the volume command and select the box *Automatically go to the next step after* and set it at 1s. Uncheck *Tracking* and set up the S*top Sequence* without any commands, but remove the check for *Automatic stop sequence*.
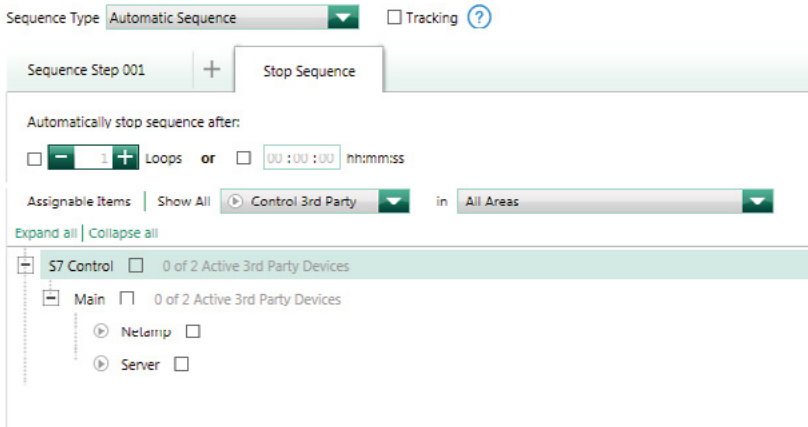
Set up the volume button as *Dual Action* type, starting the volume sequence on press, and stopping it on release.

Appendix 1- NetAmp Commands

NetAmp commands must be sent with a carriage return and line feed (0D 0A).

Action	Command
Zone 1 Source 1	$s1src1
Zone 1 Source 2	$s1src2
Zone 1 Source 3	$s1src3
Zone 1 Source Local	$s1srcloc
Zone 1 Off	$s1srcoff
Zone 1 Vol+	$s1vol+
Zone 1 Vol-	$s1vol-
Zone 1 Mute	$s1volmute
Zone 1 Mute Off	$s1volmoff
Zone 1 Bass +	$s1bas+
Zone 1 Bass -	$s1bas-
Zone 1 Treble +	$s1tre+
Zone 1 Treble -	$s1tre-
Zone 2 Source 1	$s2src1
Zone 2 Source 2	$s2src2
Zone 2 Source 3	$s2src3
Zone 2 Source Local	$s2srcloc
Zone 2 Off	$s2srcoff
Zone 2 Vol+	$s2vol+
Zone 2 Vol-	$s2vol-
Zone 2 Mute	$s2volmute
Zone 2 Mute Off	$s2volmoff
Zone 2 Bass +	$s2bas+
Zone 2 Bass -	$s2bas-
Zone 2 Treble +	$s2tre+
Zone 2 Treble -	$s2tre-

Appendix 2 - NetServer Commands

NetServer commands must be sent with a carriage return and line feed (0D 0A). You must replace the MAC address below with that specific to the zone you are controlling.

Action	Command
Fav 1	00:04:20:89:7e:75 favorites playlist play item_id:12341234.0
Fav 2	00:04:20:89:7e:75 favorites playlist play item_id:12341234.1
Fav 3	00:04:20:89:7e:75 favorites playlist play item_id:12341234.2
Fav 4	00:04:20:89:7e:75 favorites playlist play item_id:12341234.3
Fav 5	00:04:20:89:7e:75 favorites playlist play item_id:12341234.4
Fav 6	00:04:20:89:7e:75 favorites playlist play item_id:12341234.5
Fav 7	00:04:20:89:7e:75 favorites playlist play item_id:12341234.6
Fav 8	00:04:20:89:7e:75 favorites playlist play item_id:12341234.7
Fav 9	00:04:20:89:7e:75 favorites playlist play item_id:12341234.8
Fav 10	00:04:20:89:7e:75 favorites playlist play item_id:12341234.9
Fav 11	00:04:20:89:7e:75 favorites playlist play item_id:12341234.10
Fav 12	00:04:20:89:7e:75 favorites playlist play item_id:12341234.11
Fav 13	00:04:20:89:7e:75 favorites playlist play item_id:12341234.12
Fav 14	00:04:20:89:7e:75 favorites playlist play item_id:12341234.13
Fav 15	00:04:20:89:7e:75 favorites playlist play item_id:12341234.14
Fav 16	00:04:20:89:7e:75 favorites playlist play item_id:12341234.15
Fav 17	00:04:20:89:7e:75 favorites playlist play item_id:12341234.16
Fav 18	00:04:20:89:7e:75 favorites playlist play item_id:12341234.17
Fav 19	00:04:20:89:7e:75 favorites playlist play item_id:12341234.18
Fav 20	00:04:20:89:7e:75 favorites playlist play item_id:12341234.19
Play	00:04:20:89:7e:75 play
Stop	00:04:20:89:7e:75 stop
Pause	00:04:20:89:7e:75 pause
>|	00:04:20:89:7e:75 playlist index +1
|<	00:04:20:89:7e:75 playlist index -1
Standby	00:04:20:89:7e:75 power 0

Systemline

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