

Standard Avtron Control Network Configurations

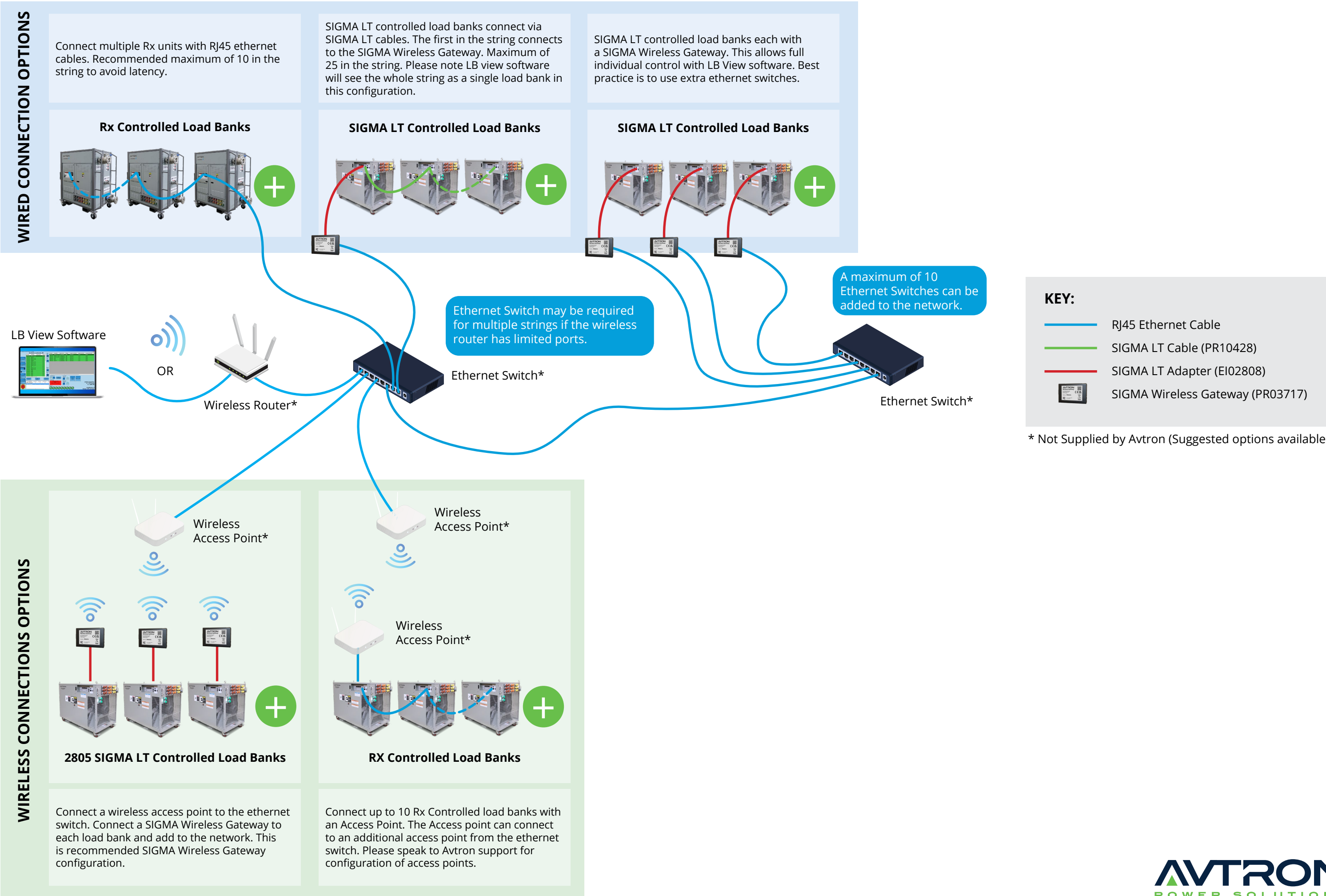
The diagram below describes some standard methods of creating networks with different controlled Avtron load banks. It is possible to mix configurations to create larger networks and control from our software or via Modbus. The corresponding pages provide some examples of mixing network types for different applications. Networking is very flexible so there may be additional options that are not covered - please reach out to the Avtron team for further information.

CABLE TYPES:			
	SIGMA 2 Adapter Cable (EI02807)		USB Interface Cable (PR00335)
	RJ45 Ethernet Cable		SIGMA 2 Cable (PR00409)
	SIGMA LT Cable (PR10428)		SIGMA LT Adapter Cable (EI02808)
	Gateway USB Lead (PR03262)		SIGMA Gateway IN Adapter (PR10462)
			SIGMA Gateway OUT Adapter (PR10466)

Configuration Name	Information	Setup Diagram
SIGMA LT Wired	- Maximum 25 load banks in the network. - Control with SIGMA LT Hand-held or SIGMA Unity software.	
SIGMA LT Wireless	- Maximum 25 load banks in the network. - SIGMA Wireless Gateway allows wireless control of all load banks in network. - Individual load bank control only available when using SIGMA Unity. LB view will see all load banks in network as a single load bank. - LB View can use a RJ45 cable to connect from the gateway to the laptop if required.	
SIGMA 2 Wired	- Maximum 14 load banks in the network. - USB interface is required to connect to SIGMA unity software.	
SIGMA 2 Wireless	- Maximum 14 load banks in the network - SIGMA Wireless Gateway counts as a load bank. - LB View software will see all of the load banks in the network as one combined load bank. SIGMA Unity allows individual control of each load bank.	
SIGMA LT and/or SIGMA 2 Wired	- This network allows 13 SIGMA 2 and 25 SIGMA LT load banks to be connected together into the SIGMA Gateway. From which then either the whole network can be controlled with a SIGMA 2 Hand-held or SIGMA Unity software. - Please note the SIGMA Gateway has multiple modes to meet a variety of configurations. - SIGMA Gateway adapters only required when both SIGMA 2 IN & OUT are in use.	
SIGMA LT and/or SIGMA 2 Wireless	- Each load bank has an individual SIGMA Wireless Gateway. - Both SIGMA Unity and LB View will see each load bank individually in the network. - This configuration can support 250+ load banks if setup correctly.	
RxMS Wired	- Max 10 load banks connected per string to reduce latency. - Ethernet Switches can be added to increase load banks connected. - This configuration can support 250+ load banks if setup correctly.	
RxMS Wireless	- Max 10 load banks connected per string to reduce latency. - Ethernet Switches can be added to increase load banks connected. - This configuration can support 250+ load banks if setup correctly.	

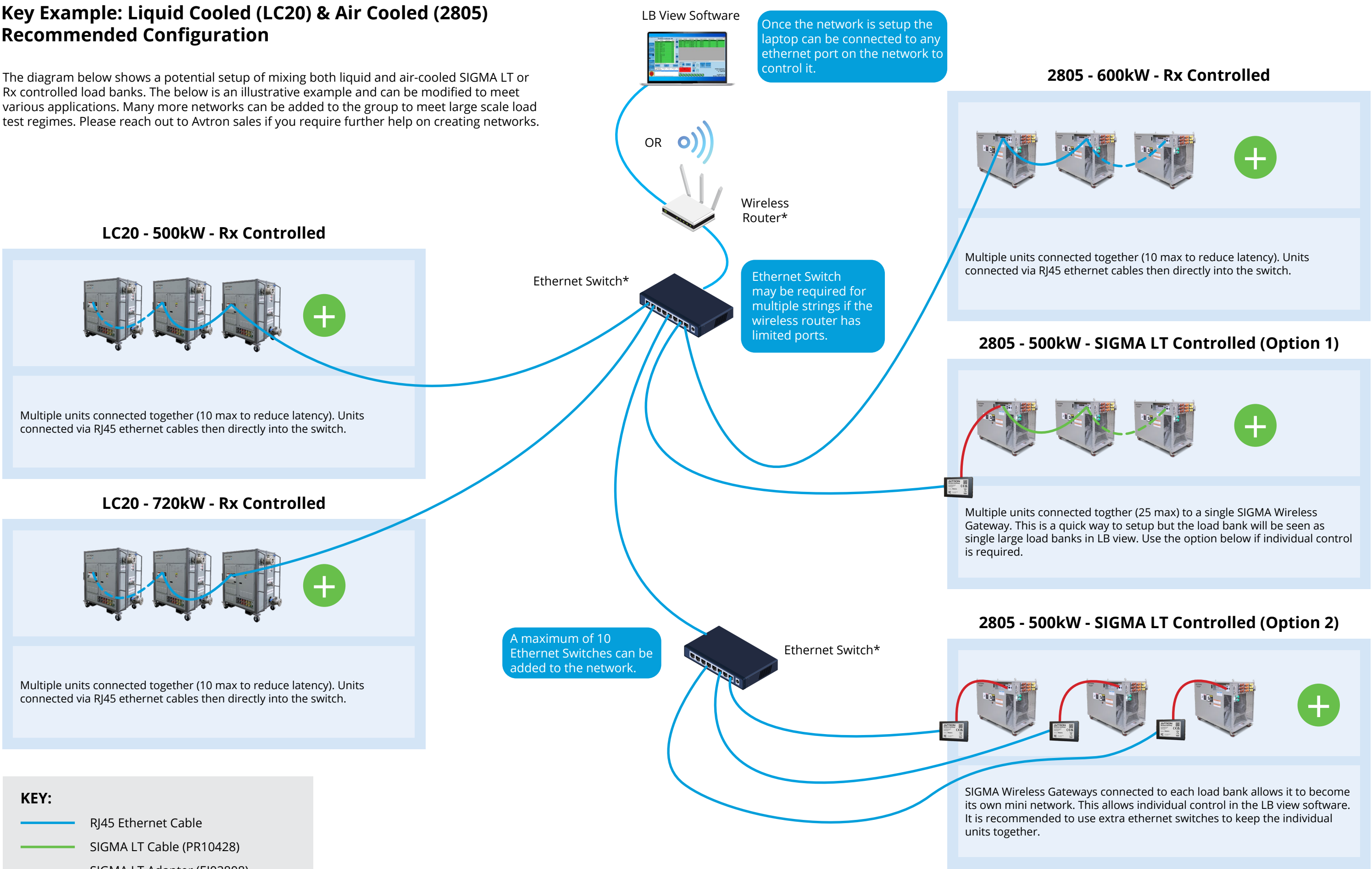
* Not Supplied by Avtron (Suggested options available)

Multiple Network Configuration Options (Americas)



Key Example: Liquid Cooled (LC20) & Air Cooled (2805) Recommended Configuration

The diagram below shows a potential setup of mixing both liquid and air-cooled SIGMA LT or Rx controlled load banks. The below is an illustrative example and can be modified to meet various applications. Many more networks can be added to the group to meet large scale load test regimes. Please reach out to Avtron sales if you require further help on creating networks.



* Not Supplied by Avtron (Suggested options available)

Multiple Network Configuration Options (Rest of World)

WIRED CONNECTIONS

Connect multiple Rx units with RJ45 ethernet cables. Recommended maximum of 15 in the string to avoid latency.



SIGMA LT controlled load banks connect via SIGMA LT cables. The first in the string connects to the SIGMA Wireless Gateway. Maximum of 25 in the string. Please note LB view software will see the whole string as a single load bank in this configuration.



SIGMA LT controlled load banks each with a SIGMA Wireless Gateway. This allows full individual control with LB View software. Best practice is to use extra ethernet switches.



LB View Software



OR

SIGMA Unity Software



Wireless Router*

Ethernet Switch*

Ethernet Switch may be required for multiple strings if the wireless router has limited ports.

A maximum of 10 Ethernet Switches can be added to the network.

Ethernet Switch*

WIRELESS CONNECTIONS



Wireless Access Point*



SIGMA LT Controlled Load Banks

Connect a wireless access point to the ethernet switch. Connect a SIGMA Wireless Gateway to each load bank and add to the network. This is recommended wireless gateway configuration.



Wireless Access Point*



SIGMA LT Controlled Load Banks

Connect a wireless access point to the ethernet switch. Connect a SIGMA Wireless Gateway to the first load bank in the string and then connect following units together. Please note LB view software will see the whole string as a single load bank in this configuration.

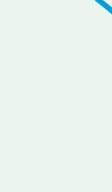


Wireless Access Point*



LC35 Liquid Cooled Load Banks (Rx Controlled)

Connect a wireless access point to the ethernet switch. Each LC35 requires a SIGMA Wireless Bridge for communication in the string.



Wireless Access Point*



Mixed LC35 & LT Load Banks

Connect a wireless access point to the ethernet switch. Both SIGMA Wireless Gateway and SIGMA Wireless Bridges can be added in the string for a mixed network.

IMPORTANT!

The diagrams on this page illustrate a range of load bank network connection configurations. Depending on the available load banks and the application type, certain options may be more suitable than others. It is important to discuss your specific requirements with your Avtron representative. Please note that there is no theoretical limit to the number of strings connected to the Ethernet switch, and the same string may be repeated multiple times if required. Wireless connections introduce additional considerations, so these options should also be reviewed with your Avtron representative. Avtron does not take responsibility for customer network design and it should be created by a network specialist suited for the environment.

KEY:

- SIGMA 2 Adapter Cable (EI02807)
- RJ45 Ethernet Cable
- SIGMA LT Cable (PR10428)
- SIGMA LT Adapter (EI02808)
- SIGMA Wireless Gateway (PR03717)
- SIGMA Wireless Bridge (PR04099)

* Not Supplied by Avtron (Suggested options available)