High Power Module Watt Budgeting Guide

IMPORTANT!

This document is intended as a guide to help you place **high power modules** appropriately for proper ventilation while staying within the overall power budget in an Avenue 3RU frame. Failure to observe these requirements could result in overheating of modules, compromised performance or system failure.

High Power Modules (over 19 watts)

Module	Watt Consumption
1425 4K/UHD Layering Engine	80 watts
1455 4K/UHD Protection Switch	52 watts
MV164 Multiviewer	80 watts
MV82 Multiviewer	42 watts
P9425 Avenue Layering Engine	38 watts
9480 Multiviewer (option to the 9430)	27 watts
9435-4CS	21 watts

Module Cooling

Important! Where you place high power modules in the Avenue 3RU frame impacts the frame's ability to cool them.

Place High Power Modules in Slots 6 through 10

When installing high power modules, it is essential for ventilation purposes that you place these modules only in slots 6 through 10.

Place the highest watt consuming module in slot 10 (on the far right side, next to the system control module and power supplies). Place the next highest watt consuming module in slot 9, the third highest watt consuming module in slot 8, and so forth, working from right to left.

Special Slot Requirements for MV164 Multiviewer

The MV164 Multiviewer module, requiring two slots, consumes more watts than any other module. It is essential to place this module in slots 9 and 10. If using a second MV164 Multiviewer module, place it in slots 7 and 8.

Run the Fan in "Full" Mode

The Avenue 3RU frame fan is located in the front door and has two settings: Auto and Full. When a frame contains any high power module the fan must be run in Full mode. To set the frame fan to Full do one of the following:

1. If the frame has a Touchscreen front panel, go to Configuration and set the fan to Full.

2. On the front edge of the 5030 System Control card, use the Menu Controls to set the fan to Full. For more details see the **5030/5035 Control Module Manual** available through our website:

    http://www.ensembledesigns.com/support/avenue-support/avenue-manuals

3. If the frame does not have a 5030 System Control module, the fan will always run on Full.

Power Budgeting Recommendation

Each power supply is able to deliver a maximum of 250 watts to power the fan, Touch Screen front door, system control module and up to 10 signal processing modules. We recommend that you budget no more than a maximum of 90% of the supply rating. 90% of 250 watts is 225 watts.

The general power budget for the Avenue 3RU frame divides those watts as follows:

Module	Watt Consumption
Fan	11 watts
Touch Screen	8 watts
5030 System Control Module	5 watts
Up to 10 Modules	Up to 200 watts
Total	224 watts 90% of 250 watts is 225 watts

Modules that Consume Less Than 6 Watts

If the frame contains high power modules, we recommend filling the remaining slots with modules that consume less than 6 watts of power:

Module	Watt Consumption

Distribution Amplifiers:
    5100   5150   9125
    5120   5155
    5125   7110
    5140   9110
	< 6 watts

Protection Switches
    5460
    7460
	< 6 watts

3RU Frame Requirements

Currently manufactured frames are equipped with a high wattage power supply(s) and a high airflow fan.
If you are installing high power modules in an older frame, make sure that you have:

- the current power supply, model number 5020 (part number 50005022)

- the current fan (manufactured by Y.S. TECH, DC24V, 0.52A)

- fan running in "full" mode (required for all Multiviewers, recommended for high power modules)

- software version 2.2.14 or later installed on the 5030 System Control Module
  (if you have a 5030 installed in the frame)

For details about how to determine your System Control Module software version, or to update its software, see the **5030/5035 Control Module Manual** available through our website:

http://www.ensembledesigns.com/support/avenue-support/avenue-manuals