



## APPLICATION NOTES FOR USE WITH SPELLMAN HIGH VOLTAGE POWER SUPPLIES

Application Note Number: AN-16

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### Parallel Capability of the ST Series

The standard ST unit is a single, 6U tall, 12kW rated high voltage power supply. When higher power levels are required, the ST Series is designed to offer additional power capability by adding chassis in parallel to create a Primary/Secondary configuration providing up to and beyond 100kW's of high voltage output power.

The Primary chassis is the point of connection for customer interfacing; this multi chassis system effectively functions as a single power supply. The Primary unit retains the full featured front panel, while Secondary unit(s) have a Blank Front Panel.

This factory configured Primary/Secondary arrangement is required because multiple independent voltage sources cannot be connected in parallel. As such there are three fundamental types of ST units due to their specific functionality:

#### Standard Chassis

The standard ST unit is the single, 6U tall, 12kW rated chassis as detailed in the ST data sheet. This single chassis unit has a full feature front panel, has no ability to function in a parallel capability and is limited to 12kW's of output power.

#### Primary Chassis

A Primary unit outwardly appears to be very similar to a Standard unit but is quite different as it is configured (hardware and firmware) to function as the controlling entity of a Primary/Secondary arrangement. The Primary chassis must be factory setup and tested to control a particular known arrangement of Secondary units. A Primary unit is designed to operate with the full complement of Secondary units as per the original factory configuration. It is possible to operate the Primary unit with less than the full number of Secondary units or even by itself, but power capability, programming and feedback scale factors will be affected.

#### Secondary Chassis

A Secondary unit can usually be recognized due to its blank front design. A Secondary unit cannot function by itself as it is factory hardware and firmware setup to operate as part of a preconfigured Primary/Secondary system.



Primary/Secondary Chassis Front View



Primary/Secondary Chassis Rear View