DAQ Power Supply Needs

- **HV**
  - 600 V/\sim 1\text{mA} range
  - 0.1-1 \text{\mu A} Current Sensing
  - Over Voltage/Current Protection
  - \sim 10-20 channels needed ((10 Vienna Cold Box or 10 Burn-in)/6 ARC)

- **LV**
  - No idea on DAQ/Hybrid Power Needs
  - 10 channels worth of hybrid power

- **Only CAEN SY127, SY527 are currently supported in DAQ software package**
  - SY 1527 and SY 2527(??) hopefully in near future
CAEN SY127HS

- CAMAC/VME/PC controllable
- Mainframe ($9195)
- Only HV (10 Slots)
  - A327P Module ($2535 each, $2470 for 4+)
    - +1 kV/10 mA (4 channels/module)
    - 5 µA current resolution
    - Over-voltage but no over-current protection
  - A326P module ($2510 each, $2445 for 4+)
    - 2.5 kV/5 mA (4 channels/module)
    - 2 µA current resolution
    - Over-voltage but no over-current protection
- Non-floating supplies
CAEN SY527HS

- CAMAC/VME/PC controllable
- Mainframe ($12965)
- Both LV/HV (10 Slots)
  - A567 Optocoupler Board ($830)
    - Separates CAENnet, NIM, TTL from module grounds
- LV
  - A516 Module ($3725)
    - +/-12 V/ 1.5 A (8 channels/module)
    - 10 mA current resolution
    - Programmable over-current/over-voltage protection
    - Floating Supply
• HV
  ➔ A733 module ($3270)
  – +2.5 kV / 3mA (16 channels/module)
  – 1 µA current resolution
    Programmable over-current/over-voltage protection
  – Floating Supply
CAEN SY1527HS

- CAMAC/VME/PC controllable
  - Not yet supported by DAQ software
- Mainframe ($11750)
- Both LV/HV (16 Slots)
- LV
  - A1517 Module ($5060 each/ $4920 for 4+ modules)
    - +/-7 V/ 4 A (6 channels/module)
    - 2 mA current resolution
      - Programmable over-current/over-voltage protection
    - Floating power supply
CAEN SY1527HS

- HV
  - A1735P ($3515)
    - +1.5kV/7 mA (12 channels/module)
    - 0.5 µA current resolution
    - Programmable over-current/over-voltage protection
    - Floating Power Supply
Conclusions

- CAEN SY 127 and SY527 only multi-channel HV systems currently supported by DAQ software
  - SY 127 HV modules do not have over-current protection or floating HV channels
- CAEN SY 527 supports LV modules easing centralization of power controls
  - Similar to CAEN SY 1527 and SY 2527 proposed for final PS system
  - HV range large enough to IV scan to breakdown
- 12-13 week delivery time (> $20,000)
  - Need to order as soon as possible to have any time to commission voltage control systems before large scale production