High Voltage Power Supplies

for industry
for Magnetrons, Laser, X Ray, Tube-PS, Ion-Implantation, Ion-pumps, Capacitor Load, E-beam-systems, Electrostatics, electron beam processing etc.

for Labs
for PMTs, APDs, channeltrons, Ion traps, SI Strips, SI Pixel etc.

a new supplier for High Voltage Power Supplies

founded in 1995

in Rossendorf / Dresden

Germany
History:

1995 until 1997: **Standard Laboratory Product Family**

in

- NIM,
- CAMAC,
- VME,
- 3 U /
- 6 U Euroformat

the most comprehensive High Voltage Modular Power Supply Family for Lab. applications in Physics

A total redesign of popular and well known units in SMT, all remote controllable, with

- RS 232,
- CAN,
- CAMAC-BUS,
- VME-BUS,
- IEE 488.2
Milestones:

1995: the first HV-System for 180 PMTs for Crystall Ball in MPI Heidelberg

1996: the first 8 channel floating module dedicated to SI-Counter for the HERA B Vertex Detector

1997: the first 16 channel module dedicated to the use of APD Arrays

1997: the first High Voltage integrated Base for PMTs with CAN – interface

1996 until 1999: Industrial - Products:

DC to DC Converters for industrial applications
From small ‘bricks‘ for low power 600mW up to 19“ units for medium power 3KW, voltage 0...30KV.

1999: New Developments for Physics based on CAN Control and cost effective costs per channel.
PMT AMANDA prototyping and series start

2000: 32 channel system for Calorimeter in ATLAS
2*8 channel module for APD applications in CMS and ALICE
16 channel for SI applications in ATLAS.
PMT HESS prototyping and series

2001: PMT industrial customised products, e.g. Perkin Elmer,
PMT ANTARES prototyping and series

2002: Mobile cable testing equipment

2003: prototyping for another CERN LHC experiment
Customer Reference List:

MPI Heidelberg       INFN Frascati       CERN ATLAS
DESY                  INFN Milano       CERN CMS
KVI Groningen         INFN Milano       CERN ROSE
ETH Zürich            INFN Torino       CERN
ISOLDE
DESY Zeuthen          Telettra Trieste  PSI Villigen
BESSY II              INFN Torino       ESRF Grenoble
MPI München           Univ. Brussels    LAPP Annecy
Max Born Inst.        CERN
Hahn Meitner Inst.    ILL
FZ Jülich             Orsay
FZ Karlsruhe           Saclay
IPP Garching          etc.
FZ Rossendorf         Argonne APS       TRIUMF
FHI Fraunhofer Inst.  BNL
GSF                   Michigan State Univ.
ZAE Bayern            FERMILAB
EMBL HH Outstation    NIST etc.

Techn. Univ. and Univ.
Dresden               SRRC Taiwan
München               etc.
Münster               Dubna
Freiburg              Protvina
Frankfurt             etc.
Bonn
Hamburg               etc.
Berlin
etc.
Remarks:

NIM: NHQxxx: still very popular.

There are several different product lines in NIM

The Precision    The High Precision    Low Cost

RS 232    100pA Resolution
CAN !!!!!!
1 channel or
2 channels

CAMAC: CHQxxx: people like it in a running system

All types in NIM are also available in CAMAC

VME: VHQxxx: the solution for pure VME environments

3 U: EHQxxx: if one channel is enough, 3 U is system compatible

6 U: 8 channels
16 channels
32 channels
Modules dedicated to the customer’s specifications!
customized, optimized.
MHQxxx: small ‘bricks’ made for industrial applications and research

PHQxxx: High Voltage integrated on the PMT Base, a small, but complete system with CAN interface optional

SHQxx: a Bench Top PS and an Instrument. We match a standard version to your needs and it is also a High Precision Test Instrument.

APS to XPS: beginning from very small boxes to 19 ″ medium power, the new generation of better High Voltage
The Members of our High Voltage Family

Integrated High Voltage Power Supplies

and

Active Voltage Dividers for

Photo Multiplier Tubes

**PHQxxx:**

The advantages:

**Power Consumption:** 10 to 20 times less power consumption than a conventional resistance divider.

**Ripple & Noise:** Ripple and noise 5 to 10 times less compared to a Standard Cockroft Walton

**Signal to Noise Ratio SNR:** Signal to Noise Ratio about 2 to 3 times better

**CAN:** CAN Interface. Complete control, i.e. full system capabilities

**Electro Magnetic Interference EMI:** proofed high and low Frequency Interference

**Power Dissipation:** less Power dissipation, i.e. Temperature balance after switch on much faster
Cabling:  
HV - cabling and HV- connector – Cost are dropped, because the handling and mounting of cabling assemblies is much more easier.

Linearity:  
Proofed dynamic linearity:
1.) Prototyping
2.) Final customer approval

Distortion:  
Sinus Generator Patent leads to results of low harmonic distortion

Result:  
Cost effective
Easy to upgrate
System capabilities

! Thank you! L. Christians