FROM DARKNESS TO LIGHT
SCINTILLATION PRODUCTS
TLD PHOSPHORS & SYSTEMS
HOME HEALTHCARE SUPPLIES
1983-APRIL SPIN OFF Harshaw Crystal & Electronic Products
1983-BASED ON THE 4-R PRINCIPLE:
   (1) REPAIR, (2) REFURBISH, (3) RE-MANUFACTURE
   (4) CALL REXON REGARDLESS OF AGE OR BRAND
1983-LOCATION GARAGE IN DOYLESTOWN, OHIO
1984-LEASED FACILITIES-ALL COMMERCIAL SCINTILLATORS
   NEW & REPAIR SERVICE OF ALL BRANDS OF MANUFACTURE
   PRODUCT LINES SIMILAR TO HARSNAW & BICRON-
   ALL (3) LOCATED IN GREATER CLEVELAND OHIO REGION
1993-COMPANY OWNED FACILITY IN PREMIUM CORPORATE
   LOCATION IN BEACHWOOD OHIO
1999/2000- ACQUISITION OF TLD PHOSPHOR/INSTRUMENT
   LINE OF VICTOREEN AND TELEDYNE BROWN (ISOTOPES)
2008- HOME HEALTHCARE PRODUCTS, LLC LAUNCHED
INORGANIC SCINTILLATORS
PLASTIC SCINTILLATORS
CUSTOMER DRIVEN DESIGNS
PROBES, SONDES & SYSTEMS
Inorganic Scintillators

- Halides-NaI(Tl), CsI(Tl), CsI(Na), CsI, Lil(Eu)
- Chalcogenides-CaF$_2$(Eu), BaF$_2$
- Oxides-BGO, CdWO$_4$, YAP, YSO, GSO, LSO
- Research Scintillators- LuAP, PbWO, LaBr(Ce) and Others
- ZnS(Ag) and Other Neutron Sensitive Mixtures
  Such as
- ZnS mixed with $^6$Li and / or $^{10}$B
- Contact the Factory for still novel Scintillators
STANDARD SCINTILLATION PROBES

Specialized Custom Probes / Sensors

Volume Production
FIDLER G-5

- Optimized for 17.44 kev X-Rays
- 2 mm Crystal Thickness
- AlphaBeta/ Gamma Versions
- Contact Factory for Options

Collapsible Carrying Handle Fits ALL FIDLER G5-Adjustable for Varying Personnel Height

Customer Removable Protective Cap- Stainless Steel Mesh-Screen 79% Transmission Std.

For Choice of other Mesh Sizes and Patterns- Contact Factory—RUGGEDIZE ANY G5 FOR HARSH FIELD ENVIRONMENTS
Small LiI(Eu) Crystal Coupled to a 10 Meter Light Guide for Detection of Water Presence Underground to 10 Meter Depth
Crystal Size- 5 mm Dia. X 15 mm
Field Portable System

**LMT-1000 CM**

Carrying kit for field measurements
Victoreen® Survey Meter
Low profile probe for Small Bore Holes
10 meter Light Guide
Power Base- Battery Operated
Compton Shields  Simple & Complex Shapes

From Standard to Partial Annulus
Plastic Scintillators

Complex Shapes
Spherical Detectors
Container Monitoring
For Nuclear Shine
Homeland Security
Most Economical Scintillator / cc
Sizes 0.1 mm to 100 mm Thick
Widths to 1 Meter, Length to 4500 mm
Power Base and Preamplifiers

MODEL RB-200 INTEGRATED PMT BASE

AVAILABLE IN SEVERAL VERSIONS:
8-STAGE DYNODE OR 10-STAGE DYNODE CONFIGURATION

FEATURES:
- COMPACT, EASY-TO-USE SOLUTION TO YOUR PMT INTERFACE REQUIREMENTS
- LOW RIPPLE, ADJUSTABLE PMT BIAS SUPPLY
- ADJUSTABLE TO 2000 VDC
- LOW-NOISE, CHARGE SENSITIVE, FET INPUT PREAMPLIFIER
- LCD DISPLAY
- MCA INTERFACE FOR REMOTE CONTROL AND MONITORING

A- LED READOUT
B- POWER JACK
C- MCA CARD CONNECTOR
D- POTENTIOMETER
E- SIGNAL CONNECTOR
NIM & OTHER ELECTRONIC PRODUCTS

MODEL NH-85 NIM BIN AND POWER SUPPLY

Model NA-2022 Spectroscopy Amplifier

Model MCA-ASA-100 PCI CARD

NB-25 SERIES PREAMPLIFIER

MODEL RAD7 CONTINUOUS RADON DAUGHTER ANALYZER
Power Supplies for PMTS and General Use

FEATURES
Compact, adjustable, Bench-Top High Voltage Supply Up to 2000VDC, STD-(+). Optional (-) Very low ripple <0.005% P-P
Perfect for photomultiplier applications
Arc, overload and short circuit protected

RB-200 POWER BASE VOLTAGE DIVIDER, PREAMP AND HV SUPPLY—ALL-IN-ONE SAME AS PS-10

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ripple (full load, P-P)</td>
<td>&lt;0.005%</td>
</tr>
<tr>
<td>Stability</td>
<td>&lt;0.005%/hr</td>
</tr>
<tr>
<td>Dimensions (L x W x H)</td>
<td>7.5&quot; x 8&quot; x 3&quot;</td>
</tr>
<tr>
<td></td>
<td>19cm x 20.3cm x 7.6cm</td>
</tr>
</tbody>
</table>
BAM-20 Blood Activity Monitor
System for PET Applications

BAM-20 BLOOD ACTIVITY MONITOR- PC CONTROLLED, USB CONNECTIVITY

CONNECTOR PLATE
ALUMINUM
#10974

ENCLOSURE
ALUMINUM
#30240

OH/F COPPER
FOR LOW BKG.
SHIELD

END CAP
ALUMINUM

13.0

HV BOARD

PROCESSOR BOARD

PRE-AMP BOARD

SHIELDING #10979
TUNGSTEN Ø2.0 x 1.0 THK.
(THREADED FOR EASY REMOVAL OF DETECTOR)

SHIELDING
TUNGSTEN Ø3.5 x 3.85 THK.

BAM-20 Blood Activity Monitor System for PET Applications

1.0

NOTE: A "H" SHOWN FOR EASY REMOVAL OF DETECTOR.

TUBING FOR BLOOD FLOW ACTIVITY MEASUREMENT
MEDICAL GRADE- TYPICALLY SUPPLIED BY USER.

PRE-AMP BOARD

BGO 1.0 PX 1.0 / 1.0-IV

BGO Ø1 X 1

20639 WITH 2" THICK TUNGSTEN
#11036 STANDARD

BGO 1.0 PX 1.0 / 1.0-IV

20639 WITH 2" THICK TUNGSTEN
#11036 STANDARD

SHIELDING TUNGSTEN Ø3.5 x 2.0 THK.

CARRYING HANDLE

OPT...
Rexon is Committed to….  
- Ongoing supply of TLD Products and Service Pioneered IN USA by Teledyne & Victoreen  
- Repair and Service of Harshaw and other brands whenever possible  
- Continuous improvements in TLD materials and processing  
- Improvement of instrumentation and software applications --21st Century.  
- Quality & Cost effective Customer Driven Solutions
TLD 100  LiF(Mg,Ti)
TLD 600  $^6$LiF(Mg,Ti)
TLD 700  $^7$LiF(Mg,Ti)

TLD 1000  LiF(Mg,Cu,P)
TLD 6000  $^6$LiF(Mg,Cu,P)
TLD 7000  $^7$LiF(Mg,Cu,P)

TLD 200  CaF$_2$(Dy)
TLD 300  CaF$_2$(Tm)
TLD 500  Al$_2$O$_3$(C)
TLD 800  Li$_2$B$_4$O$_7$(Mn)
TLD 900  CaSO$_4$(Dy)
TLD 2000  BeO
TEF Line of TLD Phosphors
PTFE/TLD Powder Blend

Teflon TLD Phosphors
- Standard Disks, Pellets, Chips
- Ultra thin 50 µm, low energy Disks
- Rods: long, mini and micro
- Multi-Geometry section
- <2000 limited to 25%-30% Phosphor content
- Rexon improvement to 50%.
  Possible to mix 70% but loss of Teflon flexibility

TEF 100  LiF(Mg,Ti)
TEF 600  \(^6\)LiF(Mg,Ti)
TEF 700  \(^7\)LiF(Mg,Ti)
TEF 1000 LiF(Mg,Cu,P)
TEF 6000 \(^6\)LiF(Mg,Cu,P)
TEF 7000 \(^7\)LiF(Mg,Cu,P)
TEF 200  CaF\(_2\)(Dy)
TEF 300  CaF\(_2\)(Tm)
TEF 500  Al\(_2\)O\(_3\)(C)
TEF 800  Li\(_2\)B\(_4\)O\(_7\)(Mn)
TEF 900  CaSO\(_4\)(Dy)
TEF 2000 BeO
TEF & TLD Cards, Dosimeters & Accessories

PB-6
PB-300-AS
PB-300-DS
PB-4
WITH 8-ELEMENT & 4 ELEMENT "H" TYPE CARDS

ALL CARDS OR DOSIMETER CARRIERS ARE OVEN ANNEABLE

PB-3 & 5 BADGE CASE

KAPTON SANDWICH EXTREMITY BARCODED DOSIMETERS

X-RAY FILTERS
ALUMINUM & COPPER SHOWN HERE. OTHERS ARE Cd, Pb, Sn, PTFE
TEF & TLD Cards, Dosimeters & Accessories

VELCRO EXTREMITY BADGES WITH 2-POUCH
7 mg/cm² PLASTIC ENTRANCE WINDOW

SOLD AS HERMETICALLY SEALED DOUBLETS CUT IN TWO JUST BEFORE USE

XLV STYLE FOR EXTRA LENGTH VELCRO FOR WRIST OR CUT TO SIZE FOR FINGER

UNIVERSAL AND SUPERIOR EXTREMITY DOSIMETER BADGE CASE FOR ALL COMMERCIALLY USED PAST AND PRESENT DOSIMETERS IF IT DOES NOT FIT YOUR DOSIMETER, CONTACT FACTORY FOR CUSTOM MODIFICATION
TLD Instrument Line-Designed in the 21st Century

Model 320 Features
- Utilizes proven technology from 7300, 310 and 300 Teledyne Readers
- Provides fully automated processing capabilities
- User friendly Windows software INCLUDED
- Barcode reader, Vibrator, Balance Software
- Comprehensive operator controls via software
- Embedded Microprocessor, Just connect to PC
- $600^\circ$C Capability INCLUDED-Not an Option
Planchet configurations

- Unique planchets for holding various TLD materials
- Four stacking balls allow uniform stacking in magazines
- High temp $400^\circ$C+ Ceramic barcode simplifies dosimeter tracking
Model UL-320 Feeder System
TLD Reader For Individual Dosimeter Elements

Planchet Feeder Mechanics

- Processor controlled sequencing
- Stepper motor controls all feeder positioning
- Optical sensor detects planchet positioned in drawer.
- Load magazine holds up to 200 planchets
- Eject magazine contains processed planchets
Model 330 Highest Volume
Automated TLD Reader For
8-Element Cards

Model 330 System
- High reliability, fully automated card reader
- High throughput, processes 1700 cards without operator intervention
- Low maintenance cost
- User defined tolerances
- Automatic system verification
Application Software

- Easy-to-use Windows® interface Compatible with 95, 98, 98SE, ME, 2000, NT, XP and VISTA
- Provides complete process control
- Color code Load and Eject magazines
- Improved magazine keying to prevent mixing Load and Eject magazines
- Programmable temperature profile window
  - allows control of temperature and time
  - provides control of integration start and stop
Features

- High performance embedded microcontroller
- Programmable HV supply for a wide range of gain control
- IR temperature sensor
- Light reference source for real-time PMT drift correction
- Processor control, closed loop heater system
- High performance, low dark current PMT
- Low noise integrating amplifier
- High reliability barcode scanner
- N2 sensor and flow rate indicator. Auto shut-off
- System reset switch
- Power up diagnostics
Diagnostic Software

- Easy-to-use Windows interface
- Provides low-level troubleshooting capabilities
- Allows activation of individual functions outside of the automatic sequence, such as initiating a barcode scan
## Diagnostic Commands

Double Click On each Option to Select Diagnostic Test

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HVDATA:</td>
<td>This command changes the photo-multiplier high voltage. Increasing High Voltage increases the system optical gain.</td>
</tr>
<tr>
<td>Lamp Test</td>
<td></td>
</tr>
<tr>
<td>Control Heater Temperature</td>
<td></td>
</tr>
<tr>
<td>Measure Heater Temperature</td>
<td></td>
</tr>
<tr>
<td>Measure Dark Current</td>
<td></td>
</tr>
<tr>
<td>Measure Light Reference</td>
<td></td>
</tr>
<tr>
<td>Start Optical Check</td>
<td></td>
</tr>
<tr>
<td>Set High Voltage</td>
<td></td>
</tr>
<tr>
<td>Set High Light Ref. Limit</td>
<td></td>
</tr>
<tr>
<td>Set Low Light Ref. Limit</td>
<td></td>
</tr>
<tr>
<td>Set Dark Current Noise Limit</td>
<td></td>
</tr>
<tr>
<td>Set Slide Position</td>
<td></td>
</tr>
<tr>
<td>Set/Read Feeder Alignment</td>
<td></td>
</tr>
<tr>
<td>Set N2 Gas requirement</td>
<td></td>
</tr>
<tr>
<td>Reader Input Port Check</td>
<td></td>
</tr>
<tr>
<td>Feeder Home Sequence</td>
<td></td>
</tr>
<tr>
<td>Start Vibrator</td>
<td></td>
</tr>
<tr>
<td>Reader Serial Number</td>
<td></td>
</tr>
<tr>
<td>Read A/D Channels</td>
<td></td>
</tr>
<tr>
<td>Side Home Sequence</td>
<td></td>
</tr>
<tr>
<td>N2 Valve: OFF</td>
<td></td>
</tr>
<tr>
<td>N2 Valve: ON</td>
<td></td>
</tr>
<tr>
<td>Light Ref. Off</td>
<td></td>
</tr>
<tr>
<td>Light Ref. On</td>
<td></td>
</tr>
<tr>
<td>Automatic Test (AD)</td>
<td></td>
</tr>
<tr>
<td>Start Bar Code Scan</td>
<td></td>
</tr>
<tr>
<td>Read High Voltage</td>
<td></td>
</tr>
<tr>
<td>Set Feeder Ext. Position</td>
<td></td>
</tr>
<tr>
<td>Set Feeder Home Position</td>
<td></td>
</tr>
<tr>
<td>Set Feeder Position</td>
<td></td>
</tr>
</tbody>
</table>

## Communication Monitor

Bytes Received: 0

Close | Erase Display

CTS (wP):
Objectives of Customer Evaluation

- Suggestions for improvements on any system elements
- Evaluation of batch processing features
- Software ease-of-use
- Requirements for additional functionality

We firmly believe that customer input is key to successful product development and greatly appreciate the opportunity to participate in this evaluation and to receive your valuable feedback.