



Catalog of Products and Repair Services

Updated: February 3, 2012

All prices subject to change without notice

RBD Instruments specializes in the repair, servicing, and upgrading of PHI™ (Physical Electronics, a former division of Perkin-Elmer™) Auger, XPS and SIMS systems and components. For the following products and repair services, most model numbers are PHI units. If you have a non-PHI system type, please contact us for a quotation or a referral to another qualified service organization. See our website for more information about [Field Service](#) and [Service Plans](#).

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There are many parts and services that are not in our catalog. Please call if you require something that is not listed.



Consumable Items

Ion Gauges and Filaments

Description	Model Number	RBD Part #	Price
Redesigned Tungsten (W) Filament for DIG III (8 mil)	6057671	6057671V2RE	\$62.00
Tungsten (W) Filament	6057671	6057671RE	\$62.00
Iridium (Ir) Filament	6057676	6057676RE	\$68.00
Ion Gauge with W filament	6057673	6057673RE	\$357.00
Ion Gauge with Ir Filament	6057672	6057672RE	\$357.00
Ion Gauge Rebuild with W filament	6057673	6057673RP	\$150.00
Ion Gauge Rebuild with Ir filament	6057672	6057672RP	\$170.00
Thermocouple Gauge Tube for most PHI Systems	DV-6M	DST06MRE	\$65.00
Matching Set: (2) Thermocouple Gauge Tube for most PHI Systems	DV-6M	DST06MSRE	\$167.00
A Thoria Coated Iridium Hairpin Filament with a Temporary Wire Support for all Nude Bayard Alpert Gauges	RFA-2A	RFA2ARE	\$44.00
A Thoria Coated Iridium Hairpin Filament used on Nude Broadrange Gauges	RFA-580I	RFA580IRE	\$48.00

Ion Gun Filaments and Grids

Description	Model Number	RBD Part #	Price
Tungsten filament used in 04-161/162 2kV Ion Gun	D71-029	04161FRE	\$37.00
Tungsten filament used in RBD 04-172 & Varian 981-2043 Ion Gun	981-2044	04172FRE	\$137.00
Tungsten filament used in 04-191/192 5kV Ion Gun	B75025	04191FRP	\$37.00
04-303 Grid for self-install		04303GRDRE	\$126.00
04-165 Ionizer Assembly		04165IAPR	\$565.00
04-165 Dual filament, Tungsten	04-165	FI-04-065-C	\$62.00
04-165 Ionizer Grid for Self Install	04-165	SCN-04-165-MD15-A	\$28.00



Ion Pump Elements and TSPs

Description	Model Number	RBD Part #	Price
Rebuilt Ion Pump Element (with exchange of old element)		DIF0250RBRE	\$523.00/ea
New Ion Pump Element		NEWDIF0250RE	\$583.00/ea
New Ion Pump Element Rebuild Kit – Includes Band & Nuts		IPRKRE	\$71.00/ea
TSP Filaments	TSP-12-PE	TSP12PEFILRE	\$25.00/ea
TSP Filament Package (12 pk)	TSP-12-PE	TSP12PEPKGRE	\$255.00
TSP Assembly (with exchange, includes 4 new filaments)		TSPASWEXRE	\$205.00
TSP Assembly (no exchange, includes 4 new filaments)		TSPASNEXRE	\$399.00

X-ray Source Parts

For x-ray source filaments, see *Filament Rebuilding Service* on pages 7-8.

Description	Model Number	RBD Part #	Price
5/16” Teflon tubing for x-ray source		XRAYPARTS	\$14.00/foot
Al x-ray source window	602508	602508PR	\$121.00
X-ray source retainer ring	602504	602504RE	\$44.00
X-ray source collimator	606468	606468RE	\$223.00
Old style 04-500/548 Filament (no exchange)	602501	04-5XXOLDPR	\$174.00
New style 04-500/548 Filament (no exchange)	622275	622275RE	\$750.00
04-500/548 Football ceramic	602229	602229PR	\$1,255.00
04-500/548 Notched ceramic		XRSNCPR	\$37.00



Electron Multipliers

Description	Model Number	RBD Part #	Price
Channeltron used with 10-150 and 10-155 CMA	616530	4839RE	\$1,375.00
Channeltron used with these PHI analyzers: 15-110, 25-110 CMAs.	61525X	4731GRE	\$2,100.00
Channeltron used with these PHI analyzers: 15-255, 25-120, 25-120A, 25-255, 25-260, 25-270 CMAs; 06-600 SIMS	602914	4831GRE	\$1,130.00
Channeltron used with the PHI 10-360 Single channel detector	608144	4821GRE	Please call
Channel Plates used with the PHI 10-360 PSD	609206	10360PSDRE	Please call
Channel Plates used with 10-360 MCD detectors	619091	10360MCDIGRE	Please call

Electron Gun Filaments

Description	Model Number	RBD Part #	Price
LaB ₆ for 25-110 (590) analyzer. Exchange price.	D76129	LAB6590RE	\$1,945.00
LaB ₆ for 25-120, 25-120A (595) analyzer. Exchange price.	C79037	LAB6595RE	\$1,945.00
LaB ₆ for 25-120, 25-120A (600 or 660) analyzer. Exchange price.	C79037A	LAB6600RE	\$1,945.00
LaB ₆ for 25-110A, 25-130 (610) analyzer. Exchange price.		LAB6610RE	\$1,945.00
Tungsten filament used with 10-150, 10-155, 15-110, and 15-255G analyzers.	C75-010	C75010RP	\$285.00 (Exchange)
NEW Tungsten Filament		C75-010RE	\$455.00
Refurbished Yttria Coated Filament used in Perkin Elmer or PHI 10-110, 10-150, 10-155, 15-255G, 15-110, 25-260 and 25-270 Analyzers	C75-010	C75-010-YRF	\$335.00 (Exchange)
NEW Yttria Coated Filament		C75010-YRE	\$505.00



Ar/O₂/Xe Gas Bottles and Refill

Larger size bottle refills are available – please call for details.

A hazardous materials fee of \$65 will be charged for all gas bottle shipments.

International customers:

25cc bottles cannot be shipped to locations outside of the USA. If you have a 25cc bottle you would like to refill, you may send it to RBD for a credit towards the purchase of a 50cc bottle. Please contact sales@rbdinstruments.com for details.

Description	Model Number	RBD Part #	Price
25cc Argon Refill	Grade: 99.999+%	Argon25RP	\$75.00
25cc Oxygen Refill	Grade: 99.994+%	Oxygen25RP	\$75.00
25cc Xenon Refill	Grade: 99.994+%	Xenon25RP	\$150.00
50cc Argon Refill	Grade: 99.999+%	Argon50RP	\$100.00
50cc Oxygen Refill	Grade: 99.994+%	Oxygen50RP	\$100.00
50cc Xenon Refill	Grade: 99.994+%	Xenon50RP	\$175.00
25cc Bottle w/ O ₂ or Ar 1.0” diameter, 6.2” long	(call for availability)	Bottle25ccRE	\$650.00
25cc Bottle w/ Xe 1.0” diameter, 6.2” long	(call for availability)	XeBottle25ccRE	\$750.00
50cc Bottle w/ O ₂ or Ar 1.5” diameter, 7.0” long		Bottle50ccRE	\$900.00
50cc Bottle w/ Xe 1.5” diameter, 7.0” long		XeBottle50ccRE	\$795.00
Larger Bottles than those listed here		Call for Details	Call for Price

Solenoid Valves

Description	Model Number	RBD Part #	Price
V2 24V Solenoid/Auto Valve Control	179088	T062E1-3-10-35RE	\$185.00
V1 24V Solenoid/Auto Valve Control	179087	T062-4E2RE	\$315.00
V4,V3,V5,V6 24V Solenoid/Auto Valve Control	179086	T062-4E1RE	\$235.00



Gaskets

(for use with indicated flange O.D.)

Description	Model Number	RBD Part #	Price 10/PKG
1.33" OD mini CF flange	268-0750	133ODGRE	\$25.00
2 ¾" OD flange	268-1500	275ODGRE	\$24.00
3.375" OD sublimator flange	268-2000	3375ODGRE	\$19.00
4.5" OD flange	268-2500	45ODGRE	\$39.00
Large I.D. 2 ¾" OD	603700	275XLIDGRE	\$34.00
6" OD flange	268-4000	6ODRE	\$55.50
6 ¾" OD flange SIMSII	1001986	675ODGRE	\$43.00
8" OD flange	268-6000	8ODGRE	\$78.50
10" OD flange	268-8000	10ODGRE	\$101.00
12.995" Copper wire gasket (TNBX Gasket)	268-9129	12995CWGRE	\$65.00
XPS Hemisphere Gasket	608141	608141RE	\$500.00
XPS LS Stage Gasket	613506	613506RE	\$325.00
XPS Monochromator Gasket	618550	618550RE	\$350.00
XPS LS Bonnet Gasket	A041186	A041186RE	\$125.00
Rebuild Kit for High Vacuum Apparatus 122-0150	(1-ea V75029RE & V75033RE)	1220150GKRE	\$40.00/set
2.75" Indium Torrvac / Innotec Gate Valve Gasket	V1 for Phi 600,660, 5000 to 5500 XPS ...	IN-GVRE	\$100.00 ea

Sample Mounting

Description	Model Number	RBD Part #	Price
Model 190 (flat)	606266	606266RE	\$75.00
Model 191 (recessed)	606142	606142RE	\$95.00
Sample Clips (Cu/Be)		SampleClipPR	\$3.00/ea

Sputtering Standards

Description	Model Number	RBD Part #	Price
1000Å Ta ₂ O ₅ (1" x 6")		TA2O5RE	\$175.00
1000Å SiO ₂ (3" wafer)		SIO2RE	\$150.00

Phosphor Screens

Description	Model Number	RBD Part #	Price
0.5" diameter screen on 0.7" square, UHV compatible		PHOSSCR0.7RE	\$290.00
1.5" diameter screen on 2.0" square, UHV compatible	(great for "LS" XPS instruments)	PHOSSCR2.0RE	\$355.00
3.0" x 3.0" Phosphor Target, UHV compatible	PFG Phosphor sheet to align X-ray Beam	PHOST3.0RE	\$150.00



Sample Intro Parts

Description	Model Number	RBD Part #	Price
Sample Intro Seal Set, 2 seals (For Intro Model 15-720)	A78168	99907LSRE	\$100.00
Drive Chain (For Intro Model 15-720)	B79035	15720SICRE	\$50.00
Threaded Brass Insert (For Intro Model 15-720)	B79047	B79047RE	\$70.00
Sample Intro Spacer Set, (2) ½ in. spacers (For Intro Model 04-725)	611484	99908SPRE	\$85.00
Sample Intro Seal Set, (2) ½ in. seals (For Intro Model 04-725)	620025	99909SRE	\$60.00
Cu/Be Intro Switch Clip (For Intro Model 04-725)	613174	613174RE	\$75.00
Sample Intro Spacer Set, (2) 3/8 in. spacers (For Old-style 04-725)	601488	601488RE	\$50.00
Sample Intro Seal Set, (2) 3/8 in. seals (For Old-style 04-725)	601551	601551RE	\$30.00

Duoplasmatron Parts

Description	Model Number	RBD Part #	Price
Aperture condenser blanking	627542	627542RE	\$150.00
Aperture condenser	627540	627540RE	\$60.00
Aperture plate	622213	622213RE	\$300.00
Beam stop (new type)	630377	630377RE	\$90.00
DP Anode aperture	621748	621748RE	\$155.00
DP Intermediate	610049	610049RE	\$480.00
DP Cathode	610043	610043RE	\$390.00
Extractor lens ceramic	629828	629828RE	\$560.00
Extractor trap	641778	641778RE	\$160.00
Source trap – housing	628050	628050RE	\$310.00
Source trap – aperture	628051	628051RE	\$105.00

Air Shock Diaphragms

Description	Model Number	RBD Part #	Price
Rubber Diaphragm for most PHI vacuum consoles		2000RE	\$160.00



Water Chiller Parts

Description	Model Number	RBD Part #	Price
Deionizer Cartridge (10")	620914	620914RE	\$125.00
Deionizer Cartridge (12")	603569	603569RE	\$180.00
Particle Filter (1µm, 10")	620913	620913RE	\$95.00
Flow Switch (1.5gpm) 120VAC	--	FLOWSWITCHRE	\$390.00
Voltage Converter Kit for 120VAC Flow Switch		FSCCKRE	\$50.00
Water Pump for 16-020 Chiller, Stainless Steel, 100 gpm, 170 psi	C01604X	C01604XRE	\$380.00
Water Pump for 16-020 Chiller, Brass, 100 gpm, 99 psi	CB1304XH	CB1304XHRE	Please Call

Hard to Find Parts

Integrated Circuits, Relays, Transformers, and more

Description	Model Number	RBD Part #	Price
TIL-109 Optoisolators	TIL-109	TIL109RE	\$75.00
9331 DAC Replacement	9331-16-6	9331166PR	\$225.00
1205 DAC Replacement	HDH 1205	DAC1205RE	\$225.00
18-030 Time Delay Relay	330-120V-180	473-036RE	\$111.00
20-115 Deflection Transformer	275056	275056RE	\$485.00
32-095 HV Switch	602988	602988RE	\$32.00
Boostivac flexible shaft	1000848	TSPSHAFTRE	\$40.00
04-085 Ceramic	615838	615838PR	\$260.00
GE Vacuum Tube	GE8068	GE6068RE	\$95.00
20-085 Beam Voltage Switch	273055	273055RE	\$49.00
USB Camera for System Microscope (can be used with existing PHI system microscope)		SYSMCRE	\$700.00
System Microscope with lenses and mounting hardware		SYSMICRE	\$2,975.00
V1 Gate Valve for 600, 660 and all 5000 Series Systems (Not recommended for 560 and 590)		VIVALVERE	\$1,900.00
Dynode for 660	C79104X	C79104XRE	\$800.00
600/660 Objective Coil	606289	606289RE	\$7,200.00
04-303/11-065 HV Cable (replacement)	04-303 (cable)	11065HVPR	\$875.00



Description	Model Number	RBD Part #	Price
28V Power Supply for 11-065		28VPSRE	\$195.00
DIG III Set Point Battery	DIG III (battery)	BA3.6RE	\$18.75
18-085 Filament Current Module (Out of Stock as of 04/08/09)		18085FMRE	\$900.00
18-085 HV Module		18085HVMRE	\$675.00
45V Batter for Bias Box and 9103 Picoammeter		BA45VRE	\$36.25
T2 Transformer for 11-010	602817	602817RE	\$520.00
T2 Transformer for 11-065	278016	278016RE	\$475.00
DGCIV Ion Gauge Cable Bakeable		DGCIVCableBRE	\$250.00
DGCIV Ion Gauge Cable Non- Bakeable		DGCIVCableRE	\$185.00
Fuse for 9103 Picoammeter	1000521	9103FuseRE	\$5.00
Lamp, 28v, for EMO Shutoff Box on PHI Systems	CM85	612655RE	\$1.50

Filament Rebuilding Service

Electron Gun Filament Rebuilds

Filaments are rebuilt and pre-burned in. Guaranteed to meet or exceed original specifications.

Description	Model Number	RBD Part #	Repair Labor
Alignment of Tungsten filament used in 10-155, 15-255G, 15-110 and 25-260, 25-270	C75-010	C75010ALNRP	\$60.00
Tungsten filament used in 10-155, 15-255G, 15-110 and 25-260, 25-270 (Exchange only)	C75-010	C75010RP	\$185.00
Tungsten filament used in 04-090 and 04-085	04-090/04-085	04090FRP	\$160.00
UTI Filament (old style set screw type)		UTIFILOSRE	\$86.00
UTI Filament Rebuild (new style welded filaments)		UTIFILNSRP	\$175.00



Ion Gun Filament Rebuilds

Filaments are rebuilt and pre-burned in. Guaranteed to meet or exceed original specifications. Prices below are for exchange only. All ionizer rebuilds include a pre burn-in. The 04-303 ionizers below are compatible with the 04-303A ion gun.

Description	Model Number	RBD Part #	Repair Labor
04-300 ionizer assembly complete rebuild (w/ exchange)		04300RERP	\$595.00
04-300 ionizer filament (ONLY) repair		04300FRP	\$300.00
04-303 ionizer assembly complete rebuild (w/ exchange)	A79084	04303RERP	\$495.00
04-303 filament only (w/ exchange)	A79084	04303FRP	\$160.00
06-350 ionizer assembly complete rebuild (w/ exchange)		06350RERP	\$495.00

X-Ray Source Filament Rebuilds

Filaments are rebuilt and pre-burned in. Guaranteed to meet or exceed original specifications. All x-ray source filament rebuilds require an exchange *except* for the “old style” 04-500/548 filaments.

Description	Model Number	RBD Part #	Repair Labor
04-151/-152 Filament (w/ exchange)	B78078	04151XRSTFRP	\$495.00



Repair Services

Optics Repair

The amounts shown are for repair only. Additional charges are indicated where applicable. *Please note that RBD will only warranty optics (analyzers, ion guns, etc.) if they are shipped Next Day, 2nd Day or 3rd Day Air. Due to frequent damage, optics shipped Ground will not be warrantied.*

Analyzer Repair

Prices are for repair labor only. Charges for parts are extra and vary greatly depending on the type and condition of the analyzer. Many analyzers also require a [new multiplier](#) which is an additional charge to the repair labor below.

Description	Model Number	RBD Part #	Repair Labor
Thin Film Analyzer	10-150	10150RP	\$1,225.00
Thin Film Analyzer	10-155	10155RP	\$1,225.00
Thin Film Analyzer	10-234G	10234GRP	\$1,225.00
Scanning Auger	15-110A	15110ARP	\$1,840.00
Small Double Pass	15-255G	15255GRP	\$1,840.00
590 SAM	25-110	25110RP	\$1,840.00
595 SAM	25-120	25120RP	\$1,840.00
600 SAM	25-120A	25120ARP	\$1,840.00
550 XPS/AES (on-site only)	25-250	25250RP	\$2,450.00
560 XPS/AES (on-site only)	25-260	25260RP	\$2,450.00
570 XPS/AES (on-site only)	25-270	25270RP	\$2,450.00



Ion Gun Repair

Prices include labor and all filaments and grids. Ceramics, if required, are extra.

Description	Model Number	RBD Part #	Repair Labor
2kV ion gun	04-161	04161RP	\$875.00
2kV ion gun	04-162	04162RP	\$875.00
5kV ion gun	04-191	04191RP	\$1,750.00
5kV ion gun	04-192	04192RP	\$1,750.00
4kV Differential Ion gun	04-300	04300RPIG	\$3,675.00
5kV Differential Ion gun	04-303	04303RPIG	\$3,375.00
Duoplasmatron Ion Gun	06-650	06650RP	\$2,975.00

Specimen Stage Repair

Prices are for repair labor only. Parts are extra and vary greatly depending on the type and condition of the specimen stage.

Description	Model Number	RBD Part #	Repair Labor
Manipulator	10-540	10540RP	\$700.00
XPS stage	10-320	10320RP	\$1,575.00
XPS stage	10-322	10322RP	\$1,575.00
XPS stage	10-323	10323RP	\$1,575.00
AES stage	15-600	15600RP	\$1,050.00
AES stage	15-610	15610RP	\$1,050.00
560/595 stage	15-620	15620RP	\$1,050.00
600/610/650/660 stage	15-630	15630RP	\$1,400.00

X-ray Source Repair

Prices are for repair labor only; parts are extra and vary greatly depending on the type and condition of the X-ray source. Please drain the water out of your x-ray source before sending it to RBD for repair.

Description	Model Number	RBD Part #	Repair Labor
10kV single anode source w/ exchange	04-151	04151XRSRP	\$700.00
15kV dual anode source w/ exchange	04-500	04500XRSRP	\$1,490.00
15kV dual anode source w/ exchange	04-548	04548XRSRP	\$1,490.00



X-ray Anode Re-Coating

Most anodes can be re-coated, saving up to 50% when compared with the price of buying a new anode. Performance is guaranteed to meet original specifications.

Description	Model Number	RBD Part #	Re-Coating Price
10kV source anode	04-151	04151ANODWEXCRE	Call for Pricing
15kV dual anode	04-500	04500ANODWEXRE	\$1,500.00
15kV dual anode	04-548	04548ANODWEXRE	\$1,500.00

Vacuum Pump and Controller Repair

Turbo Pump Controller Repair

RBD Instruments repairs most controller types for \$750.00, including parts. Please contact RBD for a quotation on your controller.

Mechanical/Roughing Pump Repair, Exchange and Purchase

For pumps not listed below, please contact RBD for a quotation.

Description	Model Number	RBD Part #	Price
3.5 cfm Rotary Vane Vacuum Pump with RBD PCU-1	RVP 3.5	RVP3.5RE	\$1,785.00
Balzers/Pfeiffer – Duo 1.5 repair	Duo 1.5	DUO15RP	\$1,070.00
Balzers/Pfeiffer – Duo 1.5A repair	Duo 1.5A	DUO15ARP	\$1,070.00
Balzers/Pfeiffer – Duo 2.5 repair	Duo 2.5	DUO2.5RP	\$1,070.00
Balzers/Pfeiffer – new Duo 2.5 for exchange Duo 1.5	Duo 2.5	DUO2.5RE	\$2,400.00
Balzers/Pfeiffer – new Duo 2.5	Duo 2.5	DUO2.5NRE	\$2,500.00
New Oil Mist Filter		995612RE	\$115.00
Oil for mechanical pump, 16 oz.		PumpOilRE	\$15.00

Turbo Pump Repair

For turbo-molecular pump repair, please contact RBD for pricing info.



Electronics Repair

The amounts shown are for repair only. Additional charges are indicated where applicable.

Analyzer Control Repair

Prices are for repair labor only. Parts are extra and vary depending on the type and condition of the analyzer control, but typically are less than \$100.00.

Description	Model Number	RBD Part #	Repair Labor
Auger Analyzer Control	11-500A	11500ARP	\$1,050.00
Balzers Quad. Control	18-600	18600RP	\$1,750.00
Balzers RF Generator	Balzers RF Gen	RFGENRP	\$2,100.00
AES/XPS Analyzer Control	20-805	20805RP	\$875.00
Digital AES/XPS Control	20-810	20810RP	\$1,400.00
SIMSII Control	32-055	32055RP	\$1,400.00
Digital AES Analyzer Control	32-150	32150RP	\$875.00
Digital AES Analyzer Control	72-150	72150RP	\$875.00
Analyzer Control	11-055	11055RP	\$1,225.00
XPS Analyzer Control	80-360	80360RP	\$1,750.00
XPS Analyzer Control	80-365	80365RP	\$1,750.00

Electron Gun Control Repair

Prices are for repair labor only. Parts are extra and vary depending on the type and condition of the electron gun control, but typically are less than \$100.00.

Description	Model Number	RBD Part #	Repair Labor
5kV Electron gun control	11-010	11010RP	\$1,400.00
5kV LEED Control	11-020	11020RP	\$875.00
10kV Electron gun control	06-190	06190RP	\$875.00
10kV Electron gun control	11-045	11045RP	\$600.00
10kV Digital EGC	18-080	18080RP	\$1,400.00
10kV Digital EGC	18-085	18085RP	\$1,400.00
10kV Digital EGC	20-320	20320RP	\$1,750.00
10kV Analog EGC	20-320A	20320ARP	\$1,750.00
10kV Analog EGC	20-325A	20325ARP	\$1,750.00
10kV Digital EGC	20-327	20327RP	\$1,750.00
10kV HEED Control	20-330	20330RP	\$1,750.00
30kV Digital EGC	20-610	20610RP	\$1,975.00
595 System EGC	20-620	20620RP	\$1,400.00
600 System EGC	20-620A	20620ARP	\$1,400.00
660 System EGC	20-622	20622RP	\$1,400.00



Electron Multiplier Supply Repair

Prices are for repair labor only. Parts are extra and vary depending on the type and condition of the electron multiplier supply, but typically are less than \$100.00.

Description	Model Number	RBD Part #	Repair Labor
Analog multiplier supply	20-075	20075RP	\$615.00
Digital multiplier supply	32-100	32100RP	\$875.00
Digital multiplier supply	72-100	72100RP	\$1,050.00

Ion Gun Control Repair

Prices are for repair labor only. Parts are extra and vary depending on the type and condition of the ion gun control, but typically are less than \$100.00.

Description	Model Number	RBD Part #	Repair Labor
04-303 5kV ion gun control	11-065	11065RP	\$1,225.00
04-300 5kV ion gun control	11-067	11067RP	\$1,050.00
Ion gun scan control	11-069	11069RP	\$1,050.00
06-350 5kV ion gun control	11-085	11085RP	\$1,575.00
04-161/2 2kV ion gun control	20-005	20005RP	\$875.00
04-161/2 2kV ion gun control	20-045	20045RP	\$875.00
04-191 5kV ion gun control	20-115	20115RP	\$1,050.00
DP gun control	20-520	20520RP	\$1,050.00
Analog DP gun control	20-520A	20520ARP	\$1,050.00
DP source control	20-530	20530RP	\$1,050.00
DP Cesium source control	20-540	20540RP	\$1,050.00
04-300 5kV ion gun control	77-067	77067RP	\$1,400.00

System Interface Repair

Prices are for repair labor only. Parts are extra and vary depending on the type and condition of the unit, but typically are less than \$100.00.

Description	Model Number	RBD Part #	Repair Labor
PC Interface Board	PC137A	137RP	\$1,050.00
PC Interface Unit (Exchange Only)	RBD147	147RP	\$1,250.00



V/F Pre-Amplifier Repair

Prices are for repair labor only. Parts are extra and vary depending on the type and condition of the V/F pre-amp, but typically are less than \$100.00.

Description	Model Number	RBD Part #	Repair Labor
V/F Pre-amp, 100 kHz freq.	96	96RP	\$875.00
V/F Pre-amp, 1 MHz freq.	96A	96ARP	\$875.00
V/F Pre-amp, 1 MHz freq.	96B	96BRP	\$875.00
SED pre-amp	97	97SEDRP	\$1,050.00
V/F Pre-amp, 4 MHz freq.	V/F-4	VF4RP	\$700.00
V/F converter, TV video	21-V	21VRP	\$350.00
V/F converter, Lock-in Rec.	21-L	21LRP	\$350.00
PAR 1120 Amplifier/Discriminator Repair and Calibration Includes Repair Labor, Parts, Calibration and NIST-Traceable Calibration Certificate	1120	1120RP	\$385.00
PAR 1120 Amplifier/Discriminator Calibration Only Includes Calibration and NIST-Traceable Calibration Certificate	1120	1120CAL	\$175.00

Miscellaneous Electronics Repair

Description	Model Number	RBD Part #	Repair Labor
Power Interlock	18-030	18030RP	\$525.00
Picoammeter	9103	9103RP	\$350.00
10kV Power supply	18-040	18040RP	\$1,750.00
Signal Processor	20-150	20150RP	\$1,400.00
Auto Valve control	AVC	AVCRP	\$1275.00
AVC Hockey Puck Replacement – standard	AVC	AVCHPRE	\$550.00
AVC Puck Replacement with digital readout – RBD install	AVC	AVCMODRE	\$600.00
AVC Puck Replacement with digital readout – self install	AVC	AVCMODSRE	\$400.00
AVC Hockey Puck Potentiometer Modification	AVC	AVCTCRE	\$100.00
Boostivac	Boostivac	BoostivacRP	\$790.00
Digitel 100 Ion Pump Control	Digitel 100	Digitel100RP	\$790.00
Digitel 00 Ion Pump Control	Digitel 500	Digitel500RP	\$790.00
Scan control power supply	11-155	11155RP	\$525.00
X-ray Source control	20-095	20095RP	\$1,750.00



Catalog of Products and Services

Description	Model Number	RBD Part #	Repair Labor
Signal processor	20-250	20250RP	\$1,400.00
X-ray Source control	32-095	32095RP	\$875.00
X-ray Source control	32-096	32-096RP	\$1,400.00
Scanning system control	20-070	20070RP	\$1,050.00
Deflection amplifier	32-070	32070RP	\$700.00
Stigmator control	32-075	32075RP	\$875.00
DASH Interface Board	74-500	74500RP	\$1050.00
“DIG” Repair	DGC III	DIGIIRP	\$750.00
Card Rack Power Supply		OEMRP	\$875.00
Card Rack Power Supply Brd		OEMSBRP	\$525.00

Other Repairs & Loaners

For repair of electronic and optic units not listed in this catalog, RBD repairs units on a time plus materials basis. Our factory repair rate is \$175.00 per hour. Additionally, RBD may be able to send you a loaner unit while your unit is in for repair. You may also rent many units by the week. Loaner and rental units are subject to availability.

Description	Model Number	RBD Part #	Rate
Factory Repair Service	Not applicable	LaborRP	\$175.00/hour
Loaner with repair	All	LoanerRP	\$175/unit
Rental Unit	All	RentalRP	\$175/week



System Upgrades

RBD Instruments provides the leading PC upgrade for PHI systems worldwide. Based on our popular [AugerScan 3](#) and [AugerMap 2](#) programs, RBD upgrades offer seamless integration of Windows based system control and data transformation. To download a demo copy of our software, please go to our web site at www.rbdinstruments.com or contact us by phone at 541.330.0723

The following cross-reference table provides information about the systems supported, a brief description of the upgrade, the RBD part number, and the components included. Also provided is the name of the data sheet that contains more information about the upgrade.

System Upgrade Cross-Reference

System Compatibility	Items Included	RBD Part Numbers	Applicable Data Sheets
Generic PC upgrade for most PHI and other mfg. component systems. Examples: TFA, 10-155, 3017, 15-255G (Other mfg. include: Varian, Omicron)	RBD 147 System Interface, AugerScan, cable kits, installation instructions, 2 hours telephone and/or WebEx installation support	TFA Scan Scan 3017 Scan 540	Scan I AugerScan 3
Scanning Auger upgrade for the following PHI systems: 545 550 560 570 590 analog 610 4100 4200	RBD 147 System Interface, 21V Preamp, PCMAPII, AugerScan, AugerMap, cable kits, 2 hours telephone and/or WebEx installation support. Note: Customer-supplied PC requires one PCI slot Optional: Installation and PC with one PCI Installation by RBD personnel is recommended	ScanMap 545 ScanMap 590a ScanMap 610 ScanMap 550 ScanMap 560 ScanMap 570 ScanMap 4100 ScanMap 4300	ScanMap I PCMAPII AugerScan 3 AugerMap 2



Catalog of Products and Services

System Compatibility	Items Included	RBD Part Numbers	Applicable Data Sheets
Scanning Auger upgrade for the following PHI systems: 590 595 600	RBD 110 Scanning Interface Unit, RBD 147 System Interface, 21V Preamp, PCMAPII, AugerScan, AugerMap, cable kits, 2 hours telephone and/or WebEx installation support. Note: Customer-supplied PC requires one PCI slot Optional: Installation and PC with one PCI Installation by RBD personnel is recommended	ScanMap 590 ScanMap 595 ScanMap 600	ScanMap I PCMAPII Model 110 AugerScan 3 AugerMap 2
Scanning upgrade for the following PHI systems: 650 660 4300	RBD 147 Interface Unit, 660 Interface Card, 21V Preamp, AugerScan, AugerMap, cable kits, installation instructions, 2 hours telephone and/or WebEx installation support. Note: Customer-supplied PC requires one PCI slot Optional: Installation and PC with one PCI Installation by RBD personnel is recommended	ScanMap 650 ScanMap 660 ScanMap 4300	Scan Map II AugerScan 3 AugerMap 2
Windows Software upgrades for the following PHI systems: 3057 5100 5300 5400 and 5400LS 5500 and 5500LS 5600 and 5600LS 5700 and 5700LS	RBD 147 System Interface, AugerScan XPS Option, cable kits, installation instructions, 2 hours telephone and/or WebEx installation support. *Note: 550, 560 and 570 upgrades can be purchased with PCMAPII card as "ScanMap" upgrades.	XPS Scan 550* XPS Scan 560* XPS Scan 570* XPS Scan 3057 XPS Scan 5000 XPS Scan 5100 XPS Scan 5300 XPS Scan 5400 XPS Scan 5500 XPS Scan 5600 XPS Scan 5700	XPS Scan AugerScan 3 CasaXPS (optional)
Scanning Auger upgrade for the following PHI systems: 5600 5700	AugerMap software, 79-170 interface card, cable kit Requires XPS Scan 5600 or 5700 Upgrade	AES Option for XPS 5600 and 5700 systems	Scan Map II AugerMap 2



Catalog of Products and Services

System Compatibility	Items Included	RBD Part Numbers	Applicable Data Sheets
SIMS upgrade for the following PHI systems: 6100 6300 6600	RBD 147 System Interface, AugerScan SIMS Option, CasaXPS with SIMS support, cable kits, installation instructions, 2 hours telephone and/or WebEx installation support	SIMS Scan 6100 SIMS Scan 6300 SIMS Scan 6600	SIMS Scan AugerScan 3 CasaXPS
Systems that have a PC137	RBD 147 Interface Unit Cable kit included with a PC137 Exchange	PC137 to RBD147 Upgrade	n/a
Systems that have the RBD 147 Interface Unit	Scan Control Board for TV and AES imaging, line scans, elemental maps, and selected point and area scans	PCMAPII	PCMAPII
PC-controlled System Requires: PCMAPII, AugerMap, additional PCI slot. Windows 2000, XP, or Vista only.	Allows for viewing Direct Imaging on a second monitor using one PC (monitor not included). Requires: PCMAPII, AugerMap, additional PCI slot. Windows 2000, XP, or Vista only.	Dual Monitor Option	PCMAPII