

1 abrasive blasters  
2 abrasives  
5 AC line/load reactors  
15 AC power conditioners  
16 AC power monitors  
3 accelerator repair services  
3247 accelerators, also see ion implanters  
4 accelerometers  
12 acoustic analysis systems  
13 acoustic noise barriers  
6 acoustical calibrators  
2257 acoustical enclosures  
7 acoustical noise generators  
8 acoustical signal digitizers  
9 acoustical signal generators  
10 acoustical transducers  
11 acoustical transducers, underwater  
14 acousto-optic crystals  
17 activated carbon systems and services  
18 actuators  
19 adapters, between connector types  
3362 adhesion testers  
20 adhesives  
21 adhesives, electrically conductive  
23 adhesives, high thermal conductivity  
22 adhesives, high-temperature  
24 adhesives, low-temperature  
25 adhesives, transparent  
26 adhesives, vacuum-compatible  
27 aerogels  
3595 aerosol collectors  
3439 air dryers  
2258 air samplers  
28 alkali halides, single-crystal  
29 alkali metal dispensers  
30 alloys, high-temperature  
32 alloys, memory  
33 alloys, specialty  
34 alloys, specialty, foil  
35 alloys, specialty, tube  
36 alloys, specialty, wire  
38 alpha sources, calibrated  
39 alpha sources, encapsulated  
40 alpha spectrometers  
37 alpha-particle counting systems  
41 alpha-spectroscopy modules, NIM  
43 alumina insulators  
44 alumina plate and rod  
45 alumina tubing  
46 aluminum nitride ceramics  
47 aluminum welding, vacuum grade  
48 ammeters, AC

3248 ammeters, also see clamp-on current meters; picoammeters  
49 ammeters, DC, analog  
50 ammeters, DC, digital  
52 amplifier/discriminators  
53 amplifier/discriminators, NIM  
3249 amplifiers, also see individual types; preamplifiers  
54 amplifiers, CAMAC  
3363 amplifiers, CATV  
55 amplifiers, DC-coupled  
56 amplifiers, differential  
57 amplifiers, high-voltage  
58 amplifiers, instrumentation  
59 amplifiers, isolation  
60 amplifiers, lock-in  
61 amplifiers, microwave  
3440 amplifiers, optical fiber  
3441 amplifiers, optical wave guide  
62 amplifiers, power, audio frequency  
63 amplifiers, power, microwave  
64 amplifiers, power, radio frequency  
65 amplifiers, radio frequency pulse  
3442 amplifiers, strain gauge  
66 amplifiers, transconductance  
67 amplifiers, tuned  
68 amplifiers, VXI  
69 amplifiers, wide-band  
3250 analog electronic function modules, also see voltage dividers; logarithmic converters  
71 analog-to-digital converter interfaces  
3251 analog-to-digital converters, also see data-acquisition general interfaces;  
instrumentation interfaces, computer  
72 analog-to-digital converters, CAMAC  
73 analog-to-digital converters, NIM  
74 analog-to-digital converters, peak-sensing  
75 analog-to-digital converters, peak-sensing, CAMAC  
76 analytical services  
77 anechoic chambers  
78 anemometers  
79 anemometers, laser  
80 anemometers, sonic  
81 anemometers, thermal  
82 antennas/aerials  
83 anvils, diamond head  
84 anvils, high-pressure  
85 arbitrary waveform generators  
86 array processors  
3443 assembly services  
95 atom sources  
87 atomic absorption spectrometers  
89 atomic force calibration  
90 atomic force microscope cantilevers  
91 atomic force microscope probes  
3605 atomic force microscope thermal stages

92 atomic force microscopes  
93 atomic force microscopy services  
94 atomic hydrogen sources  
96 attenuators, programmable  
98 attenuators, programmable, VXI  
100 Auger microprobes, scanning  
101 Auger spectrometers  
102 autocollimators  
3561 autocollimators, electronic  
103 autocorrelators, optical  
104 autofocus systems  
3252 baffles, also see cold traps  
105 baffles, water-cooled  
112 balance weights  
106 balances, analytical  
107 balances, electronic  
108 balances, electronic, micro  
109 balances, specific gravity  
110 balances, spring  
111 balances, triple beam  
113 ball slides  
114 balun transformers  
2259 bar code checkers and standards  
3562 bar code labeling systems  
115 barometers  
116 baths, controlled-temperature  
3253 beakers, also see labware  
118 beakers, Teflon  
119 beam analyzer electromagnets  
120 beam expanders, cylindrical  
121 beam expanders, reflective  
122 beam expanders, refractive  
123 beam focusers, electrostatic quadrupole  
124 beam focusers, hexapole electromagnet  
125 beam focusers, hexapole permanent magnet  
126 beam focusers, quadrupole electromagnet, doublet  
127 beam focusers, quadrupole electromagnet, singlet  
128 beam focusers, quadrupole permanent magnet  
129 beam profile monitors, charged particle  
130 beam profile monitors, optical  
3254 beam profilers, also see laser beam profilers  
131 beam scanners and deflectors, acousto-optical  
133 beam scanners and deflectors, electro-optical  
132 beam scanners and deflectors, electromechanical  
134 beam splitter cubes, polarizing  
3255 beam splitters, also see pellicles  
136 beam steerer electromagnets  
137 beam switcher electromagnets  
138 bearings, air  
3256 bearings, also see mechanical components, precision  
139 bearings, linear  
140 bearings, magnetic

141 bearings, turntable  
142 bell-jar gaskets  
143 bell-jar systems  
144 beryllia ceramics  
145 beryllium foil  
146 beryllium machining services  
148 beryllium plate and rod  
149 beryllium tubing  
150 beta detectors  
152 beta sources, calibrated  
153 beta sources, encapsulated  
154 beta spectrometers  
151 beta-particle counting systems  
155 biased amplifiers, NIM  
156 bimetallic transition couplings  
2260 biocollectors  
157 biological safety cabinets  
158 biomagnetometers  
159 birefringent crystals  
160 blackbody emitters  
161 blending equipment  
162 bonding units and equipment  
163 borescopes  
164 boron carbide ceramics  
165 boron nitride ceramics  
166 Bourdon precision gauges, absolute  
167 Bourdon precision gauges, differential  
168 boxcar averagers  
169 Bragg diffracting crystals  
170 brazing, high-vacuum grade  
171 bridges, capacitance  
172 bridges, inductance  
173 bridges, resistance  
174 Bunsen burners  
175 burst discs  
176 butterfly valves  
3444 cable markers  
3257 cable, also see individual types  
177 cable, CAMAC branch highway  
178 cable, CAMAC register  
179 cable, coaxial, cryogenic  
180 cable, coaxial, low-noise  
181 cable, fiberoptic  
182 cable, high-temperature  
183 cable, high-voltage  
184 cable, microcoaxial  
185 cable, mineral insulator  
186 cable, Triax  
189 cadmium zinc telluride detectors, ionizing radiation  
188 cadmium-based semiconductor single crystals  
190 calculators, programmable  
191 calibrated leaks

192 calibrators, current  
194 calibrators, temperature  
195 calibrators, vacuum gauge  
196 calibrators, voltage  
197 calorimeters  
198 calorimeters, differential  
199 calorimeters, thermoelectric  
200 CAMAC crates and power supplies  
201 CAMAC network microprocessor drivers  
202 CAMAC service extending modules  
3405 camera links  
3258 cameras, also see holographic, microscope, oscilloscope, scintillation,  
and x-ray cameras  
203 cameras, digital  
204 cameras, film transport  
205 cameras, high speed  
3446 cameras, high temperature  
791 cameras, holographic  
206 cameras, image converter  
207 cameras, infrared  
208 cameras, linescan  
209 cameras, low-light level  
210 cameras, output  
211 cameras, streak  
3564 cameras, thermal  
212 cameras, UV  
213 capacitance manometers  
214 capacitance meters  
3259 capacitors, also see individual types  
2333 capacitors, electrolytic  
215 capacitors, energy storage  
216 capacitors, film  
217 capacitors, high-voltage  
2331 capacitors, microwave  
218 capacitors, rf  
219 capacitors, vacuum-compatible  
3447 carbon dioxide adsorbers  
220 carbon foil  
221 cases  
3607 casters, air  
222 catalytic materials  
2325 cathetometers  
223 cathode coatings  
224 cathodes  
225 cathodic arc deposition systems  
226 CCD analog processors  
227 CCD cameras  
3365 CD-ROMs  
228 centrifuges  
229 ceramic foams  
3449 ceramic insulators  
231 ceramic powders

230 ceramic processing  
3450 ceramic substrates  
237 ceramic-to-metal joints  
238 ceramic-to-metal joints, flanged  
3260 ceramics, also see individual types  
232 ceramics, castable  
233 ceramics, casting  
234 ceramics, machinable  
235 ceramics, machining and grinding  
236 ceramics, piezoelectric  
239 Cerenkov counter materials  
241 charge-coupled devices (CCDs)  
3366 charge-coupled devices, intensified  
243 charge-exchange cells  
244 chemical analysis  
245 chemical delivery equipment  
246 chemical deposition services  
2261 chemical hazard detectors  
3367 chemical imaging  
247 chemical management services  
248 chemical sensors  
254 chemical vapor deposition systems  
249 chemicals, inorganic, high-purity specialty  
250 chemicals, isotope-labeled  
251 chemicals, organic, high-purity specialty  
253 chemicals, specialty  
255 chemisorption analyzers  
256 chokes  
257 choppers, electric  
258 choppers, rotating  
259 choppers, tuning fork  
2262 chucks  
260 clamp-on current meters  
261 clamps, laboratory  
262 classroom audiovisual materials  
263 classroom demonstration apparatus  
266 clean room supplies  
265 clean rooms and furniture  
264 cleaning systems  
3596 clinometers, also see inclinometers; tilt sensors  
267 clock generators, synchronized  
3262 clocks, also see frequency standards; timers  
268 clocks, precision  
269 clocks, precision, CAMAC  
3406 coating thickness measurement equipment  
2263 coatings, antireflective  
270 coatings, ceramic  
271 coatings, high-temperature  
3451 coatings, low friction  
3452 coatings, processing polymers  
272 coatings, protective  
3453 coatings, tribological

273 coaxial attenuators, fixed  
274 coaxial attenuators, variable  
275 coaxial crystal detectors  
276 coaxial directional couplers  
277 coaxial lines, rigid  
279 coaxial switches  
3454 cobalt wires  
2332 coil and transformer testers  
280 coil-winding machines  
281 coil-winding services  
3263 coincidence units  
283 coincidence units, NIM  
284 cold baffles and traps  
3264 cold baffles, also see baffles, water-cooled  
3565 cold boxes/cabinets  
285 cold cathode gauge tubes and controllers  
286 cold traps, Freon  
287 cold traps, liquid nitrogen  
2264 colorimeters  
289 combustion boats, platinum  
3407 communications devices  
288 communications equipment  
2266 compression testers  
290 compressors, air and other gases  
291 computer conversion kits, multichannel analyzer (hardware and software)  
292 computer disk drives, floppy  
293 computer disk drives, rewritable optical  
294 computer disk drives, rigid/Winchester  
3265 computer interfaces, also see individual types  
295 computer interfaces, CAMAC  
296 computer interfaces, IEEE-488  
297 computer interfaces, NIM  
298 computer interfaces, RS-232  
3455 computer interfaces, USB  
301 computer networks  
302 computer on-line databases  
303 computer operating systems  
311 computer repair and maintenance services  
312 computer ROM, compact disk  
319 computer supplies  
320 computer switches, peripheral  
321 computer tape backup devices  
322 computer tape drives  
323 computer terminals  
324 computer terminals, graphics, CAMAC  
325 computer terminals, graphics, color (PC)  
326 computer terminals, graphics, monochrome (mainframe)  
327 computer terminals, graphics, monochrome (PC)  
328 computer workstations  
299 computerized tomography scanners, emission  
300 computerized tomography scanners, transmission  
3267 computers, also see array processors;

floating-point processors monochrome (mainframe)  
313 computers, analog  
314 computers, analog-digital hybrid  
315 computers, laptop/notebook  
318 computers, PC  
3268 conductivity meters, also see resistivity meters  
329 conductivity meters, electric  
330 conductivity meters, thermal  
331 connectors, coaxial  
332 connectors, cryogenic  
333 connectors, hermetic  
334 connectors, high-current  
335 connectors, high-temperature  
336 connectors, high-voltage  
337 connectors, microwave  
338 connectors, signal  
339 connectors, thermocouple  
340 connectors, triaxial  
341 constant-fraction discriminators, CAMAC  
342 constant-fraction discriminators, NIM  
2267 consulting services  
343 controller/scanners, programmable  
344 controls, joystick, trackball and mouse  
345 cooling equipment for gas, vapor, liquid  
346 coordinate-measuring machines  
347 copper gaskets, high-vacuum  
3456 copper powder and flake  
3457 cord sets  
348 correlation spectrometers  
349 correlators  
355 counter/timer units, NIM  
354 counter/timers, universal  
3269 counters, also see scalars; timers  
350 counters, frequency  
352 counters, time interval  
356 crate controllers, CAMAC  
357 crate controllers, programmable, CAMAC  
3458 creep testers  
358 CRT displays  
359 crucibles, alumina  
360 crucibles, porcelain  
361 crucibles, precious metal  
362 crucibles, quartz  
363 crucibles, refractory metal  
371 cryo-preservation equipment  
3270 cryo-temperature controllers, also see refrigerator controllers  
384 cryo-temperature readouts  
385 cryo-temperature sensor calibration  
386 cryo-temperature sensors, capacitance  
387 cryo-temperature sensors, diode  
388 cryo-temperature sensors, resistance  
389 cryo-temperature sensors, thermoelectric



3566 cryocoolers  
3567 cryoelectronics, also see SQUID control units; SQUID sensors  
2268 cryogenic accessories  
3369 cryogenic data  
3569 cryogenic fabrication and repair  
364 cryogenic insulation  
3570 cryogenic piping  
370 cryogenic sensors  
3568 cryogenic storage containers  
365 cryogenic systems, custom  
366 cryogenic transfer lines  
367 cryogenic transportation  
368 cryogenic valves  
369 cryogenic vaporizers  
372 cryopump controllers  
373 cryopumps  
374 cryorefrigerators  
375 cryostat repair  
376 cryostats, all purpose  
377 cryostats, closed-cycle  
378 cryostats, fast cooldown  
379 cryostats, Joule-Thomson  
380 cryostats, liquid helium  
381 cryostats, Mossbauer  
382 cryostats, variable temperature  
390 crystal growers, Bridgman  
391 crystal growers, Czochralski  
392 crystal growers, float zone  
393 crystal growers, other  
394 crystal growing crucibles  
396 crystal orientation services  
2269 crystal oscillators  
397 crystal ovens  
395 crystallography, models and supplies  
3271 current leads, also see superconducting current leads  
398 current leads, vapor-cooled  
3272 current transducers, also see clamp-on current meters  
400 current transformers  
401 cutting equipment  
2270 cyclotron accessories  
402 cyclotrons  
3273 data acquisition general interfaces, also see computer interfaces, IEEE-488;  
computer interfaces, RS-232; instrumentation interfaces, computer  
404 data acquisition systems, PC-based  
405 data acquisition systems, portable  
406 data acquisition systems, standalone  
407 data loggers  
408 data storage  
409 dataway display modules, CAMAC  
410 DC-AC inverters  
411 DC-DC converters  
412 decade capacitors

413 decade inductors  
414 decade resistors  
415 degaussing equipment  
416 delay generators  
3274 delay generators, also see digital delay generators  
417 delay generators, CAMAC  
418 delay generators, high-voltage  
420 delay lines  
419 delay-line amplifiers, NIM  
421 densitometers  
422 density analyzers  
423 depolarizers, optical  
424 deposition systems  
2271 desiccants  
425 desiccators  
3411 design of experiments (DOE)  
3410 design/construction services  
3275 detectors, also see radiation detectors; individual types  
426 detectors, electron  
427 detectors, hazardous gas  
2272 detectors, ion  
428 detectors, nonhazardous gas  
3459 detectors, nuclear radiation  
3460 detectors, other  
429 detectors, proximity/presence  
430 detergents, laboratory  
3276 dewars, also see cryostats; liquid helium storage containers;  
liquid nitrogen storage containers  
431 dewars, detector  
432 dewars, glass  
433 dewars, nonmagnetic  
434 dial gauges  
435 diamond  
436 diamond anvil cells  
3461 diamond coaters  
437 diamond cutting wheels  
438 diamond drills  
439 diamond machining services  
440 diamond saws  
441 diamond thin films, self-supporting  
442 diamond tools, other  
443 diaphragms, adjustable  
444 dicing services  
2273 dielectrometers  
445 differential thermal analyzers  
3371 diffraction data  
446 diffraction gratings  
447 diffraction gratings, holographic  
448 diffraction gratings, pulse compression  
449 diffraction gratings, synchrotron radiation  
450 diffusers  
451 diffusion pump fluids

452 diffusion pump heaters  
454 diffusion pump systems  
453 diffusion pumps  
455 digital delay generators  
456 digital delay generators, NIM  
3277 digital interfaces, also see data acquisition general interfaces;  
instrumentation interfaces, computer  
457 digital interfaces, parallel  
458 digital interfaces, serial  
459 digital multimeters, bench  
460 digital multimeters, portable  
461 digital printers  
462 digital-to-analog converter interfaces  
3278 digital-to-analog converters, also see data acquisition general interfaces;  
instrumentation interfaces, computer  
463 digital-to-analog converters, CAMAC  
464 digital-to-analog converters, NIM  
3279 digitizers  
466 dilatometers  
467 diode array position-sensitive detectors  
3280 discriminators, also see individual types  
468 discriminators, NIM  
3462 displays, 3D flat panel  
472 displays, flat panel  
473 displays, plasma  
476 dissolved oxygen meters, electrodes or sensors  
477 distance measurement and range finding  
478 distillation equipment  
479 distortion analyzers  
3603 dopants, semiconductor processing  
480 dosimeter readouts  
481 dosimeters  
482 dosimeters, medical applications  
483 dosimetry services  
3372 doubling cavity  
484 dovetail slides  
485 elastomers, conductive  
486 electric breaks, cryogenic  
487 electric breaks, vacuum  
3281 electric motor controllers, also see stepping motor controllers  
489 electric motor controllers, CAMAC  
524 electro-optic crystals  
490 electroformed reflectors  
491 electroforming  
492 electromagnet coils, custom  
493 electromagnet controllers  
2274 electromagnetic analysis services  
495 electromagnetic interference probes and analyzers  
3282 electromagnets, also see individual types  
496 electromagnets, custom  
497 electromagnets, laboratory  
498 electromagnets, laboratory, pole faces for

499 electromagnets, laboratory, power supplies for  
500 electrometers  
2275 electron backscatter diffraction  
502 electron beam sources  
3373 electron beam systems  
503 electron beam welding  
504 electron guns  
505 electron guns, high-current  
506 electron guns, low-energy  
509 electron lenses  
510 electron microscopes, photoemission  
511 electron microscopes, scanning  
512 electron microscopes, transmission  
513 electron microscopy accessories  
514 electron microscopy services  
3283 electron multiplier preamplifiers, also see preamplifiers, individual types  
515 electron multiplier preamplifiers, NIM  
516 electron multipliers, continuous-dynode  
517 electron multipliers, discrete-dynode  
518 electron multipliers, single channel  
519 electron optics building kits  
520 electron probe microanalyzers (EPMA)  
521 electron spin resonance spectrometers  
522 electron vacuum tube components  
523 electron vacuum tubes  
508 electronics design, custom  
507 electronics, custom  
2276 electrophoresis, capillary  
3412 electrophoresis, gel  
525 electroplating  
526 electropolishing equipment  
527 electrostatic accelerators  
528 electrostatic energy analyzers, cylindrical mirror  
530 electrostatic energy analyzers, other  
529 electrostatic energy analyzers, spherical  
3464 electrostatic ionizers  
3465 electrostatic precipitators  
2277 electrostatic quadrupoles  
531 elemental analysis services  
532 elements, high-purity  
533 elements, isotopically enriched  
534 ellipsometers  
3466 EMI/RFI filters  
3413 employment services  
535 enclosures, radio frequency shielding  
3284 encoders, also see linear encoders; rotary encoders  
536 encoders, magnetic  
537 encoders, mechanical  
538 encoders, optical  
539 endoscopes  
3374 energy meters  
540 energy storage systems

3467 engineering services  
541 environmental chambers  
542 environmental monitoring systems  
543 epoxies  
546 ESCA spectrometers  
547 evaporation boats  
548 evaporation chemicals  
549 evaporation crucibles  
550 evaporation sources  
551 evaporation systems  
3414 executive recruiters  
552 explosive bonding services  
553 explosively bonded composite materials  
554 faceplates, fiberoptic  
555 failure analysis services  
556 fan-in/fan-out units  
558 Faraday cups  
559 Faraday rotators  
565 fast logic modules, NIM  
566 fast-pulsed gas valves  
560 FASTBUS circuit development cards  
561 FASTBUS crates and power supplies  
562 FASTBUS modules  
2278 fasteners, high temperature  
2279 fatigue testers  
571 feedthroughs, electric, high-pressure  
568 feedthroughs, electrical  
569 feedthroughs, electrical, high-temperature  
570 feedthroughs, electrical, low-temperature  
572 feedthroughs, fiberoptic  
573 feedthroughs, linear motion  
574 feedthroughs, liquid nitrogen  
575 feedthroughs, rotary motion  
576 feedthroughs, rotary motion, magnetic  
577 feedthroughs, water  
3468 ferroelectric characterization  
3469 ferroelectric materials  
2330 fiberoptic anodes  
578 fiberoptic attenuators  
579 fiberoptic beam splitters  
580 fiberoptic beam splitters, polarizing  
581 fiberoptic bundles  
582 fiberoptic cable assemblies  
583 fiberoptic cleavers  
3415 fiberoptic coating systems  
584 fiberoptic collimators  
585 fiberoptic connector kits  
586 fiberoptic connector polishers  
587 fiberoptic data links, analog  
588 fiberoptic data links, digital  
589 fiberoptic filters  
590 fiberoptic filters, tunable

591 fiberoptic image guides  
592 fiberoptic lightguides  
593 fiberoptic lighting systems  
594 fiberoptic multiplexers  
595 fiberoptic polishers  
596 fiberoptic rotary joints  
602 fiberoptic splicers, fusion  
603 fiberoptic splicers, mechanical  
608 fiberoptic stripping tools  
610 fiberoptic switches  
611 fiberoptic test equipment  
612 fiberoptic wavelength division multiplexers  
2335 fiberoptics launchers  
3285 fiberoptics, also see optical fibers  
597 fiberoptics, cable  
598 fiberoptics, connectors  
599 fiberoptics, couplers  
600 fiberoptics, detectors  
601 fiberoptics, infrared  
604 fiberoptics, polarizing  
605 fiberoptics, positioners  
606 fiberoptics, receivers  
607 fiberoptics, transmitters  
609 fiberoptics, ultraviolet  
613 fiberscopes  
614 fieldmeters, electrostatic  
615 filaments  
616 film digitizers  
646 filter vessels  
647 filter wheels  
617 filters, acoustic  
618 filters, acousto-optical  
619 filters, air  
620 filters, anti-aliasing  
621 filters, color  
2280 filters, contrast  
3470 filters, cryogenic  
622 filters, dichroic  
623 filters, electronic, active  
624 filters, electronic, passive  
625 filters, far infrared  
626 filters, fluid, in-line  
627 filters, gas  
3471 filters, harmonic  
628 filters, infrared  
3472 filters, linear variable  
629 filters, liquid  
630 filters, liquid crystal tunable  
631 filters, membrane  
632 filters, microwave  
3375 filters, narrowband, for wdm  
633 filters, neutral density

634 filters, optical  
635 filters, optical, spatial  
636 filters, optical, tunable  
637 filters, power-line  
638 filters, programmable  
640 filters, ultrasonic  
641 filters, ultraviolet  
642 filters, vacuum ultraviolet  
643 filters, wire  
644 filters, x-ray  
645 filters, XUV  
648 fission counters  
650 flange aligners, precision  
3286 flashlamps, also see lamps, light pulse generators  
651 flashlamps, coaxial  
652 flashlamps, helical  
653 flashlamps, linear  
654 floating-point processors  
2281 flow benches  
655 flow controllers  
656 flow detectors, ultrasonic  
659 flow switches  
657 flowmeters, gas  
658 flowmeters, liquid  
666 fluid velocimeters, laser  
660 fluid-line fittings  
661 fluid-line fittings, corrosive fluids  
662 fluid-line valves  
663 fluid-line valves, corrosive fluids  
664 fluid-line valves, high-purity  
665 fluids, heat transfer  
3287 fluorometers, also see spectrometers, atomic fluorescence  
668 fluorometers, lifetime  
3288 foil, see individual types; also see metal foil  
669 force gauges  
670 force transducers  
671 four-point probe heads  
672 frame grabbers  
673 freezers  
676 frequency converters  
677 frequency multipliers and dividers  
3289 frequency standards  
679 frequency standards, quartz oscillator  
680 frequency standards, rubidium vapor  
681 frequency synthesizers  
682 frequency transducers  
683 friction and wear test equipment  
684 fuel cells  
685 fume hoods  
2336 fume oxidizers  
3290 function generators, also see arbitrary waveform generators; signal generators  
3291 furnaces, also see ovens

687 furnaces, annealing  
688 furnaces, arc melting  
689 furnaces, diffusion  
690 furnaces, hydrogen  
691 furnaces, laboratory  
692 furnaces, optical  
693 furnaces, special atmosphere  
694 furnaces, vacuum  
696 fused silica  
697 fuses  
698 gallium-based semiconductor materials  
699 gallium-based semiconductor single crystals  
702 gamma sources, calibrated  
703 gamma sources, encapsulated  
700 gamma-ray detectors  
701 gamma-ray imaging, spectroscopy  
704 gas analyzers  
705 gas chromatography products  
706 gas cylinder hardware  
707 gas cylinder safety devices  
3474 gas dryers  
712 gas generators  
713 gas manifolds  
715 gas mixtures, ionization detector  
716 gas mixtures, spark chamber  
717 gas purifiers  
718 gas regulators  
719 gas regulators, corrosion-resistant  
708 gases, high-purity  
711 gases, isotopic mixtures  
709 gases, isotopically labeled  
710 gases, isotopically pure  
720 gate and delay generators, NIM  
721 gated clock modules, CAMAC  
722 Geiger-Muller tubes  
724 germanium  
725 germanium detectors, ion-implanted  
726 germanium, single-crystal  
727 getters, evaporable  
728 getters, non-evaporable  
729 gimbal mounts, micrometer-driven  
730 gimbals, precision  
734 glass tubing  
732 glass-to-metal joints  
733 glass-to-metal joints, flanged  
731 glassblowing services  
735 glove boxes  
736 gloves, safety  
737 goggles, lead glass  
738 goggles, safety, laser  
739 goniometric stages, micrometer-driven  
740 goniometric stages, stepping motor-driven



741 GPS receivers  
3292 gradiometers, also see biomagnetometers  
743 gradiometers, SQUID  
745 graphite composite materials  
746 graphite plate and rod  
747 graphite tube  
3598 grating mounts  
748 gratings, Bragg  
2282 gratings, long period  
751 greases, optical coupling  
752 greases, thermally conductive  
753 grinding and milling equipment  
754 gyroscopes  
755 gyrotrons  
756 Hall effect probes  
757 Hall measurement systems  
2283 hardness testers  
759 heat capacity measurement  
767 heat exchangers, laboratory  
772 heat pipes  
773 heat sinks  
768 heat-flow transducers  
774 heat-transfer compounds  
3475 heater panels  
3294 heaters, also see hot air guns; hot plates; induction heating equipment  
760 heaters, cartridge  
761 heaters, flat  
762 heaters, immersion  
763 heaters, infrared  
766 heaters, other  
764 heaters, strip  
765 heaters, substrate  
2284 heaters, vacuum diffusion pumps  
769 heating cable  
770 heating mantles  
771 heating tape  
775 helium leaks, calibrated  
3572 helium process systems  
776 helium-3  
3295 helium-3, also see gases, isotopically pure  
777 Helmholtz coils  
780 high-pressure transducers  
779 high-pressure/high-temperature reactor vessels  
781 high-vacuum feedthrough collars  
782 high-vacuum leak sealants  
783 high-voltage power supplies, CAMAC  
784 high-voltage power supplies, NIM  
785 high-voltage probes  
786 high-voltage rectifier assemblies  
787 high-voltage transformers  
792 holographic equipment and components  
793 holographic film and plates

794 hot air guns  
795 hot plates  
796 hot plates, stirring  
797 HPGe detectors  
3573 humidifiers  
798 humidity sensors  
799 hydrogen purifiers  
800 hydrophones, precision  
801 hygrometers  
802 illuminators (other than lamps)  
803 image analyzers  
804 image intensifiers  
3477 image measuring devices  
805 image processing equipment  
3296 image processing, also see frame grabbers; video digitizers;  
software, image processing  
2285 imaging, time-resolved  
806 impedance-matching transformers  
807 impedance-measuring instruments  
809 inclinometers  
810 incubators, cell culture  
811 indenters  
814 indium foil  
815 indium plate and rod  
816 indium solder alloys (cryo contacts)  
817 indium wire  
812 indium-based semiconductor materials  
813 indium-based semiconductor single crystals  
818 induction heating equipment  
3478 inertial measurement units  
819 inertial sensors  
3479 infrared analyzers  
820 infrared materials  
3416 infrared measuring equipment  
821 inorganic compound syntheses, custom  
822 input gate modules, CAMAC  
824 input registers, CAMAC  
823 input-output bus interfaces, CAMAC  
825 inspection systems  
827 instrument calibration  
828 instrument design and development  
829 instrument repair  
3297 instrumentation interfaces, also see data acquisition general interfaces  
826 instrumentation interfaces, computer  
3376 instrumentation, engineering, and design services  
830 instruments, rental and leased  
831 instruments, used  
832 insulation, electrical  
833 insulation, thermal  
834 insulators  
835 integrated optical devices  
836 integrating spheres

3299 integrators, also see boxcar averagers  
837 integrators, current  
838 integrators, current, NIM  
3298 integrators, voltage, also see magnetometers, fluxmeter  
3300 interfaces, also see data acquisition general interfaces;  
    instrumentation interfaces, computer  
840 interfaces, CAMAC-NIM  
841 interferometer fringe counters  
842 interferometers, aspherical  
843 interferometers, Fabry-Perot  
844 interferometers, fiberoptics  
845 interferometers, Mach-Zehnder  
846 interferometers, Michelson  
849 interferometers, other types  
847 interferometers, phase-measuring  
848 interferometers, speckle  
850 intermetallic compounds, high-purity  
2286 internet services  
851 interrupt registers, CAMAC  
852 invar plate and rod  
853 invar tubing  
857 ion chambers  
860 ion guns  
863 ion implanters  
871 ion pumps and controllers  
854 ion-beam micromachining  
855 ion-beam microprobe analyzers  
2323 ion-beam services  
856 ion-beam sources  
858 ion-etching equipment  
859 ion-exchange resins  
861 ion-implantation monitors  
862 ion-implantation services  
870 ion-pump rebuilding  
872 ion-pump systems  
864 ionization gauge controllers  
865 ionization gauge controllers, Schulz-Phelps type  
866 ionization gauge multiplexers  
868 ionization gauge tubes  
869 ionization gauge tubes, Schulz-Phelps type  
867 ionization gauges, fast  
873 iron plate and rod, high-purity  
874 isolation transformers  
2287 isotope separators  
875 isotopes, stable  
876 jacks, laboratory  
877 Josephson devices  
878 Kelvin probes  
3480 keypads  
879 klystrons  
3481 knobs  
880 kovar rod and wire

881 kovar tubing  
3575 label makers, printers  
3574 labels  
883 laboratory furniture  
884 labware, ceramic  
885 labware, fluoroplastics  
886 labware, glass  
887 labware, plastic  
888 labware, quartz  
3417 laminators  
3482 lamps, argon arc  
889 lamps, calibrated  
890 lamps, deuterium  
891 lamps, electrodeless discharge  
892 lamps, glow discharge  
893 lamps, high-intensity CW  
894 lamps, hollow cathode  
895 lamps, krypton arc  
3377 lamps, laser  
3483 lamps, LED  
896 lamps, mercury arc  
897 lamps, mercury-xenon arc  
3378 lamps, nano  
904 lamps, other  
898 lamps, quartz-tungsten-halogen  
899 lamps, short-pulse  
900 lamps, spectral line  
901 lamps, ultraviolet  
902 lamps, xenon arc  
903 lamps, XUV  
905 Langmuir-Blodgett troughs  
906 lanthanide compounds, high-purity  
907 lappers, polishers  
908 laser ablation systems  
909 laser accessories, doublers and triplers  
3484 laser alignment equipment  
911 laser beam attenuators, variable  
912 laser beam directors  
913 laser beam dumps  
914 laser beam guides  
915 laser beam machining  
916 laser beam profilers  
917 laser beam switches  
918 laser beam welding  
919 laser communications  
920 laser diode collimators  
921 laser diode power supplies  
922 laser diode stabilization devices  
923 laser diode temperature controllers  
924 laser dyes  
925 laser gas-handling equipment  
3485 laser gases

926 laser glasses  
927 laser intensity stabilizers  
928 laser mirrors  
929 laser mounts  
930 laser pointers  
931 laser projection systems  
932 laser pulse energy meters  
933 laser repair  
934 laser retroreflectors  
935 laser rod repair  
936 laser rods  
937 laser safety barriers  
938 laser safety labels  
2288 laser safety shutters  
3418 laser system design services  
910 laser-based systems for metrology  
939 lasers, alexandrite, tunable, pulsed  
940 lasers, ammonia  
941 lasers, argon-ion, CW  
942 lasers, argon-ion, pulsed  
943 lasers, carbon dioxide, CW  
944 lasers, carbon dioxide, pulsed  
947 lasers, chemical, CW  
950 lasers, color-center  
951 lasers, copper vapor, pulsed  
3379 lasers, deep-UV, CW  
3486 lasers, diode frequency-doubled  
2289 lasers, diode laser pumped, CW  
952 lasers, diode laser pumped, pulsed  
953 lasers, diode laser pumped, pulsed UV  
954 lasers, diode laser pumped, single-frequency  
3120 lasers, diode, also see lasers, semiconductor  
3576 lasers, diode, high-power  
955 lasers, dye cells for  
956 lasers, dye, CW  
957 lasers, dye, picosecond  
958 lasers, dye, pulsed  
959 lasers, dye, single-frequency  
961 lasers, Er<sup>3+</sup> fiber CW  
960 lasers, erbium, pulsed  
962 lasers, excimer, pulsed  
963 lasers, far infrared, CW  
964 lasers, far infrared, pulsed  
3599 lasers, femtosecond, pulsed  
3577 lasers, fiber  
965 lasers, fluorine, pulsed  
966 lasers, free-electron  
967 lasers, gases for  
968 lasers, helium-cadmium  
969 lasers, helium-neon  
970 lasers, helium-neon, single-frequency  
973 lasers, krypton-ion, CW

975 lasers, lead salt  
3487 lasers, mode-locked  
978 lasers, neodymium glass  
979 lasers, neodymium-YAG, CW  
980 lasers, neodymium-YAG, pulsed  
982 lasers, perovskite  
983 lasers, ruby  
984 lasers, semiconductor arrays  
985 lasers, semiconductor, CW  
986 lasers, semiconductor, pigtailed  
987 lasers, semiconductor, pulsed  
3578 lasers, terahertz  
988 lasers, thulium  
989 lasers, titanium sapphire, tunable  
990 lasers, UV, waveguide  
991 lasers, waveguide  
993 lasers, YLF, pulsed  
995 lead aprons  
996 lead bricks  
997 lead containers  
999 lead screws, precision  
1000 lead shields  
1001 lead wire, foil and sheets  
994 lead-acrylic panels  
1002 leak detectors, mass spectrometer  
1003 leak detectors, pressurized system  
1004 leak locators, ultrasonic  
1005 LEED spectrometers  
1006 lens assemblies  
3301 lenses, also see optical components  
1007 lenses, aspherical  
1008 lenses, compound  
1009 lenses, cylindrical  
2290 lenses, electrostatic  
1010 lenses, Fresnel  
1011 lenses, gradient index  
1012 lenses, machine vision  
3488 lenses, plastic  
1013 lenses, spherical  
3489 level gauges  
1014 level monitors, solids  
3490 level switches  
1017 light intensity meters  
1018 light pulse generators  
1019 light scattering instruments  
3597 light shields  
1016 light-emitting diode (LED) spectral analyzers  
1015 light-emitting diodes (LED)  
2322 lightning protection equipment  
1028 line voltage regulators, automatic  
1020 linear accelerators, electron  
1021 linear accelerators, ion

1022 linear actuators, servomotor-driven  
1023 linear amplifiers, NIM  
3419 linear displacement sensors  
1024 linear encoders, magnetic  
1025 linear encoders, optical  
1027 linear polarizers  
1029 liquid chromatography products  
1030 liquid crystals  
1032 liquid helium level controllers  
1033 liquid helium level readouts  
1034 liquid helium storage containers  
1035 liquid helium storage containers, nonmagnetic  
1036 liquid level controllers, general  
1037 liquid nitrogen level controllers  
1038 liquid nitrogen level monitors for solid-state detector, NIM  
1039 liquid nitrogen storage containers  
1040 liquid nitrogen transfer-line hardware  
1041 liquifiers, helium  
1042 liquifiers, nitrogen  
1043 lithography systems  
1044 load cells  
1045 loads, electronic  
1046 logarithmic converters  
1049 logic units, programmable, CAMAC  
1050 low thermal-conductivity wire  
1051 lubricants, electrically conductive  
1052 lubricants, high-temperature  
1053 lubricants, high-vacuum  
2291 machine vision hardware and software  
1054 machining, precision and general  
1055 magnesia ceramics  
1084 magnet wire  
2292 magnetic assemblies  
2293 magnetic design  
1056 magnetic field probes, AC  
1057 magnetic field trimming devices  
1058 magnetic force microscopes  
3492 magnetic particles  
3380 magnetic resonance imaging design  
3381 magnetic sensors and devices  
1059 magnetic shielding, foil  
1060 magnetic shielding, sheet  
1061 magnetic shields, cryogenic  
1062 magnetic shields, custom  
1063 magnetometers, AC  
3303 magnetometers, also see biomagnetometers; gradiometers; susceptometers  
1064 magnetometers, BH loop  
1065 magnetometers, fluxgate  
1066 magnetometers, fluxmeter  
1067 magnetometers, force balance  
1068 magnetometers, Hall effect  
3382 magnetometers, Kerr effect

1069 magnetometers, magnetoresistance  
1070 magnetometers, magnetostrictive  
1071 magnetometers, nuclear magnetic resonance  
1072 magnetometers, rotating coil  
1073 magnetometers, rotating magnet  
1074 magnetometers, SQUID  
1075 magnetometers, torque  
1076 magnetometers, vibrating sample  
2294 magnetostrictive materials  
3304 magnets, also see beam focusers; electromagnets; solenoids, air core;  
superconducting magnets; undulator magnet systems; wiggler magnet systems  
1077 magnets, nuclear magnetic resonance quality  
1078 magnets, permanent  
3493 magnets, permanent, alnico  
1079 magnets, permanent, chargers for  
1080 magnets, permanent, ferrite  
1081 magnets, permanent, rare earth alloys  
1082 magnets, pulsed  
1083 magnets, reference, for calibration  
3494 magnets, wound cores  
3305 manipulators, also see micromanipulators  
1086 manipulators, precision  
1087 manual input/output modules, CAMAC  
1088 Marx generators  
1089 mass flowmeters, electronic  
2298 mass spectrometer supplies  
1090 mass spectrometers, magnetic  
1094 mass spectrometers, other  
1092 mass spectrometers, quadrupole  
1093 mass spectrometers, time-of-flight  
1095 mass spectrometry services  
1096 materials analysis services  
3383 materials characterization testers  
3384 materials data  
1097 mechanical components, precision  
1098 mechanical properties, testing and equipment  
1099 medical diagnostic equipment  
2299 medical laser systems  
1103 memory units  
1101 memory-extension controllers, CAMAC  
1102 memory-extension modules, CAMAC  
3495 mercury analyzers  
1104 mercury spill kits  
1105 mercury vapor detectors  
1106 metal foil  
1108 metal powders, high-purity  
1109 metal powders, processing  
1112 metal wire, high-purity  
3496 metal, mesh  
1107 metallic glasses  
3579 metallized fabric  
3306 metals, high-purity, see elements, high-purity; also see alkali metal dispensers



1110 metals, porous  
1111 metals, single-crystal  
1113 meteorology instrumentation or sensors  
1114 metering valves  
1115 meters, dewpoint and moisture  
1116 mica  
1121 micro electro mechanical systems  
3385 micro indentation test equipment  
1117 microcalorimeter systems  
1118 microchannel-array imaging detectors  
1119 microchannel-array plates  
3497 microcomputers, embedded  
1120 microdensitometers  
1122 microholes  
1123 microinterferometers  
1124 micromachine tools  
1125 micromanipulators  
1126 micrometer heads, precision  
1127 microohmmeters  
2300 microoptics  
1130 microphone systems  
1128 microphones, dynamic  
1129 microphones, precision  
1131 micropositioning stations  
1132 microscope cameras  
1133 microscope lamps and illuminators  
1135 microscopes, acoustic  
3307 microscopes, also see individual types  
3498 microscopes, Brewster angle  
1136 microscopes, confocal  
1137 microscopes, depth-measuring  
1138 microscopes, emission  
3499 microscopes, fiberoptic inspection  
1139 microscopes, field ion  
2301 microscopes, fluorescence lifetime imaging  
1140 microscopes, high-temperature  
1141 microscopes, infrared  
3580 microscopes, interference  
1142 microscopes, long working distance  
3420 microscopes, magnetic  
2303 microscopes, near field optical  
2338 microscopes, photon tunneling  
1143 microscopes, polarizing  
2302 microscopes, time-resolved  
1144 microscopes, traveling  
2304 microscopes, two-photon  
1145 microscopes, video  
1146 microscopes, x-ray  
1147 microscopy services  
1148 microtomes  
1149 microtorches  
1150 microtubes

1151 microvoltmeters  
1152 microwave cables  
1153 microwave cavities  
3308 microwave components, also see coaxial and waveguide items  
1154 microwave frequency meters  
1155 microwave isolators and circulators  
1157 microwave modulators  
1159 microwave polarizers  
1160 microwave pulse modulators  
1161 microwave thermocouple power sensors  
3309 microwave tubes, also see klystrons  
1163 microwave tubes, high-power  
3500 microwave tuner  
1164 millimeter wave components, active  
1165 millimeter wave components, passive  
1166 miniature tools, precision  
1167 mirrors, aspherical  
1168 mirrors, astronomical  
1169 mirrors, flat  
1170 mirrors, solid metal  
1171 mirrors, spherical  
3501 mixers, gas vacuum feeder  
1172 mode lockers  
1173 modulator drivers, Pockels cell  
1174 modulators, acousto-optical  
1175 modulators, electro-optical  
2305 modulators, fiberoptic  
1176 modulators, integrated optics  
1177 modulators, magneto-optic  
1178 modulators, phase  
1179 modulators, photoelastic  
1181 moisture analyzers  
1182 molecular beam epitaxy systems  
1184 molecular beam systems, supersonic  
1186 molecular sieves  
1187 molecular weight determination  
1185 molecular-sieve foreline traps  
1188 molybdenum foil  
1189 molybdenum plate and rod  
1190 molybdenum tubing  
1191 molybdenum wire  
1192 monochromators  
1193 monochromators, scanning  
1194 monochromators, vacuum  
1195 Mossbauer sources  
1196 Mossbauer spectrometers  
1197 motion control systems  
1201 motor speed reducers  
1198 motors, AC  
3311 motors, also see stepping motors  
2306 motors, brushless  
1199 motors, DC

1200 motors, linear  
1202 motors, servo  
1203 motors, synchronous  
1204 motors, vacuum operation  
1205 mouse systems  
1206 multichannel amplifiers, NIM  
1207 multichannel analyzers  
1208 multichannel analyzers, multidimensional  
1209 multichannel analyzers, optical  
1210 multichannel analyzers, PC-based  
3421 multichannel detectors  
1211 multichannel discriminators, NIM  
1212 multichannel scalars  
1213 multiplexer scanners  
1214 multiplexers, NIM  
1216 multiwire proportional chambers  
2307 nanopositioning systems  
3581 nanostructure synthesis  
1218 nanostructured materials  
3582 nanotubes  
1219 nanovoltmeters  
3437 navigation systems  
1220 neutron activation analysis services  
1222 neutron detectors  
1223 neutron detectors, position-sensitive  
1226 neutron generator targets  
1224 neutron generators, accelerators  
1225 neutron generators, sealed-tube  
1227 neutron radiography services  
1228 neutron shielding doors  
1229 neutron sources  
1230 neutron spectrometers  
3503 nickel foil  
3504 nickel wire cloth  
3505 nickel wires  
1231 NIM bin and power supplies  
1232 NIM service extending modules  
1233 niobium foil  
1234 niobium plate and rod  
1235 niobium wire  
1236 noise generators and sources  
1237 nondestructive testing equipment (NDE)  
1238 nonlinear optical crystals  
3506 nozzles  
2308 nuclear magnetic resonance design  
1239 nuclear magnetic resonance probes  
1240 nuclear magnetic resonance scanners, medical  
1241 nuclear magnetic resonance spectrometers  
1242 nuclear quadrupole resonance spectrometers  
1243 nuclear radiation collimators  
1288 O-rings, elastomer  
1289 O-rings, metal

3423 O-rings, vacuum baked  
3312 ohmmeters, also see bridges, resistance; microohmmeters  
1245 ohmmeters, very low resistance  
1246 optical amplifiers  
1247 optical beam profile scanners  
1248 optical benches  
1249 optical breadboarding hardware  
1250 optical calibration measurement services  
1251 optical cells  
1252 optical coating  
1253 optical collimators  
1254 optical comparators  
1255 optical component mounts, 5-axes  
1256 optical component mounts, fixed  
1257 optical component mounts, rotational  
1258 optical component mounts, rotational-tilting  
1259 optical component mounts, tilting  
1260 optical component mounts, translational, 1-axis  
1261 optical component mounts, translational, 2-axes  
1262 optical component repair  
1263 optical components, far infrared  
1264 optical components, high-energy  
1265 optical components, infrared  
1266 optical components, magnetic bases for  
1267 optical components, ultraviolet  
1268 optical delay lines  
1269 optical design  
1270 optical diffusers  
3313 optical fibers, also see fiberoptics  
2309 optical fibers, dispersion shifted  
3386 optical fibers, metallized  
3507 optical fibers, microstructured  
2310 optical fibers, multimode  
1272 optical fibers, polarization preserving  
1273 optical fibers, single-mode  
1274 optical flats  
1275 optical glasses  
1276 optical harmonic generators  
3424 optical system design services  
1278 optical tables, granite  
1279 optical tables, honeycomb  
3583 optical test equipment  
1280 optical time-domain reflectometers, fiberoptic  
3584 optical wedges  
1283 optics design, custom  
1281 optics, adaptive  
1282 optics, custom  
1284 optics, diffractive  
3508 optics, plastic  
1285 opto-electronic devices  
2311 optoelectronic systems  
1286 optoisolators

1287 organic compound syntheses, custom  
2312 orifices, flow calibrated orifices  
3314 oscillators, also see function generators; signal generators  
1290 oscillators, swept frequency  
1294 oscilloscopes  
1295 oscilloscopes, digital-storage  
1296 oscilloscopes, low-frequency  
1297 oscilloscopes, plug-in  
1298 oscilloscopes, sampling  
1299 oscilloscopes, storage  
1300 oscilloscopes, voltage probe  
1301 oscilloscopes, wide-band  
1302 output couplers, laser  
1303 output registers, CAMAC  
3315 ovens, also see furnaces  
2313 ovens, conveyor  
1304 ovens, inert gas  
1305 ovens, laboratory  
2314 ovens, microwave  
1306 ovens, modular electric  
1307 ovens, vacuum  
1308 oxides, single crystal  
2315 oximeters  
1309 oxygen analyzers  
1310 ozone detectors  
1311 ozone generators  
1312 paint, conductive  
1313 parametric oscillators  
1314 partial reflectors  
1315 particle beam collimators  
1316 particle beam profile scanning monitors  
1317 particle counters and analyzers  
1318 particle detectors  
3316 particle detectors, also see individual types  
1319 particle size analyzers  
1320 particle standards  
3509 particulate samplers  
1321 patch cords  
1322 pellicles  
1323 pentaprisms  
1324 permeability meter  
1332 pH meters  
1325 phantoms, calibration  
1326 phantoms, humanoid  
1327 phantoms, imaging  
1328 phantoms, nuclear magnetic resonance  
1330 phase meters  
3317 phase shifters, also see waveguide phase shifters  
1333 phosphor coatings and screens  
1335 phosphor screens  
1334 phosphors, brush-on  
1336 photoacoustic sample cells

1337 photocathodes  
3318 photodetectors, also see radiation detectors  
1338 photodetectors, semiconductor fast  
1339 photodiodes, avalanche  
1340 photodiodes, PIN  
1341 photoetching services  
1342 photoluminescence measuring systems  
1344 photometers  
1345 photomultiplier bases and sockets  
1346 photomultiplier bases, nuclear applications  
1347 photomultiplier preamplifiers  
1348 photomultiplier tube amplifier/discriminators  
1349 photomultiplier tube housings  
1350 photomultiplier tube housings, cooled  
1351 photomultiplier tube magnetic shields  
1352 photomultiplier tube power supplies  
1353 photomultiplier tubes  
1354 photomultiplier tubes, array  
1355 photomultiplier tubes, continuous dynode  
1356 photomultiplier tubes, fast-focused  
1357 photomultiplier tubes, hemispherical  
1358 photomultiplier tubes, high magnetic field  
1359 photomultiplier tubes, imaging  
1360 photomultiplier tubes, infrared  
1361 photomultiplier tubes, position-sensitive  
1362 photomultiplier tubes, scintillation counting  
1363 photomultiplier tubes, solar blind  
1364 photomultiplier tubes, ultraviolet  
1365 photon detection and counting systems  
1367 picoammeters  
1369 piezoelectric films  
2316 piezoelectric scanners  
1370 piezoelectric transducers  
3319 piezoelectric transducers, also see pressure transducers, piezoelectric  
1371 piezoelectric translator controllers, open-loop  
1372 piezoelectric translator controllers, with lock-in stabilization  
1373 piezoelectric translators  
1374 piezoresistive transducers  
3511 pinch valves  
1376 pinhole apertures  
3512 pipettes, automatic  
1377 Pirani gauge controllers  
1378 Pirani gauge tubes  
1380 PIXE surface analyzers  
1379 pixel detectors  
1381 planetaria, permanent  
1382 planetaria, portable  
2317 plasma cleaning equipment  
1383 plasma deposition systems  
1384 plasma etching systems  
1385 plasma monitoring systems  
1386 plasma sources

3513 plastics, high purity  
1387 platforms, 5-axes motion  
1388 platforms, levelling  
1391 plotters, other  
1392 pneumatic transfer systems  
1393 pneumatic valves  
1394 pointing and tracking systems  
3321 polarimeters, also see ellipsometers  
2318 polarization controller  
1397 polarization rotators  
2319 polarization scrambler  
1398 polishing and lapping services  
2320 polishing cloths and pads  
1399 polishing compounds  
1400 polishing equipment, ion-beam  
1401 polishing jigs  
1402 polishing materials, chemical-mechanical  
1403 polishing materials, fiberoptic  
1404 polishing materials, metallurgical  
1405 polishing materials, precision optical  
1406 polymer processing  
1407 porosimeters  
3323 position sensors, also see dial gauges; linear encoders; shaft encoders; potentiometers  
1409 position sensors, Hall effect  
1410 position transducers, linear capacitive  
1411 position transducers, linear optical  
1412 position transducers, linear potentiometer  
1413 position transducers, linear variable transformer  
1414 position transducers, rotary capacitive  
1415 position transducers, rotary optical  
1416 position transducers, rotary potentiometer  
1417 position transducers, rotary variable transformer  
3322 position-sensitive detectors, also see diode array position-sensitive detectors;  
microchannel-array plates; multiwire proportional chambers;  
x-ray position-sensitive detectors  
1408 position-sensitive detectors, silicon surface-barrier  
1419 potentiometers, precision  
1420 potting materials  
1421 powders, nanophase  
1422 power meters, fiberoptic  
1423 power meters, infrared  
1424 power meters, microwave  
1425 power meters, optical  
1426 power meters, radio frequency  
1427 power meters, ultraviolet  
3324 power supplies, AC, also see DC-AC inverters  
1429 power supplies, AC, on-off control  
1430 power supplies, AC, uninterruptible  
1431 power supplies, AC, voltage-regulated  
3326 power supplies, also see individual types  
1432 power supplies, capacitor charging  
1433 power supplies, CW gas laser

3325 power supplies, DC, also see DC-DC converters  
1434 power supplies, DC, bipolar  
1435 power supplies, DC, current-regulated  
1436 power supplies, DC, digitally controlled  
1437 power supplies, DC, four quadrant  
1438 power supplies, DC, high-current  
1439 power supplies, DC, high-voltage  
1440 power supplies, DC, precision  
1441 power supplies, DC, programmable  
1442 power supplies, DC, uninterruptible  
1443 power supplies, DC, very low current  
1444 power supplies, DC, very low voltages  
1445 power supplies, DC, voltage-regulated  
1446 power supplies, fast turn-on  
1447 power supplies, flashlamp  
3425 power supplies, high energy physics detectors  
1448 power supplies, laser modulator  
1449 power supplies, microwave  
1450 power supplies, photodiode  
1451 power supplies, pulsed gas laser  
1452 power supplies, pulsed output  
1453 power supplies, radio frequency  
1454 power supplies, semiconductor laser  
1455 power supplies, x-ray  
1456 power transducers  
3327 preamplifiers, also see special-function types  
1458 preamplifiers, charge-sensitive  
1459 preamplifiers, current  
1460 preamplifiers, differential  
1461 preamplifiers, gated  
1463 preamplifiers, low-noise  
1464 preamplifiers, voltage  
1465 preamplifiers, wideband  
3426 precious metal flakes and powders  
1466 precious metal ribbons  
1467 precious metal sheet  
1468 precious metal wire  
1471 presses, high-pressure  
1472 presses, laboratory  
1473 pressure controllers and readouts  
3328 pressure gauges, also see Bourdon precision gauges; capacitance manometers  
1474 pressure gauges, Bourdon  
1475 pressure gauges, diaphragm  
1476 pressure gauges, McLeod  
1477 pressure sensors, fiberoptics  
1478 pressure sensors, low-temperature  
1479 pressure switches  
3329 pressure transducers, also see high-pressure transducers  
1480 pressure transducers, differential  
1481 pressure transducers, piezoelectric  
1482 pressure transducers, piezoresistive  
1483 pressure transducers, potentiometer



1484 pressure transducers, strain-gauge  
1485 pressure transducers, variable capacitance  
1486 pressure transducers, variable reluctance  
1487 printed circuit boards, special materials  
1489 printers, ink-jet  
1490 printers, laser  
1491 printers, thermal  
1492 prism couplers  
3330 prisms, also see pentaprisms  
1493 prisms, Amici  
1494 prisms, Brewster-angle  
1495 prisms, corner cube  
1496 prisms, Glan  
1497 prisms, Littrow  
1498 prisms, right-angle  
1499 prisms, Wollaston  
1500 probe stations, automatic  
1501 probe stations, cryogenic  
1502 probe stations, full wafer  
1503 probe stations, HTS  
1504 probe stations, microwave  
1505 probe stations, semiautomatic  
3514 probes, test  
1506 process controllers, monitors  
3515 profilers  
3516 profilers, stylus  
3517 profilometers  
3585 properties, thermophysical  
1507 proportional counters  
3331 pulse generators, also see function generators; trigger generators  
1511 pulse generators, CAMAC  
1512 pulse generators, high-power  
1513 pulse generators, high-voltage  
1514 pulse generators, NIM  
1515 pulse generators, precision  
1516 pulse shapers, CAMAC  
1517 pulse stretchers, NIM  
1518 pulse transformers  
1519 pulse transformers, high-voltage  
3518 pulse tubes  
1509 pulsed laser deposition systems and services  
1508 pulsed-current monitors  
3332 pumps, also see individual types  
3520 pumps, chemical  
1520 pumps, circulating  
1521 pumps, cryogenic  
1522 pumps, diaphragm  
1523 pumps, high-pressure  
1524 pumps, magnetic drive  
1525 pumps, metering  
1526 pumps, peristaltic  
3521 pumps, rotary gear

1527 pumps, sealless  
1528 pumps, syringe  
1529 Q-switch dyes  
1530 Q-switches, acousto-optical  
1532 Q-switches, electro-optical  
1534 quartz  
1535 quartz and glass machining and grinding  
1536 quartz fabrication  
3387 quartz monitor crystals  
1539 quartz tubing  
1537 quartz-to-metal joints  
1538 quartz-to-metal joints, flanged  
3333 radiation detectors, also see photodetectors; photodiodes; photomultiplier tubes;  
scintillators; thermometers, radiation  
1540 radiation detectors, bolometric  
1541 radiation detectors, Golay cell  
1542 radiation detectors, infrared  
1543 radiation detectors, large area  
1544 radiation detectors, photoconductive  
1545 radiation detectors, photoemissive  
1546 radiation detectors, photovoltaic  
1547 radiation detectors, pyroelectric  
1548 radiation detectors, semiconductor  
1549 radiation detectors, superconducting  
1550 radiation detectors, thermoelectric  
1551 radiation detectors, ultraviolet  
1552 radiation detectors, visible  
1553 radiation monitors, personal  
3334 radiation shielding, also see lead items  
1554 radiation shielding, gamma  
1555 radiation shielding, neutron  
1556 radiation survey meters  
1557 radiation warning labels  
1560 radio-decontamination kits  
1558 radioactive solutions  
3335 radioactive sources, see alpha, beta, gamma, Mossbauer, neutron and x-ray sources;  
also see radioisotopes  
1559 radioactive waste containers  
1561 radioisotopes  
3427 radon monitors  
3389 Raman imaging  
1562 Raman shifters  
1563 Raman spectrometers  
3336 ramp generators, also see function generators  
1564 ramp generators, NIM  
1565 random pulse generators, NIM  
1566 ratemeters  
1567 ratemeters, NIM  
1568 ratiometers  
1576 recorder supplies and accessories  
3337 recorders, also see tape recorders; video recorders  
1570 recorders, field data

1571 recorders, oscillographic  
1572 recorders, oscillographic, multichannel  
3523 recorders, paperless  
1573 recorders, strip-chart  
1574 recorders, strip-chart, multichannel  
1575 recorders, transient signal  
1577 recorders, X-Y  
1579 reflectometers, optical  
1580 reflectometers, time-domain  
1581 reflectometers, vacuum  
3338 refractive index matching fluids, also see greases, optical coupling  
1583 refractive index sensors  
1584 refractometers  
1585 refrigerated fluid recirculators  
3339 refrigerator controllers, also see cryo-temperature controllers  
1590 refrigerators, 4K  
1587 refrigerators, ADR  
3340 refrigerators, also see cryorefrigerators; cryostats  
1588 refrigerators, closed-cycle  
1589 refrigerators, dilution  
1591 refrigerators, helium-3  
1592 refrigerators, immersion  
1593 refrigerators, Joule-Thomson  
1594 refrigerators, pulse tube  
1595 refrigerators, Stirling cycle  
1596 refrigerators, thermoelectric  
1597 refrigerators, thermoelectric, temperature controllers for  
1598 relays, high-voltage  
1599 remote viewing instruments  
1600 residual gas analysis services  
1601 residual gas analyzers  
1602 resistance alloy wire  
1603 resistivity meters and measuring systems  
3341 resistivity meters, also see conductivity meters; electrometers  
3342 resistors, also see individual types  
1604 resistors, high-voltage  
1605 resistors, non-inductive  
1606 resistors, vacuum-compatible  
3524 resolvers  
1607 reticles  
1609 RF generators  
1610 RF power supplies  
3393 RF quadrature modulators  
1611 RF systems  
3394 RF transceivers  
1612 RHEED imaging and analysis  
1613 rhenium foil  
1614 rhenium plate and rod  
1615 rhenium tubing  
1616 rhenium wire  
1617 rheometers  
1618 RMS-to DC converters

1619 robotic sample processors  
1620 robotics equipment and systems  
1621 rotary encoders, magnetic  
1622 rotary encoders, optical  
1626 rotating electrical connectors  
1627 rotators, horizontal axis, micrometer-driven, small-angle  
1628 rotators, horizontal axis, motor-driven, small-angle  
1629 rotators, micrometer-driven, 360  
1630 rotators, motor-driven, 360  
1631 rotators, two-axes, micrometer-driven  
1632 rotators, two-axes, motor-driven  
1633 rotators, vertical axis, micrometer-driven, small-angle  
1634 rotators, vertical axis, motor-driven, small-angle  
1635 ruby bearings  
1636 Rutherford backscatter analyzers  
1637 safety/security equipment and systems  
1638 sample and hold cards  
1639 sample cutting machines  
1640 sample cylinders  
3429 sample holders  
1641 sample polishing machines  
1642 sapphire  
1643 sapphire balls  
2232 sapphire optics  
1644 scalers, bench  
1646 scalers, latching, CAMAC  
1647 scalers, NIM  
3430 scales  
1648 scanners, acousto-optic  
3343 scanners, data, also see controller/scanners, programmable;  
switches and switching systems  
1649 scanners, fixed frequency  
1650 scanners, raster  
1651 scanners, resonant  
1652 scanners, XY  
2233 scanning beam delivery systems  
1654 scanning tunneling microscope tips  
1653 scanning tunneling microscopes  
1655 scanning tunneling microscopy services  
1656 scattering chambers  
1657 scintillation cameras  
1658 scintillator-photomultiplier tube assemblies  
1659 scintillators, Bi<sub>4</sub>Ge<sub>3</sub>O<sub>12</sub>  
1660 scintillators, CaF<sub>2</sub>(Eu)  
1662 scintillators, CsI(Na)  
1663 scintillators, CsI(Tl)  
1661 scintillators, CsI, pure  
1664 scintillators, glass  
3602 scintillators, lanthanum halides  
1665 scintillators, liquid  
1666 scintillators, NaI(Tl)  
1667 scintillators, NaI(Tl), polycrystalline, hexagonal

1668 scintillators, NaI(Tl), thin-window  
1669 scintillators, NaI(Tl), through-hole  
1670 scintillators, NaI(Tl), very large  
1671 scintillators, NaI(Tl), well  
1672 scintillators, plastic  
1673 scintillators, plastic fiber  
3525 scratch testers  
3526 screens  
1674 sealants, cryogenic  
1675 sealants, high-temperature  
1676 seals  
1677 secondary ion mass spectrometer systems  
3604 Seebeck measurement systems  
1678 semiconductor analysis services  
1679 semiconductor C-V systems  
3527 semiconductor equipment  
1680 semiconductor I-V systems  
1681 semiconductor laser modules  
2234 semiconductor materials  
1682 sensor interfaces, CAMAC  
3528 sensors, also see individual types  
2235 sensors, angular rate  
3431 sensors, CMOS  
1683 shaft encoders, absolute  
1684 shaft encoders, incremental  
1685 shakers  
1687 shutters, electro-optical  
1686 shutters, electromechanical  
1688 sieves  
1689 signal analyzers  
1690 signal averagers  
1691 signal averagers, CAMAC  
1692 signal conditioners  
1693 signal conditioners, CAMAC  
3344 signal generators, also see function generators  
1694 signal generators, audio frequency  
1695 signal generators, microwave  
1696 signal generators, radio frequency  
2236 signal generators, test pattern  
2237 signs, illuminated warning  
1697 silica aerogel  
1698 silicon  
1699 silicon carbide semiconductor materials  
1700 silicon detectors, ion-implanted  
1701 silicon monoxide  
1702 silicon monoxide evaporation sources  
1703 silicon nitride ceramics  
1705 silicon surface barrier detectors  
1704 silicon, single-crystal  
3529 silicone, conductive  
1706 single-channel analyzers, bench  
1707 single-channel analyzers, NIM

3432 slides, linear, also see translators  
1708 slit jaws, vacuum-side, externally adjustable  
1709 slits, optical  
3530 software, 3D visualization  
1710 software, acoustic/audio  
1711 software, algebraic manipulation (mainframe)  
1712 software, algebraic manipulation, other  
1713 software, application development  
1714 software, artificial intelligence  
1715 software, astronomy  
3586 software, barcode  
1716 software, bibliographic  
3531 software, chemometrics  
1718 software, communications, other  
2239 software, computational chemistry  
1719 software, computational fluid mechanics  
1720 software, computer-aided design and engineering  
1721 software, crystallography  
1722 software, data acquisition/control, IEEE-488  
1723 software, data acquisition/control, RS-232  
1724 software, data-management (mainframe)  
1725 software, data-management, other  
1726 software, design of experiment (DOE)  
1727 software, digitizing  
1728 software, eddy-current measurement  
1729 software, educational  
1730 software, electromagnetic design  
1731 software, electronic design  
1732 software, environmental  
1733 software, fast transforms  
1735 software, fringe analysis  
1736 software, gamma-ray analysis  
1737 software, graphics (mainframe)  
1738 software, graphics, other  
1739 software, image processing (mainframe)  
1740 software, image processing, other  
1741 software, language compilers (mainframe)  
1742 software, language compilers, other  
1743 software, laser safety  
2238 software, laser scanning  
1744 software, manuals or guides  
3532 software, mapping  
1745 software, modeling (mainframe)  
1746 software, modeling, other  
1747 software, motion control  
1749 software, networking, other  
1750 software, numerical methods  
1751 software, object oriented, database, workflow/groupware  
1752 software, optical design (mainframe)  
1753 software, optical design, other  
1754 software, particle accelerator  
1756 software, process control

1757 software, programmable-calculator  
1759 software, programming tools  
1758 software, programming, graphics  
1760 software, quality control  
1761 software, safety and compliance  
3533 software, security  
1762 software, signal-processing  
1763 software, simulations  
1764 software, solid state physics/sciences  
3534 software, spectroscopy  
1765 software, statistical/analysis (mainframe)  
1766 software, statistical/analysis, other  
1767 software, thermochemistry  
1768 software, thermophysical properties  
1769 software, thin-film coating design  
1770 software, word-processing, mathematical  
1771 software, word-processing, technical  
1772 software, yield management  
1773 solar cells  
2240 solar simulators  
3587 solder fluxes  
1774 solders, specialty  
1775 Soleil-Babinet compensators  
1777 solenoid valves  
1776 solenoids, air core  
1778 solid-state detector preamplifiers  
3601 solid-state high-voltage switches  
1779 solid-state lasing crystals  
1780 solvents, high-purity  
1781 sorption pump dewars  
1782 sorption pumps  
1784 sound analyzers  
1787 sound power meters  
1785 sound-level meters  
1786 sound-level recorders  
2343 source-measure units  
1788 specialty metal machining  
3395 spectral data  
1789 spectrographs  
1790 spectrographs, imaging  
1791 spectrometer accessories  
3345 spectrometers, also see fluorometers; individual types  
88 spectrometers, atomic fluorescence  
1792 spectrometers, charged particle  
1793 spectrometers, circular-dichroism  
3433 spectrometers, deep level transient  
3537 spectrometers, dielectric  
3535 spectrometers, echelle  
3536 spectrometers, EDXRF  
1794 spectrometers, electron energy loss  
3538 spectrometers, inductively coupled plasma  
1795 spectrometers, infrared

1796 spectrometers, infrared, Fourier transform  
2242 spectrometers, laser  
1798 spectrometers, laser flash photolysis  
3396 spectrometers, microbiology  
3397 spectrometers, optical emission  
1804 spectrometers, other  
1799 spectrometers, photoacoustic  
1800 spectrometers, photoelectron  
3398 spectrometers, process control  
1801 spectrometers, time-resolving  
1802 spectrometers, ultraviolet  
1803 spectrometers, visible  
3399 spectrometers, XPS  
1805 spectrophotometers  
1806 spectroradiometers  
1807 spectroscopes  
1808 spectroscopy accessories  
1809 spectroscopy amplifiers, bench  
1811 spectroscopy cells  
1812 spectroscopy cells, high-pressure  
3539 spectroscopy, steady state  
1813 spectrum analyzers, acousto-optical  
1814 spectrum analyzers, fast-Fourier-transform  
1815 spectrum analyzers, low-frequency  
1816 spectrum analyzers, microwave  
1817 spectrum analyzers, optical  
1818 spectrum analyzers, swept frequency  
1819 spot-welding machines  
3434 springs  
1820 sputtering guns  
1821 sputtering services  
1822 sputtering systems  
1823 sputtering targets  
1824 SQUID control units  
1825 SQUID sensors  
1826 stainless steel foil  
1827 standards, analytical  
1828 standards, capacitance  
1830 standards, environmental, pesticide, organic, inorganic, custom  
1831 standards, inductance  
1832 standards, magnetic field  
1833 standards, microanalytical instrument  
1835 standards, pressure  
3346 standards, radiation, also see blackbody emitters  
1837 standards, resistance  
1838 standards, voltage  
1839 static control, detectors and measurement instruments  
3588 steam traps  
1842 steel, very low carbon  
1841 steels, specialty  
1843 stepping motor controllers, CAMAC  
1844 stepping motor controllers, NIM



1845 stepping motor driver-controllers  
1846 stepping motor driver-controllers, programmable  
1847 stepping motor driver-controllers, with computer interface  
1848 stepping motor inertia dampers  
1849 stepping motors  
1850 sterilizers  
1851 stirrers  
1852 strain gauges  
1853 streak tubes  
3347 stress measuring systems, also see tensile testers  
1854 stroboscopes  
1855 student laboratory computer simulation software  
1856 student laboratory equipment, advanced  
1857 student laboratory equipment, electricity and magnetism  
1858 student laboratory equipment, heat and thermodynamics  
1859 student laboratory equipment, mechanics and waves  
1860 student laboratory equipment, modern physics  
1861 substrate holders and heaters  
1862 substrates  
1863 sum amplifiers, NIM  
1864 superconducting cable  
1865 superconducting current leads  
3348 superconducting devices, also see Josephson devices and SQUID items  
1866 superconducting devices, custom  
1867 superconducting magnets, cryogen free  
1868 superconducting magnets, custom  
1869 superconducting magnets, Nb<sub>3</sub>Sn  
1870 superconducting magnets, NbTi  
1871 superconducting magnets, other  
1872 superconducting magnets, power supplies for  
1873 superconducting materials, high T<sub>c</sub>  
1874 superconducting materials, low T<sub>c</sub>  
1875 superconducting materials, single-crystal  
1876 superconducting resonators  
1877 superconducting tape, high T<sub>c</sub>  
1878 superconducting tape, low T<sub>c</sub>  
1879 superconducting wire, high T<sub>c</sub>  
1880 superconducting wire, low T<sub>c</sub>  
1881 superconducting wire, multifilament  
1882 superconductivity test instrumentation  
1884 surface analysis services  
1885 surface analyzers, multiprobe  
1886 surface area analyzers  
2243 surface mount assemblies  
1887 surface preparation  
1888 surface resistivity measuring systems  
1889 surface tensiometers  
1890 surface topography microscopy services  
1891 surge suppression equipment  
3349 susceptometers, also see magnetometers  
1893 susceptometers, SQUID  
1894 switches and switching systems

3540 switches, current  
1895 switches, high voltage  
1896 switches, matrix  
3541 switches, temperature  
1897 switches, vacuum  
1898 switches, video  
1899 synchrotron beamlines  
1900 synchrotrons  
1901 tachometers  
1902 tantalum foil  
1903 tantalum plate and rod  
1904 tantalum tubing  
1905 tantalum wire  
1906 tape recorders, instrumentation  
1907 targets  
1908 targets, accelerator  
1909 targets, laser ablation  
1910 telemetry equipment and systems  
3590 telescopes, alignment  
1911 telescopes, astronomical  
1912 telescopes, satellite tracking  
1913 temperature chambers  
3350 temperature controllers, also see cryo-temperature controllers  
1914 temperature controllers, on-off  
1915 temperature controllers, proportional  
1916 temperature controllers, three-mode  
1100 temperature fixed points  
1917 temperature programmers  
1918 temperature sensors, bimetal  
1919 temperature sensors, fiberoptics  
1920 temperature sensors, infrared  
1921 temperature sensors, resistance  
1922 temperature sensors, semiconductor  
1923 temperature sensors, thermistor  
1924 temperature sensors, thermocouple  
1925 temperature standards, fixed-point  
3543 temperature transmitters  
1926 tensile testers  
1927 terminators, BNC  
1928 terminators, coaxial lines  
1929 testing services  
1930 textbooks, advanced physics for physics majors  
1931 textbooks, elementary physics for physics majors  
1932 textbooks, graduate level  
1933 textbooks, high school physics  
1934 textbooks, physics and applications, nonscience majors  
1935 textbooks, physics for engineering students  
1936 textbooks, physics for life-sciences majors  
1937 textbooks, physics for science students  
1938 thermal analysis equipment  
2244 thermal analysis services  
1939 thermal cycling systems

2245 thermal properties testing  
1940 thermally conductive materials  
1941 thermocouple ceramic insulators  
1942 thermocouple connectors  
1943 thermocouple gauge controllers  
1944 thermocouple gauge tubes  
1945 thermocouple reference junction compensators  
1946 thermocouple simulators  
1947 thermocouple welding units  
1948 thermocouple wire  
1949 thermographic systems  
1950 thermogravimetric analyzers  
3544 thermoluminescent detectors  
3545 thermometer systems, chemical  
1954 thermometer systems, electronic  
3351 thermometers, also see temperature sensors  
1951 thermometers, liquid-in-glass  
1953 thermometers, other  
1952 thermometers, radiation  
3400 thermopiles  
3546 thermosensitive labels  
1955 thick film devices  
1956 thickness meters  
1957 thickness standards  
1963 thin films  
1964 thin films, high temperature superconducting  
1959 thin-film characterization systems  
1960 thin-film coating services  
2246 thin-film components  
1961 thin-film deposition monitors  
1962 thin-film deposition systems  
1965 thin-film thickness meters  
1966 thin-film thickness sensors  
1968 thoriated tungsten wire  
1969 thyatron control units  
1970 thyatrons  
1971 TIG welding, high-vacuum grade  
1972 tilt sensors  
1976 time calibrators  
1977 time domain instrumentation  
1974 time-bases, laboratory, GPS  
1980 time-to-amplitude converters, NIM  
1981 time-to-digital converters  
1982 time-to-digital converters, CAMAC  
1978 timers  
3352 timers, also see clocks  
1979 timers, CAMAC  
1983 timing amplifiers, NIM  
1984 timing discriminators, NIM  
1985 timing generators  
1987 titanium foil  
1988 titanium plate and rod

1989 titanium sublimation pumps and controllers  
1990 titanium tubing  
1991 titanium wire  
3547 titrators  
3353 tools, also see diamond tools (individual types); miniature tools  
1992 tools, remote-handling  
3548 torque sensors  
3549 torque test systems  
1993 torque transducers  
1994 totalizers  
2247 trace gas detectors  
2345 training, first aid  
1995 training, industrial safety  
1996 training, lasers  
2324 training, nuclear safety  
3550 training, software  
1997 training, vacuum technology  
1998 transfer systems for liquid cryogenes  
3551 transformers, toroidal  
1999 transient digitizers  
2000 transient digitizers, CAMAC  
2001 translators, differential screw  
2002 translators, manual, long travel  
2003 translators, micrometer-driven  
2004 translators, micrometer-driven, vertical  
2005 translators, micrometer-driven, X-Y  
2006 translators, micrometer-driven, X-Y-Z  
2007 translators, micrometer-driven, X-Z  
2008 translators, motor-driven  
2009 translators, motor-driven, long travel  
2010 translators, motor-driven, vertical  
2011 translators, motor-driven, X-Y  
2012 translators, motor-driven, X-Y-Z  
2013 translators, motor-driven, X-Z  
2014 translators, polar coordinate  
2248 traveling wave tubes  
2346 triboelectric devices  
2015 tribometers  
2017 trigger generators  
2018 trigger transformers (high-voltage)  
2016 triggered spark gaps  
2019 tubing, metal  
2020 tungsten foil  
2021 tungsten plate and rod  
2022 tungsten tubing  
2023 tungsten wire  
2024 tuning forks  
2025 turbidity sensors  
2026 turbomolecular pumps and controllers  
3553 tweezers  
2027 ultrahigh vacuum chambers, surface work  
2249 ultrahigh vacuum foil

2028 ultrahigh vacuum gate valves  
2250 ultrahigh vacuum pumps  
2029 ultrahigh vacuum valves, right-angle  
2030 ultrahigh vacuum valves, straight-through  
2031 ultrahigh vacuum valves, variable leak  
2032 ultrahigh vacuum windows  
2033 ultrasonic cleaners  
2034 ultrasonic imaging systems  
2035 ultrasonic machining  
2036 ultrasonic measuring systems  
2037 ultrasonic transducers  
2038 ultraviolet curing systems  
2039 ultraviolet sources  
2251 ultraviolet transmittance analyzers  
2040 undulator magnet systems  
2041 vacuum bakeout  
3563 vacuum bellows, cryogenic  
2043 vacuum bellows, other  
2042 vacuum bellows, stainless steel  
2044 vacuum blowers  
3354 vacuum chambers, also see ultrahigh vacuum chambers  
2045 vacuum chambers, custom  
2046 vacuum coating systems  
2047 vacuum compression ports  
2048 vacuum contactors and interrupters  
2049 vacuum dryers  
2050 vacuum evaporators, direct heating  
2051 vacuum evaporators, electron beam  
2052 vacuum fittings, metal-sealed  
2053 vacuum fittings, O-ring-sealed  
2054 vacuum fittings, quick-connect  
2055 vacuum flanges, metal-sealed  
2056 vacuum flanges, O-ring-sealed  
2057 vacuum flanges, quick-disconnect  
2058 vacuum gate valves  
2059 vacuum gauge system calibration  
2060 vacuum greases and waxes  
2061 vacuum hose, metal  
2062 vacuum hose, plastic  
2063 vacuum hose, rubber  
2064 vacuum manipulators, precision  
2065 vacuum mechanical pump exhaust filters  
2066 vacuum mechanical pump oil  
2067 vacuum mechanical pump rebuilding  
2070 vacuum mechanical pump spare parts  
2068 vacuum mechanical pumps  
2069 vacuum mechanical pumps, dry  
2071 vacuum multiple sample holders  
3401 vacuum pickup tools  
2072 vacuum pumping stations  
3356 vacuum pumps, also see cryopumps; diffusion pumps; ion pumps;  
turbomolecular pumps

3355 vacuum pumps, booster, also see vacuum blowers  
2074 vacuum pumps, diaphragm  
2075 vacuum pumps, getter  
2252 vacuum pumps, oil-free  
2076 vacuum sample transfer systems  
2077 vacuum sealants  
2079 vacuum system controller/computer interfaces  
2080 vacuum systems, custom  
2081 vacuum ultraviolet optical components  
2082 vacuum ultraviolet spectrometers, grazing-incidence  
2083 vacuum ultraviolet spectrometers, normal-incidence  
2084 vacuum valve controllers  
3357 vacuum valves, also see ultrahigh vacuum valves  
2085 vacuum valves, back-to-air  
2086 vacuum valves, diaphragm  
2087 vacuum valves, fast-closing  
2091 vacuum valves, other  
2088 vacuum valves, right-angle  
2089 vacuum valves, straight-through  
2090 vacuum valves, variable leak  
2092 vacuum viewing ports  
2093 vacuum viewing ports, non-magnetic  
2094 vacuum viewing ports, quartz  
2095 vacuum viewing ports, sapphire  
2078 vacuum-side connectors  
2096 vanadium products  
2098 vapor deposition metal slugs, high-purity  
2099 variable frequency drives  
2100 variable orifice vacuum valves and controllers  
2104 variable transformer transducers  
2101 variable transformers  
2102 velocimeters, laser  
2103 velocimeters, particle image  
2105 Venturi pumps  
2106 vessels, high-pressure  
2107 vibration analyzers  
2109 vibration isolators  
2110 vibration isolators, table-top  
2111 vibration meters  
2253 vibration sensors  
2112 vibration shakers and controllers  
2114 vibrometers, laser  
2115 video digitizers  
2118 video printers  
2119 video recorders, laboratory  
2117 videodisc recorders, laboratory  
3554 videoscopes  
2120 vidicons, infrared  
2122 vidicons, visible light  
2123 vidicons, x-ray  
3592 viewers, infrared  
3593 viewers, ultraviolet

2124 viscometers  
2125 vision systems  
2126 VME crates and power supplies  
2127 VME modules  
2128 voltage dividers  
2129 voltage pulse probes, broadband  
2130 voltage sources, AC  
2131 voltage sources, DC  
3402 voltage transducers  
2132 voltage-to-frequency converters  
2133 voltmeters, AC  
3358 voltmeters, also see microvoltmeters; nanovoltmeters  
2134 voltmeters, DC, analog  
2135 voltmeters, DC, digital  
2137 voltmeters, digital, NIM  
2138 voltmeters, electrostatic  
2139 voltmeters, high-voltage  
2140 voltmeters, radio frequency  
2141 voltmeters, sample and hold  
2142 voltmeters, true RMS  
2143 voltmeters, vector  
2144 VXI crates and power supplies  
2145 VXI modules  
3359 VXI modules, also see amplifiers, VXI; attenuators, programmable, VXI  
2146 wafer services  
2254 wafers, silicon-on-insulator  
2147 water deionizers  
3571 water heaters  
2150 water recirculators  
2151 water stills  
2149 water, high-purity  
2148 water-flow switches  
3360 wattmeters, also see power meters, individual types  
3361 waveform analyzers, also see spectrum analyzers  
2153 waveform analyzers, time domain  
2154 waveform digitizers  
2155 waveform digitizers, CAMAC  
3556 wavefront analyzers  
2156 waveguide adapters  
2157 waveguide attenuators  
2158 waveguide bends and twists  
2159 waveguide crystal detector holders  
2160 waveguide directional couplers and power dividers  
2161 waveguide flanges and tubing  
2162 waveguide movable shorts  
2163 waveguide phase shifters  
2164 waveguide pressure windows  
1623 waveguide rotary joints  
2167 waveguide switches  
2168 waveguide tees and magic tees  
2169 waveguide terminations  
2170 waveguide tuners

2165 waveguides, flexible  
2255 wavelength detectors  
2171 wavelength division multiplexers  
2172 wavelength meters  
2173 waveplates  
2174 waveplates, achromatic  
3435 weighing equipment, also see balances; scales  
2176 wiggler magnet systems  
2177 windows, Brewster-angle  
2178 windows, far infrared  
2179 windows, infrared  
3558 windows, sight  
2180 windows, ultraviolet  
2181 windows, visible  
3559 windows, visible, plastic  
3404 wipes, lint free  
2182 wire-grid polarizers  
3560 wireless sensor links  
2183 x-ray accessories  
2184 x-ray analysis services  
2185 x-ray applications, consulting  
2186 x-ray beam position sensors  
2187 x-ray calorimeters  
2189 x-ray cameras, gated  
2190 x-ray cameras, powder  
2191 x-ray cameras, single-crystal  
2192 x-ray cameras, small-angle  
2193 x-ray collimators  
2194 x-ray crystals  
2195 x-ray detectors, CCD  
2197 x-ray detectors, other  
2196 x-ray detectors, Si(Li)  
3606 x-ray diffractometer thermal stages  
2198 x-ray diffractometers  
2199 x-ray diffractometers, high-temperature  
2200 x-ray equipment service  
2201 x-ray fluorescence spectrometers  
2202 x-ray imaging systems  
2203 x-ray microanalysis  
2204 x-ray mirrors  
2205 x-ray monochromators, crystal  
2206 x-ray multilayers  
2207 x-ray optics  
2208 x-ray pinholes  
2209 x-ray position-sensitive detectors  
2210 x-ray reflectometers  
2211 x-ray shutters  
2256 x-ray slits  
2212 x-ray sources, microfocus  
2213 x-ray sources, nuclear-excited  
3594 x-ray sources, other  
2214 x-ray sources, pulsed



2215	x-ray sources, rotary anode
2216	x-ray spectrometers
2217	x-ray spectrometers, microanalysis
2218	x-ray streak cameras
2219	x-ray tubes
2220	x-ray windows
2221	x-y imaging computers
2222	zero gauss calibration chambers
2223	zeta potential analyzers
2224	zinc selenide
2225	zinc sulfide
2226	zirconia ceramics
2227	zirconium foil
2228	zirconium plate and rod
2229	zone melting apparatus