APPENDIX D

INSTRUMENT DATA SHEET
and
SUPERSYSTEM DATA SHEETS
USED IN THE
NATIONAL SURVEY OF RESEARCH INSTRUMENTS AND INSTRUMENTATION NEEDS 1993

OMB No. 3145-0067
Expir. Date 12/31/94

National Science Foundation and National Institutes of Health

National Survey of Academic Research Instruments and Instrumentation Needs

FY 1993 INSTRUMENT DATA SHEET

BACKGROUND AND PURPOSE

This Congressionally-mandated survey is vital to provide the National Science Foundation (NSF), the National Institutes of Health (NIH), and other Federal agencies with data to help set appropriate program priorities and equipment funding levels. In addition, special Federal research equipment programs—such as the NSF Academic Research Infrastructure Program and the NIH Small Instrumentation Grant Program—were established to help meet the academic instrumentation needs that were identified by this survey in the past.

This study is authorized by law (P.L. 96-44). Although you are not required to respond, your cooperation is needed to make the results comprehensive, accurate, and timely. Information gathered in this survey will be primarily used for developing statistical summaries. Information from individual institutions may be made available to policymakers and qualified researchers, with the permission of the Presidents of these institutions.

INSTRUCTIONS

(1) THIS DATA SHEET IS FOR THE PIECE OF RESEARCH EQUIPMENT DESCRIBED ON THE LABEL BELOW. IT WAS SELECTED FROM THE EQUIPMENT INVENTORY RECORDS PROVIDED BY YOUR INSTITUTION. Please review the label and make any necessary corrections to the information.

(2) This Instrument Data Sheet should be completed by the principal investigator or other person(s) knowledgeable about the history and current status of this equipment item. Where exact data are not available, estimates are acceptable. Your estimates will be better than ours.

(3) If you receive data sheets for two or more equipment items that are all components of a single equipment system, fill in only ONE data sheet—the one for the single most expensive component of the system. Then on the data sheets for each of the other components, check Question 3c, enter the ID number of the major system on Question 15, and return the questionnaires to your coordinator.

(4) Please return the completed data sheet(s) to the department or facility representative who distributed them to you by the deadline date set by that person. Your cooperation in returning the data sheet(s) promptly is very important. THANK YOU.

If you have any questions about this study please call Atessa Shahmirzadi or Luz Tatum of Quantum Research Corporation at (800) 369-0896.

NOTE: THIS DATA SHEET REFERS TO THE EQUIPMENT ITEM LISTED ON THE LABEL ON THE FRONT PAGE OF THIS FORM.

Additional identifying information about this equipment:

1. The current status of this piece of equipment is: (CHECK ONE BOX)

a. Serviceable and in use (CONTINUE WITH QUESTION 2) ..... ☐
b. Not yet in service—under development or construction (SKIP TO QUESTION 16) ..... ☐
c. No longer exists/cannot identify or locate item (cannibalized, junked, traded in, or otherwise disposed of) (SKIP TO QUESTION 16) ..... ☐
d. Inactive or inoperable throughout 1993 (SKIP TO QUESTION 16) ..... ☐

2. In FY 1993 this piece of equipment was: (CHECK ONE)

a. Used entirely for research ..... ☐
b. Used predominantly for research, with some instructional use ..... ☐
c. Used predominantly for instruction, with some research use ..... ☐
d. Used entirely for instruction (SKIP TO QUESTION 16) ..... ☐
e. Used for purposes other than research or instruction (SKIP TO QUESTION 16) ..... ☐

3. This piece of equipment is: (CHECK ONE)

a. A stand-alone piece of equipment or system (CONTINUE WITH QUESTION 4) ..... ☐
b. A component in a larger equipment system, of which it is the principal (most costly) component (CONTINUE WITH QUESTION 4) ..... ☐
c. A component in a larger equipment system, of which it is NOT the principal (most costly) component (SKIP TO QUESTION 15) ..... ☐

4. Does this instrument have any separately purchased dedicated accessories that are NOT included in the instrument purchase price (from label, page 1)?

a. Yes (CONTINUE WITH QUESTION 5) ..... ☐
b. No (SKIP TO QUESTION 6) ..... ☐

5. Estimated aggregated purchase price of all dedicated accessories NOT included in the instrument purchase price on page 1: $ _____

6. From the list of equipment below, please check the SINGLE box of the item number that best describes this equipment or equipment system:

COMPUTERS

☐ 01 Graphics/Computer Assisted Design/Imaging

Computer Systems/Components:

☐ 02 With purchase price of less than $50,000
☐ 03 With purchase price of $50,000-$499,999
☐ 04 With purchase price of $500,000-$999,999
☐ 05 With purchase price of $1,000,000 and over

SPECTROMETERS/CHROMATOGRAPHS

☐ 06 Electron/Auger/Ion Scattering
☐ 07 Gas/Liquid Chromatograph
☐ 08 Electron Spectroscopy/Photo Induced Emission Elemental Analyzers
☐ 09 NMR/EPR Spectrometer
☐ 10 UV/Visible/Infrared Spectrophotometer
☐ 11 X-Ray Diffraction Systems
☐ 12 Chromatographs and Elemental Analyzers
☐ 13 Other Spectroscopy Equipment

MICROSCOPES

☐ 14 Electron Microscopes
☐ 15 Other Microscopy Equipment

MAJOR PROTOTYPE SYSTEMS

☐ 16 Telescope/Astronomical Instrument System
☐ 17 Nuclear Reactor/ Nuclear Science Instrument System
☐ 18 Research Vessel
☐ 19 Wind Tunnel
☐ 20 Plane/Helicopter
☐ 21 Molecular/Electron/Ion Beam Systems
☐ 22 Other Major Prototype System

MISCELLANEOUS

☐ 23 Cell Sorters/Counters, Cytometers
☐ 24 Centrifuges and Accessories
☐ 25 DNA/Protein Synthesizers/Sequencers/Analyzers
☐ 26 Growth/Environmental Chambers
☐ 27 Scintillation/Gamma Radiation/Counters/Detectors
☐ 28 Electronics Equipment (Cameras, etc.)
☐ 29 Temperature/Pressure Control/Measurement Equipment
☐ 30 Lasers and Optical Equipment
☐ 31 Robots, Manufacturing Machines
☐ 32 Other, not elsewhere classified

7. Please indicate in Column A below the ONE area that is the PRINCIPAL broad field of research or instruction in which this equipment was used in FY 1993. In Column B please put a check mark beside ALL the fields for which this equipment was also used in FY 1993.

FIELD	COLUMN A PRINCIPAL Field (check one only)	COLUMN B SECONDARY Fields (check all that apply)
ENGINEERING		
101 Aerospace Engineering	☐	☐
102 Agricultural Engineering	☐	☐
103 Biomedical Engineering	☐	☐
104 Chemical Engineering	☐	☐
105 Civil Engineering	☐	☐
106 Electrical Engineering	☐	☐
107 Engineering Science	☐	☐
108 Industrial Engineering/Management Science	☐	☐
109 Mechanical Engineering	☐	☐
110 Metallurgical and Materials Engineering	☐	☐
111 Mining Engineering	☐	☐
112 Nuclear Engineering	☐	☐
113 Petroleum Engineering	☐	☐
114 Engineering, not elsewhere classified	☐	☐
PHYSICAL SCIENCES		
201 Astronomy	☐	☐
202 Chemistry	☐	☐
203 Physics	☐	☐
204 Physical Sciences, not elsewhere classified	☐	☐
ENVIRONMENTAL SCIENCES		
301 Atmospheric Sciences	☐	☐
302 Geosciences	☐	☐
303 Oceanography	☐	☐
304 Environmental Sciences, not elsewhere classified	☐	☐
COMPUTER SCIENCE		
401 Computer Science	☐	☐
AGRICULTURAL SCIENCES (See also 102)		
501 Agricultural Sciences	☐	☐
BIOLOGICAL SCIENCES		
601 Anatomy	☐	☐
602 Biochemistry	☐	☐
603 Biology	☐	☐
604 Biometry and Epidemiology	☐	☐
605 Biophysics	☐	☐
606 Botany	☐	☐
607 Cell Biology	☐	☐
608 Ecology	☐	☐
609 Entomology and Parasitology	☐	☐
610 Genetics	☐	☐
611 Microbiology, Immunology, and Virology	☐	☐
612 Nutrition	☐	☐
613 Pathology	☐	☐
614 Pharmacology	☐	☐
615 Physiology	☐	☐
616 Zoology	☐	☐
617 Biological Sciences, not elsewhere classified	☐	☐
OTHER FIELDS		
999 Other Multidisciplinary Field	☐	☐

8. Please indicate the source(s) of funds for acquisition of this equipment, including dedicated accessories. (ESTIMATE approximate percentage contribution from each applicable source to the nearest whole number.)

FUNDING SOURCE	PERCENT (APPROXIMATE)
Federal Sources:	
National Science Foundation	_____
National Institutes of Health	_____
Department of Defense	_____
Department of Energy	_____
Other Federal Sources[1] (see footnote)	_____
Non-Federal Sources:	
Institution or Department Funds	_____
State Grant or Appropriation	_____
Industry	_____
Other Non-Federal Sources (including private, nonprofit foundations, gifts, bonds)	_____
Total	100%

[1] Federal sources include: Departments of Agriculture, Commerce, Education, Health and Human Services other than NIH, Housing and Urban Development, Interior, Justice, Labor, and Veterans Affairs; and the following agencies: the Environmental Protection Agency (EPA), the Nuclear Regulatory Commission (NRC), and the National Aeronautics and Space Administration (NASA).

9. Please estimate the expenditures for maintenance/repair (NOT for operation) of this equipment and its accessories in FY 1993. (For multi-year service contracts, warranties, etc., prorate to indicate cost of coverage in FY 1993.)

$ _____

10. The adequacy of the maintenance/repair this equipment received in FY 1993 was: (CIRCLE ONE)

Excellent		Adequate		Inadequate
1	**2**	**3**	**4**	**5**

OR:

☐ **6** **Not applicable; no servicing needed**

11. The equipment's general working condition in FY 1993 was: (CIRCLE ONE)

Excellent		Adequate		Inadequate
1	**2**	**3**	**4**	**5**

OR:

☐ **6** **Inoperable the entire year**

12. The equipment's technical capabilities to meet the needs of the research users (resolution, speed, etc.) are: (CIRCLE ONE)

Excellent		Adequate		Inadequate
1	**2**	**3**	**4**	**5**

13. The research status of this equipment in FY 1993 was: (CIRCLE ONE)

State-of-the-art: the most highly developed and scientifically sophisticated equipment of its kind 1

Not state-of the-art, but adequate to meet the needs of researchers in this department/facility 2

Not state-of-the-art; inadequate to meet the needs of researchers in this department/facility 3

14. The number (headcount) of research investigators who made use of this equipment for research purposes during FY 1993: (ESTIMATE APPROXIMATE NUMBER IN EACH CATEGORY)

		NUMBER
a.	Faculty[1] from this department/facility	_____
b.	Graduate students and postdoctorates from this department/facility	_____
c.	Researchers from other departments/facilities of this university	_____
d.	Researchers outside this university	_____
e.	Other (Specify)	_____
	TOTAL	_____

[1] Faculty includes tenured, non-tenured, teaching, and visiting faculty and researchers of faculty equivalent rank; it does not include postdoctorates.

Person who prepared this submission: (PLEASE PRINT)

Name _____

Title _____

Telephone No. ( ) _____

15. COMMENTS

Please note in the space below any additional information needed to clarify the nature, function, and quality of this equipment. For component pieces of equipment belonging to a system, please identify the serial number of the system. (See Instruction #3 on the front page.)

Continue on page 6.

16. Thank you for completing this questionnaire. Please indicate the total amount of time required to complete this form.

Time required to complete this form: _____ _____
Hours Minutes

OMB Number 3145-0067
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The National Science Foundation and National Institutes of Health
National Survey of Academic Research Instruments and Instrumentation Needs

FY 1993 SUPERSYSTEM DATA SHEET

Conducted by Quantum Research Corp. (QRC), 7315 Wisconsin Ave., Suite 631W, Bethesda, MD 20814

Together with the associated Department/Facility Questionnaire, this data sheet is part of a major national assessment of the amount, condition, and adequacy of academic research equipment. This data sheet concerns a large, integrated instrumentation system/facility that has been identified by your institution. The system is described on the label above.

This study is authorized by law (P.I. 96-44). Although you are not required to respond, your cooperation is needed to make the results comprehensive, accurate, and timely. Information gathered in this survey will be primarily used for developing statistical summaries. Information from individual institutions may be made available to policymakers and qualified researchers, with the permission of the Presidents of these institutions.

Your cooperation in returning the data sheet promptly to your survey coordinator is very important. For assistance with this questionnaire that cannot be provided by your survey coordinator please contact Atessa Shahmirzadi or Luz Tatum of QRC at (800) 369-0896.

For purposes of this data sheet, the word "unit" in the following questions refers to the particular instrumentation system/facility that is described on the label above.

1. Please provide a brief description of this unit and its principal research equipment:

   _____

   _____

   _____

2. In what broad field(s) of research is this unit's equipment used (e.g., oceanography, microbiology, horticulture)?

   _____

3. When did this unit first become operational?

   Year: _____

(CONTINUED, OVER)

4. Since the unit first became operational, have there been any major changes, (e.g., expansions, replacements) in its core research equipment?

Yes ..... 1 (Continue to 4a)

No ..... 2 (Skip to 5)

4a. When was the most recent major change in this unit's core research equipment?

Year: _____

5. What is the approximate total cost of the movable research equipment in this unit? (Estimates are acceptable). **FOR RESEARCH VESSELS, LEAVE QUESTION 5 BLANK AND GO TO QUESTION 6.**

$ _____

6. What is the approximate total cost of the entire unit, including construction costs and costs of all fixed and movable equipment currently in the unit? (Estimates are acceptable; if unit is over 10 years old and actual cost data are not available, estimate the current-dollar replacement cost of the unit and its equipment.)

$ _____

6a. Is the above (CIRCLE ONE):

Approximate actual cost, from records 1
Informed estimate of actual cost 2
Informed estimate of replacement cost 3

7. Is this unit housed:

In its own building 1
In building(s) shared with other units of the institution 2

8. Is this unit used for (CIRCLE ALL THAT APPLY):

Research 1
Teaching/instruction 2
Administrative purposes 3
Other... 4

Person who prepared this submission: (PLEASE PRINT)

Name: _____

Title: _____

Telephone Number _____
Fax Number: _____

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The National Science Foundation and National Institutes of Health
National Survey of Academic Research Instruments and Instrumentation Needs

FY 1993 SUPERSYSTEM DATA SHEET
(Computer System)

Conducted by Quantum Research Corp. (QRC), 7315 Wisconsin Ave., Suite 631W, Bethesda, MD 20814

Together with the associated Department/Facility Questionnaire, this data sheet is part of a major national assessment of the amount, condition, and adequacy of academic research equipment. This data sheet concerns a central computer system that has been identified by your institution. The system is described on the label above.

This study is authorized by law (P.I. 96-44). Although you are not required to respond, your cooperation is needed to make the results comprehensive, accurate, and timely. Information gathered in this survey will be primarily used for developing statistical summaries. Information from individual institutions may be made available to policymakers and qualified researchers, with the permission of the Presidents of these institutions.

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1. What is the principal computer for this system (e.g., IBM 360, Cray 2)?

   _____

2. When did this computer become operational?

   Year: _____

3. What is the approximate total cost of the computing equipment in this system? (Include all computing equipment that is inventoried to this facility, such as CPUs, tape drives, printers, terminals, etc.: estimates are acceptable.)

   $ _____

(CONTINUED, OVER)

4. Is this computer system housed:

In its own building(s) 1

In building(s) shared with other units of the institution 2

5. Is this computer system used for (CIRCLE ALL THAT APPLY):

Research 1

Teaching/instruction 2

Administrative purposes 3

Other (specify) 4

Person who prepared this submission: (PLEASE PRINT)

Name: _____

Title: _____

Telephone Number: _____

Fax Number: _____