

NONIONIZING RADIATION MEASUREMENT CAPABILITIES

STATE AND FEDERAL AGENCIES



U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Radiation Programs

NONIONIZING RADIATION
MEASUREMENT CAPABILITIES
STATE AND FEDERAL AGENCIES



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Washington, D. C. 20460

TABLE OF CONTENTS

| | <u>Page No.</u> |
|--|-----------------|
| Description of Categories of Measurement Capabilities. | 1 |
| I. Measurement Capabilities--States | |
| A. Gross Hazard Survey | |
| Region I | 3 |
| Region II. | 3 |
| Region IV. | 4 |
| Region VI. | 5 |
| Region VII | 5 |
| B. Spectrum Scanning | |
| Region II. | 6 |
| II. Measurement Capabilities--Federal Agencies | |
| A. Gross Hazard Survey. | 6 |
| B. Spectrum Scanning. | 15 |
| C. Generalized Environmental Background Monitoring. . . | 36 |
| III. Geographical Index of Measurement Capabilities | 40 |
| IV. Index of Federal Agencies. | 42 |

NONIONIZING RADIATION MEASUREMENT CAPABILITIES STATE AND FEDERAL AGENCIES

The capabilities of the various State organizations and Federal agencies to measure nonionizing electromagnetic radiation have been determined. This document is intended to aid agencies of the Federal Government in locating possible sources of measurement assistance. The capability descriptions which are presented in this report were developed under the auspices of the Side Effects Working Group, Technical Subcommittee, Interdepartment Radio Advisory Commission, and are based upon information provided by State organizations and Federal agencies to requests for descriptions of capabilities which could be made available. The capabilities of interest are grouped into three categories: (1) gross hazard survey; (2) spectrum scanning in which field intensity and/or power density is measured as a function of frequency; and (3) generalized environmental background measurement. These capability categories have the following general characteristics:

1. A gross hazard survey capability is the capability to measure power density using a portable, battery powered instrument equipped with an isotropic probe. The probe should have a very broadband frequency response allowing a measurement of total power density integrated over a wide range of frequencies with a threshold sensitivity of at least $200 \times 10^{-6} \text{ w/cm}^2$. The instrument should be responsive to both continuous wave (CW) and pulsed radiofrequency (RF) and microwave fields and provide an accurate measurement of total power density including the contribution of the average power density of pulsed fields.
2. A spectrum scanning capability allows a wide range of frequencies to be scanned to identify signals, and measure field strengths and/or power densities of the detected signals. Self-scanning or manually scanned spectrum analyzers or field intensity meters, having the capability of at least both narrow and wide bandwidth frequency resolution, together with calibrated antenna systems, are used to obtain field measurements. The antenna systems should be capable of being oriented to maximize antenna sensitivity to the electromagnetic radiation field, or preferably be sensitive to all of the orthogonal components of the field.
3. The performance of generalized environmental background monitoring requires a sensitive frequency scanning system with narrow bandwidth capability and isotropic broadband antenna systems to determine power density and/or field intensity as a function of frequency. Contributions to environmental levels from CW and pulsed sources should be capable of being measured. Information regarding time variation of radiation levels should be obtainable, with the capability to determine pulsed source

characteristics (i.e., peak intensity, pulse width, repetition rate), a desired but not required feature. A computer based data acquisition and data reduction system, interfaced with the sensor and measurement systems, should be capable of providing adequate data storage for real-time data reduction and visual display. However, data acquisition need not include a real-time data reduction, as long as the means exist to adequately analyze the data and evaluate the results within a reasonable time interval after the measurements are made.

The State and Federal organizations included in this report appear to have capabilities which satisfy or closely approach the requirements described. The availability of instrumentation systems has been indicated where possible. A capability which does not meet all of the criteria described for the three capability categories defined is included for the purpose of indicating resources which could be used to yield some useful information until instrumentation more appropriate to a particular situation can be obtained.

U.S. Government establishments having a need for the capabilities described in this document should contact the cognizant organization. Whether such capabilities are made available is the prerogative of the agency contacted. Furthermore, any environmental nonionizing electromagnetic radiation situation which involves a request for assistance should be brought to the attention of the Office of Radiation Programs, Environmental Protection Agency, Washington, D.C., which is responsible for keeping this information current. The following persons may be contacted:

David E. Janes
Chief, Electromagnetic Radiation Analysis Branch
Office: (301)427-7605
Home: (301)762-6092

Richard A. Tell
Office: (301)427-7605
Home: (301)340-9295

Norbert Hankin
Office: (301)427-7605
Home: (301)869-5320

This report summarizes only certain classes of the nonionizing measurement capabilities which exist and may be available in State and Federal agencies; it intentionally excludes similar and extensive resources which may be found both in universities and private industry.

I. MEASUREMENT CAPABILITIES--STATES

A. Gross Hazard Survey Capability

Region I

Connecticut

Ramcor Densimeter

Frequency range: 200 MHz - 11 GHz

Sensitivity: 0 - 20 mW/cm²

6 directional antennas are used to cover the range of frequencies

Maximum power density may be extended through the use of appropriate attenuators

Contact:

Byron E. Keene

Acting Chief, Radiation and Noise

Environmental Protection Agency, Region I

John F. Kennedy Federal Building

Boston, Massachusetts 02203

Office: (617)223-7210 Home: (617)729-8356

Region II

New York

Ramcor Densimeter

Model 1200

Frequency range: 200 MHz - 18 GHz

Sensitivity: 0 - 20 mW/cm²

6 directional antennas are used to cover range of frequencies

Contact:

F.J. Bradley

Radiological Health Unit, Division of Industrial Hygiene

Department of Labor, State of New York

80 Centre Street

New York, New York 10013

Office: (212)488-7720, (212)488-7790

Michael S. Terpilak

Chief, Environmental Radiation Branch

Environmental Protection Agency, Region II

26 Federal Plaza

New York, New York 10007

Office: (212)264-4418 Home: (609)448-6478

I. MEASUREMENT CAPABILITIES--STATES (Continued)

New Jersey

Ramcor Densimeter

Model 1200

Frequency range: 200 MHz - 11 GHz

Sensitivity: 0 - 20 mW/cm²

6 directional antennas are used to cover the range of frequencies

Contact:

John J. Russo

Chief, Bureau of Radiation Protection

Division of Environmental Quality, State of New Jersey

John Fitch Plaza

P.O. Box 1390

Trenton, New Jersey 08625

Office: (609)292-5588

Michael S. Terpilak

Chief, Environmental Radiation Branch

Environmental Protection Agency, Region II

26 Federal Plaza

New York, New York 10007

Office: (212)264-4418 Home: (609)448-6478

Region IV

Tennessee

Ramcor Densimeter

Model 2100B

Frequency range: 200 MHz - 11 GHz

Sensitivity: 0 - 20 mW/cm²

6 directional antennas are used to cover the range of frequencies

Contact:

H. Richard Payne

Chief, Environmental Radiation Branch

Environmental Protection Agency, Region IV

1421 Peachtree Street

Atlanta, Georgia 30309

Office: (404)526-3067 Home: (404)457-2988

I. MEASUREMENT CAPABILITIES--STATES (Continued)

Region VI

Texas

Narda Broadband Radiation Monitor

Model 8500

Frequency range: 915 MHz - 13.8 GHz

Sensitivity: 0.1 mW/cm² - 20 mW/cm²

Contact:

Ralph G. Griffin

Chief, Program and Interagency Liaison

Division of Occupational Health and Radiation Control

Texas State Department of Health

Austin, Texas

Joseph F. Thiel

Environmental Health Specialist

Nonionizing Radiation Program, Division of Occupational
Health and Radiation Control

Texas State Department of Health

Austin, Texas

Douglas Keefer

Regional Radiation Representative

Environmental Protection Agency, Region VI

1600 Patterson, Suite 1100

Dallas, Texas 75201

Office: (214)749-2625 Home: (214)239-0569

Region VII

Iowa

Ramcor Densimeter

Model 1200B

Frequency range: 800 - 5850 MHz

3 directional antennas are available to cover the range of
frequencies

Contact:

G.A. Jacobson

Regional Radiation Representative

Environmental Protection Agency, Region VII

1735 Baltimore Avenue, Room 249

Kansas City, Missouri 64108

Office: (816)374-3036 Home: (913)381-4383

I. MEASUREMENT CAPABILITIES--STATES (Continued)

B. Spectrum Scanning Capability

Region II

New York

Jerrold Field Strength Meter

Model 727

Frequency range: 5 - 100 MHz, 471 - 889 MHz

The antennas available are not calibrated

Contact:

Saul J. Harris

Director, Department of Health

Office of Radiation Control, City of New York

325 Broadway

New York, New York 10007

Office: (212)566-7750

Michael S. Terpilak

Chief, Environmental Radiation Branch

Environmental Protection Agency, Region II

26 Federal Plaza

New York, New York 10007

Office: (212)264-4418 Home: (609)448-6478

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCIES

A. Gross Hazard Survey Capability

1. U.S. Department of Commerce
National Bureau of Standards
Electromagnetics Division
Boulder, Colorado 80302

- a. NBS isotropic probe and meter
Frequency range: 300 MHz - 3 GHz
Sensitivity: 0.1 mW/cm^2 - 1.0 W/cm^2
- b. NBS nonisotropic probes
Frequency range: 1 - 300 MHz
Sensitivity: 0 - 2000 v/m

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCIES (Continued)

Contact:

R.C. Baird
Chief, Electromagnetic Fields and Antennas Section
(303)499-1000, x3301

R.R. Bowman
Electromagnetic Fields and Antennas Section
(303)499-1000, x3454

M.L. Crawford
Electromagnetic Fields and Antennas Section
(303)499-1000, x4497

2. U.S. Department of Commerce
Office of Telecommunications
Institute for Telecommunication Sciences
Boulder, Colorado

- a. Hewlett-Packard Power Meter
Model 432A
Sensitivity: 0 - 10 mW
Accuracy: $\pm 1\%$ of full scale
- b. Hewlett-Packard Thermistor Mount
Model 8478B
Frequency range: 10 MHz - 18 GHz
Sensitivity: 1 μ W - 10 mW
Calibrated antennas are needed for survey application

Contact:

Stanley I. Cohn
Chief, Frequency Management Support Division
Office of Telecommunications
Washington, D.C. 20230
(202)967-5012

3. Federal Communications Commission
Laboratory Division
Laurel, Maryland 20810

- a. Narda Broadband Isotropic Radiation Monitor
Model 8300
Frequency range: 300 MHz - 18 GHz
Sensitivity: 0.1 - 20 mW/cm²

Contact:

Chief, Laboratory Division
(301)725-1585

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCY (Continued)

4. Atomic Energy Commission

Primary Contact:

Robert W. Wood
Chief, Physics and Instrumentation Branch
Division of Biomedical and Environmental Research
Washington, D.C.
(301)973-5355

Kansas City Area Office
Kansas City, Missouri
(816)363-3900

- a. Ramcor Densimeter
Model 1200A
Frequency range: 200 - 3900 MHz
Sensitivity: 0 - 1 mW/cm²
4 calibrated directional antennas are available

5. National Aeronautics and Space Administration
Goddard Space Flight Center
Greenbelt, Maryland 20771

- a. Ramcor Densimeter
Model 1250B
Frequency range: 200 MHz - 11 GHz
No information is available with regard to the calibrated
antennas which are required, or the dynamic range of the
instrument.
- b. Narda Electromagnetic Radiation Monitor
Model 86B3
Frequency range: 450 MHz - 12.4 GHz
Sensitivity: 0.5 - 20 mW/cm²

Personnel are not available for field surveys.

Contact:

Leven B. Gray
Chief, Administration and Management Directorate
Health and Safety Engineering Office
Goddard Space Flight Center
Greenbelt, Maryland 20771
(301)982-2441, (301)982-6295

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCIES (Continued)

6. National Aeronautics and Space Administration
Langley Research Center
Hampton, Virginia 23365

- a. Sperry Microwave Radiation Monitor
Model B86B2
Frequency range: 400 MHz - 10 GHz
Sensitivity: 0 - 20 mW/cm²
- b. Waveline Densimeter
Model 1200B
Frequency range: 200 MHz - 11 GHz
Sensitivity: 1 - 20 mW/cm²

Qualified personnel are available to conduct surveys.

Contact:

Raymond G. Romatowski
Director for Administration
Langley Research Center
Hampton, Virginia 23365
(703)827-2741

7. National Aeronautics and Space Administration
Manned Spacecraft Center
Houston, Texas 77058

- a. Ramcor Densimeter
Model 1208A
Frequency range: 200 MHz - 11 GHz
Sensitivity: 1 - 20 mW/cm²
Seven calibrated directional antennas available.

Qualified personnel are available to conduct surveys.

Contact:

Dowis C. Atkins, Jr.
Kelsey-Seybold Clinic
Medical Support Services
NASA-Manned Spacecraft Center
Houston, Texas 77058
(713)483-7733

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCIES (Continued)

8. National Aeronautics and Space Administration
John F. Kennedy Space Center
Kennedy Space Center, Florida 32899

- a. Narda Radiation Monitor
Model B86B3
Frequency range: 450 MHz - 12.4 GHz
Sensitivity: 0.5 - 20 mW/cm²
- b. Sperry Radiation Monitor
Model B86B1
Characteristics were not provided.
- c. Ramcor Densimeter
Model 8200
Characteristics were not provided.

Qualified personnel are available to conduct surveys.

Contact:

N.R. Koenig
IS-MED-A/Environmental Health Officer
John F. Kennedy Space Flight Center
Kennedy Space Center, Florida 32899
(305)867-5453

9. Environmental Protection Agency
Office of Radiation Programs
Waterside Mall Building, East Tower
401 M Street, S.W.
Washington, D.C. 20460

- a. Narda Broadband Isotropic Radiation Monitor
Model 8300
Frequency range: 300 MHz - 18 GHz
Sensitivity: 0.1 - 20 mW/cm²

Qualified personnel are available to conduct surveys.

Contact:

David E. Janes
Chief, Electromagnetic Radiation Analysis Branch
Office of Radiation Programs
Waterside Mall Building, East Tower
401 M Street, S.W.
Washington, D.C. 20460
(202)755-1188

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCIES (Continued)

10. Department of Health, Education, and Welfare
Public Health Service
Food and Drug Administration
12720 Twinbrook Parkway
Rockville, Maryland 20852

- a. Narda Electromagnetic Radiation Monitor
Model B86B3
Frequency range: 1 - 12.4 GHz
Sensitivity: 0 - 20 mW/cm²
- b. 2 Ramcor Densimeters
Model 1200B
Frequency range: 800 - 1800 MHz, 2300 - 3950 MHz
Sensitivity: 0 - 23 mW/cm²

Contact:

Roger H. Schneider, Acting Director
Division of Electronic Products
Bureau of Radiological Health
Rockville, Maryland 20852
(301)443-4016

11. Department of Health, Education, and Welfare
Public Health Service
National Institute for Occupational Safety and Health
1014 Broadway
Cincinnati, Ohio 45202

- a. Narda Broadband Isotropic Radiation Monitor
Model 8305
Frequency range: 300 MHz - 18 GHz
Sensitivity: 0.1 - 20 mW/cm²
- b. Hewlett-Packard Power Meter
Model 432A
Frequency range: 30 MHz - 40 GHz
Sensitivity: 0 - 10 mW
Thermistor mounts and calibrated antennas are available to
cover the designated frequency range.

Qualified personnel are available to conduct surveys.

Contact:

Wordie H. Parr, Acting Chief
Physical Agents Branch, DLCD
National Institute for Occupational Safety and Health
Cincinnati, Ohio 45202
(513)684-3450, (513)684-3418

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCIES (Continued)

12. Department of the Army
U.S. Army Environmental Hygiene Agency
Edgewood Arsenal, Maryland

- a. Hewlett-Packard Power Meters
Models 431 A, C, and Model 432B
Frequency range: 30 MHz - 40 GHz
Numerous thermistor mounts and calibrated directional
antennas are available.
- b. Waveline Densimeter
Model 1200B
Frequency range: 200 MHz - 11 GHz
Sensitivity: 1 - 400 mW/cm²
Uses several calibrated directional antennas.

Qualified personnel are available to conduct surveys.

Contact:

Col. William W. Young
Director, Radiation and Environmental Sciences
U.S. Army Environmental Hygiene Agency
Edgewood Arsenal, Maryland
(301)671-4318

13. Department of the Army
U.S. Army Electronics Command
Fort Monmouth, New Jersey

- a. Ramcor Densimeter
Model 1200
Frequency range: 200 - 450 MHz, 2.6 - 3.36 GHz, 5.0 - 5.9 GHz,
8.5 - 10 GHz
4 calibrated directional antennas available
Sensitivity: 1.0 - 20 mW/cm²
- b. Sperry Radiation Monitor
Model B86B1
Frequency range: 400 MHz - 10 GHz
Sensitivity: 0.5 - 20 mW/cm²

Contact:

John J. O'Neil
U.S. Army Electronics Command
Fort Monmouth, New Jersey 07703
(201)535-1877, Autovon 995-1877

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCIES (Continued)

14. Department of the Navy

Navy Industrial Environmental Health Center
Cincinnati, Ohio 45220

- a. Narda Power Density Meter, Model 8210
Narda Thermocouple Mounts, Model 8421
Plus various calibrated directional antennas
Frequency range: 2.3 - 11.0 GHz
Sensitivity: 0.1 - 20 mW/cm²
- b. Hewlett-Packard Power Meter, Model 432A
H-P Thermistors
Several standard gain directional antennas are available
Frequency range: 5.4 - 26.0 GHz

Qualified personnel are available for surveys.

Contact:

Lt. Paul D. Tveten
Navy Industrial Environmental Health Center
3333 Vine Street
Cincinnati, Ohio 45220
(513)684-3947, Autovon 989-3947

15. Department of the Navy

Naval Weapons Laboratory
Dahlgren, Virginia 22448

- a. Narda Broadband Isotropic Radiation Monitor
Model 8300
Frequency range: 300 MHz - 18 GHz
Sensitivity: 0.1 - 20 mW/cm²
- b. Power meter, antennas
Frequency range: 10 MHz - 40 GHz
Dynamic range: 50 dB
Sensitivity: -40 dBm

Qualified personnel are available to conduct surveys.

Contact:

Ernest Tolive or Charles Gallaher
Naval Weapons Laboratory
Dahlgren, Virginia 22448
(703)663-8481, Autovon 249-8481

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCIES (Continued)

16. Department of the Navy
Naval Electronics Systems Command Activity
4400 Dauphine Street
New Orleans, Louisiana 70146

a. Ramcor Densimeter
Model 1200B
Frequency range: 200 MHz - 11 GHz
Sensitivity: 1 - 20 mW/cm²

Contact:

B.J. Riley, Jr., Officer in Charge
Naval Electronics Systems Command Activity
New Orleans, Louisiana
(504)947-5571, x355; Autovon 363-1355

17. Department of the Navy
Naval Avionics Facility (441)
21st and Arlington Avenue
Indianapolis, Indiana 46218

a. Frequency range: 450 MHz - 12.4 GHz
Sensitivity: 0.5 - 20 mW/cm²
No other information given.

Contact:

David Fossburg
Naval Avionics Facility (441)
Indianapolis, Indiana 46218
(317)355-3881, Autovon 634-1911, x3881

18. Department of the Navy
Pacific Missile Range
Point Mugu, California 93042

Capability described only as existing.

Contact:

W.R. Milne
Radiation Health Physicist and Radiological Safety Officer
Pacific Missile Range
Point Mugu, California 93042
(805)982-7607, Autovon 873-7607, 873-8204

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCIES (Continued)

19. Department of the Air Force
USAF Radiological Health Laboratory
Wright-Patterson AFB
Dayton, Ohio 45433

- a. Ramcor Densimeter
Models 1200, 1200B
Frequency range: 200 MHz - 11 GHz
Sensitivity: 2 - 20 mW/cm²
- b. Hewlett-Packard Power Meter
Model 432A
Frequency range: 10 300 MHz, 18 - 40 GHz
Sensitivity: 1 μ W - 100 mW, accurate only for far field measurements
- c. Narda Broadband Isotropic Radiation Monitor
Model 8300
Frequency range: 300 MHz - 18 GHz
Sensitivity: 0.1 - 20 mW/cm²

Contact:

Commander
USAF Radiological Health Laboratory
Wright Patterson AFB
Dayton, Ohio 45433
(513)257-6672, Autovon 787-6672

B. Spectrum Scanning Capability

1. Department of Health, Education, and Welfare
Public Health Service
Food and Drug Administration
12720 Twinbrook Parkway
Rockville, Maryland 20852
 - a. Hewlett-Packard Spectrum Analyzer
Model 8552
Frequency range: 20 Hz - 18 GHz
Dynamic range: 120 dB
Calibrated antennas available
Data is recorded on magnetic tape in analog form for analysis by computer at a later time.

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCIES (Continued)

- b. Stoddart Field Strength Meter
Model NM50A
- c. Hewlett-Packard Spectrum Analyzer
Model 8551B
Frequency range: 10 MHz - 12.4 GHz
Dynamic range: 115 dB

Contact:

Roger H. Schneider, Acting Director
Division of Electronic Products
Bureau of Radiological Health
Rockville, Maryland 20852
(301)443-4016

- 2. U.S. Department of Commerce
National Bureau of Standards
Electromagnetics Division
Boulder, Colorado 80302

- a. Fairchild Interference Analyzer
Model EMC-25
- b. Panoramic SP-100 Spectrum Analyzer, plus associated antennas
and components
Frequency range: 14 KHz - 40 GHz capability
Minimum sensitivity: 0.1 V

Contact:

R.C. Baird
Chief, Electromagnetic Fields and Antennas Section
National Bureau of Standards
Boulder, Colorado 80302
(303)499-1000, x3301

R.R. Bowman
Electromagnetic Fields and Antennas Section
(303)499-1000, x3454

M.L. Crawford
Electromagnetic Fields and Antennas Section
(303)499-1000, x4497

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCIES (Continued)

3. Federal Communications Commission
Laboratory Division
Washington, D.C. 20554

- a. Spectrum analysis and field intensity measurement capability
Frequency range: 100 Hz - 10 GHz (field intensity measurement),
100 Hz - 18 GHz (spectrum analysis)
Dynamic range: 10 μ V/m - 10 V/m

Contact:

Chief, Laboratory Division
Laurel, Maryland 20810
(301)725-1585

4. Federal Communications Commission
Engineering and Facilities Division
Washington, D.C. 20554

- a. Equipment includes:
spectrum analyzers
field intensity meters
tunable receivers
mobile units
Frequency range of capability: 10 KHz - 10 GHz
Threshold sensitivity: 10 μ V/m
Dynamic range: 10⁶

Contact:

Chief, Engineering and Facilities Division
Federal Communications Commission
Washington, D.C. 20554
(202)632-7593

5. U.S. Atomic Energy Commission

Primary Contact for all area offices:

Robert W. Wood
Chief, Physics and Instrumentation Branch
Division of Biomedical and Environmental Research
Washington, D.C.
(301)973-5355

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCIES (Continued)

Amarillo Area Office
 Amarillo, Texas
 (806)335-1581

- a. A mobile van containing the following equipment:
 - (1) Hewlett-Packard Spectrum Analyzer containing:
 - Model 141T display unit
 - Model 8552B I.F. section
 - Model 8554L tuning section
 - Frequency range: 500 KHz to 1250 MHz
 - Sensitivity: -117 dBm (300 Hz Bandwidth)
 - Dynamic range: 65 dB
 - (2) Singer Metrics Radio Interference Meter
 - Model NF105
 - Frequency range: 150 KHz to 1 GHz
 - Sensitivity, narrow band: -127 dBm at 150 KHz
to -94 dBm at 1 GHz
 - Dynamic range: 100 dB
 - (3) Singer Metrics Spectrum Analyzer
 - Model SPA-10
 - Frequency range: 4.64 to 12.24 GHz
 - Threshold sensitivity: -80 to -95 dBm
 - Dynamic range: unknown
 - (4) Mason Manufacturing Portable Receiver System
 - Model A2
 - Frequency range: 50 KHz to 1.2 GHz
 - Sensitivity: 3 μ V for 10 dB S+N/N ratio
 - Dynamic range: unknown
 - (5) Antennas: dipole and log periodic, to cover
frequency range: 150 KHz to 12.4 GHz
- b. Equipment located in laboratories
 - (1) Hewlett-Packard Spectrum Analyzer
 - Model 8551
 - Model 851B display unit
 - Frequency range: 10.1 MHz to 12 GHz
 - Dynamic range: 65 dB
 - Threshold sensitivity: better than -85 dBm

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCIES (Continued)

(2) Singer Metrics Radio Interference Meter

Model NF105

Specifications: Refer to II.B.5a(2) on preceding page.

Burlington Area Office

Burlington, Iowa

(319)754-1110

a. Capability consists of spectrum analyzer

Frequency range: 1 KHz - 1.25 GHz

Dynamic range: -120 dBm to +10 dBm

Calibrated antennas

Dayton Area Office

Miamisburg, Ohio

(513)866-7444

a. Hewlett-Packard Spectrum Analyzer

Frequency range: 1 KHz - 1.25 GHz

Threshold sensitivity: -117 dB at 1.25 GHz

b. Fairchild Interference Analyzer

Model EMC-25

Frequency range: 14 KHz - 1 GHz

Threshold sensitivity: varies from 0.03 - 1.6 μ V over frequency range

Kansas City Area Office

Kansas City, Missouri

(816)363-3900

a. Hewlett-Packard Spectrum Analyzer system plus antennas

Frequency range: 1 KHz - 1.2 GHz

b. Fairchild Magnetic Field Probes

Frequency range: 14 KHz - 230 MHz

c. F.G. Mason Receiver

Frequency range: 50 KHz - 2 GHz

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCIES (Continued)

Los Alamos Area Office
 Los Alamos, New Mexico
 (505)667-5061

- a. Singer Noise and Field Intensity Meter
 Model NF 105B
 Frequency range: 150 KHz to 200 MHz

Pinellas Area Office
 St. Petersburg, Florida
 (813)544-2691

- a. Hewlett-Packard Spectrum Analyzer
 Model 141S/8552A/8553L, 8554L
 Frequency range: 14 KHz - 1.2 GHz
- b. Mason Portable AM-FM-CW Radio Receiver
 Model A-2
 Frequency range: 50 KHz to 1200 MHz
- c. Fixed AM-FM-CW-SSB receivers covering the spectrum
 from .5 to 30 MHz

No calibrated antennas or calibrated field intensity measuring equipment is available.

Rocky Flats Area Office
 Golden, Colorado
 (303)494-3311

- a. Hewlett-Packard Spectrum Analyzer
 Model 8554L/8552A
 Frequency range: 550 KHz to 12.5 GHz
 Dynamic range: 40 db
 Threshold sensitivity: -90 dBm
- b. Hewlett-Packard Spectrum Analyzer
 Model 8553L/8552A
 Frequency range: 1 KHz to 110 MHz
 Dynamic range: 40 db
 Threshold sensitivity: -90 dBm

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCIES (Continued)

6. National Aeronautics and Space Administration
George C. Marshall Space Flight Center
Marshall Space Flight Center, Alabama 35812

- a. Empire RFI Test Set
Model NF-112
Frequency range: 1 - 10 GHz
Threshold sensitivity: 1.4 - 4.4 μ V over frequency range
- b. Singer Noise and Field Intensity Meter
Model NF-105
Frequency range: 14 KHz - 1 GHz
Dynamic range: 100 dB
Threshold sensitivity:
Narrow band: 0.035 μ V - 4.5 μ V over frequency range
Broad band: 35 - 30 dB μ V/MHz over frequency range
- c. Stoddart Radio Interference Analyzer/Receiver
Model NM-62T
Frequency range: 1 - 10 GHz
- d. Fairchild Interference Analyzer
Model EMC-10
Frequency range: 20 Hz - 50 KHz

It is unlikely that qualified personnel will be available to participate in surveys.

Contact:

David H. Newby
(205)453-1921

7. National Aeronautics and Space Administration
Wallops Station
Wallops Island, Virginia 23337

- a. Singer Noise and Field Intensity Meter
Model NF-105
Frequency range: 14 KHz - 1 GHz
Dynamic range: 100 dB
Threshold sensitivity:
Narrow band: 0.035 μ V - 4.5 V over frequency range
Broad band: 35 - 30 dB μ V/MHz over frequency range

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCIES (Continued)

- b. Empire RFI Test Set
Model NF 112
Frequency range: 1 - 10 GHz
Threshold sensitivity: 1.4 - 4.4 μ V over frequency range
- c. Stoddart/Singer Radio Interference Analyzer/Receiver
Model NM62A
Frequency range: 1 - 10 GHz
- d. Rohde & Schwarz Field-Strength Meter
Model HFH
Frequency range: 0.1 - 30 MHz
Dynamic range: 120 dB
Threshold sensitivity: 0.1 μ V
- e. Rohde & Schwarz VHF-UHF Field-Strength Meter
Model HFU
Frequency range: 25 - 900 MHz
Dynamic range: 120 dB
Threshold sensitivity: 1.3 μ V/m

Qualified personnel are available to conduct surveys.

Contact:

F.S. Karick, Safety Official
(703)824-3411

- 8. National Aeronautics and Space Administration
John F. Kennedy Space Center
Kennedy Space Center, Florida 32899

- a. Portable Field Intensity Measurement Instrumentation
Frequency range: 10 KHz - 15 GHz
- b. Mobile RF Measuring Facilities
Frequency range: 100 MHz - 10 GHz

Qualified personnel are available on a nonconflicting basis to perform field surveys.

Contact:

Carl L. Lennon, Chief, EMC Section
(305)867-7110

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCIES (Continued)

9. Department of the Army
U.S. Army Electronics Command
Fort Monmouth, New Jersey

- a. Fairchild Interference Analyzer
Model EMC-25
Frequency range: 14 KHz - 1.0 GHz
Dynamic range: 150 dB
Threshold sensitivity: .04 μ V - 1.6 μ V over frequency range

The complete system, including directional antennas, frequency scan programmer, and x-y recorder is contained within a mobile facility.

The mobile facility and qualified personnel could be made available for emergency use provided adequate funding is provided.

Contact:

Mr. John J. O'Neil
(201)535-1877, Autovon 995-1877

10. Department of the Army
Electromagnetic Environmental Test Facility
U.S. Army Electronic Proving Ground
Fort Huachuca, Arizona

- a. Semi-mobile Interference Detection Equipment
Frequency range: 15 KHz - 15.35 GHz
- b. Mobile Interference Detection Equipment
Frequency range: 15 KHz - 1.0 GHz

Contact:

None given
(602)538-3636 (post locator)

11. Department of the Army
Spectrum Signature Facilities
U.S. Army Electronic Proving Ground
Fort Huachuca, Arizona

Extensive facilities, both fixed and mobile, exist to perform measurements of electromagnetic radiation fields.

Contact:

None given
(602)538-3636 (post locator)

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCIES (Continued)

12. Department of the Army
Electromagnetic (RFI) Test Laboratory
Aberdeen Proving Ground, Maryland

- a. Mobile Radiofrequency Interference Measuring System
Frequency range: 20 Hz - 40 GHz
- b. Mobile RF Power Density Measurement System
Frequency range: 20 Hz - 10 GHz
Sensitivity: 0.1 mW/cm^2 - 2 W/cm^2

Contact:

None given
(301)278-5201

13. Department of the Navy
Naval Air Test Center
Weapons Systems Test Division
Communications Engineering Branch
Patuxent River, Maryland

- a. Fairchild Interference Analyzer
Model EMC-25
Frequency range: 14 KHz - 1 GHz
Dynamic range: 150 dB
Threshold sensitivity: $.04 \mu\text{V}$ - $1.6 \mu\text{V}$ over frequency range
- b. Fairchild Interference Analyzer
Model EMC-10
Frequency range: 20 Hz - 50 KHz

Capability exists for RF interference measurements, spectrum signature measurement, and site surveys.

Contact:

Ronald F. Lane or Ed Abel
(301)863-4811

14. Department of the Navy
Naval Weapons Laboratory
Dahlgren, Virginia

- a. Stoddart Field Intensity Analyzer
Model NM-25T
Frequency range: 150 KHz - 32 MHz
Threshold sensitivity: $0.1 \mu\text{V}$

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCIES (Continued)

- b. Singer Noise and Field Intensity Analyzer
Model EMA-910
Frequency range: 1.0 - 26.5 GHz
Threshold sensitivity: -100 dBm
- c. Hewlett-Packard Spectrum Analyzer
Model 8553B/8555A/8552B
Frequency range: 1 KHz - 40 GHz
Threshold sensitivity: -140 dBm (10 Hz bandwidth)
-125 dBm (100 Hz bandwidth)

Qualified personnel are available for surveys.
Equipment may not be loaned

Contact:

Ernest Tolive or Charles Gallaher
(703)663-8481, Autovon 249-8481

- 15. Department of the Navy
Naval Civil Engineering Laboratory
Port Hueneme, California

Extensive instrumentation capability exists including:

- a. Singer Spectrum Analyzer
Frequency range: 20 KHz - 10 GHz
- b. Stoddart Radio Interference and Field Intensity Analyzer
Model NM-12AT, portable/battery powered
Frequency range: 10 KHz - 250 KHz
Threshold sensitivity: 0.014 μ V
Dynamic range: 160 dB
- c. Stoddart Radio Interference and Field Intensity Analyzer
Model NM-25T, portable/battery powered
Frequency range: 150 KHz - 32 MHz
Threshold sensitivity: 0.1 μ V
Dynamic range: 140 dB

Contact:

None given.
(805)982-4711 (Base Information)

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCIES (Continued)

16. Department of the Navy
Naval Electronic Laboratory (NELC)
NELC Systems Test Facility
San Diego, California

A significant EMC activity exists which includes performance of spectrum surveys as part of the analysis of communications systems behavior.

Frequency range capability: 14 KHz - 1 GHz

Contact:

None given
(714)225-6011

17. Department of the Navy
Naval Electronic Laboratory (NELC)
NELC Equipments Effectiveness Division
San Diego, California

An extensive EMC measurement capability exists, principally in the EMI testing of components and equipments. Closed-system emission spectrum signature capability exists.

- a. Field Intensity Analyzers - several
Frequency range capability - total: 14 KHz - 10 GHz

- b. Hewlett-Packard Spectrum Analyzer
No other information given

Contact:

None given
(714)225-6011

18. Department of the Navy
Naval Research Laboratory
Radio Antenna Branch
Washington, D.C.

Mobile antenna facilities and instrumentation used for EMC measurements could be used for RF-microwave surveys.

Frequency range: 2 MHz - 10 GHz

Contact:

None given
(301)767-2000

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCIES (Continued)

19. Department of the Navy
 Naval Research Laboratory
 Radio Communication Systems Branch
 Washington, D.C.

Spectrum analysis instrumentation
 Frequency range: LF through UHF

Contact:

None given
 (301)767-2000

20. Department of the Navy
 Naval Avionics Facility
 21st and Arlington Avenue
 Indianapolis, Indiana 46218

EMC measurement capability exists
 Frequency range: 14 KHz - 18 GHz

Contact:

David Fossburg
 (317)355-3881, Autovon 634-1911, x3881

21. Department of the Navy
 Naval Ship Engineering Center, Norfolk Division
 Norfolk, Virginia

Mobile units are available which contain EMC measurement instrumentation.

Measurement capabilities include spectrum signature and EM ambient levels.

Frequency range: 10 MHz - 40 GHz

Qualified personnel are available for surveys.

Contact:

Naval Ships Engineering Center, 6179C.04
 Prince George's Center
 Hyattsville, Maryland
 (301)LI5-6700

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCIES (Continued)

22. Department of the Navy
Pacific Missile Range
Point Mugu, California 93042

EMC instrumentation available
Frequency range: DC - 12 GHz
Dynamic range: 60 dB

Contact:

Tony Cherot or B. Taylor
Electromagnetic Compatibility Branch
(805)982-7884

23. Department of the Navy
Naval Electronic Systems Test and Evaluation Facility (NESTEF)
Saint Inigoes, Maryland 20684

NESTEF has extensive capability in facilities, instrumentation and personnel, and has valuable experience in broad band and narrow band spectrum signature measurements. CW and pulsed fields may be analyzed.

Facilities:

two fixed laboratories
two mobile shielded laboratories
field facilities for propagation and antenna pattern measurement

Instrumentation (partial list)

- a. Hewlett-Packard Spectrum Analyzers
Models 8553B/8552A/141S, 8554L/8552A/141S, 8551B/851B
Total frequency range covered: 1 KHz - 40 GHz
Threshold sensitivity: <-100 dBm
Dynamic range: >100 dB
- b. Stoddart Broadband Receiver and Measuring Set
Model 533
Frequency range: 1 - 1000 MHz
- c. Fairchild Interference Analyzer
Model EMC-10
Frequency range: 20 Hz - 500 KHz
Threshold sensitivity: .003 μ V - .700 μ V for narrow band operation
Dynamic range: 40 dB

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCIES (Continued)

- d. Fairchild Interference Analyzer
Model EMC-25
Frequency range: 14.0 KHz - 1 GHz
Threshold sensitivity: .06 μ V - 1.60 μ V for narrow band
operation over complete range of frequency
Dynamic range: 150 dB μ V
- e. CEI Watkins Johnson Wide Band Receiver System
Model RS-125
- f. Microtel Receiver
Model WR-1600
- g. CEI Watkins Johnson Receiver
Model 356

Contact:

Commanding Officer
(301)863-3512

- 24. Department of the Navy
Naval Electronic Systems Command Activity
Naval Support Activity
4400 Dauphine Street
New Orleans, Louisiana 70146
 - a. Singer Stoddart Field Intensity Analyzer
Model NM-12AT
Frequency range: 10 KHz - 250 KHz
Threshold sensitivity: 0.014 μ V, narrow band
38 dB μ V/MHz, broad band
Dynamic range: 160 dB
 - b. Singer Stoddart Radio Frequency Interference Analyzer
Model NM-30
Frequency range: 20 - 400 MHz
 - c. Singer Stoddart Radio Frequency Interference Analyzer
Model NM-52A
Frequency range: 375 - 1000 MHz
 - d. Hewlett-Packard Spectrum Analyzer including
Model 8553B RF section
Frequency range: 1 KHz - 110 MHz
Threshold sensitivity: -140 dBm
Dynamic range: 150 dBm

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCIES (Continued)

Qualified personnel may be made available for survey activity.

Contact:

B.J. Riley, Officer in Charge
(504)947-5571, x207, Autovon 363-1355

25. Department of the Navy
Naval Security Engineering Facility (NSEF)
(locations listed in equipment summary)

NSEF has extensive instrumentation and facilities which are located at several sites in the United States. A list of equipment available at the various Tempest facilities under NSEF follows. (See next page.)

Contact:

Commanding Officer
Naval Security Engineering Facility
Naval Security Station
3801 Nebraska Avenue, N.W.
Washington, D.C. 20390
(202)282-0609

SUMMARY OF TEST EQUIPMENT AT TEMPEST FACILITIES

| Location & Number of Equipments | TEMPEST SCHOOL NESTEF | WASH DIV | LANT DIV | SE DIV | MIDWEST DIV | SOWEST DIV | NAVSEEA CTPAC |
|---|-----------------------------|-------------|-------------|-----------|----------------|---------------|------------------|
| Type of Equipments | | | | | | | |
| TEMPEST Vans | 1 | 1 | 5 | 3 | 1 | 3 | 4 |
| EMC-10 Fairchild | 3 | 1 | 5 | 3 | 1 | 3 | 4 |
| EMC-25 Fairchild | 2 | 1 | 5 | 3 | 1 | 3 | 4 |
| CEI Watkins Johnson RS-125 Wide Band Rec. Sys. | 2 | 1 | 4 | 2 | - | 2 | 3 |
| Stoddard BRMS-533 Broad Range Meas. Sys. | 1 | - | 1 | 1 | - | 1 | 1 |
| Microtel WR-1600 Receiver | 1 | 1 | 2 | 1 | - | 2 | 2 |
| CEI Watkins Johnson 356 Receiver | 1 | 1 | 1 | 1 | - | 1 | 1 |
| Antenna Research Assoc. Antenna Kit | 1 | - | 4 | 2 | - | 2 | 2 |

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCIES (Continued)

26. Department of the Navy
Naval Electronic Systems Command

The Field Authorities of the Naval Electronics System Command conduct radiation hazard surveys at various installations. Specific capabilities are not listed, but a list of the Field Authorities and phone numbers is provided below:

ENGINEERING FIELD AUTHORITIES OF THE
NAVAL ELECTRONIC SYSTEMS COMMAND

| | |
|------------------------|--|
| NAVELECSYSCOMWASHDIV | Commanding Officer Naval Electronic Systems Command Washington Division Building 212, Washington Navy Yard Washington, D.C. 20390 (202) 693-2687 |
| NAVELECSYSCOMLANTDIV | Commanding Officer Naval Electronic Systems Command Atlantic Division P.O. Box 55 Portsmouth, Va. 23705 (703) 393-3131 |
| NAVELECSYSCOMSEDIV | Commanding Officer Naval Electronic Systems Command Southeast Division Room 512, Federal Building 334 Meeting Street Charleston, S.C. 29403 (803) 577-4171 |
| NAVELECSYSCOMIDWESTDIV | Commanding Officer Naval Electronic Systems Command Midwest Division Building 3209 Great Lakes, Ill. 60088 (312) 688-5475 |
| NAVELECSYSCOMWESTDIV | Commanding Officer Naval Electronic Systems Command Western Division Mare Island Naval Shipyard Vallejo, Calif. 94592 (707) 646-2347 |

NAVELECSYSCOMSOWESTDIV

Commanding Officer
 Naval Electronic Systems Command
 Southwest Division
 P.O. Box 10663
 San Diego, Calif. 92110
 (714) 225-4367

NAVELEXACT BOSTON

Officer in Charge
 Naval Electronic Systems Command Activity
 495 Summer Street
 Boston, Mass. 02210
 (617) 542-5100 x510

NAVELEXACT PHILA

Officer in Charge
 Naval Electronic Systems Command Activity
 Philadelphia, Pa. 19112
 (215) 755-3453

NAVELEXACT NEW ORLEANS

Officer in Charge
 Naval Electronic Systems Command Activity
 Naval Support Activity
 4400 Dauphine Street
 New Orleans, La. 70140
 (504) 947-5571, x207

NAVSECENGFAC

Commanding Officer
 Naval Security Engineering Facility
 Naval Security Station
 3801 Nebraska Ave., N.W.
 Washington, D.C. 20390
 (202) 282-0609

NESTEF

Commanding Officer
 Naval Electronic Systems Test and
 Evaluation Facility
 Saint Inigoes, Maryland 20684
 (301) 863-3512

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCIES (Continued)

27. Department of the Air Force
Electromagnetic Interference and Analysis Facility
Wright-Patterson AFB, Ohio

a. Singer Noise and Field Intensity Meter

Model NF-105

Frequency range: 14 KHz - 1 GHz

Threshold sensitivity:

Narrowband: 0.035 μ V - 4.5 μ V over frequency rangeBroadband: 35 - 30 dB μ V/MHz over frequency range

Dynamic range: 100 dB

b. Stoddart Radio Interference and Field Intensity Meters

Model NM-10A

Model NM-20B

Model NM-30

Model NM-50

c. Hewlett-Packard Spectrum Analyzer

Contact:

Col. Larry T. Oadland, Commander

USAF Radiological Health Laboratory (AFLC)

Wright-Patterson AFB, Dayton, Ohio

(513)257-6672, Autovon 787-6672

28. Department of the Air Force
Air Force Communication Service (AFCS)
Headquarters, Richards-Gebaur AFB, Missouri

Extensive capabilities are located at several of the AFCS organizational activities. Included are the state-of-the-art capabilities for EMC and EMI measurements, spectrum analysis, and E.M. radiation hazard measurement and control. The resources include automated and programmable equipment.

Major systems include mobile and air transportable vans.

Equipment contained in these units include:

- a. Field Intensity Measuring systems
- b. Spectrum analyzers
- c. Power density meters
- d. Recording equipment

Total frequency range covered: DC - 25 GHz

Total sensitivity range: 0 - 200 mW/cm²

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCIES (Continued)

Contact:

Frank LaMaster
(816)348-3842, Autovon 465-3842

29. Environmental Protection Agency
Office of Radiation Programs
Waterside Mall Building, East Tower
401 M Street, S.W.
Washington, D.C. 20460
- a. Hewlett-Packard Spectrum Analyzer
Models 8553B, 8554L, 8555A RF Sections
Model 8552A IF Section
Frequency range: 1 KHz - 18 GHz
Threshold sensitivity:
8553B/8552A: -130 dBm
8554L/8552A: -117 dBm
855A/8552A: -90 dBm
Dynamic range: up to + 10 dBm for all units
- b. Fairchild Interference Analyzer
Model EMC-25
Frequency range: 14 KHz - 1.0 GHz
Dynamic range: 150 dB
Threshold sensitivity:
.04 μ V - 1.6 μ V over frequency range
- c. Systron Donner Spectrum Analyzer
Model 751
Frequency range: 500 KHz - 10.5 GHz
Dynamic range: 60 dB
- d. Nytek Wide Dispersion Spectrum Analyzer
Model 8011-B
Frequency range: 1 - 18 GHz
Dynamic range: 60 dB

Calibrated antenna systems, programmed data acquisition, and a mobile field laboratory will be available during CY 1974.

Contact:

David E. Janes
Chief, Electromagnetic Radiation Analysis Branch
(202)755-1188

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCIES (Continued)

C. Generalized Environmental Background Monitoring

The information presented is intended to indicate the agency, its location, and describe its general capability. The instrumentation systems which are included in this category are usually dedicated to specific purposes and the information provided indicates the existence of a capability and very general system characteristics.

1. U.S. Department of Commerce
Office of Telecommunications
Institute for Telecommunications Sciences
Boulder, Colorado

System capabilities:

- a. Minicomputer controlled spectrum analysis
- b. Frequency range: 50 KHz - 18 GHz
- c. Minicomputer based data acquisition, reduction and display
- d. Auxiliary magnetic and paper tape data storage
- e. Controllable antenna array system
- f. System is incorporated into a small van

Contact:

Stanley I. Cohn
Chief, Frequency Management Support Division
Washington, D.C.
(202)967-5012

2. Department of Health, Education, and Welfare
Public Health Service
Food and Drug Administration
12720 Twinbrook Parkway
Rockville, Maryland 20852

System capabilities:

- a. Manually controlled spectrum analyzer and antennas
- b. Frequency range: 20 Hz - 18 GHz
- c. Analog data recorded on magnetic tape for later data reduction by computer
- d. Data display on x-y recorder

Contact:

Roger H. Schneider, Acting Director
Division of Electronic Products
Bureau of Radiological Health
Rockville, Maryland 20852
(301)443-4016

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCIES (Continued)

3. Federal Communications Commission
Spectrum Management Task Force
Chicago Regional Office
1550 Northwest Highway, Room 411
Park Ridge, Illinois 60068

System capabilities:

- a. Computer controlled spectrum analysis
- b. Frequency range: 25 MHz - 512 MHz
- c. Magnetic tape data storage
- d. System is incorporated into a small van

Contact:

Donald R. Precure, Regional Manager
(312)353-1125

4. National Aeronautics and Space Administration
John F. Kennedy Space Center
Kennedy Space Center, Florida 32899

System capabilities:

- a. RF field intensity measurement
- b. Frequency range: 10 KHz - 10 GHz
- c. System is contained in RF shielded mobile units

Contact:

Carl L. Lennon
Chief, EMC Section
(305)867-7110

5. Environmental Protection Agency
Office of Radiation Programs
Waterside Mall Building, East Tower
401 M Street, S.W.
Washington, D.C. 20460

The system described will be functional in CY 1974

System capabilities:

- a. Minicomputer controlled spectrum analysis
- b. Frequency range: 1 KHz - 18 GHz
- c. Minicomputer based data acquisition
Real time data reduction and immediate CRT display
Disc and magnetic tape data storage

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCIES (Continued)

- d. Orthogonal antennas constitute a broadband, isotropic system and provide for total power density vs. frequency measurement
Sets of antennas available for different broadband frequency intervals
- e. System will be incorporated into a mobile unit during CY 1974

Contact:

David E. Janes
Chief, Electromagnetic Radiation Analysis Branch
(202)755-1188

- 6. Department of the Army
U.S. Army Electronics Command
Fort Monmouth, New Jersey

System capabilities:

- a. Programmed frequency scanned interference analysis system
- b. Frequency range: 14 KHz - 1 GHz
- c. Data recorded on x-y plotter

Contact:

John J. O'Neil
(201)535-1877, Autovon 995-1877

- 7. Department of the Army
Electromagnetic (RFI) Test Laboratory
Aberdeen Proving Ground, Maryland

System capabilities:

- a. Semiautomated spectrum analysis
- b. Frequency range: 20 Hz - 40 GHz
- c. Data recorded on x-y plotter

Contact:

None given.
(301)278-5201

- 8. Department of the Navy
Naval Weapons Laboratory
Dahlgren, Virginia

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCIES (Continued)

System capabilities:

- a. Digitally controlled wideband spectrum analysis
- b. Frequency range covered: 1 KHz - 40 GHz
- c. Rapid data acquisition and reduction capability

Contact:

Ernest Tolive or Charles Gallaher
(703)663-8481, Autovon 249-8481

- 9. Department of the Navy
Pacific Missile Range
Point Mugu, California 93042

System capabilities:

- a. Computer interfaced spectrum analysis and data acquisition
- b. Frequency range: 14 KHz - 18 GHz

Contact:

Tony Cherot
Electromagnetic Compatibility Branch
(805)982-7884

- 10. Department of the Navy
Naval Electronic Systems Test and Evaluation Facility (NESTEF)
Saint Inigoes, Maryland 20684

Capabilities:

Extensive capabilities in computer interfaced measurement systems and data acquisition and reduction.

Contact:

Commanding Officer
(301)863-3512

- 11. Department of the Navy
Naval Security Engineering Facility (NSEF)

NSEF controls extensive Tempest instrumentation which may be applicable to generalized environmental monitoring. Refer to page 31 of this document.

II. MEASUREMENT CAPABILITIES--FEDERAL AGENCIES (Continued)

Contact:

Commanding Officer
Naval Security Engineering Facility
Naval Security Station
3801 Nebraska Avenue, N.W.
Washington, D.C. 20390
(202)282-0609

12. Department of the Air Force
Air Force Communications Service (AFCS)
Headquarters, Richards-Gebaur AFB, Missouri

Extensive instrumentation system capabilities which may be applicable to environmental measurements are under the control of AFCS.

Contact:

Frank LaMaster
Electromagnetic Compatibility Office/EPEUM
(816)348-3842, Autovon 465-3842

III. GEOGRAPHICAL INDEX OF MEASUREMENT CAPABILITIES

A geographical index showing the type of measurement capability and location by region within the United States is presented on the following page. The index presents the page number in this report on which can be found the capability and location.

GEOGRAPHICAL INDEX OF MEASUREMENT CAPABILITIES

| Capability | Region | | | | | | | | | |
|---|---|--|---|--|---|---|--------------------------------------|--|--|--|
| | I Conn. Maine Mass. N. H. R. I. Vt. | II N. J. N. Y. P. R. V. I. | III Del. D. C. Md. Pa. Va. W. Va. | IV Ala. Fla. Ga. Ky. Miss. N. C. S. C. Tenn. | V Ill. Ind. Minn. Mich. Ohio Wis. | VI Ark. La. N. Mex. Okla. Tex. | VII Iowa Kans. Mo. Nebr. | VIII Colo. Mont. N. Dak. S. Dak. Utah | IX Ariz. Calif. Hawaii Guam Am. Samoa | X Alaska Idaho Oreg. Wash. |
| Gross Hazard Survey | 3* | 3, 4, 12 | 7, 8, 9, 10, 11, 12, 13 | 4, 10 | 11, 13, 14, 15 | 5, 9, 14 | 5, 8 | 6, 7 | 14 | |
| Spectrum Scanning | 33 | 6, 23 | 15, 17, 21, 24, 26, 27, 28, 31, 32, 33, 35 | 20, 21, 22, 31, 32 | 19, 27, 31, 32, 34 | 18, 20, 29, 33 | 19, 34 | 16, 20 | 23, 25, 26, 28, 31, 32, 33 | |
| Generalized Environmental Background Monitoring | | 38 | 31, 36, 37, 38, 39 | 31, 37 | 31, 37 | | 40 | 36 | 31, 39 | |

*The numbers in this table refer to page numbers in the text.

IV. INDEX OF FEDERAL AGENCIES

An index of Federal Agencies and the general type of capability existing within the agency is presented on the following page. The index presents the page number in this report on which the agency and capability can be found.

INDEX OF FEDERAL AGENCIES

| Agency | Capability | | |
|---|---------------------|-------------------|---|
| | Gross Hazard Survey | Spectrum Scanning | Generalized Environmental Background Monitoring |
| Atomic Energy Commission | 8* | 17-20* | |
| Department of the Air Force | 15 | 34 | 40* |
| Department of the Army | 12 | 23, 24 | 38 |
| Department of Commerce | 6, 7 | 16 | 36 |
| Department of Health, Education, and Welfare | 11 | 15 | 36 |
| Department of the Navy | 13, 14 | 24-33 | 38, 39 |
| Environmental Protection Agency | 10 | 35 | 37, 38 |
| Federal Communications Commission | 7 | 17 | 37 |
| National Aeronautics and Space Administration | 8-10 | 21, 22 | 37 |

*The numbers in this table refer to page numbers in the text.