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METEOROLOGICAL SERVICES AND SUPPORTING RESEARCH

FEDERAL METEOROLOGICAL HANDBOOK NO. 11

DOPPLER RADAR METEOROLOGICAL OBSERVATIONS

PART D
WSR-88D UNIT DESCRIPTION
AND OPERATIONAL
APPLICATIONS

FCM-H11D-2006



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FMH-11-PART D

PREFACE

The Federal Coordinator for Meteorological Services and Supporting Research has the responsibility to maintain and publish Federal Meteorological Handbooks. This series of documents provides standards and procedures to facilitate the efficient collection, sharing, and use of meteorological information by agencies of the federal government and private industry.

The original Federal Meteorological Handbook, Number 11 (FMH-11), DOPPLER RADAR METEOROLOGICAL OBSERVATIONS, was prepared and published under the auspices of the Office of the Federal Coordinator for Meteorological Services and Supporting Research (OFCM) at the request of the Next-Generation Weather Radar (NEXRAD) Program Council and in coordination with the federal agencies that are represented on the Interdepartmental Committee for Meteorological Services and Supporting Research. The purpose of FMH-11 is to standardize, insofar as practical, the operation of the Weather Surveillance Radar-1988, Doppler (WSR-88D) systems and the procedures used by personnel of the Departments of Commerce, Defense, and Transportation. By approving publication of this handbook, those agencies have agreed to operate their WSR-88D systems accordingly. Some flexibility under certain meteorological, siting, or mission circumstances is permitted to enhance the quality and utility of some WSR-88D products.

The revision process is dependent on the evolution of WSR-88D subsystems software and products. Part A has been revised in conjunction with recent WSR-88D software releases to ensure it provides users current operations guidance. Parts B, C, and D have/are being revised in a separate effort principally through the guidance of the Radar Operations Center (ROC). All revisions are coordinated among the NEXRAD triagencies (Department of Commerce (DOC), Department of Defense (DoD), and Department of Transportation (DOT)); thus, they possess the same authority as the initial edition of FMH-11.

Agencies should review the documents annually. The goal is to review and update the handbooks (as necessary) as part of every WSR-88D software build release. Suggestions for modifications and additions should be sent to the WSR-88D Radar Operations Center webmaster at <http://www.roc.noaa.gov/Feedback/> for consideration for inclusion in a future update. As required, the handbooks will be updated and published in electronic format, and made available on the OFCM home page at <http://www.ofcm.gov/homepage/text/pubs.htm>. Readers can make copies of the handbooks without a request for approval from the OFCM. A summary of changes made during updates will be annotated in the preface of each part.

Each major part of the FMH-11 is designed to stand alone; however, cross references are used to avoid unnecessary redundancy. In all, FMH-11 has four parts:

- Part A - System Concepts, Responsibilities, and Procedures (December 2005)
- Part B - Doppler Radar Theory and Meteorology (December 2005)
- Part C - WSR-88D Products and Algorithms (Expected in 2006)
- Part D - WSR-88D Unit Description and Operational Applications (February 2006)

Part D describes the main components of the WSR-88D, outlines the flow of data through the unit, and addresses the main objective of providing Doppler radar meteorological observations. The information presented provides the user with essential knowledge to enable him or her to better understand and manage the WSR-88D data resources. Part D provides operational guidance on the use of WSR-88D products to enhance the observance of meteorological or hydrological phenomena.

Summary of Changes:

This version of Part D replaces the original document, published in April 1992. This version incorporates the many system changes made since April 1992, updates the document as of Radar Product Generator (RPG) Build 6 (released in September 2004), and adds information based on the operational experience gained during the first decade of WSR-88D operational use and case studies.

Samuel P. Williamson
Federal Coordinator for Meteorological
Services and Supporting Research

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 PART D
 WSR-88D UNIT DESCRIPTION AND OPERATIONAL APPLICATIONS**

TABLE OF CONTENTS

	Page
PREFACE	ii
TABLE OF CONTENTS	iv
LIST OF FIGURES	ix
LIST OF TABLES	xi
CHAPTER 1. INTRODUCTION	
1.1 Background	1-1
1.2 Purpose and Scope	1-1
1.3 Organization	1-1
CHAPTER 2. UNIT DESCRIPTION	
2.1 Components	2-1
2.2 Radar Data Acquisition	2-1
2.2.1 Antenna	2-1
2.2.2 Pedestal	2-3
2.2.3 Radome	2-3
2.2.4 Facilities	2-3
2.2.5 Transmitter and Receiver	2-3
2.2.6 Signal Processor	2-4
2.2.7 User Interfaces	2-7
2.2.8 Communications	2-8
2.3 Radar Product Generator	2-8
2.3.1 Master System Control Function	2-8
2.3.2 Archive II and III	2-12
2.3.3 Radar Product Generator Communications Equipment	2-12
2.4 Associated Principal User Display Systems	2-13
2.4.1 Advanced Weather Interactive Processing System	2-13
2.4.2 Weather and Radar Processor	2-13
2.4.3 Integrated Terminal Weather System	2-13
2.4.4 Open System Principal User Processor	2-13

	Page	
2.5	Communications	2-14
2.5.1	Wideband Communications	2-14
2.5.2	Narrowband Communications	2-15
CHAPTER 3. UNIT FUNCTIONAL FLOW		
3.1	Introduction	3-1
3.2	Radar Data Acquisition	3-1
3.2.1	Handle Maintenance Console	3-1
3.2.2	Monitor and Calibrate Radar Data Acquisition	3-3
3.2.3	Form Radar Data Acquisition Data	3-4
3.2.4	Handle Wideband Data	3-4
3.2.5	Control Radar Data Acquisition	3-5
3.2.6	Control Signal Processor	3-6
3.2.7	Control Pedestal	3-7
3.3	Radar Product Generation	3-8
3.3.1	System Control	3-10
3.3.2	Base Data Acquisition	3-10
3.3.3	Preprocess Base Data	3-11
3.3.4	Product Generation	3-15
3.3.5	Product Distribution	3-26
CHAPTER 4. OPERATIONAL APPLICATIONS		
4.1	Introduction	4-1
4.2	Non-Meteorological Radar Echoes	4-1
4.2.1	Ground Clutter	4-1
4.2.2	Ground Clutter Returns from Anomalous Propagation	4-3
4.2.3	Sidelobes	4-5
4.2.4	Solar Effects	4-6
4.2.5	Range Folded Data	4-8
4.2.6	Velocity Aliased Data	4-11
4.3	Non-Precipitation Radar Echoes	4-13
4.3.1	Recognition of Non-Precipitation Radar Echoes	4-15
4.3.2	Considerations	4-15
4.4	Boundaries	4-15
4.4.1	Recognition of Boundaries	4-15
4.4.2	Considerations	4-19

	Page	
4.5	Cloud Layers	4-19
4.5.1	Recognition of Cloud Layers	4-20
4.5.2	Considerations	4-20
4.6	Pre-Convective Development	4-22
4.6.1	Recognition of Pre-Convective Development	4-22
4.6.2	Considerations	4-22
4.7	Convective Storms	4-22
4.7.1	Single Cell Storms	4-22
4.7.2	Multicell Storms	4-27
4.7.3	Supercell Storms	4-31
4.7.4	Severe Thunderstorm Identification	4-42
4.8	Hail	4-65
4.8.1	Recognition of Hail Potential	4-65
4.8.2	Considerations	4-70
4.9	Extratropical Cyclones	4-70
4.9.1	Evolution of Stratiform Clouds and Precipitation	4-71
4.9.2	System Movement	4-74
4.9.3	Cell Movement	4-75
4.10	Winter Storms	4-75
4.10.1	Onset of Surface Precipitation	4-75
4.10.2	Cold Air Depth, Freezing Level	4-77
4.10.3	Snowfall Estimation	4-80
4.10.4	Recognition of Heavy Snow and Snow Showers	4-84
4.10.5	Rain/Snow Line	4-89
4.11	Tropical Cyclones	4-89
4.11.1	Embedded Convective Storms and Tornadoes	4-91
4.11.2	Heavy Rainfall	4-92
4.11.3	Convective Scale and Straight Line Winds	4-95

	Page
4.12 Flash Floods	4-99
4.12.1 Recognition of a Flash Flood Event	4-99
4.12.2 Precipitation Accumulation	4-102
4.12.3 Considerations	4-105
4.13 Non-Convective High Wind Events	4-106
4.13.1 Recognition of High Wind Events	4-106
4.13.2 Considerations	4-107
4.14 Low-Level Jets	4-107
4.14.1 Recognition of Low-Level Jets	4-107
4.14.2 Considerations	4-107
4.15 Wind Shear	4-110
4.15.1 Recognition of Wind Shear	4-110
4.15.2 Considerations	4-110
4.16 Turbulence	4-110
4.16.1 Recognition of Turbulence	4-113
4.16.2 Considerations	4-113
4.17 Microbursts	4-113
4.17.1 Recognition of Microbursts	4-113
4.17.2 Considerations	4-114
4.18 Considerations for Building a Routine Product Set	4-118
4.18.1 Initial Considerations	4-118
4.18.2 Some Local RPS List Considerations	4-118
4.18.3 Product Considerations	4-119
4.18.4 National RPS List Requirements	4-120
4.18.5 Clear Air Mode	4-121
4.18.6 Precipitation Mode	4-121

	Page
4.19 Automated Alerts	4-122
4.19.1 Alert Use	4-122
4.19.2 Setting Alerts	4-123
4.19.3 Alert Groups	4-124
4.19.4 Alert Areas and Acknowledgments	4-124
4.19.5 User Alert Message (UAM) Product	4-125
4.19.6 Alert-Paired Products	4-125
APPENDIX A. ACRONYMS AND ABBREVIATIONS	A-1
APPENDIX B. GLOSSARY	B-1

LIST OF FIGURES

Figure	Page
2-1. RPG Graphical User Interface	2-10
3-1. Radar Data Acquisition Status and Control Program Data Flow	3-2
3-2. Radar Product Generation Data Flow	3-9
3-3. Types of Load Shedding at the Radar Product Generator	3-12
3-4a. Flow of Data for Generation of Products	3-18
3-4b. Flow of Data for Generation of Products (Continued)	3-19
3-4c. Flow of Data for Generation of Products (Continued)	3-20
3-4d. Flow of Data for Generation of Products (Continued)	3-21
3-4e. Flow of Data for Generation of Products (Continued)	3-22
3-4f. Flow of Data for Generation of Products (Continued)	3-23
3-4g. Flow of Data for Generation of Products (Concluded)	3-24
4-1. Residual Ground Clutter	4-2
4-2. Anomalous Propagation	4-4
4-3. Solar Effects	4-7
4-4. Range Overlaid Echoes	4-9
4-5. Velocity Dealiasing Errors	4-12
4-6. Dust Storm Reflectivity	4-14
4-7. Dryline Reflectivity	4-16
4-8. Boundaries and Severe Convection Reflectivities	4-17
4-9. Dryline – Cold Front Intersection Reflectivity	4-18
4-10. Clear Air Reflectivity Product	4-21
4-11. Ordinary Cell	4-24
4-12. Non-Severe Thunderstorm Schematic	4-25
4-13. Ordinary Non-Severe Thunderstorm	4-26
4-14. Multicell Storm Sequence Schematic	4-28
4-15. Severe Thunderstorm Schematic	4-30
4-16. Left-Moving Severe Thunderstorm Reflectivity	4-34
4-17. Classic Supercell Thunderstorm Schematic	4-35
4-18. Supercell Thunderstorm Reflectivity	4-36
4-19. High Precipitation Supercell Thunderstorm	4-38
4-20. Reflectivity and Mean Radial Velocity Display of a High Precipitation Supercell	4-39
4-21. Mini-Supercell Thunderstorm Reflectivity	4-43
4-22. Low Precipitation Supercell Thunderstorm Reflectivity	4-44
4-23. Mature Severe Thunderstorm Schematic	4-47
4-24. Tornadic Supercell Thunderstorm Reflectivity	4-49
4-25. Bow Echo Schematic	4-51
4-26. Squall Line Schematic	4-52
4-27. Mesocyclones	4-56
4-28. Combined Rankine Vortex Schematic	4-57
4-29. Mesocyclone and TVS Vertical Extent	4-58

Figure	Page
4-30. Multiple-Core Mesocyclonic Storm Schematic	4-60
4-31. Tornado Vortex Signature Vertical Extent	4-62
4-32. Storm Summit Divergence vs. Hailstone Size	4-67
4-33. Radar Signal Path Schematic	4-68
4-34. Three-Body Scatter Spike	4-69
4-35. National Mosaic of Base Reflectivity of an Extratropical Cyclone	4-72
4-36. Regional Mosaic of Base Reflectivity of an Extratropical Cyclone	4-73
4-37. Precipitation Mode Reflectivity Scan of Virga	4-76
4-38. VAD Wind Profile Product	4-78
4-39. Bright Band	4-79
4-40. One-Hour Snow Depth Accumulation Product	4-81
4-41. One-Hour Snow Water Equivalent Accumulation Product	4-82
4-42. Storm Total Snow Depth Accumulation Product	4-83
4-43. User Selectable Snow Accumulation Product	4-85
4-44. User Selectable Snow Water Equivalent Accumulation Product	4-86
4-45. Convective Snowfall Reflectivity	4-87
4-46. Hurricane Charley Reflectivity	4-90
4-47. Mini-Supercell and Mesocyclones Associated with Hurricane Ivan	4-93
4-48. Storm Total Rainfall Accumulation Product of Hurricane Emily	4-94
4-49. Mean Radial Velocity Product of Hurricane Charley	4-96
4-50. WSR-57 Radar Reflectivity of Hurricane Andrew	4-97
4-51. Surface Observations of Hurricane Andrew	4-98
4-52. One-Hour Rainfall Accumulation Product	4-100
4-53. Storm Total Rainfall Accumulation Product	4-101
4-54. Three-Hour Rainfall Accumulation Product	4-103
4-55. User Selectable Rainfall Accumulation Product	4-104
4-56. Smoke Plume Detected by Radar	4-108
4-57. Base Velocity Data Array Product of a Low-Level Jet	4-109
4-58. Severe Weather Analysis (Velocity) Product	4-111
4-59. Severe Weather Analysis (Spectrum Width) Product	4-112
4-60. Microburst Detected on a Mean Radial Velocity Product	4-115
4-61. Reflectivity Cross Section of a Microburst-Producing Thunderstorm	4-116
4-62. Velocity Cross Section of a Microburst-Producing Thunderstorm	4-117

LIST OF TABLES

Table		Page
2-1.	Relationships	2-2
4-1.	Alert Types and Mnemonics (With the Assigned Order of Importance)	4-126
4-2.	Alert Locations and Paired Window Product Centers	4-127
4-3.	Application versus Product	4-128

