

204B OSCILLATOR

Reproduced With Permission Courtesy Agilent Technologies, Inc.

OPERATING AND SERVICE MANUAL

HEWLETT  PACKARD



OPERATING AND SERVICE MANUAL

(HP PART NO. 204B-906)

MODEL 204B

OSCILLATOR

SERIALS PREFIXED: 416-

Appendix C, Manual Backdating Changes, adapts manual to Serial Prefixes 323-, 252-, 244-, 233-, 208-, and 135.

Reproduced With Permission Courtesy Agilent Technologies, Inc.

Copyright Hewlett-Packard Company 1962
P. O. Box 301, Loveland, Colorado, 80537 U. S. A.

TABLE OF CONTENTS

Section	Page	Section V (Cont'd)	Page
I GENERAL INFORMATION	1-1	5-5. Performance Checks	5-1
1-1. Introduction	1-1	5-7. Dial Accuracy Check	5-1
1-4. Power Supply	1-1	5-8. Frequency Response and Output Voltage Check	5-2
1-6. Mercury and Rechargeable Batteries	1-1	5-9. Distortion Check	5-2
1-8. Accessories Available	1-1	5-10. Repair	5-3
1-10. Instrument Identification	1-1	5-12. Cover Removal	5-3
II INSTALLATION	2-1	5-14. Servicing Etched Circuit Boards .	5-3
2-1. Inspection	2-1	5-16. Troubleshooting	5-4
2-4. Rack/Bench Instructions	2-1	5-18. Adjustment and Calibration	5-4
2-6. Combining Case	2-1	5-19. AC Power Supply Checks	5-4
2-8. Adapter Frame	2-1	5-23. Battery Charger Current Adjustment	5-4
2-10. Battery-Powered Oscillators	2-1	5-26. DC Bal. Adjustment	5-5
2-12. AC-Powered Oscillators	2-1	5-28. Distortion Check	5-5
2-16. Repackaging for Shipment	2-2	5-29. Frequency Calibration Adjustments	5-5
III OPERATION	3-1	5-31. Replacement Procedures	5-6
3-1. Introduction	3-1	5-32. Cam Cable Replacement	5-6
3-3. Procedure	3-1	5-34. Frequency Potentiometer Replacement	5-6
3-5. General Operating Considerations .	3-1	5-36. Range Switch Assembly Replacement	5-7
3-10. Operation With Rechargeable Batteries	3-1	5-38. Battery-Pack Power Supply	5-8
3-16. Recharging Nickel-Cadmium Batteries	3-2	5-40. AC Power Supply	5-8
3-20. Cycle-Life of Nickel-Cadmium Batteries	3-2	5-42. Rechargeable Battery Power Supply	5-8
3-26. Mercury Battery Replacement . . .	3-2	5-45. Replacement of Rechargeable Batteries	5-8
IV PRINCIPLES OF OPERATION	4-1	VI REPLACEABLE PARTS	6-1
4-1. Introduction	4-1	6-1. Introduction	6-1
4-7. Oscillator Circuit	4-1	6-2. Ordering Information	6-1
4-13. Peak Detector	4-2	Appendix	
V MAINTENANCE	5-1	A CODE LIST OF MANUFACTURERS	
5-1. Introduction	5-1	B SALES AND SERVICE OFFICES	
5-3. Required Test Equipment	5-1	C MANUAL BACKDATING CHANGES	

LIST OF ILLUSTRATIONS

Number	Page	Number	Page
1-1. Model 204B Oscillator	1-0	5-3. Cover Removal	5-3
2-1. Combining Case	2-0	5-4. Model 204B, Exploded View	5-4
2-2. Steps to Place Instrument into Combining Case	2-0	5-5. Cams and Cable Relationship	5-6
2-3. Adapter Frame Instrument Combinations	2-1	5-6. Range Switch Detail	5-7
2-4. Two Submodule Units in Rack Adapter. .	2-2	5-7. Rear View of Battery-Powered Model 204B	5-8
3-1. Front Panel Controls, Connectors and Operating Instructions	3-0	5-8. AC Power Supply Installation	5-9
3-2. Rear View of Model 204B Showing Mercury Batteries Installed	3-2	5-9. Rear Internal View of Rechargeable Battery Power Supply	5-10
4-1. Block Diagram	4-1	5-10. Oscillator and Amplifier with Battery Pack Power Supply	5-11
4-2. Simplified Schematic Diagram	4-2	5-11. Option 02 Power Supply with Rechargeable Batteries	5-12
4-3. RC Network Characteristics	4-2	5-12. Option 01 AC Power Supply	5-13
5-1. Test Setup for Dial Accuracy or Distortion Checks	5-1		
5-2. Test Setup for Frequency Response and Output Voltage Check	5-2		

LIST OF TABLES

Number	Page	Number	Page
1-1. Specifications	1-1	5-3. Troubleshooting Summary	5-5
5-1. Required Test Equipment	5-1	6-1. Index by Reference Designator	6-2
5-2. Dial Accuracy	5-2	6-2. Replaceable Parts	6-5
6-3. Miscellaneous Parts and Hardware	6-9		