

## PART 1: Chronological Index

### January 1980

- Automated Testing of PCM Communications Equipment with a Single Self-Contained Instrument, Robert Pearson, Mark Dykes, Virgil Marton, Andrew Batham, and Mike Bryant  
 Software for an Automatic Primary Multiplex Analyzer, Mark Dykes  
 Vector Impedance Analysis to 1000 MHz, Toshio Ichino, Hideo Ohkawara, and Noriyuki Sugihara

### February 1980

- Design and Performance of a Highly Integrated Parallel Access Spectrophotometer, Barry G. Willis  
 A Task-Oriented Approach to Spectrophotometry, Arthur Schleifer and Barry G. Willis  
 An Optical System for Full-Spectrum Measurements, George W. Hopkins and Alfred Schwartz  
 Light Detection and Measurement in a High-Performance Spectrophotometer, Knud L. Knudsen and Robert W. Widmayer  
 Servo-Controlled Beam Director Provides Major Benefits, Mark P. Morganthaler and Lynn Weber  
 A Microcomputer System for Spectrophotometric Data Processing, Glenn C. Steiner  
 How the 8450A Was Developed, Richard E. Monnier

### March 1980

- Powerful Personal Calculator System Sets New Standards, Bernard E. Musch, John J. Wong, and David R. Conklin  
 Packaging the HP-41C, Gerald W. Steiger  
 Card Reader Offers Compatibility and Expanded Capability, David J. Lowe and Patrick V. Boyd  
 Evolutionary Printer Provides Significantly Better Performance, Roger D. Quick and Donald L. Morris  
 Bulk CMOS Technology for the HP-41C, Norman L. Johnson and Vijay V. Marathe  
 The First HP Liquid Crystal Display, Craig Maze  
 High Density and Low Cost with Printed Circuit Hybrid Technology, James H. Fleming and Robert N. Low  
 An Economical, Portable Microwave Spectrum Analyzer, David H. Molinari and Richard L. Belding

### April 1980

- Microwave CW and Pulse Frequency Measurements to 40 GHz, Richard F. Schneider, Ronald E. Felsenstein, and Robert W. Offermann  
 A 400-to-1600-MHz ÷8 Prescaler, Hans J. Jekat  
 An Automatic Microwave Frequency Counter Test System, Larry L. Koepke  
 40-GHz Frequency Converter Heads, Mohamed M. Sayed  
 A 26.5-GHz Automatic Frequency Counter with Enhanced Dynamic Range, Ali Bologlu  
 Microwave Counter Applications, Richard F. Schneider  
 Laboratory Notebook—A Flexible Software Development Technique, Ronald E. Felsenstein

### May 1980

- A Programmable Selective Level Meter (Wave Analyzer) with Synthesized Tuning, Autoranging, and Automatic Calibration, Paul L. Thomas  
 Precision Synthesizer/Level Generator Has High Spectral Purity for Telecommunications Testing, Phillip D. Winslow  
 A Monolithic Thermal Converter, Peter M. O'Neill  
 Increased Versatility for a Versatile Logic State Analyzer, Justin S. Morrill, Jr. and John D. Hansen  
 General-Purpose Module Adapts Dedicated Logic State Analyzer to Almost Any Microprocessor, Deborah J. Ogden

### June 1980

- Electronic Distance Measurement for Industrial and Scientific Applications, David E. Smith  
 Industrial Distance Meter Applications, David E. Smith and Troy L. Brown  
 Mass Storage Management—A Unified Approach, William A. Hanna  
**July 1980**  
 A New World of Personal/Professional Computation, Todd R. Lynch  
 Adding I/O Capability to the HP-85, John H. Bairn, Tim I. Mikkelson, and David J. Sweetser  
 A Compact Tape Transport Subassembly Designed for Reliability and Low Cost, Douglas J. Collins and Brian G. Spreadbury  
 A High-Quality CRT Display for a Portable Computer, James F. Bausch  
 A Compact Thermal Printer Designed for Integration into a Personal Computer, Clement C. Lo and Ronald W. Keil  
 Enhanced BASIC Language for a Personal Computer, Nelson A. Mills, Homer C. Russell, and Kent R. Henscheid

### August 1980

- A Complete Self-Contained Audio Measurement System, James D. Foote  
 Audio Analyzer Applications  
 Making the Most of a Microprocessor-Based Instrument Controller, Corydon J. Boyan  
 Design for a Low-Distortion, Fast-Settling Source, George D. Pontis  
 Floating a Source Output, George D. Pontis  
 A Digitally Tuned Notch Filter, Chung Y. Lau  
 A Custom LSI Approach to a Personal Computer, Todd R. Lynch  
 Handheld Calculator Evaluates Integrals, William M. Kahan

### September 1980

- A Fully Integrated, Microprocessor-Controlled Total Station, Alfred F. Gort  
 Mechanical Design Constraints for a Total Station, Ronald K. Kerschner  
 A Compact Optical System for Portable Distance and Angle Measurements, Charles E. Moore and David J. Sims  
 An Approach to Large-Scale Non-Contact Coordinate Measurements, Douglas R. Johnson  
 Interfacing the 3820A via the HP-IB, Gerald F. Wasinger  
 Automatic Measurements with a High-Performance Universal Counter, Gary D. Sasaki and Ronald C. Jensen  
 Third Input Extends Range to 1300 MHz, David M. DiPietro  
 A Voltmeter for a Universal Counter, Val D. McOmber  
 5335A Self Test and Diagnostics, Robert J. LaFollette

### October 1980

- Logic Development System Accelerates Microcomputer System Design, Thomas A. Saponas and Brian W. Kerr  
 Resource Sharing in the Logic Development System, Alan J. DeVilbiss  
 Emulators for Microprocessor System Development, James B. Donnelly, Gordon A. Greenley, and Milo E. Muterspaugh  
 The Pascal/64000 Compiler, Izagma I. Alonso-Velez and Jacques Gregori Bourque  
 Program Debugging with Pascal/64000, P. Alan McDonley  
 The 64000 Linker, James B. Stewart  
 An Assembler for All Microprocessors, Brad E. Yackle  
 Viewpoints—Chuck House on the Electronic Bench

**November 1980**

- Patient Monitoring Enhanced by New Central Station, Timothy B. Blancke and Larry L. Nielsen  
 High-Speed Raster Technique Provides Flexible Display, Robert L. Stettiner and George L. Adleman  
 Multi-Processor Architecture and Communications for Patient Monitoring, James M. Rueter  
 Self-Test and Serviceability for Dependable Central Patient Monitoring, Jeffrey M. Goldberg  
 Firmware for a Patient Monitoring Station, Kim L. Hanna  
 An Interactive HP 3000/IBM Mainframe Link, Connie J. Ishida

**December 1980**

- Color Enhances Computer Graphics System, John B. Frost and William L. Hale  
 The System 45C User's Firmware Interface, Robert A. Jewett and Robert W. Fredrickson  
 Light Pen Aids User Interaction with Display, Frederick J. Porter  
 A Precision Color Raster-Scan Display for Graphics Applications, Warren C. Pratt  
 Display System Designed for Color Graphics, Harold L. Baeverstad, Jr. and Clark C. Bruderer  
 System 45C Power Supply Considerations, J. Steven Becker

## PART 2: Subject Index

<b>Month/Year</b>	<b>Subject</b>	<b>Model</b>	
	<b>A</b>		
Feb. 1980	Absorbance measurements	8450A	
Sept. 1980	Aircraft inspection	9845T, 3820A	
Nov. 1980	Alarms, heart-rate monitoring	78501A, 78502A	
Nov. 1980	Alarms, system self-test	78501A, 78502A	
July 1980	Amplifier, horizontal, CRT display	HP-85	
July 1980	Amplifier, vertical, CRT display	HP-85	
Aug. 1980	Analyzer, audio	8903A	
May 1980	Analyzer, logic state	1610B	
May 1980	Analyzer, logic state	1611A Opt 001	
May 1980	Analyzer, wave	3586A/B/C	
Sept. 1980	Angle measurement, electronic	3820A	
Sept. 1980	Antenna assembly	9845T, 3820A	
Dec. 1980	Area fill, graphics images	9845C	
Nov. 1980	Arrhythmia monitoring	78501A, 78502A	
Oct. 1980	Assembler, table driven	64000	
Aug. 1980	Audio analyzer	8903A	
	<b>B</b>		
July 1980	BASIC, personal computer	HP-85	
Dec. 1980	BASIC language, graphics	9845C	
Aug. 1980	Buffer IC	HP-85	
	<b>C</b>		
Mar. 1980	Calculator system, personal	HP-41C	
Aug. 1980	Calculator with integrate key	HP-34C	
Mar. 1980	Card reader	82104A	
Nov. 1980	Cardiotach	78501A, 78502A	
Apr. 1980	Carrier return loss measurements		
Sept. 1980	Cassegrain structure, telescope	3820A	
Nov. 1980	Central station	78501A, 78502A	
Feb. 1980	Chemical analysis, spectrophotometric	8450A	
Mar. 1980	CMOS, bulk	HP-41C	
Dec. 1980	Color graphics, CRT	9845C	
Dec. 1980	Color specification models	9845C	
Jan. 1980	Communications system measurements	3779A/B	
Oct. 1980	Compiler, Pascal	64000	
July 1980	Computer, personal	HP-85	
Apr. 1980	Converter, frequency, 40 GHz	5355A	
Sept. 1980	Coordinate measurements, large-scale, non-contact	9845T, 3820A	
Apr. 1980	Counter, microwave, 26.5 GHz	5343A	
Apr. 1980	Counter system, 40 GHz	5345A/55A/56A	
Apr. 1980	Counter, universal	5345A	
Aug. 1980	CPU design	HP-85	
Dec. 1980	Cursor, tracking	9845C	
Apr. 1980	CW frequency measurements	5355A, 5345A	
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Sept. 1980	Deflection measurement	9845T, 3820A	
July 1980	Delta-distance code, tape storage	HP-85	
May 1980	Demultiplexing buses	1610B, 1611A	
Oct. 1980	Development system, logic	64000	
Feb. 1980	Diffraction gratings, holographic		
July 1980	Digital servo design	HP-85	
Oct. 1980	Directed-syntax softkeys	64000	
June 1980	Disc management software		
Sept. 1980	Distance correction, air temperature and pressure	3820A	
June 1980	Distance measurement, electronic	3850A	
	<b>E</b>		
Nov. 1980	ECG monitoring	78501A, 78502A	
Nov. 1980	Echoplex	78501A, 78502A	
Oct. 1980	Electronic bench		
June 1980	Electronic distance meter	3850A	
Sept. 1980	Electronic total station	3820A	
Nov. 1980	Emulator, IBM 3270	32229A	
Oct. 1980	Emulators, microprocessor	64000	
Jan. 1980	End-to-end measurements	3779A/B	
	<b>F</b>		
May 1980	FDM system testing	3586A/B/C	
Nov. 1980	Fibrillation detector	78501A, 78502A	
Jan. 1980	Fixtures, impedance test	16091/2/3/4A	
Aug. 1980	Floating audio source	8903A	
Apr. 1980	Frequency measurements to 26.5 GHz	5343A	
Apr. 1980	Frequency measurements to 40 GHz	5355A	
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May 1980	Generator, level, synthesized	3336A/B/C	
Sept. 1980	Glossary, optical and mechanical terms	3820A	
Dec. 1980	Graphical peripheral control	9845C	
Dec. 1980	Graphics, color, CRT	9845C	
July 1980	Graphics, personal computer	HP-85	
Sept. 1980	Gravity sensing system	3820A	
	<b>H</b>		
Apr. 1980	Harmonic heterodyne frequency converter, 40 GHz	5355A	
Apr. 1980	Heads, frequency converter	5356A/B/C	
Sept. 1980	Height-of-standards error	3820A	
July 1980	HP-IB interface, personal computer	82937A	
Sept. 1980	HP-IB interface, distance meter	38001A	
	<b>I</b>		
Nov. 1980	IBM/HP 3000 interactive mainframe link (3270 emulator)	32229A	
Jan. 1980	Impedance analyzer, 1-1000 MHz	4191A	
June 1980	Industrial distance meter	3850A	
Nov. 1980	Inquiry and development facility (IDF)	32229A	
July 1980	Integer processing, fast	HP-85	
July 1980	Integrated circuit, buffer	HP-85	
Aug. 1980			
July 1980	Integrated circuit, CPU	HP-85	
Aug. 1980			
July 1980	Integrated circuit, CRT controller	HP-85	
Aug. 1980			
July 1980	Integrated circuit, keyboard controller	HP-85	
Aug. 1980			
July 1980	Integrated circuit, printer controller	HP-85	
Aug. 1980			
July 1980	Integrated circuit, RAM controller	HP-85	
Aug. 1980			
July 1980	Integrated circuit, read/write amplifier	HP-85	
Aug. 1980			
July 1980	Integrated circuit, ROM	HP-85	

Aug.	1980	Integrated circuit, ROM		HP-85	Aug.	1980	Polysilicon resistors	HP-85		
July	1980	Integrated circuit, tape controller			June	1980	Position control	3850A		
Aug.	1980				July	1980	Power supply, personal computer	HP-85		
July	1980	Integrated circuit, translator(TC)		82937A	July	1980	Preallocation, variable	HP-85		
Aug.	1980	Integration, numerical, by calculator		HP-34C	Apr.	1980	Prescaler, 0.4-1.6 GHz			
Nov.	1980	Intelligent network processor (INP)			Jan.	1980	Primary multiplex analyzer	3779A/B		
Nov.	1980	Interactive Mainframe Link/3000 (IML/3000)		32229A	Mar.	1980	Printed circuit hybrid technology	HP-41C		
Oct.	1980	Intermediate language	64000		Mar.	1980	Printer, thermal	82143A		
Sept.	1980	Interpolation, sinusoidal patterns	3820A		July	1980	Printhead, thermal	HP-85		
Nov.	1980	Intrinsics, IML/3000	32229A		Oct.	1980	PROM programmer	64500A		
July	1980	I/O interfaces, personal computer	82937A		Apr.	1980	Pulsed RF frequency measurements	5355A		
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Aug.	1980	Key, calculator, for integration		HP-34C			<b>Q</b>			
Aug.	1980	Keyboard controller IC		HP-85	Nov.	1980	QRS-matched filter	78501A, 78502A		
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Oct.	1980	LALR parsing	64000		Aug.	1980	RAM cell, two-read/one-write	HP-85		
Sept.	1980	Lasing diode, GaAs	3820A		Aug.	1980	RAM controller IC	HP-85		
May	1980	Level generator	3336A/B/C		July	1980	Random number generation	HP-85		
Dec.	1980	Light pen, raster-scan CRT	9845C		Nov.	1980	Reconfiguration, automatic	78501A, 78502A		
Oct.	1980	Linker, table-driven	64000		Jan.	1980	Reflection coefficient measurements, 1-1000 MHz	4191A		
Mar.	1980	Liquid crystal display	HP-41C				Sept.	1980	Refractive index, air, group velocity	3820A
Oct.	1980	Logic development system	64000				Oct.	1980	Resource allocation	64000
May	1980	Logic state analyzer	1611A	Opt 001			Jan.	1980	RF impedance analyzer	4191A
May	1980	Logic state analyzer					Sept.	1980	Roelof's prism adaptor	11429A
Aug.	1980	LSI circuit design		HP-85						
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June	1980	Mass storage management software			Nov.	1980	SDLC	78501A, 78502A		
Dec.	1980	Memory design, color graphics display	9845C		May	1980	Selective level meter	3586A/B/C		
Mar.	1980	Memory modules	82106A		Nov.	1980	Self-test system, four-level	78501A, 78502A		
Apr.	1980	Microcode development technique			May	1980	Signal generator, synthesized	3336A/B/C		
Oct.	1980	Microprocessor development system	64000		Aug.	1980	Signal-to-noise measurements	8903A		
May	1980	Microprocessor testing	1610B, 1611A		Aug.	1980	SINAD measurements	8903A		
Apr.	1980	Microwave frequency measurements	5343A		Aug.	1980	Software development system	HP-85		
Apr.	1980	Microwave frequency measurements	5355A		June	1980	Software for mass storage management			
Mar.	1980	Microwave spectrum analyzer	8559A		Feb.	1980	Spectrophotometer, ultraviolet/visible	8450A		
Sept.	1980	Mirror mount	3820A		Mar.	1980	Spectrum analyzer 0.1 to 21 GHz	8559A		
June	1980	Moving target measurements	3850A		Aug.	1980	State-variable filters	8903A		
Sept.	1980	Multifunction sequence	3820A		June	1980	Static monitoring	3850A		
May	1980	Multiphase clocking	1610B, 1611A		Nov.	1980	Superaster	78510A		
Jan.	1980	Multiplex system analyzer	3779A/B		May	1980	Synthesizer/level generator	3336A/B/C		
Nov.	1980	Multi-processor architecture	78501A, 78502A							
		<b>N</b>					<b>T</b>			
Aug.	1980	NMOS circuit design		HP-85	Sept.	1980	Telescope, catadioptric	3820A		
Aug.	1980	Notch filter, digitally tuned		8903A	Jan.	1980	Telephone system measurements	3779A/B		
Aug.	1980	Numerical integration by calculator		HP-34C	May	1980	Thermal converter, rms-to-dc			
		<b>O</b>			Dec.	1980	3-D graphics, dominant area shading	9845C		
Sept.	1980	Optical angle encoder	3820A		Sept.	1980	Tilt meter, gravity sensing	3820A		
Feb.	1980	Optical system, folded	8450A		Nov.	1980	Trends monitoring	78501A, 78502A		
Sept.	1980	Optical system, total station	3820A		Sept.	1980	Triangulation	9845T, 3820A		
Aug.	1980	Oscillator, audio	8903A							
July	1980	Output control, vectored	HP-85							
		<b>P</b>					<b>U</b>			
Oct.	1980	Pascal compiler	64000		Aug.	1980	Two-read/one-write memory	HP-85		
Nov.	1980	Patient information center	78501A, 78502A		Feb.	1980	Ultraviolet/visible spectrophotometer	8450A		
Nov.	1980	Patient monitoring	78501A, 78502A				<b>V</b>			
Jan.	1980	PCM system analyzer	3779A/B		Dec.	1980	Vector generation	9845C		
					June	1980	Velocity measurements	3850A		
		<b>W</b>					<b>W</b>			
					May	1980	Wave analyzer	3586A/B/C		

## PART 3: Model Number Index

Model	Product	Month/Year	1611A Opt 001	Logic State Analyzer	May	1980
HP-34C	Calculator	Aug. 1980	3336A/B/C	Synthesizer/Level Generator	May	1980
HP-41C	Calculator System	Mar. 1980	3586A/B/C	Selective Level Meter	May	1980
HP-85	Personal Computer	July 1980	3779A/B	Primary Multiplex Analyzer	Jan.	1980
1610B	Logic State Analyzer	Aug. 1980	3820A	Total Station	Sept.	1980
		Aug. 1980	3822A	Coordinate Determination System (9845T, 3820A)	Sept.	1980

3850A	Industrial Distance Meter	June 1980	16094A	Probe Fixture	Jan. 1980
4191A	RF Impedance Analyzer	Jan. 1980	32229A	IML/3000	Nov. 1980
5316A	Universal Counter	Sept. 1980	38001A	HP-IB Distance Meter Interface	June 1980
5335A	Universal Counter	Sept. 1980			Sept. 1980
5343A	Microwave Frequency Counter	Apr. 1980	64000 64100A	Logic Development System	Oct. 1980
5345A	Electronic Counter	Apr. 1980	64300A	Development Station	Oct. 1980
5355A	Automatic Frequency Converter	Apr. 1980	64500A	Logic Analyzer	Oct. 1980
5356A/B/C	Frequency Converter Heads	Apr. 1980	78501A	PROM Programmer	Oct. 1980
8450A	UV/Vis Spectrophotometer	Feb. 1980	78502A	Patient Information Center	Nov. 1980
8559A	Spectrum Analyzer 0.1-21 GHz	Mar. 1980	78510A	Patient Information Center	Nov. 1980
8903A	Audio Analyzer	Aug. 1980	78511A	Display	Nov. 1980
9845C	Color Graphics Computer	Dec. 1980	78571A	Equipment Cabinet	Nov. 1980
9876A	Thermal Graphics Printer	Nov. 1980	78572A	Single-Channel Recorder	Nov. 1980
10264A	General-Purpose Personality Module for 1611A	May 1980	82104A 82106A	Dual-Channel Recorder	Nov. 1980
11429A	Roelof's Prism Adaptor	Sept. 1980	82143A	Card Reader	Mar. 1980
14451A	Circuit Analyzer Board	Nov. 1980	82903A	Memory Modules	Mar. 1980
16091A	Coaxial Fixture Set	Jan. 1980	82936A	Thermal Printer	Mar. 1980
16092A	Spring Clip Fixture	Jan. 1980	82937A	HP-85 16K RAM Module	July 1980
16093A/B	Binding Post Fixture	Jan. 1980		HP-85 ROM Module	July 1980
				HP-85 HP-IB Interface	July 1980

## PART 4: Author Index

A		House, Charles H.		Nielsen, Larry L.	Nov. 1980
Adleman, George L.	Nov. 1980				
Alonso-Velez, Izagema I.	Oct. 1980				
B			I	O	
Baeverstad, Harold L., Jr.	Dec. 1980		Ichino, Toshio	Offermann, Robert W.	Apr. 1980
Batham, Andrew	Jan. 1980		Ishida, Connie J.	Ogden, Deborah J.	May 1980
Bausch, James F.	July 1980			Ohkawara, Hideo	Jan. 1980
Becker, J. Steven	Dec. 1980			O'Neill, Peter M.	May 1980
Belding, Richard L.	Mar. 1980		J		
Blancke, Timothy B.	Nov. 1980		James, Gerald E.		
Bologlu, Ali	Apr. 1980		Jekat, Hans J.		
Bourque, Jacques Gregori	Oct. 1980		Jensen, Ronald C.		
Boyan, Corydon J.	Aug. 1980		Jewett, Robert A.		
Boyd, Patrick V.	Mar. 1980		Johnson, Douglas R.		
Brown, Troy L.	June 1980		Johnson, Norman L.		
Bruderer, Clark C.	Dec. 1980		K		
Bryant, Mike	Jan. 1980		Kahan, William M.		
Buck, Dean	June 1980		Keil, Ronald W.		
C			Kerr, Brian W.		
Collins, Douglas J.	July 1980		Kerschner, Ronald K.		
Conklin, David R.	Mar. 1980		Knudsen, Knud L.		
Cox, Roger	Oct. 1980		Koepke, Larry L.		
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DeVilbiss, Alan J.	Oct. 1980		LaFollette, Robert J.		
DiPietro, David M.	Sept. 1980		Lau, Chung Y.		
Donnelly, James B.	Oct. 1980		Lo, Clement C.		
Dykes, Mark	Jan. 1980		Low, Robert N.		
F			Lowe, David J.		
Felsenstein, Ronald E.	Apr. 1980		Lynch, Todd R.		
Fleming, James H.	Mar. 1980		M		
Foote, James D.	Aug. 1980		Marathe, Vijay V.		
Fredrickson, Robert W.	Dec. 1980		Marton, Virgil		
Frost, John B.	Dec. 1980		Maze, Craig		
G			McDonley, P. Alan		
George, David M.	Sept. 1980		McOmber, Val D.		
Goldberg, Jeffrey M.	Nov. 1980		Mikkelsen, Tim I.		
Gort, Alfred F.	Sept. 1980		Mills, Nelson A.		
Greenley, Gordon A.	Oct. 1980		N		
H			Monnier, Richard E.		
Hale, William L.	Dec. 1980		Moore, Charles E.		
Hanna, Kim L.	Nov. 1980		Morganthaler, Mark P.		
Hanna, William A.	June 1980		Morris, Donald L.		
Hansen, John D.	May 1980		Morrill, Justin S., Jr.		
Henscheid, Kent R.	July 1980		Musch, Bernard E.		
Hopkins, George W.	Feb. 1980		Muterspaugh, Milo E.		
T			Nairn, John H.		
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