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MASSACHUSETTS INSTITUTE OF TECHNOLOGY

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15 March 1964

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LINCOLN LABORATORY

LEXINGTON, MASSACHUSETTS

Unclassified Publications of Lincoln Laboratory, 15 March 1964, is a new cumulative listing of unclassified reports published since the Laboratory was established in 1951. The 15 July 1961 edition of Unclassified Publications, as well as Supplements 1, 2, and 3, may now be destroyed.

A Subject Index, included for the first time in this edition, should prove a valuable aid to the reader.

Progress Reports, Technical Reports and Group Reports listed herein are deposited with DDC. Out-of-print unclassified (released) reports are available, as microfilm or photoprint copies, from the Microreproduction Laboratory, Hayden Memorial Library, Massachusetts Institute of Technology, Cambridge, Massachusetts 02139. Requests should cite the appropriate serial numbers and prices.

Accepted for the Air Force
Franklin C. Hudson, Deputy Chief
Air Force Lincoln Laboratory Office

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KEY TO SYMBOLS

*	Joint report
†	Out of print
‡	Partial support under other contract
§	Consultant or non-Lincoln author
¶	Limiter
R	Reprints available
H	Hayden Library serial number
M	Microfilm
P	Photoprint

QUARTERLY PROGRESS REPORTS

DIVISION 2

SYSTEMS

DATA SYSTEMS

	<u>DDC No.</u>		<u>DDC No.</u>
15 November 1961	269861	15 May 1963	406287
15 February 1962	272957	15 August 1963	417672
15 May 1962	275471	15 November 1963	425576
15 August 1962	283494	15 February 1964	432493
15 November 1962	289815		
† 15 February 1963	297789		

DIVISION 3 RADIO PHYSICS

DIVISION 4 RADAR

	<u>DDC No.</u>		<u>DDC No.</u>
15 January 1962	271953	15 February 1962	273507
15 April 1962	275470	15 May 1962	276045
15 July 1962	283035	15 November 1962	291103
15 October 1962	289814	15 February 1963	298907
† 15 January 1963	296492	15 May 1963	408676
15 April 1963	414694	15 September 1963	422233
15 August 1963	417499	15 December 1963	429499
15 November 1963	425670	15 March 1964	435689
15 February 1964	433769		

Quarterly Progress Reports

DIVISION 5 INFORMATION PROCESSING

	<u>DDC No.</u>	<u>Hayden Serial and Prices</u>		
† 15 September 1959	231801	H-223	M \$1.50	P \$25.30
† 15 December 1959	233920	H-139	1.50	24.10
† 15 March 1960	237551	H-126	1.50	24.40
15 June 1960	242284			
15 September 1960	247050			
15 December 1960	252199			
† 15 March 1961	256371	H-443	1.50	12.65
† 15 June 1961	260633	H-442	1.50	13.90
† 15 September 1961	263607	H-441	1.50	4.90
† 15 December 1961	268698	H-450	1.50	3.90
† 15 March 1962	273508	H-440	1.50	4.65
† 15 June 1962	277562	H-439	1.50	5.15
† 15 September 1962	285165	H-438	1.50	7.40
† 15 December 1962	294454			
15 March 1963	401494			

DIVISION 6 SPACE COMMUNICATIONS

	<u>DDC No.</u>
15 September 1963	424909
15 December 1963	431198
15 March 1964	434292

Quarterly Progress Reports

DIVISION 7 ENGINEERING DESIGN AND TECHNICAL SERVICES

	<u>DDC No.</u>		<u>DDC No.</u>
† 15 November 1952	6517	† 15 January 1956	95753
† 15 February 1953	11806	† 15 April, 15 July, 15 October 1956	13605
† 15 May 1953	17084	† 15 January 1957	13606
† 15 August 1953	20379	† 15 April 1957	147497
† 15 November 1953	25815	† 15 July 1957	151240
† 15 April 1954	33860	† 15 October 1957	110031
† 15 July 1954	39058	† 15 January 1958	110048
† 15 October 1954	50617	† 15 April 1958	133859
† 15 January 1955	64031	† 15 July 1958	303131
† 15 April 1955	68882	† 15 October 1958	304361
† 15 July 1955	72814	† 15 January 1959	305154
† 15 October 1955	83347		

DIVISION 7 ENGINEERING

	<u>DDC No.</u>		<u>DDC No.</u>
† 15 April 1959	222823	15 January 1962	270736
† 15 July 1959	222824	15 April 1962	280714
15 October 1959	315534	15 July 1962	282388
15 January 1960	315680	15 October 1962	287558
15 April 1960	317928	15 January 1963	294972
15 July 1960	319819	15 April 1963	404456
15 October 1960	249920	15 July 1963	413873
15 January 1961	253840	15 September 1963	425923
15 April 1961	258076	15 December 1963	429957
15 July,		15 March 1964	435524
15 October 1961	274523		

Quarterly Progress Reports

DIVISION 8 SOLID STATE

	<u>DDC No.</u>	<u>Hayden Serial and Prices</u>		
15 January 1962	270511			
15 April 1962	281678	H-399	M\$1.50	P\$3.15
15 July 1962	282145	H-416	1.50	2.15
15 October 1962	287199	H-435	1.50	4.40
15 January 1963	295737	H-470	1.50	2.40
15 April 1963	404496	H-502	1.50	2.20
15 July 1963	412949	H-541	1.50	2.20
15 October 1963	422429	H-547	1.50	2.20
15 January 1964	429866	H-574	1.50	3.00

Quarterly Progress Reports

TRANSISTORS AND SOLID STATE

Group 35

DDC No.

Hayden Serial and Prices

† 1 October 1952
 † 15 January 1953
 † 15 April 1953
 † 15 July 1953
 † 15 October 1953
 † 1 February 1954

28579

SOLID STATE RESEARCH

Group 35 - Transistors
 Group 37 - Ferrites

† 1 May 1954
 † 1 August 1954
 † 1 November 1954
 † 1 February 1955
 † 1 May 1955
 † 1 August 1955

41457
 41456
 53355
 62359
 70113
 79337

SOLID STATE RESEARCH

Group 35

† 1 November 1955
 † 1 February 1956
 † 1 May 1956
 † 1 August 1956
 † 1 November 1956
 † 1 February 1957
 † 1 May 1957

82483
 92623
 102207
 98859
 110008
 137607
 151262

SOLID STATE RESEARCH

Groups 35, 37, 310

† 1 August 1957

151261

SOLID STATE RESEARCH

Groups 35, 37, 310, 63, 24

† 1 November 1957

110024

H-5

M \$1.50

P \$34.05

Quarterly Progress Reports

SOLID STATE RESEARCH

	<u>DDC No.</u>	<u>Hayden Serial and Prices</u>		
† 1 February 1958	110037	H-14	1.50	29.70
† 1 May 1958	133853	H-13	1.60	33.70
† 1 August 1958	133866	H-601		
† 1 November 1958	204401	H-7	1.80	38.50
† 15 January 1959	215804	H-20	1.60	39.40
† 15 April 1959	214567	H-45	1.95	31.00
† 15 July 1959	226851	H-22	1.60	34.60
† 15 October 1959	231991	H-44	2.05	38.20
† 15 January 1960	234915	H-64	1.50	29.50
† 15 April 1960	239537	H-119	1.50	16.90
† 15 July 1960	243927	H-168	1.50	18.40
† 15 October 1960	249058	H-360	1.50	10.65
† 15 January 1961	254036	H-279	1.50	16.90
† 15 April 1961	257442	H-305	1.50	12.15
† 15 July 1961	262282	H-331	1.50	13.65
15 October 1961	266878	H-360	1.50	10.65

SOLID STATE RESEARCH LINCOLN LABORATORY

	<u>DDC No.</u>	<u>Hayden Serial and Prices</u>		
1961:4	274072	H-391	M\$1.50	P\$22.40
1962:1	277393	H-406	1.50	13.40
1962:2	285456	H-428	1.50	12.15
1962:3	291546	H-457	1.50	19.65
1962:4	400709	H-491	1.50	12.65
1963:1	413089	H-517	1.50	11.80
1963:2	417686	H-539	1.50	7.20
1963:3	427340	H-554	1.50	7.80
1963:4	435023	H-573	1.50	8.80

SEMIANNUAL TECHNICAL SUMMARY REPORTS TO ADVANCED RESEARCH PROJECTS AGENCY

REENTRY PHYSICS PROGRAM

	<u>DDC No.</u>	<u>Hayden Serial and Prices</u>
† 1 Oct. 1958 to 30 June 1959	228431	H-125 M \$1.50 P \$38.80
† 31 Dec. 1959	234627	H-127 M \$1.50 P \$22.00
† 30 June 1960	241226	H-269 M \$1.50 P \$10.30
† 31 Dec. 1960	252669	H-276 M \$1.50 P \$11.80

REENTRY PHYSICS & PROJECT PRESS PROGRAMS

	<u>DDC No.</u>	<u>Hayden Serial and Prices</u>
† 30 June 1961	262543	H-361 M \$2.65 P \$35.90
† 31 Dec. 1961	273072	H-453 M \$2.05 P \$48.15
† 30 June 1962	283478	H-454 M \$1.80 P \$37.90

RADAR TECHNIQUES STUDY

	<u>DDC No.</u>	<u>Hayden Serial and Prices</u>
31 Dec. 1959	234063	
30 June 1960	241910	
† 31 Dec. 1960	251040	

HIGH-POWER TUBE PROGRAM

	<u>DDC No.</u>	<u>Hayden Serial and Prices</u>
31 Dec. 1959	234064	
30 June 1960	241412	
† 31 Dec. 1960	250687	
30 June 1961	260544	
† 31 Dec. 1961	270734	
† 30 June 1962	278675	
31 Dec. 1962	294963	
30 June 1963	411458	
30 Nov. 1963	425185	H-549 M \$1.50 P \$7.20

TECHNICAL REPORTS

TR No.				DDC No.	Hayden Serial and Prices
* 1	Ionospheric Scattering and Reflection	R. M. Whitmer	5 Dec. 1951	3311	
2	Some Mathematical Remarks on the Boolean Machine	I. S. Reed	19 Dec. 1951	165903	
3	Use of a Delay-Line Memory to Reduce Radar Pulse-Type Interference (Wildcatting)	T. F. Rogers L. A. Ames J. A. Dumanian	21 Feb. 1952	165380	
4	A Moving-Coordinate Radar Display: Operator Limitations	F. R. Naka B. B. Welles	20 Mar. 1952	165374	
* † 7	Noise-Like Signals and Their Detection by Correlation	B. L. Basore	26 May 1952	4641	
8	Results of Ground-Clutter- Elimination Experiments	R. H. Baker H. M. Elliott	30 June 1952	969	
9	A New Method of Teletype Modulation	D. J. Gray	22 Sept. 1952	928	
11	Wide-Deviation Frequency- Modulated Oscillator	D. J. Gray V. P. Gurske W. E. Morrow, Jr.	6 Aug. 1952	958	
† 12	Boolean Functions of a Real Variable and Its Applications to a Model of the Digital Com- puter and Discrete Probability	I. S. Reed	14 Aug. 1952	968	
† 13	An Analysis of the Detection of Repeated Signals in Noise by Binary Integration	J. V. Harrington	14 Aug. 1952	949	
† 14	An Application of Matrix Theory to the Tracking and Smoothing Equations	I. S. Reed G. P. Dinneen	3 June 1953	19276	H-31 M \$1.50 P \$6.40
15	Symbolic Synthesis of Digital Computers	I. S. Reed	17 Oct. 1952	2230	
† 16	The Measurement of Frequency Modulation in Pulse Magnetrons with a Microwave Interferometer	J. J. G. McCue	16 Oct. 1952	11811	
18	An Analytic Study of the Symmetric P-N Junction in Semiconductors	L. Bess	14 Nov. 1952	17010	

Technical Reports

TR No.				DDC No.	Hayden Serial and Prices
19	Use of H Field Coupling in Directional Couplers	C. W. Jones	5 Mar. 1953	17081	
† 20	An Analysis of Signal Detection by the Sequential Observer	I. S. Reed	12 Mar. 1953	17082	H-16 M \$1.50 P \$9.70
† 21	Correlation Analysis of VHF Signals	A. J. Lephakis	18 May 1953	11808	
† 22	Signal-to-Noise Improvement through Integration in a Delay- Line Filter System	J. Freedman J. Margolin	13 May 1953	19279	H-291 M \$1.50 P \$3.65
23	PPI Light-Spot-Brightness Probability Distributions	G. C. Sponsler F. L. Shader	17 June 1953	20232	
†† 24	Automatic-Alarm Radar for PROJECT COUNTER CHANGE (Final Technical Report)	H. G. Weiss F. R. Naka J. Freedman W. P. Harris J. W. Meyer J. F. Bennett	4 Aug. 1953	20233	
* 25	Some Notes on Transistor Circuits	R. B. Adler M. Boisvert C. R. Hurtig S. J. Mason	6 Jan. 1953	17007	
26	The Lower Modes of a Concentric Line Having a Helical Inner Conductor	L. Stark	2 July 1953	19277	
† 27	The Transient Response of Transistor Switching Circuits	I. L. Lebow R. H. Baker R. E. McMahon	7 July 1953	21107	H-25 M \$1.50 P \$7.60
28	A Waveguide-Coax Hybrid Junction	C. W. Jones	14 July 1953	20234	
31	Matching Filtered and Unfiltered Displays	B. F. Green, Jr.	27 July 1953	25812	
32	Transistor Shift Registers	R. H. Baker I. L. Lebow R. E. McMahon	30 July 1953	19278	
33	Correlation Detection Using Stored Signals	P. E. Green, Jr.	4 Aug. 1953	20524	
* † 34	Statistical Theory Applied to Communication through Multipath Disturbances	R. Price	3 Sept. 1953	28497	H-374 M \$1.50 P \$10.65

Technical Reports

TR No.				DDC No.	Hayden Serial and Prices
† 35	The Statistical Theory of Detection. I: Optimum Detection of Signals in Noise	D. Middleton	2 Nov. 1953	30080	H-17 M \$1.50 P \$23.20
† 36	The Time Required to Search for Numbers on Large Visual Displays	B. F. Green, Jr. W. J. McGill H. M. Jenkins	18 Aug. 1953	21109	
37	Theory of Radio Transmission by Tropospheric Scattering Using Very Narrow Beams	H. G. Booker § J. T. deBettencourt	16 June 1954	37146	
† 38	Normal Tropospheric Propagation of Short Radio Waves Well Beyond the Horizon	T. J. Carroll R. M. Ring	12 Feb. 1954	33890	
39	Coding for Constant-Data-Rate Systems. Part I. A New Error-Correcting Code	R. A. Silverman M. Balser	23 Oct. 1953	28496	
40	A Theory of Magnetic-Domain Creation and Flux Reversal in Polycrystalline, Ferromagnetic Materials	J. B. Goodenough N. Menyuk	6 Nov. 1953	28494	
41	Jamming Tests on NOMAC Systems	B. M. Eisenstadt P. L. Fleck, Jr. O. G. Selfridge C. A. Wagner	25 Sept. 1953	20419	
42	An Ultrasonic Continuously Variable Delay Line	W. P. Schneider	22 Sept. 1953	21110	
43	Isolation of Trace Quantities of Arsenic from Germanium Samples by Solvent Extraction	M. Green J. A. Kafalas J. Lowen	2 Mar. 1954	30161	
† 44	A Class of Multiple-Error-Correcting Codes and the Decoding Scheme	I. S. Reed	9 Oct. 1953	25814	H-15 M \$1.50 P \$5.50
47	Performance on a Visual Monitoring Task as a Function of the Rate at Which Signals Occur	H. M. Jenkins	29 Oct. 1953	28492	
48	Coding for Constant-Data-Rate Systems. Part II. Multiple-Error-Correcting Codes	M. Balser R. A. Silverman	23 Feb. 1954	30162	
49	Speed and Accuracy of Reading Polar Coordinates on a Horizontal Plotting Table	B. F. Green, Jr. L. K. Anderson	11 Dec. 1953	28491	

Technical Reports

TR No.				DDC No.	Hayden Serial and Prices
† 50	A Practical Method of Designing RC Active Filters	R. P. Sallen E. L. Key	6 May 1954	40828	H-9 M \$1.50 P \$7.75
51	Folded Unipole Antennas	J. Leonhard R. D. Mattuck A. J. Poté	2 July 1954	39059	
54	Magnetostriction Filters	H. M. Elliott	4 Aug. 1954	47800	
55	Bandwidth of Microwave Ferrite Devices	R. H. Fox	11 Aug. 1954	40830	
† 56	Comparative Performance of 10-cm and 70-cm Radar Over the Sea	J. Freedman M. M. Kessler V. L. Lynn D. A. McKee W. W. Ward	25 Aug. 1954	42667	
† 57	Probability of Error in NOMAC Systems	G. L. Turin	18 Jan. 1954	30163	
58	Electrostatic Potential Dis- tribution for the Helically Wound Postdeflection Accel- erator of a Conical Cathode- Ray Tube	G. C. Sponsler	20 Jan. 1954	30164	
59	A Helical-Line Phase Shifter for Ultra-High Frequencies	L. Stark	4 Feb. 1954	30165	
60	Tables of $n \log_2 n$ and $n \log_{10} n$ for n from 1 to 1000	G. A. Miller P. M. Ross	10 Feb. 1954	33889	
61	Storage-Tube Slowed-Down Video System	E. W. Bivans S. P. Detwiler J. V. Harrington	15 Mar. 1954	30166	
63	Modifications to the AN/CPS-18 Radar	R. R. Fidler R. T. McCoy F. L. Niemann	15 Apr. 1954	34615	
64	An Automatic Electron- Trajectory Tracer Study of Helix- and Band-Type Postdeflection Acceleration	G. C. Sponsler	26 May 1954	40827	
65	Extension of Nonreciprocal Ferrite Devices to the 500- to 3000-Mcps Frequency Range	R. H. Fox B. Lax	3 Sept. 1954	47921	
† 67	A Common Co-ordinate System for the Utilization of Data from Several Radars	D. Goldenberg § E. W. Wolf	13 Sept. 1954	50611	H-18 M \$1.50 P \$16.60

Technical Reports

TR No.				DDC No.	Hayden Serial and Prices
68	A Nonreciprocal Four-Pole Ring Circuit	R. H. Fox	17 Sept. 1954	47799	
69	Ferrite Devices and Applications at Microwave Frequencies	R. H. Fox	27 Sept. 1954	64026	
† 70	Microwave Susceptibility Measurements in Ferrites	J. O. Artman P. E. Tannenwald	27 Oct. 1954	56356	H-1 M \$1.50 P \$7.25
71	Ferromagnetic Resonance in Manganese Ferrite Single Crystal	P. E. Tannenwald	30 Sept. 1954	50604	
72	Characteristics and Capabilities of Automatic Alerting Radar X-3	H. G. Weiss F. R. Naka	15 Oct. 1954	55745	
† 73	Some Queue Processes Associated with Buffer-Storage Systems	I. S. Reed	2 Dec. 1954	56355	H-396 M \$1.50 P \$6.40
74	A Punch-Card Abstract File on Solid State and Transistor Literature	L. D. Patterson	12 Jan. 1955	64029	
† 75	Some Results in the Study of Narrow-Band Gaussian Noise	R. Price	26 Jan. 1955	64030	
76	Final Report on the Phoenix Facsimile System	R. M. Whitehorn	13 June 1955	72815	
* 80	1/f Noise and Related Surface Effects in Germanium	A. L. McWhorter	20 May 1955	64023	
* 81	Investigations of Scattering and Multipath Properties of Ionospheric Propagation at Radio Frequencies Exceeding the MUF	W. G. Abel J. T. deBettencourt J. F. Roche J. H. Chisholm	3 June 1955	76494	
† 82	A Bistatic CW Radar	E. A. Sloane E. S. Candidus J. Salerno M. Skolnik	6 June 1955	76454	
83	18-Mcps Field-Strength Measurements Over Sea Water	S. J. Fricker R. P. Ingalls W. T. Quinn M. L. Stone C. A. Stutt	14 June 1955	76455	

Technical Reports

TR No.				DDC No.	Hayden Serial and Prices
84	Investigations of Angular Scattering and Multipath Properties of Tropospheric Propagation of Short Radio Waves Beyond the Horizon	J. H. Chisholm P. A. Portmann J. T. deBettencourt J. F. Roche	26 Sept. 1955	85995	
85	Effects of Dislocations in Germanium and Silicon	A. D. Kurtz	13 July 1955	76495	
86	Project Caterpillar Antenna Measurements	S. J. Fricker R. P. Ingalls W. T. Quinn M. L. Stone C. A. Stutt	22 Dec. 1955	92635	
89	Theory of Ferrites in Rectangular Waveguides	K. J. Button B. Lax	1 Aug. 1955	70106	
91	UHF Long-Range Communications Systems	G. L. Meilen W. E. Morrow, Jr. A. J. Poté W. H. Radford J. B. Wiesner	5 Aug. 1955	80774	
92	Some Remarks on Statistical Detection	W. L. Root T. S. Pitcher	10 Aug. 1955	85993	
93	Phase and Amplitude Variability in Medium-Frequency Ionospheric Transmission	D. G. Brennan M. L. Phillips §	16 Sept. 1957	110016	
†95	Several Binary Sequence Generators	N. Zierler	12 Sept. 1955	89135	II-230 M \$1.50 P \$4.30
98	Transistorized Communication Receiver	S. Schwartz	4 Nov. 1955	80773	
99	Comparison of Signal and Noise in Full-Wave and Half-Wave Rectifiers	M. D. Rubin J. M. Stacey	30 Nov. 1955	85994	
100	Transistor Slowed-Down Video System	R. H. Baker R. E. McMahon A. J. Yakutis	22 Dec. 1955	92634	
101	An Investigation of a 2-Mcps Ground-Wave Radar for Ship Detection	J. T. deBettencourt D. J. Gray	13 Dec. 1955	90351	
102	Designing for Reliability	N. H. Taylor	9 Dec. 1955	93756	
†103	Some Notes on Jamming, I	W. L. Root	3 Jan. 1956	90352	

Technical Reports

TR No.				<u>DDC No.</u>	<u>Hayden Serial and Prices</u>
104	Random-Access PPI	E. W. Bivans B. Cohen R. W. Hofheimer K. E. Perry J. Terzian R. V. Wood, Jr.	24 Feb. 1956	92633	
106	Transistor Regulated Power Supplies	F. G. Popp	19 Jan. 1956	92621	
107	Some Fundamental Principles of Coherent MTI and AMTI	W. W. Ward W. B. Renhult	3 May 1956	100288	
110	Maximum Efficiency Transistor Switching Circuits	R. H. Baker	22 Mar. 1956	96497	
111	Characteristics of Simple Manual Control Systems	J. I. Elkind	6 Apr. 1956	94646	
112	Analysis of Freezing Precipitation Along the Eastern North American Coastline	J. M. Austin § S. L. Hensel	23 Mar. 1956	96755	
113	Broad-Band Balanced Duplexers	C. W. Jones	5 Apr. 1956	100287	
† 114	Markov-Process Representation of Radar Detection-Trial Binary-Data Sequences	G. C. Sponsler	16 Apr. 1956	100289	H-216 M \$1.50 P \$17.50
115	Galvanomagnetic Effects in n-Type Germanium	W. M. Bullis	14 May 1956	96499	
116	Communication Through Noisy, Random-Multipath Channels	G. Turin	14 May 1956	96500	
117	The Design of Characters for the Charactron	W. P. Harris B. F. Green, Jr. E. A. Wilson L. H. Liaudansky	8 May 1956	101142	
119	Some Experiments with Three-Pulse Cancellation and with Sweep Integration	J. J. G. McCue	8 June 1956	103579	
120	Symmetrical Back-Clamped Transistor Switching Circuits	R. H. Baker R. E. McMahon F. L. McNamara A. C. Parker V. J. Sferrino H. A. Ullman	5 May 1956	101141	
123	A Mathematical Model for the Radar Echo from a Random Collection of Scatterers	E. J. Kelly E. C. Lerner	15 June 1956	104260	

Technical Reports

TR No.				DDC No.	Hayden Serial and Prices
124	The Suggested Role of Stratified Elevated Layers in Trans-Horizon Short-Wave Radio Propagation	J. R. Bauer	24 Sept. 1956	110003	
† 129	The Prediction of Ballistic Missile Trajectories from Radar Observations	I. I. Shapiro	27 Feb. 1957	110025	
130	High-Speed Graded-Base-Transistor Switching Circuits	R. H. Baker E. J. Chatterton A. C. Parker	10 Dec. 1957	110030	
132	On Meteor Echoes from Underdense Trails at Very High Frequencies	M. Loewenthal	13 Dec. 1956	137608	
† 133	Transistor Core Memory	R. E. McMahon F. L. McNamara	13 Nov. 1956	110010	H-485 M \$1.50 P \$6.15
134	Preliminary Report on Ground-Wave-Radar Sea Clutter	C. A. Stutt S. J. Fricker R. P. Ingalls M. L. Stone	21 Sept. 1956	110004	
135	Topics in the Design of Antennas for Scatter	J. Granlund	23 Nov. 1956	110001	
136	Classical Boltzmann Theory of Cyclotron Resonance	H. J. Zeiger B. Lax R. N. Dexter	4 Oct. 1956	110005	
137	Punch-Thru Diode (Operation as a Narrow-Base Diode)	R. H. Rediker D. E. Sawyer	27 Nov. 1956	110011	
138	Circular Polarization for the AN/CPS-18 Antenna	F. L. Niemann J. P. Curtis	7 Jan. 1957	137609	
† 139	Logical Design of CG 24 (A General-Purpose Computer)	G. P. Dinneen J. A. Dumanian I. L. Lebow I. S. Reed P. B. Sebring	15 Apr. 1957	147496	H-19 M \$1.50 P \$15.40
141	Symbolic Design Techniques Applied to a Generalized Computer	I. S. Reed	3 Jan. 1957	110009	
142	High-Power RF Switch	L. J. Ricardi	10 Dec. 1956	110006	
143	Electromagnetic Propagation Effects in Ferromagnetic Resonance	M. H. Seavey P. E. Tannenwald	16 Jan. 1957	137610	

Technical Reports

TR No.				DDC No.	Hayden Serial and Prices
144	Analysis of Wet-Snow Precipitation Along the Eastern North American Coastline	J. M. Austin § S. L. Hensel	25 Jan. 1957	137711	
146	High-Power TR Switch Development at UHF	R. E. Slattery	25 Jan. 1957	137712	
150	Some Studies on Group III-V Intermetallic Compounds	C. R. Kolm	20 Feb. 1957	137716	
151	Proposal for Improving Tropospheric Propagation	L. J. Eyges	1 Mar. 1957	137717	
152	Hahn Decompositions and Hypothesis Tests	I. S. Reed E. J. Kelly D. H. Lyons	4 Mar. 1957	137718	
153	Optical Memory Panels	W. L. Gardner D. B. Barker M. D. Zimmerman	7 Mar. 1957	137719	
† 154	Some Pulse-Doppler Radar- Design Considerations	R. E. Richardson	12 Aug. 1957	150863	H-482 M \$1.50 P \$5.40
155	A Fixed-Gap UHF TR Tube	C. W. Jones C. E. Muehe S. J. Miller	29 Mar. 1957	147407	
156	Transistorized Matched Filter for Pulsed Sinusoids	P. L. Fleck, Jr.	12 Apr. 1957	147492	
† 157	Some Properties of Stationary Gaussian Processes	E. J. Kelly I. S. Reed	5 June 1957	150864	H-468 M \$1.50 P \$3.40
† 158	The Detection of Radar Echoes in Noise. Part I: Statistical Preliminaries and Detector Design	I. S. Reed E. J. Kelly W. L. Root	20 June 1957	150865	H-238 M \$1.50 P \$7.90
† 159	The Detection of Radar Echoes in Noise. Part II: The Accuracy of Radar Measurements	I. S. Reed E. J. Kelly W. L. Root	19 July 1957	150866	H-215 M \$1.50 P \$8.80
160	Ultrasonic-Delay-Line Ter- minating Circuits and Passband Measurements	M. Axelbank	12 July 1957	150867	
† 161	A Search for Means to Detect Distant Low-Flying Aircraft	E. W. Pike	18 July 1957	150868	H-28 M \$1.95 P \$33.60

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TR No.				DDC No.	Hayden Serial and Prices
162	Digital-Analog Function Generators	R. W. Hofheimer K. E. Perry	23 Aug. 1957	150869	
164	The Chemical Analysis of Manganese-Magnesium Ferrite (Memory-Core Material)	D. G. Wickham	23 Aug. 1957	150870	
*† 165	Computer Techniques for the Study of Patterns in the Electroencephalogram	B. G. Farley L. S. Frischkopf W. A. Clark, Jr. J. T. Gilmore, Jr.	6 Nov. 1957	110027	H-2 M \$1.50 P \$5.75
* 166	On the Statics and Dynamics of Magnetic Domain Boundaries	J. V. Harrington	13 Jan. 1958	110028	
167	Parabolic-Cylinder Reflector Patterns	R. L. Pease	13 Nov. 1957	110029	
168	On the Reciprocity of Rays Propagated Through a Hori- zontally Stratified Ionosphere	D. H. Archer	18 Dec. 1957	110032	
169	A Broad-Band UHF Amplifier and Mixer	J. H. Phillips E. Maxwell	27 Dec. 1957	110033	
170	A 64-Pole RF Coaxial Switch	L. J. Ricardi B. F. LaPage	3 Jan. 1958	110035	
171	An FM MTI Cancellation System	D. A. McKee	8 Jan. 1958	110036	
172	Analysis of Some Detection Criteria for Pulse Radar	E. J. Kelly D. H. Lyons H. M. Jones I. S. Reed	24 Jan. 1958	110039	
174	Straight Tapers in Rectangular Waveguides	T. J. Rey	10 Feb. 1958	110041	
176	Theory of Nonreciprocal Ferrite Phase Shifters in Dielectric- Loaded Coaxial Line	K. J. Button	7 Mar. 1958	110044	
177	One-Megacycle Silicon Tran- sistor Circuits Applicable to Airborne Digital Systems	V. J. Sferrino W. G. Schmidt	10 Mar. 1958	110045	
178	Elimination of a Type of Natural Clutter in L-Band Radars	R. E. Richardson J. M. Stacey H. M. Kohler F. R. Naka	15 Apr. 1958	133851	
179	Semiconductor Delay Lines	J. J. G. McCue	15 Apr. 1958	110050	
181	Effects of the Filter in Oscillator Synchronization	T. J. Rey	14 May 1958	133854	

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TR No.				DDC No.	Hayden Serial and Prices
182	The Local Behavior of Solutions of the Two-Body Problem and Related Problems	J. J. Levin	16 June 1958	133855	
183	The Stewart Air Force Base to North Truro Tropospheric-Scatter Communication System	G. L. Mellen D. H. Hamilton, Jr. J. P. Kelly W. E. Morrow, Jr.	18 July 1958	133863	
184	Paraboloidal Reflector Patterns	R. L. Pease	5 Aug. 1958	133862	
185	Final Engineering Report on Parabolic Torus Antenna System	L. J. Ricardi M. E. Devane	7 Aug. 1958	222288	
† 186	Radio Refraction in a Cool Exponential Atmosphere	J. R. Bauer W. C. Mason F. A. Wilson	27 Aug. 1958	202331	H-344 M \$1.50 P \$6.15
† 187	Characteristics of Moon-Reflected UHF Signals	S. J. Frieker R. P. Ingalls W. C. Mason M. L. Stone D. W. Swift	22 Dec. 1958	204519	H-3 M \$1.50 P \$16.00
188	Digital Rate Synthesis for Frequency Measurement and Control	T. J. Rey	30 Oct. 1958	205596	
189	Doppler Phase-Difference Integrator	G. M. Hyde K. E. Perry	12 Nov. 1958	206258	
190	Twilight Region Propagation of Short Radio Waves by Modes Contained in the Normal Air	T. J. Carroll R. M. Ring	31 Oct. 1958	210005	
† 191	The Automatic Design of Logical Networks	T. C. Bartee	3 Dec. 1958	207170	H-27 M \$1.50 P \$8.50
192	The Conductance of a Slot in an Array Antenna	S. J. Rabinowitz	31 Dec. 1958	209908	
193	Final Technical Report – Antenna and RF Circuit Design – Millstone Hill Radar	P. C. Fritsch	7 Jan. 1959	221688	
194	Curved-Earth Computations for Airborne Early Warning and Control	N. Durlach A. Carpenter M. A. Herlin	13 Jan. 1959	210006	
195	On $\sin x/x$ Sampling in the Case of Non-Band-Limited Functions	K. R. Johnson	16 Feb. 1959	211215	

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TR No.				DDC No.	Hayden Serial and Prices
† 197	The Magnetic Properties of Thin Films	J. B. Goodenough D. O. Smith	27 Jan. 1959	210730	H-26 M \$1.50 P \$13.00
198	Pressure Distribution, Sta- bility, and Restoring Torque of an Externally Pressurized Bearing	R. A. Greenberg	2 Feb. 1959	212979	
199	Transistor Life Experience: 1954 - 1958	D. J. Eckl P. A. Fergus R. L. Burke	26 Mar. 1959	214565	
200	Preparation and Performance of Sintered CdS Photoconductors	R. R. Billups W. L. Gardner, Jr. M. D. Zimmerman	12 Mar. 1959	212580	
202	A Simple Null-Indicating Saturable-Core Magnetometer for the Detection of Static Magnetic Fields	E. P. McCurley C. Blake	15 Apr. 1959	215625	
203	The AN/FRC-47 (XD-1) Mock- Up System Performance Results	B. E. Nichols	23 Apr. 1959	216370	
204	A Probability Model for Coherent Phase-Only MTI Systems	J. W. McGinn, Jr.	4 June 1959	220812	
205	Paraboloidal Reflector Patterns for Off-Axis Feed	S. S. Sandler	14 July 1959	226245	
206	The ACM-52 Automatic Clutter Mapper and Preliminary Ex- perimental Results	J. N. Harris E. J. Madle	30 July 1959	230025	
207	A Method of Pulse Compression Employing Nonlinear Frequency Modulation	E. L. Key E. N. Fowle R. D. Haggarty	13 Aug. 1959	312903	
208	On the Band Structure of Transition Metals and Their Alloys	J. B. Goodenough	1 Sept. 1959	231241	
209	A Method of Side-Lobe Suppres- sion in Phase-Coded Pulse Compression Systems	E. L. Key E. N. Fowle R. D. Haggarty	28 Aug. 1959	229403	
210	Studies in Partial Switching of Ferrite Cores	R. H. Tancrrell R. E. McMahon	21 Sept. 1959	227928	
212	The Calliscope - A Versatile Alphanumeric Display	K. E. Perry E. J. Aho	13 Nov. 1959	232164	

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TR No.				DDC No.	Hayden Serial and Prices
217	Applications of Boolean Matrices to the Analysis of Flow Diagrams	R. T. Prosser	22 Jan. 1960	234081	
219	Stochastic Approximation and "Minimax" Problems	L. A. Gardner, Jr.	11 Apr. 1960	238226	
221	Transistor Life in the TX-O Computer After 10,000 Hours of Operation	D. J. Eckl R. L. Burke	14 Apr. 1960	239227	
223	Solid State Display Panels with Photoconductive Control	R. R. Billups J. Rotstein W. L. Gardner, Jr.	26 May 1960	243854	
224	Effects of Feed Displacement on Patterns of Parabolic-Cylinder Reflectors	R. L. Pease J. Pease	2 June 1960	245618	
226	Current-Operated Diode Logic Gates	H. Reinecke, Jr.	21 July 1960	245166	
227	Effect of Higher Spatial Modes on Predicted Multicavity Klystron Performance	R. L. Pease	25 July 1960	245619	
† 228	Phased Array Radar Studies, 1 July 1959 to 1 July 1960	J. L. Allen W. W. Camp L. Cartledge W. P. Delaney J. DiBartolo M. Siegel S. Spoerri J. H. Teele D. H. Temme	12 Aug. 1960	249470	H-335 M \$3.00 P \$61.65
* † 231	Sequential Encoding and Decoding for the Discrete Memoryless Channel	B. Reiffen	12 Aug. 1960	247612	H-146 M \$1.50 P \$31.60
234	Signal Processing in Radar Astronomy - Communication via Fluctuating Multipath Media	R. Price P. E. Green, Jr.	6 Oct. 1960	246782	H-520 M \$1.95 P \$30.00
† 236	Phased Array Radar Studies, 1 July 1960 to 1 July 1961	J. L. Allen L. Cartledge W. P. Delaney E. A. Davidson J. DiBartolo A. J. Fallo W. J. Ince M. Siegel J. R. Sklar S. Spoerri J. H. Teele D. H. Temme	13 Nov. 1961	271724	H-474 M \$1.80 P \$42.90

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TR No.				DDC No.	Hayden Serial and Prices
237	Remote Display Console for Computer Processed Data	H. E. Ziemann D. I. Underwood	13 Jan. 1961	255086	
239	Electromagnetic Theory of Spin Wave Resonance	M. H. Seavey, Jr.	15 Feb. 1961	255342	
241	GENDARE (A Generalized Data Reduction System)	M. M. Marill J. B. Williams, Jr.	22 Jan. 1962	284041	
246	A Threshold Theory for Phase-Locked Loops	H. L. VanTrees	22 Aug. 1961	266951	
247	A Solid State Memory System Utilizing Impulse Switching of Ferrite Cores	V. J. Sferrino	22 Sept. 1961	264998	
248	Application of the Resonant Cavity Method to the Measure- ment of Electron Densities and Collision Frequencies in the Wakes of Hypervelocity Pellets	M. Labitt M. A. Herlin	17 Oct. 1961	265867	
249	Cyclotron Resonance and Magneto-Optical Effects in Semiconductors	B. Lax J. Halpern	30 Apr. 1962	278081	
251	The DICON System	R. S. Berg D. B. Eshleman J. N. Harris R. M. Horowitz I. L. Lebow W. H. Long N. J. Morrisson, Jr. F. Nagy, Jr. N. L. Daggett, Editor	31 Oct. 1961	267536	
252	Elementary Lattice Theories and Their Application to Gas Adsorption Phenomena	J. M. Honig	11 Dec. 1961	269570	
253	Precision Frequency Control of a High-Power Millimeter Klystron	C. M. Steinmetz	3 Jan. 1962	273509	
254	Ferro- and Antiferromagnet- ism in a Cubic Cluster of Spins	G. F. Dresselhaus	11 Jan. 1962	273950	
255	A Diplexer Using Hybrid Junctions	L. J. Ricardi	7 Feb. 1962	274524	
256	Radio-Echo Observations of the Moon at 3.6-cm Wavelength	J. V. Evans	19 Feb. 1962	274669	

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TR No.				DDC No.	Hayden Serial and Prices
257	Secondary Emission Characteristics of High-Power Microwave-Tube Surfaces	A. Vierstra R. C. Butman	20 Feb. 1962	282311	
258	Error Probabilities for Adaptive Multichannel Reception of Binary Signals	R. Price	23 July 1962	284651	
259	The West Ford Antenna Feed System	L. Niro	5 Mar. 1962	282311	
261	Statistical Mechanical Theory of Magnetic Resonance	P. L. Kelley	1 May 1962	274740	
263	The COBI Data Transmission Modem	K. H. Morey	23 May 1962	277501	
264	A More Precise Analysis of Multicavity Klystrons. I. Solutions of the Boundary-Value Problem	R. L. Pease	28 Mar. 1962	275469	
265	Mass Spectrographic Lines of the Elements	E. B. Owens A. M. Sherman	3 Apr. 1962	275468	
266	Electromagnetic Studies of Ionized Wakes	E. L. Murphy S. Edelberg G. F. Pippert	20 Apr. 1962	282309	
267	Magnetism and Crystal Structure in Nonmetals	J. B. Goodenough	24 Apr. 1962	284300	
268	Calculation of the Surface Temperature of a Solid under Electron Bombardment	G. E. Vibrans	16 Nov. 1962	294645	
269	The Preparation and Properties of Some Vanadium Spinels	D. B. Rogers	25 May 1962	282542	
270	State Assignment Algorithm for Clocked Sequential Machines	M. I. Schneider	25 May 1962	286784	
272	Radio-Echo Observations of the Moon at 68-cm Wavelength	J. V. Evans	22 June 1962	291102	
273	Scattering of Electromagnetic Waves by an Eaton Lens	J. Rheinsein	28 June 1962	289380	
274	Studies of the F-Region by the Incoherent Backscatter Method	J. V. Evans	24 July 1962	292730	
275	RF Component Development for the DICON System	R. S. Berg B. Howland	3 Aug. 1962	291780	

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TR No.				DDC No.	Hayden Serial and Prices
276	The El Campo Solar Radar Antenna	M. E. Devane A. R. Dion	17 Aug. 1962	292173	
277	A Luneburg Lens as a Passive Reflector for Satellite Communication	R. N. Assaly	21 Aug. 1962	291781	
278	The FX-1 Magnetic Film Memory	J. I. Raffel A. H. Anderson H. Blatt T. S. Crowther T. O. Herndon	27 Aug. 1962	292172	
279	Studies in Search for a Conscious Evader	R. C. Norris	14 Sept. 1962	294832	
280	Magnetic Properties of a Single Crystal of Manganese Phosphide	E. E. Huber, Jr.	18 Dec. 1962	296788	
281	A Quantitative Examination of the Radar Resolution Problem	J. L. Allen	17 Sept. 1962	295573	
282	Radar Astronomy Measurement Techniques	P. E. Green, Jr.	12 Dec. 1962	400563	
283	A Data Processing Formalism	A. W. Armenti B. J. Schafer J. M. Winett	6 Nov. 1962	293995	
284	Scattering from Density Fluctuations in a Plasma (Scattering and Absorption Cross Section)	M. S. Macrakis	22 Oct. 1962	291779	
* 285	The Resistance of Bats to Jamming	D. R. Griffin § J. J. G. McCue A. D. Grinnell §	23 Oct. 1962	296493	
286	The Measurement of Small-Signal Parameters of Transistors at VHF	B. L. Diamond	14 Nov. 1962	292731	
287	Incoherent Scattering from a Plasma: I. The Electronic Spectrum; II. The Ion-Carried Spectrum	M. S. Macrakis	14 Nov. 1962	295092	
288	Radio-Echo Studies of the Moon at 7.84-Meter Wavelength	J. V. Evans R. P. Ingalls	20 Nov. 1962	294008	
289	Optimum Incorporation of External Observations with a Marine Inertial Navigation System	D. J. Sakrison	30 Nov. 1962	296787	

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TR No.				DDC No.	Hayden Serial and Prices
290	The Spectra of the Radiation from the Trail of Hypervelocity Spheres in Argon	B. W. Bryant	11 Dec. 1962	296124	
292	Orbital Scatter Channel Propagation Experiment	P. R. Drouilhet J. W. Craig P. L. Fleck W. B. Smith C. A. Wagner	21 Dec. 1962	401311	
293	Chemical Behavior of Semiconductors	H. C. Gatos M. C. Lavine	2 Jan. 1963	401398	
§ 294	Photo-Ionized Cloud as Source for Decrease in Backscatter Cross Section of Re-entering Body	E. L. Murphy	17 Jan. 1963	401310	
295	Energy-Band Calculations	F. W. Quelle, Jr.	17 Jan. 1963	404687	
296	Sketchpad: A Man-Machine Graphical Communication System	I. E. Sutherland	30 Jan. 1963	404549	
298	Some Tests of Ionization Gauges	F. T. Worrell	18 Feb. 1963	402407	
† 299	Phased Array Radar Studies, 1 July 1961 to 1 January 1963	J. L. Allen D. M. Bernella W. W. Carpenter W. P. Delaney J. DiBartolo A. J. Fallo H. J. Greenberger W. J. Ince M. Sigel S. Spoerri D. H. Temme L. Cartledge, Editor	20 Feb. 1963	417572	H-558 M \$1.50 P \$22.60
300	The Diamond Circuit	R. H. Baker R. E. McMahon R. G. Burgess	30 Jan. 1963	400955	
301	Optimum Power Division in Coherent Communication Systems	H. L. VanTrecs	19 Feb. 1963	406882	
302	Antiferromagnetic Resonance Linewidth in MnF ₂ Near the Transition Temperature	J. C. Burgiel	18 June 1963	420809	
303	Specimen Preparation by Spark-Erosion Cutting	H. H. Ehlers D. F. Kolesar	14 Mar. 1963	402938	

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TR No.				<u>DDC No.</u>	<u>Hayden Serial and Prices</u>
304	Mode Theory of the Active Magnetohydrodynamic Waveguide	J. R. Cogdell	2 July 1963	423408	
305	Improvement of the Measurement Capability of the UHF Radar at Wallops Island	J. Freedman, Editor	10 Apr. 1963	417559	
306	The Baseball Program: An Automatic Question-Answerer, Vols. I, II	A. K. Wolf C. S. Chomsky B. F. Green, Jr.	11 Apr. 1963	432038	
307	The Measurement of Electron Density in the Wake of a Hypervelocity Pellet Over a Six-Magnitude Range	M. Labitt	15 Apr. 1963	421762	
308	Computation of the Spreading of an Electron Beam Under Acceleration and Space-Charge Repulsion	G. E. Vibrans	18 Apr. 1963	409705	
310	A Fourier Theorem and Its Application to the Measurement of Electromagnetic Fields and Quantum Mechanical States	H. E. Moses J. S. Lomont	30 Apr. 1963	407604	
312	Magnetic Scattering of Neutrons by Hexagonal Cobalt	R. M. Moon, Jr.	9 May 1963	413566	
313	The Guide Wavelength of Cylindrical Waveguide of Arbitrary Cross Section and a Computer Program for Calculating Values	R. N. Assaly	20 May 1963	412518	
315	Machine Perception of Three-Dimensional Solids	L. G. Roberts	22 May 1963	413529	
316	Calculation of Potential Depression in Klystron Gaps	R. L. Pease	23 May 1963	417589	
318	Coding for Tracking Radar Ranging	T. C. Bartee P. E. Wood, Jr.	11 June 1963	416649	
319	Radar Range Equations for Narrow-Band Optical Sources	B. S. Goldstein	14 June 1963		
320	Growing Helical Density Waves in Semiconductor Plasmas	C. E. Hurwitz	17 Oct. 1963	432393	
321	A Linear-FM Radar Pulse Compression System Employing Thickness-Tapered Dispersive Delay Lines	R. C. Yost	11 July 1963	417528	

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TR No.				DDC No.	Hayden Serial and Prices
322	Properties of Dielectrics from Reflection Coefficients in One Dimension	H. E. Moses C. M. deRidder	11 July 1963	422444	
† 323	The Theory of Array Antennas (with Emphasis on Radar Applications)	J. L. Allen	25 July 1963	422945	H-563 M \$1.50 P \$11.20
324	Investigation of Effects of Surface Deviations on Haystack Antenna Radiation Patterns	A. R. Dion	29 July 1963	418740	
325	Detection of the Energy Peak of an Arbitrary Signal	L. Kleinrock	23 Aug. 1963	425894	
326	Translationally Covariant Hamiltonians	H. E. Moses J. S. Lomont	26 Aug. 1963	422500	
328	Haystack Antenna System Status Report	A. O. Kuhnel	13 Sept. 1963	600930	
329	The Reduction of Electromagnetic Backscatter from a Plasma-Clad Conducting Body	E. L. Murphy	23 Sept. 1963	430589	
330	Radiometric Measurements at 8.5-mm Wavelength with a 28-Foot Antenna During December 1962	V. L. Lynn M. D. Sohigian M. L. Meeks	8 Oct. 1963	430926	
331	Radar Observations of the Moon at 8.6-mm Wavelength	V. L. Lynn M. D. Sohigian E. A. Crocker	8 Oct. 1963	426207	
332	Radio-Echo Studies of Meteors at 68-cm Wavelength. Part I: Sporadic Meteors	J. V. Evans R. A. Brockelman	29 Oct. 1963	439354	
335	Millstone Hill Radar Station Results of Long-Baseline Radar Interferometer Studies	E. Gehrels	7 Nov. 1963	438425	
337	Mariner A Plasma Probe	H. S. Bridge § B. Rossi § F. Scherb § R. H. Baker R. S. Cuikay E. F. Lyon, III	5 Dec. 1963		
338	The West Ford Antenna System	B. F. LaPage	6 Dec. 1963	438879	

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TR No.				DDC No.	Hayden Serial and Prices
339	Signal Parameter Estimation for Seismometer Arrays	E. J. Kelly M. J. Levin	8 Jan. 1964	435489	
341	Radio-Echo Studies of Meteors at 68-cm Wavelength. Part II: Shower Meteors	J. V. Evans R. A. Brockelman	17 Jan. 1964	601518	
342	Measurement of the Diameter of the Electronic Wake of the Hypersonic Pellets	M. Labitt	20 Jan. 1964	438816	
343	Project West Ford Payload Telemetry System	W. T. Higgins L. A. Jacobson J. B. Rankin	20 Jan. 1964	602928	
344	Information Capacity and Quantum Effects in Propaga- tion Circuits	T. Hagfors	24 Jan. 1964	436639	
345	Interpretation of the Magnetic and Crystallographic Properties of Compounds with the B31 Structure	J. B. Goodenough	28 Jan. 1964	435758	
346	The Orthomatch Data Transmission System	B. G. Kuhn	20 Feb. 1964	602130	
347	Probability Distribution of Antenna Gain for Satellite with Switched Antenna System	R. N. Assaly	4 Feb. 1964	602484	
348	A More Precise Analysis of Multicavity Klystrons. II. Pre- diction of Electronic Conduct- ance and Over-All Gain	R. L. Pease	14 Feb. 1964	441855	
349	Radar Scattering from a Conducting Cone-Sphere	J. H. Pannell J. Rheinstein A. F. Smith	2 Mar. 1964	600411	

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No.				DDC No.	Hayden Serial and Prices
21G-0001	Flexowriter and Ampex Tape Terminal Input Equipment for IBM-709 Computer	J. R. Brown	26 Aug. 1959	235248	H-63 M \$1.50 P \$8.20
21G-0003 (Rev. 1)	Wallops Island Preliminary Processing Computer Programs	S. M. Ornstein	25 July 1960	243045	H-158 M \$1.50 P \$8.20
21G-0003 (Rev. 2)	Wallops Island Preliminary Processing Computer Programs	S. M. Ornstein R. J. Saliga	23 Jan. 1961	250959	H-253 M \$1.50 P \$8.20
21G-0004	Oscilloscope Cameras for Video Recording - Reentry Physics Program	E. E. Schowengerdt	13 Mar. 1961		H-471 M \$1.50 P \$5.40
21G-0005	Automatic Range Tracking System for the Reentry Physics Program	J. E. Gillis	17 Feb. 1960	242887	H-159 M \$1.50 P \$12.70
21G-0006	Primary Recording Instrumentation for Re-entry Physics Program	E. J. Peters	20 Feb. 1961	263517	H-342 M \$1.50 P \$18.90
21G-0007	Backup Recording Instrumentation for Reentry Physics Program	K. H. Morey	18 May 1960	241800	H-145 M \$1.50 P \$10.60
21G-0008	Scanback Antenna Control for Reentry Physics Program	A. H. Flink	5 July 1961		H-472 M \$1.70 P \$24.90
21G-0009	Real Time Clock and Teletype Data Transmitter for Reentry Physics Program	R. M. Martinson	5 July 1960	242888	H-156 M \$1.50 P \$21.70
21G-0011	UHF Radar for Reentry Physics Program	B. G. Kuhn	19 Sept. 1960	244586	H-182 M \$1.50 P \$24.70
21G-0013	X-Band Radar for Reentry Physics Program	J. Sobolewski F. J. Dominick E. E. Schowengerdt L. C. Wilber	7 Dec. 1960	252043	H-262 M \$1.50 P \$25.90
21G-0015	Amplitude Calibration for Reentry Physics Program Arbuckle Neck Radars	B. G. Kuhn	19 Sept. 1960	245324	H-192 M \$1.50 P \$13.90

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No.				DDC No.	Hayden Serial and Prices
† 21G-0016	Procedures for Operating Parametric Amplifier in Reentry Physics Program	F. R. Hutchinson F. J. Dominick R. H. Kingston L. C. Wilber E. E. Schowengerdt	28 July 1960	243636	H-165 M \$1.50 P \$6.40
21G-0017	Anelex Printout System for Reentry Physics Program	E. J. Peters	21 Aug. 1961	263249	H-336 M \$1.50 P \$8.65
21G-0018	Specifications for Needles Filter Program Package	F. E. Heart	7 Apr. 1960	244493	H-180 M \$1.50 P \$4.90
† 21G-0019	Specification for Needles Statistical Orbit Prediction Program	W. R. Crowther	20 Apr. 1960	244494	H-181 M \$1.50 P \$1.60
21G-0021	An Introduction to Digital Techniques	R. M. Martinson	20 May 1960		H-473 M \$1.50 P \$13.90
21G-0022	Specifications for Teletype Tape Checking Procedure	S. M. Ornstein	16 June 1960	240171	H-130 M \$1.50 P \$4.00
21G-0022 (Suppl. 1)	Revision of West Ford TTY Checking Program	J. D. Drinan	2 Aug. 1962	283778	
21G-0024	West Ford Primary Print Program	J. D. Drinan	24 Jan. 1961	250958	H-250 M \$1.50 P \$4.00
21G-0024 (Suppl. 1)	West Ford Primary Print Program	J. D. Drinan	2 Aug. 1962	286367	
21G-0026	West Ford Coordinate Conversion Program	W. R. Crowther	1 Nov. 1960	246188	H-210 M \$1.50 P \$3.10
21G-0027	West Ford Statistical Orbit Prediction Program	W. R. Crowther	2 Nov. 1960	246778	H-221 M \$1.50 P \$2.80
21G-0028	West Ford Orbit Determination	A. A. Mathiasen	2 Nov. 1960	246777	H-222 M \$1.50 P \$6.70
21G-0029	Reliability of Redundant Computers	R. Teoste	22 Mar. 1961	260494	H-321 M \$1.50 P \$21.15
21G-0031	Specification for West Ford Pointing Program	F. E. Heart	20 July 1961	261181	H-326 M \$1.50 P \$6.40

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No.				<u>DDC No.</u>	<u>Hayden Serial and Prices</u>
21G-8001	Some Reliable Redundant Circuits	R. Teoste	7 June 1962	284793	H-423 M\$1.50 P\$7.65
21G-1	Programmed Satellite Pass Calculations	A. A. Mathiasen	28 June 1962	282041	H-414 M\$1.50 P\$14.90
21G-2	Project 861 Computer Programming System; Mathematical Analysis for Computation of Radar Pointing Data	Group 21	14 Sept. 1962	286547	H-434 M\$1.50 P\$13.15
21G-3	Project 861 Computer Program System; Auxiliary Programs and Techniques	J. D. Drinan A. A. Mathiasen	6 Sept. 1962	285046	H-426 M\$1.50 P\$6.90
21G-4	Project 861 Orbit Programs	A. A. Mathiasen W. R. Crowther	31 Aug. 1962	285045	H-425 M\$1.50 P\$14.40
21G-6	Project 861 Computer Program System; Pointing Program Notes	D. M. Hafford	21 Nov. 1962	290802	H-455 M\$1.50 P\$4.65
21G-7	Project 861 Computer Program System; Venus Pointing Data	J. D. Drinan	19 Nov. 1962	291230	H-459 M\$1.50 P\$6.90
21G-8	SICOSAS, an IBM 7090 Computer Assembly Program for the CDC 160-A Computer	J. D. Drinan	17 Jan. 1963	295693	H-469 M\$1.70 P\$24.65
† 22G-0002	An Algorithm for Assembling a Simple Tabular Report	P. R. Bagley	14 July 1959	230435	H-33 M\$1.50 P\$6.70
† 22G-0004	Approximations to Model Atmospheres	A. P. Ogg	10 Nov. 1959	230436	H-34 M\$1.50 P\$7.60
† 22G-0005	A Catalog of Tangent Rays	F. H. Ditto	12 Aug. 1959	230433	H-35 M\$1.50 P\$15.70
† 22G-0006	Sub-Program Storage Within a Digital Computer: A Cargo-Loading Problem	A. A. Grometstein	18 Aug. 1959	230437	H-36 M\$1.50 P\$5.50
† 22G-0009	A Facility for Automatic Construction of Large Program Systems	C. W. Uskavitch	29 Sept. 1959	234248	H-56 M\$1.50 P\$14.20

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No.				DDC No.	Hayden Serial and Prices
† 22G-0011	An Efficient Iterative Procedure for Locating the Optimum Operating Point of a Noisy System	H. J. Kushner	7 Dec. 1959	233269	H-47 M \$2.35 P \$20.80
† 22G-0012	Program Description and Operating Manual for PAVEG (Position and Velocity Error Generator)	D. L. Lovenvirth	14 Dec. 1959	244403	H-178 M \$1.50 P \$7.60
† 22G-0014	Applications of Boolean Matrices to the Analysis of Flow Diagrams	R. T. Prosser	21 Dec. 1959	230434	H-37 M \$1.50 P \$4.30
22G-0017	Macro Library for Easier Coding	J. S. Heart	15 Jan. 1960	233267	H-48 M \$1.50 P \$7.30
22G-0018	Introduction to an Investigation of a Technique for Smoothing Radar Returns from an Artificial Earth Satellite	F. Levine	15 Jan. 1960	233268	H-49 M \$1.50 P \$8.80
22G-0019	Preliminary Description of GENDARE	J. B. Williams, Jr.	15 Jan. 1960	233270	H-50 M \$1.50 P \$4.90
22G-0020	The GENDARE Identification Function	M. M. Daley	15 Jan. 1960	233265	H-51 M \$2.35 P \$19.90
22G-0021	On the Linear Smoothing of Redundant Radar Data from Satellites	F. C. Schweppe	25 Aug. 1960	243042	H-154 M \$1.50 P \$18.40
† 22G-0024	Analysis and Design of Simple Nonlinear Noise Filters	R. W. Sittler	5 Feb. 1960		H-46 M \$1.70 P \$29.80
22G-0025	The Design of a Language for Simplex System Users	D. Reiner	10 Mar. 1960	236233	H-83 M \$1.50 P \$7.90
22G-0027	Specifications and Operating Instructions for the OPERA	H. D. Fridman	4 Apr. 1960	236231	H-80 M \$1.50 P \$7.90
† 22G-0029	Decoding of Group Codes for Binary Symmetric Channels	W. I. Wells	21 Mar. 1960		H-70 M \$1.80 P \$31.30
22G-0034	On the Consistency of the Photon-Electron System - II	R. T. Prosser	6 June 1960	238064	H-112 M \$1.50 P \$10.60

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No.				DDC No.	Hayden Serial and Prices
22G-0035	A Method for Locating the Maximum of a Function of a Single Variable in the Presence of Noise	R. C. Norris	20 Oct. 1960	245804	H-207 M \$1.50 P \$12.10
22G-0036	Classification of Binary Sequences	W. I. Wells	10 May 1960	236796	H-95 M \$1.50 P \$3.40
22G-0038	A Method for Computing Keplerian Orbit Parameters from Two Positions with Times	A. P. Ogg	9 June 1960	238062	H-113 M \$1.50 P \$4.60
22G-0039	Some Results of Estimating Satellite Elements from Millstone Hill Averaged Data	H. D. Fridman	2 Nov. 1960	246781	H-217 M \$1.50 P \$10.60
22G-0041	Routing Procedures in Communications Networks. Part I: Random Procedures	R. T. Prosser	12 July 1960	241408	H-135 M \$1.50 P \$12.70
22G-0042	GENDARE System - Fundamental Concepts of Logic and Structure	J. B. Williams, Jr.	17 Oct. 1960	245234	H-195 M \$1.50 P \$6.70
22G-0043	Efficient Iterative Methods for Optimizing the Performance of Multi-Parameter Noisy Systems	H. J. Kushner	20 Oct. 1960	245802	H-205 M \$1.50 P \$23.50
22G-0046	An Empirical Investigation of Procedures for Locating the Maximum Peak of a Multiple-Peak Regression Function	E. J. Magee	20 Oct. 1960	245672	H-206 M \$1.50 P \$10.60
22G-0051	On the Behavior of the Geometric Genus Under Ground Field Extension	P. L. Falb	20 Oct. 1960	245548	H-202 M \$1.50 P \$4.00
22G-0052	On Determining the Ratio Between the Area of an Elliptical Sector and Its Triangle Approximation	R. Crittendon E. Dubinsky H. D. Fridman	18 May 1961	257640	H-308 M \$1.50 P \$6.65
22G-0053	Concepts of Automatic Data Storage and Retrieval in the Simplex System	C. W. Uskavitch	17 Oct. 1960	245472	H-201 M \$1.50 P \$21.10
22G-0054	A Survey of the Simplification of Truth Functions	W. Draisin	20 Oct. 1960	245231	H-193 M \$1.50 P \$6.10

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No.				<u>DDC No.</u>	<u>Hayden Serial and Prices</u>
22G-0055	A Sequential Procedure for Sampling the Population with the Maximum Mean	H. J. Kushner	23 Feb. 1961	252047	H-263 M \$1.50 P \$5.20
22G-0061	A Number of Results from Studies of Digital Filtering and the Convergence of Iterative Techniques	R. Crittendon E. Dubinsky D. Lubell F. C. Schweppe	1 June 1961	257461	H-306 M \$1.50 P \$13.15
22G-0071	Movement of Military Operations-Centers or Other Military Installations as Safe-guard Against Nuclear Attack	J. H. Halberstein	14 May 1961	259667	H-317 M \$1.50 P \$8.15
† 22G-1	Movement of Military Centers as Safeguard Against Nuclear Attack, Part II	J. H. Halberstein	12 June 1962	285044	H-427 M \$1.50 P \$15.15
22G-2	Methods for the Adaptive Optimization of Binary Detection Systems	H. J. Kushner	9 Nov. 1962	290741	H-448 M \$1.50 P \$14.90
22G-3	Partial Differential Equations: First-Order Theory in One Dependent Variable – Deterministic Case	P. L. Falb	27 Nov. 1961	268122	H-368 M \$1.50 P \$6.90
22G-4	On Optimal Linear Control Systems Which Minimize the Time Integral of the Absolute Value of the Control Function (Minimum-Fuel Control Systems)	M. Athanassiades	10 May 1962	276881	H-404 M \$1.50 P \$23.65
† 22G-5	Newtonian Drag Coefficients and Weights for Blunted Cone-Spheres at Small Angles of Attack	A. Freed	30 Mar. 1962	275055	H-398 M \$1.50 P \$6.90
22G-6	The Local Behavior of Circular Orbits	F. C. Schweppe	23 Feb. 1962	272869	H-380 M \$1.50 P \$4.90
22G-7	A Model for the Study of Communications Degradation	K. M. Sayre	29 Mar. 1962	274739	H-397 M \$1.50 P \$17.65
22G-8	Time-Optimal Velocity Control of a Spinning Space Body	M. Athanassiades P. L. Falb	6 Sept. 1962	284207	H-422 M \$1.50 P \$11.40
22G-9	Time- and Fuel-Optimal Attitude Control	M. Athans	23 May 1963	407437	H-518 M \$1.50 P \$6.60

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No.				DDC No.	Hayden Serial and Prices
22G-10	Reduction of Computational and Data Transmission Requirements for Trajectory Estimation Using Multiple Sites	F. C. Schweppe	23 Aug. 1963	416742	H-533 M \$1.50 P \$4.20
22G-13	Newtonian Drag of Coated Cylinders	A. Freed	7 Jan. 1963	296790	H-480 M \$1.50 P \$6.15
22G-15	An Introduction to Estimation Theory for Dynamical Systems	F. C. Schweppe	28 Aug. 1963	417777	H-538 M \$1.50 P \$10.60
22G-16	Tables of the Amplitude and Phase of the Backscatter from a Conducting Sphere	J. Rheinstein	19 June 1963	409820	H-522 M \$1.50 P \$9.60
† 24-54	Phone Line Data Transmission Systems	K. E. Perry	Sept. 1955		H-106 M \$1.50 P \$5.20
† 2G-24-83	Magnetic Core SDV	F. L. McNamara	23 Dec. 1957	246780	H-218 M \$1.50 P \$13.90
2G-25-4	Error Statistics on Dual A-1 Digital Data Transmission Circuits from Kingston, New York to Cape Canaveral, Florida	E. J. Hofmann G. E. Masters §	6 June 1958	244772	H-185 M \$2.05 P \$37.30
† 2G-25-12	Error Statistics on Dual A-1 Digital Data Transmission Circuits from Lexington, Massachusetts to So. Truro, Massachusetts	E. J. Hofmann	Feb. 1959		H-169 M \$1.50 P \$25.60
25G-0001	Design and Analysis of Circuitry for a Matched Filter System	W. A. Petersen	5 Aug. 1960	244771	H-183 M \$1.50 P \$10.30
25G-0002	Reflections from Spheroids	D. Parker	19 Feb. 1960	236594	H-88 M \$1.50 P \$4.60
† 25G-0003	Measurement of Time Varying Telephone Line Characteristics	R. G. Gallager	Sept. 1959	230432	H-38 M \$1.50 P \$4.00
25G-0004	The Characterization of Channels with Rapid Multiplicative Perturbations	H. Sherman	26 Aug. 1960	243044	H-155 M \$1.50 P \$15.70

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No.				DDC No.	Hayden Serial and Prices
25G-0005	Error Statistics on Dual Data Circuits from Kingston, New York to Cape Canaveral, Florida	E. J. Hofmann	20 Oct. 1960	245991	H-208 M \$1.50 P \$12.40
25G-0006	Error Statistics on the Hawaiian Cable	E. J. Hofmann	19 Feb. 1960	236595	H-89 M \$1.50 P \$6.40
25G-0007	A Converter for AN/GSC-4 Connection to the Automatic Digital Data Error Recorder	W. G. Schmidt	29 Jan. 1960	236596	H-90 M \$1.50 P \$5.20
25G-0008	RANDWORD Circuitry and Circuit Characteristics	W. G. Schmidt	20 July 1960	240417	H-132 M \$1.50 P \$12.70
25G-0010	Error Statistics on a Long-Haul Looped Telephone Circuit Utilizing the Milgo Data System	E. J. Hofmann P. L. Grant	17 June 1960	240820	H-134 M \$1.50 P \$15.10
25G-0012	Impulse Noise on an H-44 Telephone Circuit Looped from Lexington, Massachusetts via West Haven, Connecticut	R. Pfeiffer H. Yudkin	Apr. 1960	236232	H-79 M \$1.50 P \$13.00
25G-0013	A Proposal for Long Range Communications Between Ground and Low-Orbiting Satellites	M. S. Macrakis	19 Feb. 1960	237120	H-104 M \$1.50 P \$8.20
25G-0014	Bermuda to New York Radio Teletype Reliability Tests	R. E. Greim	10 Mar. 1960	237123	H-99 M \$1.50 P \$9.40
25G-0015	Study of Torsional Waves in a Laminated Elastic Rod	M. S. Macrakis	27 May 1960	237853	H-111 M \$1.50 P \$16.00
25G-0017	Reliability Modifications to the ADDER and Kineplex Converter	E. J. Hofmann P. L. Grant W. A. Petersen W. G. Schmidt	25 Aug. 1960	242596	H-149 M \$1.50 P \$4.90
† 25G-0019	TRANSWORD – A Portable Word Generator for Use in Measurement of Bit Error Distribution	W. G. Schmidt	19 Oct. 1960	245232	H-194 M \$1.50 P \$3.70
25G-0021	Determination of R_{cutoff} for the Asymmetric Channel	B. Reiffen	24 Oct. 1960	246372	H-214 M \$1.50 P \$6.40
25G-0021 (Rev. 1)	Determination of R_{cutoff} for the Asymmetric Channel	B. Reiffen	3 Mar. 1961	252498	H-267 M \$1.50 P \$5.50

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No.				<u>DDC No.</u>	<u>Hayden Serial and Prices</u>
25G-0022	The Design of Data Trans- mission Systems	R. G. Enticknap R. M. Lerner	4 Oct. 1960	243926	H-167 M \$1.50 P \$7.60
25G-0024	Error Statistics on the Collins Kineplex Over Various Media	E. J. Hofmann P. L. Grant E. H. Harvey	12 Jan. 1961	251447	H-257 M \$1.50 P \$19.30
25G-0025	Error Statistics Utilizing the Milgo Data System Over Various Media	E. J. Hofmann P. L. Grant	23 Jan. 1961	251510	H-258 M \$1.50 P \$21.10
25G-0026	Error Statistics Utilizing the Code Translation Data System Over Various Media	E. J. Hofmann	28 Mar. 1961	254037	H-278 M \$1.50 P \$38.20
25G-0028	Collected Error Statistics Utilizing Four Modems Over Various Telephone Circuits	E. J. Hofmann	23 Jan. 1961	251571	H-259 M \$1.50 P \$7.30
25G-0032	The Design of Band Separation Filters	A. I. Grayzel	4 Jan. 1961		H-235 M \$1.50 P \$18.10
25G-0033	Cerenkov Radiation and Milli- meter Wave Applications (Part A)	M. S. Macrakis	3 May 1961	256271	H-297 M \$1.50 P \$11.65
25G-0035	Specifications for a COBI Data Transmission Modern	E. J. Hofmann	18 July 1961	261546	H-327 M \$1.50 P \$13.15
25G-0037	Error Statistics of A-1 Digital Data Signaling Equipment over Various Media	P. L. Grant	15 Sept. 1961	264332	H-348 M \$1.50 P \$31.40
† 25G-1	A Lower Bound for the Sum of Independently Distributed Continuous Random Variables	B. Reiffen	27 Oct. 1961	266826	H-357 M \$1.50 P \$2.90
† 25G-2	Sequential Decoding for Binary Channels with Noise and Syn- chronization Errors	R. G. Gallager	27 Oct. 1961	266879	H-356 M \$1.50 P \$8.65
25G-3	Applicability of Coding to Radio Teletype Channels	A. B. Fontaine	27 Oct. 1961	266827	H-355 M \$1.50 P \$4.40
25G-4	Experiments in the Improve- ment of the Impulse Response of Telephone Circuits	H. L. Yudkin	27 Nov. 1961	269557	H-373 M \$1.50 P \$7.90

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No.				DDC No.	Hayden Serial and Prices
25G-5	Automatic Error-Detection System for Toll-Grade Telephone Circuit Data Transmission	W. G. Schmidt	27 Nov. 1961	268128	H-367 M \$1.50 P \$7.90
25G-6	Matching and Error Counter	L. Staaf E. J. Hofmann	5 Dec. 1961	268704	H-369 M \$1.50 P \$5.65
25G-7	Semi-Automatic RANDWORD Printed Circuit Tester	C. A. Hoover	27 Nov. 1961	268703	H-370 M \$1.50 P \$8.40
25G-8	COBI Data Transmission Testing in the United Kingdom	P. L. Grant	27 Mar. 1962	275152	H-400 M \$1.50 P \$6.90
25G-9	Transmission Testing on Alaskan Forward-Propagation Tropospheric Scatter Circuits	P. L. Grant	29 May 1962	282040	H-413 M \$1.50 P \$14.40
25G-10	Revised RANDWORD Circuitry and Circuit Characteristics	W. G. Schmidt	21 Aug. 1962	289379	H-447 M \$1.50 P \$21.90
25G-11	Data Transmission Testing from Donnelly Flats, Alaska to Sunnyvale, California over a Network of Carrier Equipment	P. L. Grant	21 Feb. 1963	402067	H-490 M \$1.50 P \$8.65
25G-12	Data Transmission Testing from Donnelly Flats, Alaska to Sunnyvale, California over a TD-2 Microwave Circuit	P. L. Grant	29 Nov. 1962	294849	H-465 M \$1.50 P \$7.15
25G-13	Non-linear Effects in a Plasma	M. S. Macrakis	8 Jan. 1963	295690	H-467 M \$1.50 P \$5.40
25G-14	Error Statistics and Coding for Digital Data Transmission over Telephone and Teletype Circuits	A. B. Fontaine	21 Jan. 1963	298114	H-481 M \$1.50 P \$5.40
25G-15	Blocks in Error and Pareto's Law	B. J. Moriarty	28 Jan. 1963	296490	H-475 M \$1.50 P \$2.15
† 25G-16	An Optimum Demodulator for Poisson Processes: Photon Source Detectors	B. Reiffen H. Sherman	20 Feb. 1963	401752	H-500 M \$1.50 P \$4.20

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No.				DDC No.	Hayden Serial and Prices
25G-17	Some Experimental Results for a Sequential Decoding Algorithm Applied to an Asymmetric Channel	B. Reiffen D. Wiggert	12 Feb. 1963	400616	H-488 M \$1.50 P \$12.15
25G-19	Delay in Data Transmission Through Simple Networks: Steady State Characteristics with Infinite Nodal Storage	B. J. Moriarty	6 June 1963	408250	H-510 M \$1.50 P \$9.80
25G-20	Thresholds for Several Analog Modulation Systems	B. Reiffen	6 May 1963	404621	H-516 M \$1.50 P \$5.80
26G-1	Uniform Oscillations from Infrared Masers (12 September 1961)	J. R. O'Connor H. A. Bostick D. B. Barker	8 Jan. 1962	270662	H-376 M \$1.50 P \$3.15
28G-1	A Note on the Multiple Zeros of Random Polynomials	J. C. Fogarty J. Max	31 Aug. 1962	283777	H-420 M \$1.50 P \$4.90
28G-3	A Random Acceleration Model for Filtering Polynomial- Like Signals	L. E. Jones F. C. Schweppe	25 Oct. 1963	423431	H-548 M \$1.50 P \$8.40
3G-0002	The Distribution of Electrons in the Upper Ionosphere from Backscatter Observations	J. V. Evans	23 Nov. 1960	247860	H-255 M \$1.50 P \$7.00
3G-0002 (Suppl. 1)	The Distribution of Electrons in the Upper Ionosphere from Backscatter Observations	J. V. Evans	3 Apr. 1961	254143	H-280 M \$1.50 P \$3.70
3G-0003	Radio Communication Using Moon Reflected Signals	J. V. Evans	19 Dec. 1960	249355	H-237 M \$1.50 P \$10.60
3G-0004	The Scattering Properties of the Lunar Surface at Radio Wavelengths	J. V. Evans	10 Jan. 1961	250684	H-248 M \$1.50 P \$15.70
30-0001	Millstone Observations on NASA Shotput II Balloon, 16 January 1960, and Pre- liminary Conclusions	Group 314	29 Jan. 1960	235667	H-65 M \$1.50 P \$4.60
30-0002	Millstone Observations During the NASA Shotput III Experi- ment, 27 February 1960	P. B. Sebring	2 Mar. 1960	235668	H-66 M \$1.50 P \$6.10
30-0003	A Preliminary Investigation of Meteor Echoes at UHF	G. H. Pettengill V. C. Pineo	16 Mar. 1960	235669	H-67 M \$1.50 P \$3.70

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No.				DDC No.	Hayden Serial and Prices
30G-0004	Millstone Observations During the NASA Shotput IV Experiment	D. P. Hynek	29 Apr. 1960	236129	H-85 M\$1.50 P\$5.20
† 30G-0005	Millstone Hill Radar Station – A Summary of Millstone Hill Results for the TIROS I Satellite Launching	G. H. Pettengill	16 May 1960	237124	H-100 M\$1.50 P\$9.70
30G-0007	Millstone Operations Related to the Pioneer V Space Probe	R. R. Silva	23 June 1960	239345	H-117 M\$1.50 P\$5.80
30G-0009	Coding Instructions for Floating Point Trigonometric, Inverse Trigonometric, Hyperbolic and Exponential Functions	B. A. Jensen	1 Nov. 1960	246189	H-212 M\$1.50 P\$3.10
30G-0010	Digital Tracking Loop for High-Powered, Experimental Radar	E. C. Fraser	12 Sept. 1960		H-171 M\$1.50 P\$25.90
30G-0011	Lunar Communication Test Summary – 1959	P. B. Sebring	28 Sept. 1960	244207	H-170 M\$1.50 P\$3.70
30G-0014	Distribution of Electrons in the F Region	J. V. Evans	15 Sept. 1961	263902	H-345 M\$1.50 P\$9.90
30G-2	Radar Cross-Section Observations of the Echo I Communications Satellite	D. P. Hynek	19 Feb. 1962	274065	H-393 M\$1.50 P\$24.15
† 31-148	Communication System for a Mars Reconnaissance Vehicle	M. I. Skolnik L. Cartledge L. J. Ricardi	14 May 1959	239073	H-166 M\$1.50 P\$17.50
† 31-150	The Autocovariance Filter	J. L. Allen	10 Aug. 1959	236168	H-72 M\$1.50 P\$18.70
32-24	An Analysis of Angular Accuracies from Radar Measurements	R. Manasse	6 Dec. 1955	236166	H-75 M\$1.50 P\$4.30
† 32-25	The Application of the Theory of Signal Detectability to Signals with Unknown Polarization and Phase	R. Manasse	20 Aug. 1956	236167	H-10 M\$1.50 P\$8.50
32-26	The Performance of Post-Detection Integrators for the Detection of a Sine Wave in Noise at Low Input Signal-to-Noise Ratio	R. Manasse	28 Nov. 1956	236234	H-76 M\$1.50 P\$7.90

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No.				DDC No.	Hayden Serial and Prices
† 32-105	A New Phone Line Data System for Use in SAGE	K. E. Perry	1 May 1958	230115	H-30 M \$1.50 P \$13.90
32G-2	Preliminary Study of the Effect of Ozone on Atmospheric Transmission in the Range 0.25 Micron to 0.60 Micron	J. H. Meyer R. E. Newell §	19 Feb. 1963	402842	H-506 M \$1.50 P \$5.80
33-9	Observations at Round Hill on Shot Put II	L. P. Rainville	1 Mar. 1960	235246	H-62 M \$1.50 P \$9.10
33G-0014	Convection and Diffusion of Ionization in the E-Layer	H. Feshbach F. Villars	1 Dec. 1960	248362	H-229 M \$1.50 P \$15.40
† 33G-0015	Precision Tropospheric Radio Refraction Corrections for Ranges from 10 - 500 Nautical Miles	J. R. Bauer F. A. Wilson	20 Feb. 1961	252572	H-270 M \$1.50 P \$14.80
33G-1	Programming for the Group 33 Analog-to-Digital Conversion System	R. P. Ingalls W. C. Mason	9 July 1963	282042	H-415 M \$1.50 P \$13.65
† 34-43	Pattern Recognition and Learning	O. G. Selfridge	20 July 1955		H-21 M \$1.50 P \$7.30
† 34-55	Heuristic Aspects of the Artificial Intelligence Problem	M. L. Minsky	17 Dec. 1956	236885	H-58 M \$1.50 P \$26.80
† 34-57	"MAUDE" (Morse Automatic Decoder)	B. N. Eisenstadt B. Gold D. M. Nelson T. S. Pitcher O. G. Selfridge	30 Apr. 1957	230943	H-4 M \$1.50 P \$13.10
† 34-71	Legendre Sequences	N. Zierler	2 May 1958	268167	H-359 M \$1.50 P \$1.90
† 34-72	Some Results of the "MAUDE" Program	B. Byrnes B. Gold C. Kemball	June 1958	236398	H-39 M \$1.50 P \$9.40
† 34-75	A Preliminary Study of Human Pattern Recognition	U. Neisser	12 Sept. 1958	236395	H-59 M \$1.50 P \$6.40

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No.				DDC No.	Hayden Serial and Prices
† 34-76	A Survey of Soviet Communication Electronics	P. E. Green, Jr., Editor	Sept. 1958		H-8 M \$2.65 P \$59.75
† 34-84	A Summary of Detection Theory Notions in Radar Astronomy Terms	P. E. Green, Jr.	18 Jan. 1960	245698	H-189 M \$1.50 P \$8.80
34-85	A Transistorized Frequency Standard	P. L. Fleck	26 Jan. 1960	251107	H-255 M \$1.50 P \$4.60
34G-0002	Data Recording Equipment for Propagation Experiments	R. E. Gay W. B. Smith C. A. Wagner	12 Apr. 1960	239660	H-124 M \$1.50 P \$9.70
† 34G-0003	Radiometer Techniques in Radar	R. Price	10 June 1960	238759	H-121 M \$1.50 P \$17.20
34G-0005	A Computer Program for Processing Signals Received in Radar Astronomy Experiments	P. L. Fleck T. J. Goblick	14 Oct. 1960	245549	H-200 M \$1.50 P \$7.00
34G-0006	Sequential Transmission of Digital Information with Feedback	M. Horstein	8 Aug. 1960		H-136 M \$1.80 P \$34.00
34G-0008	On the Detection of Stochastic Signals in Additive Normal Noise: Part II	D. Middleton §	28 Dec. 1960	250287	H-247 M \$1.50 P \$16.30
34G-1	A Critique of Wilcox's Method of Ambiguity Function Synthesis	W. S. Widnall	28 Nov. 1961	267537	H-366 M \$1.50 P \$3.15
† 34G-2	The Detection and Identification of Underground Nuclear Explosions: A Study	G. L. Turin	2 Mar. 1962	273825	H-389 M \$1.50 P \$9.40
† 34G-3	The Effect of Approximation Errors in a General Class of Matched Filter Detectors	M. J. Levin	13 Feb. 1962	272757	H-379 M \$1.50 P \$4.40
† 34G-4	Maximum-Likelihood Estimation of the Correlation Function of a Threshold Signal, and Its Application to the Measurement of the Target Scattering Function in Radar Astronomy	R. Price	25 May 1962	276903	H-403 M \$1.50 P \$8.90
† 34G-5	Instantaneous Spectra and Ambiguity Function	M. J. Levin	2 Mar. 1962	273239	H-386 M \$1.50 P \$3.15

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No.				DDC No.	Hayden Serial and Prices
34G-6	Estimation of Doppler Shift and Spectral Width of a Random Process	M. J. Levin	12 June 1962	278686	H-409 M \$1.50 P \$4.40
34G-7	Estimation of the Second-Order Statistics of Randomly Time-Varying Linear Systems	M. J. Levin	2 Nov. 1962	289607	H-445 M \$1.50 P \$11.40
34G-8	The Estimation of a Pulse Transfer Function in the Presence of Noise	M. J. Levin	9 July 1962	282043	H-412 M \$1.50 P \$5.65
34G-9	Confidence Intervals and Sample Sizes in the Measurement of Signal and Noise Powers, Signal-to-Noise Ratios and Probability of Error	J. L. Holsinger	3 Jan. 1963	295133	H-466 M \$1.50 P \$11.40
34G-10	Upper Bound to the Capacity of a Linear Time-Varying Channel with Additive Gaussian Noise	G. D. Forney, Jr.	26 Sept. 1962	287453	H-437 M \$1.50 P \$5.40
34G-12	Radar Observations of the Planet Venus in the Soviet Union in April 1961		27 Feb. 1963	401137	H-489 M \$1.50 P \$15.90
35G-0002	Electron Density Measurements in the Wakes of Hypervelocity Pellets	M. Labitt M. A. Herlin	25 May 1961	272629	H-584 M \$1.50 P \$3.60
35G-2	Kinetic Theory Description of the Initial Expansion of a Gas Cloud	G. Bienkowski §	2 Nov. 1962	290491	H-446 M \$1.50 P \$13.40
36-18	Band-Pass Filters with Linear Phase	R. M. Lerner	July 1957	236399	H-55 M \$1.50 P \$7.30
36-25	A History of the Effort of MIT Lincoln Laboratory in the UHF/SHF Tropospheric-Scatter Communication Field Utilizing Frequency Modulation	W. E. Morrow, Jr. W. T. Burke	1 Jan. 1958	237119	H-102 M \$1.50 P \$12.70
† 36-36	On the Pathological Character of Independent Random Variables	D. G. Brennan	5 May 1959	245237	H-196 M \$1.50 P \$7.60
† 36-41	A Method of Speech Compression	R. M. Lerner	24 Aug. 1959	244920	H-164 M \$3.15 P \$67.00

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No.				DDC No.	Hayden Serial and Prices
36-42	Design of Signals	R. M. Lerner	11 Feb. 1960	236230	H-81 M \$1.50 P \$16.30
36-44	Additional Tests on the AN/FRC-47 (XD-1) Mock- up System	B. E. Nichols	11 Mar. 1960	243578	H-163 M \$1.50 P \$4.00
† 36G-0045	The Capture of the Weaker of Two Co-Channel Frequency- Modulated Signals	J. M. Gutwein	21 May 1960		H-109 M \$2.30 P \$68.20
36G-0047	A Tabulation of Quadratic Residues or Legendre Se- quences with Respect to Primes up to 1021	R. M. Lerner A. Sherman	27 July 1960	241464	H-137 M \$1.50 P \$13.30
36G-1	The Influence of Terrain Shielding on Radio Wave Propagation at 8000 Mcps	W. E. Morrow, Jr. D. Karp R. V. Locke, Jr. W. C. Provencher	20 Nov. 1962	290511	H-452 M \$1.50 P \$2.40
36G-2	Microwave Cross Section of Thin Dipoles	C. L. Mack, Jr.	15 Nov. 1962	291231	H-458 M \$1.50 P \$8.40
36G-3	Optimum Satellite Dispensing Velocities for an Equatorial High Altitude Nonsynchronized Satellite Communication System	W. E. Morrow, Jr.	5 Dec. 1962	292995	H-461 M \$1.50 P \$3.90
36G-4	A Real-Time Fourier Transformer	W. E. Morrow, Jr. J. Max J. Petriceks D. Karp	16 July 1963	413786	H-526 M \$1.50 P \$5.60
36G-5	The Selection of Varactor Diodes for a 2X Multiplier	D. E. Crook	18 Mar. 1963	402827	H-507 M \$1.50 P \$10.80
36G-7	Statistics of Visibility in Satellite Communication Systems	C. L. Mack, Jr.	12 Sept. 1963	422340	H-546 M \$1.50 P \$7.00
37G-1	A Theorem on Fourier Integrals and an Application to the Theory of Measurement in Quantum Mechanics	H. E. Moses	5 Feb. 1963	296789	H-479 M \$1.50 P \$2.40
312-12 (Rev. 1)	The Use of Pulse Coding to Discriminate Against Clutter	R. Manasse	7 June 1961	260230	H-320 M \$1.50 P \$4.65

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No.				DDC No.	Hayden Serial and Prices
312-17	Radar Coverage on ICBM Trajectories	P. A. Willmann	7 July 1958	236400	H-54 M \$1.50 P \$4.60
312-23	The Use of Radar Interferometer Measurements to Study Planets	R. Manasse	18 Mar. 1959	236235	H-77 M \$1.50 P \$5.50
† 312-26	Range and Velocity Accuracy from Radar Measurements	R. Manasse	3 Feb. 1955	236236	H-78 M \$1.50 P \$6.40
312G-0001	Radar and Optical Observations on Reentry of the Trailblazer I (D-58) Test Vehicle of June 4, 1959	H. L. Kasnitz	May 1960	249718	H-244 M \$1.50 P \$6.10
312G-0001-1	Radar and Optical Observations on Reentry of the Trailblazer I (D-58) Test Vehicle of March 29, 1960	H. L. Kasnitz	June 1960	255950	H-292 M \$1.50 P \$12.15
312G-0002	An S-Band System for Measurement of Scattering from Hypervelocity Models	H. G. Pascalar D. E. Crook	Oct. 1960	250799	H-249 M \$1.50 P \$11.80
312G-0004	200 MC Beacon Tracking System for Reentry Physics	E. F. Tarbox	14 Sept. 1961	264325	H-347 M \$1.50 P \$6.65
312G-0006	AC and Impulse Switching Techniques for Use with Magnetic Memories	R. E. McMahon	26 June 1961	259503	H-319 M \$1.50 P \$7.65
312G-1	Flashing Light Encoders	L. A. Jacobson	27 Nov. 1961	269588	H-372 M \$1.50 P \$6.15
† 312G-3	On the Turbulent Far-Wake in Incompressible Axisymmetric Flow	A. W. K. Metzner	15 Nov. 1961	266943	H-362 M \$1.50 P \$6.40
312G-4	Scattering from a Homogeneous Plasma Cylinder of Infinite Length	C. M. deRidder L. G. Peterson	15 Jan. 1962	274067	H-392 M \$1.50 P \$25.40
312G-5	Three-Degrees-of-Freedom Trajectory Analysis Program	K. Kresa P. A. Willmann	30 Jan. 1962	273134	H-384 M \$1.50 P \$7.90
312G-7	Optical Observations of Lincoln Laboratory Hypersonic Re-entry Vehicles Trailblazers Ic and Id	F. A. Wilson J. R. Bauer	16 May 1962	283416	H-418 M \$1.50 P \$12.15

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No.				DDC No.	Hayden Serial and Prices
312G-8	Scattering from a Radially Varying Plasma Cylinder of Infinite Length	C. M. deRidder L. G. Peterson	4 Dec. 1962	294647	H-464 M \$1.50 P \$22.90
312G-9	Linearized Theory of Homogeneous Turbulence in a Compressible Fluid	A. W. K. Metzner	7 June 1962	278439	H-407 M \$1.50 P \$10.40
312G-10	Sources of Error in Microwave Transmission Measurement of Ionized Trails	C. Bressel G. H. Price	3 July 1962	283563	H-419 M \$1.50 P \$19.90
312G-12	Radar Data Recording System, Arbuckle Neck Site, Wallops Island, Virginia	A. C. Dyer D. Keren R. W. MacComb H. W. Rudolph, Jr.	23 Aug. 1962	401486	H-497 M \$1.50 P \$11.20
312G-13	Programs for Calculating a Predicted Radar Trajectory	K. Kresa M. R. Tausner	8 Aug. 1962	296540	H-478 M \$1.50 P \$10.15
315-3	108 Mcps Tracking Antenna for Millstone Hill Radar	M. E. Devane	1 Dec. 1959	244405	H-177 M \$1.50 P \$4.30
315G-0001	The Study of Waveguide Shorting Plungers	R. N. Assaly	25 Jan. 1961	251041	H-254 M \$1.50 P \$8.20
315G-1	Near-Field Characteristics of Array Antennas	L. J. Ricardi W. C. Danforth, Jr. M. H. Malone	17 Oct. 1961	266428	H-354 M \$1.50 P \$14.90
315G-2	A Mechanically Fixed Radar Antenna with Scanning Capability	L. J. Ricardi R. N. Assaly W. C. Danforth, Jr.	16 Oct. 1961	266048	H-353 M \$1.50 P \$7.15
315G-3	A Mechanical Duplexer for High-Powcred X-Band Radars	B. F. LaPage	8 Dec. 1961	271400	H-377 M \$1.50 P \$11.65
† 315G-4	Millstone Hill Zenith-Pointing Paraboloid	M. E. Devanc	7 Jan. 1963	401907	H-501 M \$1.50 P \$4.40
315G-5	A Discussion of the Use of a System of Passive Satellites in Stationary Orbits for Radio Communication	R. N. Assaly	28 Feb. 1963	402841	H-504 M \$1.50 P \$6.20
† 4G-0002	An Experimental Communication Center for Scientific and Technical Information	M. M. Kessler	31 Mar. 1960	254656	H-283 M \$1.50 P \$6.70

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No.				DDC No.	Hayden Serial and Prices
† 4G-0007	A Millimeter Wave Anti-Missile Miss Distance Indicator	J. W. Meyer	16 Jan. 1961	249717	H-245 M \$1.50 P \$2.80
4G-0010	System Applications of Millimeter Waves	J. W. Meyer	17 Feb. 1961	251663	H-261 M \$1.50 P \$11.50
41G-0002	Practical Realization of Video and IF Matched Filters	D. R. Bromaghin	14 July 1960	241802	H-144 M \$1.50 P \$4.30
41G-0004	Doppler Analyzer Display	D. R. Bromaghin W. H. Drury W. F. Kelley	7 Mar. 1961	253514	H-274 M \$1.50 P \$10.30
41G-0008	A General Method for Controlling the Time and Frequency Envelopes of FM Signals	E. N. Fowle	5 June 1961	258055	H-309 M \$1.50 P \$4.40
41G-0009	A Method of Signal Design Employing Saddle Point Integration	R. D. Haggarty	19 May 1961	258617	H-312 M \$1.50 P \$5.90
41G-0011	On Entire Functions and a Fourier Integral Problem	J. A. Sheehan	5 July 1961	259568	H-314 M \$1.50 P \$4.90
41G-0012	An RF Multiple Beam Forming Technique	W. P. Delaney	9 Aug. 1961	262017	H-334 M \$1.50 P \$23.15
41G-0014	Some Recent Strip Transmission Line Measurements, Formulae, Techniques and Components for Phased Array Radar	D. H. Temme	19 Sept. 1961	264324	H-346 M \$1.50 P \$8.40
† 41G-1	Operational Characteristics of 16 Electron-Beam Parametric Amplifiers in a 900 Mcps Phased Array	J. H. Teele	6 Aug. 1962	288223	H-444 M \$1.50 P \$27.90
41G-3	Echolocation Systems of the Bat: Progress Report on Experimental Studies Conducted at F. A. Webster's Laboratory (1 Nov. 1961 - 1 Sept. 1962)	N. I. Durlach F. A. Webster §	14 Aug. 1963	417565	H-534 M \$1.50 P \$19.40
41G-5	Asymptotic Behavior of the Spectra of RF Pulses with Linear Frequency Modulation	S. L. Borison D. F. DeLong	9 Oct. 1963		H-545 M \$1.50 P \$6.40

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No.				DDC No.	Hayden Serial and Prices
41G-6	Response Functions of Linear Time-Varying Systems	J. C. Lindenlaub	9 Sept. 1963	422263	H-544 M \$1.50 P \$9.60
42G-0001	Testing of Spun-Cast Parabolic Antennas	V. L. Lynn K. J. Keeping	14 July 1960	240111	H-128 M \$1.50 P \$10.00
42G-1	Commentary on a Paper by Kuklev Concerning the Influence of Noise on a Decoding Unit Using a Pulse Code Group	D. Middleton §	28 Dec. 1961	287162	H-436 M \$1.50 P \$14.40
42G-2	Phase Shifting to Avoid Interference Regions Between Antenna Elements	B. H. Labitt	23 May 1962	277561	H-395 M \$1.50 P \$3.60
43-2	Range Ambiguity Resolution in High-PRF Radars Through the Use of Multiple Values of PRF	R. C. Labonte	24 Feb. 1958	238227	H-114 M \$1.50 P \$10.90
43G-1	A Multicavity Klystron Computer Program Including Potential Depression Correction	S. F. Catalano C. Guay G. L. Guernsey R. L. Pease M. E. Schwarz, Jr.	29 Aug. 1963	420687	H-542 M \$1.50 P \$7.20
45-34	Notes on MTI Simulation Techniques	J. W. McGinn, Jr.	7 Oct. 1958	256978	H-322 M \$1.50 P \$4.40
45-34-1	Notes on MTI Simulation Techniques - Part II	J. W. McGinn, Jr.	29 Mar. 1959	256979	H-323 M \$1.50 P \$5.40
† 45-42	Radar Returns from Birds and Their Elimination from Radar Outputs	R. E. Richardson J. M. Stacey H. M. Kohler F. R. Naka	22 Dec. 1959	241994	H-147 M \$1.50 P \$7.90
† 46-37	Some Properties of Folded Cylinder TR Tubes at Intermediate UHF Powers	R. E. Slattery	30 Dec. 1958	245323	H-199 M \$1.50 P \$14.20
† 46-38	Analysis of Noise in Parametric Amplifiers of the Negative Conductance Type	C. Blake	22 Jan. 1959	245235	H-197 M \$1.50 P \$4.00
*† 46-39	A Frequency Domain Theory of Parametric Amplification	B. J. Leon	6 Apr. 1959	245236	H-198 M \$1.50 P \$25.60

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No.				<u>DDC No.</u>	<u>Hayden Serial and Prices</u>
46-42	Resonant-Cavity Stabilization of Reflex-Klystron Oscillators	W. A. Andrews C. E. Chase H. Feldman	Jan. 1958	236884	H-96 M \$1.50 P \$12.10
† 46-43	Design Considerations for Cassegrainian and Gregorian Reflector Type Microwave System	K. J. Keeping	25 Jan. 1960	244400	H-174 M \$1.50 P \$17.20
46-45	Folded Cylinder TR for $3\frac{1}{8}$ - Inch Line	C. E. Muehe R. J. Carbone	1 Dec. 1959	240455	H-133 M \$1.50 P \$5.20
46-46	Tables of Some Properties of Liquid Helium	J. Fineman C. E. Chase	10 Aug. 1959	244404	H-175 M \$1.50 P \$8.50
46-47	A Simple Clean Pressure Gauge for the Millimeter Range	C. E. Muehe	18 Nov. 1959	244402	H-176 M \$1.50 P \$3.10
† 46-48	The Traveling Wave Resonator and High Power Microwave Testing	S. J. Miller	8 Jan. 1960	243855	H-166 M \$1.50 P \$16.00
46-50	Folded Cylinder UHF Duplexer for $6\frac{1}{8}$ -Inch Coaxial Line	C. E. Muehe	10 Mar. 1960	237003	H-98 M \$1.50 P \$4.00
46G-0001	A Horizontally-Polarized Omnidirectional Linear Array with a Cosecant- Squared Vertical Beam	F. I. Sheftman	31 Mar. 1960	236677	H-91 M \$1.50 P \$10.90
46G-0002	A Broadband Impedance Transition for Coaxial Line	C. B. Nelson	15 Apr. 1960	236273	H-84 M \$1.50 P \$5.50
46G-0003	Some Aspects of High Power Window Design	C. E. Muehe	3 Oct. 1960	244326	H-172 M \$1.50 P \$8.80
46G-0005	Primary Feed for Damp Ship Antenna	K. J. Keeping	15 July 1960	240172	H-131 M \$1.50 P \$15.40
46G-0006	The High Frequency Low Pressure Discharge	H. S. Bennett	24 Aug. 1961	262240	H-339 M \$1.50 P \$9.40
46G-0007	An Additional Consideration in the Design of Traveling Wave Resonators	S. J. Miller	26 Oct. 1960	246186	H-213 M \$1.50 P \$2.50

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No.				DDC No.	Hayden Serial and Prices
46G-0008	A Wide Band Antenna Having Axially Symmetrical Patterns, High Gain and Low Side Lobes for All Polarizations	K. J. Keeping	30 Nov. 1960	248360	H-227 M \$1.50 P \$10.60
46G-0009	A Simple Approximate Expression for Converting Directly from Noise Figures in DB to Noise Temperatures	E. P. McCurley C. Blake	8 Dec. 1960	248912	H-231 M \$1.50 P \$2.20
46G-0010	A Family of Hybrids in Large Size Coaxial Line	W. A. Both	17 Jan. 1961	251245	H-256 M \$1.50 P \$4.30
46G-0012	Evaluation of Three Microwave Densitometers	S. J. Miller F. I. Sheftman	21 July 1961	260947	H-325 M \$1.50 P \$2.40
46G-0013	Some Equilibrium Properties of Elemental Supereconductors	J. Fineman	31 July 1961	261866	H-329 M \$1.50 P \$14.40
46G-1	Amplitude and Phase Deviation in Waveguides with Shunt Devices	A. H. Kessler	8 June 1962	285628	H-430 M \$1.50 P \$17.15
46G-2	The Surface Resistance of High-Current Microwave Discharges in Argon	C. E. Muehe T. J. Fessenden	20 Mar. 1963	403653	H-503 M \$1.50 P \$13.40
46G-3	A Simple Method for Designing an Elliptical Polarizer in Square Waveguide	A. H. Kessler W. J. Getsinger	28 May 1963	407624	H-514 M \$1.50 P \$4.80
46G-4	Experimental Evaluation of a 1000-Wavelength Antenna	W. D. Fitzgerald V. L. Lynn K. J. Keeping	13 May 1963	406109	H-512 M \$1.50 P \$8.40
† 47-16	The Theory of the Radiometer	E. J. Kelly D. H. Lyons W. L. Root	2 May 1958		H-304 M \$1.50 P \$9.65
47-19	Computer Simulation of the Pure-Phase Periodogram and the Doppler Phase Difference Integrator	S. F. Catalano E. J. Jones	12 Sept. 1958	261365	H-332 M \$1.50 P \$2.65
† 47-24	A Decoding Procedure for Polynomial Codes	I. S. Reed G. Solomon	6 Mar. 1959	241701	H-143 M \$1.50 P \$2.50
† 47-25	Note on Mixed Pre- and Post-Detection Integration of Doppler Echoes	D. H. Lyons	12 May 1959		H-184 M \$1.50 P \$4.00

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No.				DDC No.	Hayden Serial and Prices
† 47-26	An IF Power Comparator with Large Dynamic Range	G. R. Curry M. Axelbank	12 May 1959	233571	H-43 M \$1.50 P \$8.80
† 47-28	Three-Phase Codes	D. F. DeLong	24 July 1959	241519	H-142 M \$1.50 P \$6.10
† 47-29	False Alarm Rate for the Doppler Phase Difference Integrator	I. S. Reed E. J. Jones H. M. Jones J. J. Mikulski	9 Oct. 1959	232331	H-42 M \$1.50 P \$7.90
† 47-30	On the Sensitivity of a Simple Continuously Calibrated Radiometer	E. J. Kelly J. W. McGinn	18 Dec. 1959	244836	H-188 M \$1.50 P \$4.30
† 47-32	Computer Applications of Boolean Functions of Time	I. S. Reed R. C. Jeffrey	15 Sept. 1959	244401	H-179 M \$1.50 P \$7.60
47-33	False Alarm Rate of the Doppler Phase Difference Integrator	J. J. Mikulski	30 Sept. 1959	244837	H-187 M \$1.50 P \$4.00
47-34	Some Counting and Inversion Formulas Involving Groups	G. Solomon	1 Dec. 1959	233869	H-52 M \$1.50 P \$5.20
† 47-35	Statistical Error Control of a Realizable Binary Symmetric Channel	I. S. Reed	1 Nov. 1959	241453	H-141 M \$1.50 P \$4.60
† 47-36	Detection of Signals in Non- Gaussian Noise	D. L. Clark	15 Dec. 1959	232332	H-41 M \$1.50 P \$5.50
† 47-37	Linear Recursive Sequences as Finite Difference Equations	G. Solomon	15 Mar. 1960	243047	H-157 M \$1.50 P \$5.20
† 47-38	The Scattering Matrix: Polar- ization, Power and Periodic Bodies from the Viewpoint of Matrix Theory	J. J. Mikulski	1 Mar. 1960	235249	H-69 M \$1.50 P \$9.40
47G-0001	The Characteristics of a Series of Fixed Coils at VHF	M. Axelbank G. R. McCully G. R. Curry	21 Apr. 1960	237852	H-110 M \$1.50 P \$5.50
47G-0003	A Direct-Coupled Multiplier for Acoustic Sonar	D. A. Cahlander	20 May 1960		H-103 M \$1.50 P \$17.20

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No.				DDC No.	Hayden Serial and Prices
47G-0004	The Characteristics of a Series of Tunable Coils at VHF	M. Axelbank G. R. McCully G. R. Curry	3 June 1960	239661	H-122 M \$1.50 P \$6.10
47G-0006	Experimental Autocorrelation of Binary Codes	D. F. Delong	24 Oct. 1960	245803	H-204 M \$1.50 P \$4.30
47G-0007	Detection of Signals in Non-Gaussian Noise - Computation Results for the Linear and Limiting Detector Systems	J. W. McGinn, Jr.	7 Oct. 1960	246779	H-220 M \$1.50 P \$8.80
47G-0010	An Ultrasonic Receiver for Detecting Signals of Bats	A. Bertolini	1 Dec. 1960	248361	H-228 M \$1.50 P \$12.10
47G-0010 (Rev. 1)	An Ultrasonic Receiver for Detecting Signals of Bats	A. Bertolini	5 Dec. 1961	268702	H-371 M \$1.50 P \$9.90
47G-0011	Traveling-Wave Tubes in Radiometers	D. Keren	28 Dec. 1960	249572	H-239 M \$1.50 P \$8.80
† 47G-0012	Idler Circuits in Varactor Frequency Multipliers	B. L. Diamond	13 Dec. 1960		H-236 M \$1.95 P \$36.10
47G-0013	The Radar Measurement of Range, Velocity and Acceleration	E. J. Kelly	6 Jan. 1961	249468	H-243 M \$1.50 P \$11.20
47G-0014	An Amplifier for Driving Electrostatic Transducers	G. R. Curry	11 Apr. 1961	254953	H-284 M \$1.50 P \$2.75
47G-0015	Detection of Signals in Non-Gaussian Noise-Computation Results for the Ratio Detector System	J. W. McGinn, Jr.	3 Apr. 1961	254035	H-277 M \$1.50 P \$8.80
47G-0016	A Non-Gaussian Noise Generator	D. F. Mayer	28 Feb. 1961	252497	H-268 M \$1.50 P \$9.70
47G-0018	An S-Band Sweep-Frequency Receiver	D. Keren	17 Mar. 1961	253619	H-273 M \$1.50 P \$7.00
47G-0019	APC with Pulse Reference	T. J. Rey	9 Nov. 1960	255695	H-290 M \$1.50 P \$29.90

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No.				DDC No.	Hayden Serial and Prices
† 47G-0020	A New Class of Codes	G. Solomon	28 Apr. 1961	255696	H-287 M \$1.50 P \$3.15
47G-0022	Quaternary Cyclic Codes	G. Solomon	13 Sept. 1961	263608	H-341 M \$1.50 P \$4.90
47G-0023	AFC for Discrete Frequencies	T. J. Rey	19 May 1961	259479	H-316 M \$1.50 P \$7.40
47G-0025	The Phase Periodogram Detector	E. J. Kelly	17 May 1961	256710	H-300 M \$1.50 P \$4.40
47G-0026	A Method for Finding Output Probability Densities	R. P. Wishner	20 June 1961	258918	H-311 M \$1.50 P \$4.40
47G-0027	Distribution of the Normalized Periodogram Detector	R. P. Wishner	26 June 1961	259478	H-315 M \$1.50 P \$7.90
47G-1	A Weight Formula for Group Codes	G. Solomon	9 Oct. 1961	264999	H-349 M \$1.50 P \$3.15
† 47G-2	Application of Statistical Estimation Procedures to the Identification Problem	R. P. Wishner J. C. Lindenlaub	3 Nov. 1961	266877	H-358 M \$1.50 P \$6.40
47G-3	The Design of Semiconductor- Diode Detector Circuits	G. R. Curry M. Axelbank	28 Feb. 1962	273510	H-388 M \$2.20 P \$43.65
† 47G-4	The Covariance Functions of Sine and Cosine Processes	J. W. McGinn, Jr.	26 Feb. 1962	273243	H-382 M \$1.50 P \$6.65
47G-5	Some Results for Higher- Order Varactor Frequency Multipliers	B. L. Diamond	21 Mar. 1963	404819	H-508 M \$2.05 P \$27.80
† 47G-6	Determination of Weight- to-Drag Ratio from Ratio Measurements	S. F. Catalano H. Schneider	8 Mar. 1963	401488	H-492 M \$1.50 P \$5.65
47G-7	Random Noise in Amplitude Comparison Monopulse Systems	J. W. McGinn, Jr.	7 Feb. 1963	400113	H-487 M \$1.50 P \$7.40
† 48-6	A Microwave Single Sideband Modulator	H. G. Pascalar	22 Apr. 1958	236271	H-68 M \$1.50 P \$8.80

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No.				DDC No.	Hayden Serial and Prices
† 48-7	An Investigation of Frequency Stabilization Techniques for Backward Wave Oscillators	H. G. Pascalar	3 Aug. 1959	235356	H-74 M \$1.50 P \$12.40
48-8	Measurements on Type HA-34 Traveling Wave Tube Frequency Multiplier	D. E. Crook H. G. Pascalar	19 Aug. 1959	236252	H-74 M \$1.50 P \$2.80
† 48-9	Broadbanding of a Klystron Output Cavity	A. Saharian	4 Jan. 1960	244917	H-186 M \$2.65 P \$53.20
48G-1	Measurement of Field Strength on Resonator Boundaries by the Perturbation of Radiation Field	I. Hefni	8 Feb. 1962	274066	H-394 M \$1.50 P \$8.65
5G-0001	A Heuristic Program that Solves Symbolic Integration Problems in Freshman Calculus, Symbolic Automatic Integrator (SAINT)	J. R. Slagle	10 May 1961		H-295 M \$1.50 P \$27.90
† 50-1	A Computer Memory Using Magnetic Films	J. I. Raffel D. O. Smith	3 June 1959	230471	H-32 M \$1.50 P \$11.20
51-2	Techniques for Measuring the Angular Dispersion of the Easy Axis of Magnetic Films	T. S. Crowther	30 Mar. 1960	255697	H-289 M \$1.50 P \$4.15
51-8	The Lincoln Writer	J. T. Gilmore, Jr. R. E. Savell	6 Oct. 1959	235247	H-61 M \$1.50 P \$8.80
51-10	An Audio-Frequency Hysteresigraph for Thin Magnetic Films	D. D. Strassberg	16 Oct. 1959	252046	H-264 M \$1.50 P \$5.50
51-11	Techniques for Pulse Testing Magnetic Film Memory Elements	A. H. Anderson T. S. Crowther	29 Jan. 1960	255698	H-288 M \$1.50 P \$7.40
† 51G-0012	A Functional Description of the L-1 Computer	W. A. Clark, Jr.	28 Mar. 1960	236678	H-92 M \$1.50 P \$3.40
51G-0016	The TX-2 Electrostatic Display System	R. E. Savell	22 Aug. 1960	244325	H-173 M \$1.50 P \$7.60
51G-0017	Graphical Manipulation Techniques Using the Lincoln TX-2 Computer	H. H. Loomis	10 Nov. 1960	247861	H-226 M \$1.50 P \$9.10

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No.				DDC No.	Hayden Serial and Prices
51G-0018	A Program for Testing Sequences of Random Numbers	L. Kleinrock	25 Oct. 1960	246044	H-209 M \$1.50 P \$8.80
51G-0021	PCM Television Bandwidth Reduction Using Pseudo-Random Noise	L. G. Roberts	30 Dec. 1960		H-233 M \$1.50 P \$13.00
51G-1	Improved TX-2 Gated Pulse Amplifier	J. H. Reaves	13 Feb. 1963	401489	H-495 M \$1.50 P \$15.40
51G-2	Automatic Memory Array Production System	C. G. Ryan	28 Feb. 1962	273238	H-385 M \$1.50 P \$7.15
51G-3	Deposited Connections and Wiring	E. A. Guditz	7 Sept. 1962	286545	H-431 M \$1.50 P \$14.40
51G-5	Storage-Time Delay Calculation for a Transistor Pulse Amplifier	J. H. Reaves	13 Feb. 1963	298065	H-483 M \$1.50 P \$9.40
51G-6	Preparation of Actual-Size Printed Wiring Layouts	E. A. Guditz	4 Dec. 1963	291893	H-460 M \$1.50 P \$4.40
51G-8	Programming Specifications for the FX-1 Computer	S. M. Ornstein J. E. Laynor	13 Mar. 1963	404508	H-505 M \$1.50 P \$10.20
† 52-4	New Averaging Program for the Millstone Hill Radar Site	F. Nagy	1 Apr. 1959	246776	H-219 M \$1.50 P \$3.10
52-7	Di-Pulse Logic	K. E. Perry	25 June 1959	255344	H-293 M \$1.50 P \$2.90
† 52G-0011	Some Remarks on Cyclic and Pseudo-Cyclic Codes	S. S. Shatz	9 Aug. 1960	241518	H-140 M \$1.50 P \$3.10
52G-0013	Galois Cohomology of Certain Modules Over Formal Power Series Fields	S. S. Shatz	8 Sept. 1960	243180	H-161 M \$1.50 P \$10.60
52G-0014	Inertial Selection for Magnetic Core Logic	R. H. Tancrell	11 Oct. 1960	244919	H-191 M \$1.50 P \$9.10
52G-0017	MIT Solar Plasma Experiment Instrumentation	E. F. Lyon	14 Apr. 1961	254954	H-285 M \$1.50 P \$10.50

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No.				DDC No.	Hayden Serial and Prices
52G-0018	A Tunnel Diode Reflex Memory	K. E. Perry	17 Apr. 1961	254955	H-286 M \$1.50 P \$3.00
52G-0019	Interference Suppression Performance of Several FM Receivers Using Feedforward	B. H. Hutchinson	26 July 1961		H-351 M \$1.50 P \$38.40
52G-0020	A Cohomological Lemma and Its Application	S. S. Shatz	13 June 1961	258056	H-310 M \$1.50 P \$3.65
† 52G-1	A Solid State Buffer-Memory System to Handle Randomly Transmitted Information	R. M. Horowitz	13 Feb. 1962	273785	H-390 M \$1.50 P \$6.40
52G-2	Statistical Properties of the Dicon Receiver	J. A. Dumanian	2 Mar. 1962	275278	H-401 M \$1.50 P \$8.65
52G-3	Instructions for the Use of Mutual Moon Visibility Charts	F. Nagy	7 June 1962	276879	H-405 M \$1.50 P \$2.90
52G-4-I	Foundations of a Theory of Algebraic Codes. Part I: Local Theory	S. S. Shatz	20 Sept. 1962	286548	H-432 M \$1.50 P \$5.90
52G-4-II	Foundations of a Theory of Algebraic Codes. Part II: Global Theory	S. S. Shatz	20 Sept. 1962	286546	H-433 M \$1.50 P \$6.40
52G-5	The Descendent Theorem in Abelian Groups	S. S. Shatz	16 Nov. 1962	290801	H-456 M \$1.50 P \$2.90
52G-6	Assembly of Precision Ferrite Pot Core Inductors	R. S. Berg B. Howland	17 Dec. 1962	294646	H-463 M \$1.50 P \$3.40
53G-0039	Considerations in the Design of a Random-Access Cryosar Memory	R. C. Johnston	5 July 1960	240224	H-129 M \$1.50 P \$9.70
53G-0044	Cryosar Memory Design	R. C. Johnston	19 May 1961	257183	H-302 M \$1.50 P \$8.15
53G-0051	Device Requirements for a Large Cryosar Memory	R. C. Johnston	27 Dec. 1960	249057	H-234 M \$1.50 P \$2.80
53G-0052	A Magneto-Optic Apparatus for the Dynamic Study of Ferromagnetic Surface Domains	F. W. Sarles, Jr.	23 Dec. 1960		H-242 M \$3.00 P \$63.70

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No.				DDC No.	Hayden Serial and Prices
† 53G-0059	Proposal for Magnetic Domain-Wall Storage and Logic	D. O. Smith	31 May 1961	257771	H-307 M \$1.50 P \$4.65
53G-0063	Surface Anisotropy Energy Density of a Ferromagnet	R. F. Soohoo	18 Aug. 1961	261588	H-333 M \$1.50 P \$2.90
53G-0064	A Microwave Magnetic Microscope	R. F. Soohoo	23 Aug. 1961	262542	H-324 M \$1.50 P \$2.90
53G-0065	Ferromagnetic Resonance in Yttrium Iron Garnet Film	R. F. Soohoo	28 Aug. 1961	262945	H-338 M \$1.50 P \$1.65
† 54-4	Physical Machines and Their Abstract Counterparts	M. Minsky	23 Mar. 1959		H-272 M \$1.50 P \$37.90
† 54-5	Theory of Formal Systems	R. M. Smullyan	15 Apr. 1959		H-60 M \$2.40 P \$70.60
† 54-9	Hierarchies in Pattern Recognition	U. Neisser	9 Oct. 1959		H-421 M \$1.50 P \$4.90
54-10	Human Recognition of Hand-Printed Characters	U. Neisser P. Weene	13 Oct. 1959		H-424 M \$1.50 P \$2.40
† 54-19	A Theory of Cognitive Processes	U. Neisser	23 Feb. 1960	243178	H-160 M \$1.50 P \$7.30
† 54G-0020	Topics in Dynamic Programming. II: Truncated Policies	M. L. Freimer	18 Apr. 1960		H-82 M \$1.60 P \$39.10
54G-0021	Linear Statistical Classification	A. Laemmel	16 May 1960	237125	H-101 M \$1.50 P \$3.40
54G-0022	Machine Correction of Garbled English Text	M. B. Evens C. K. McElwain F. VanHoosen	1 June 1960	237700	H-107 M \$1.50 P \$7.30
54G-0025	The Independence of Attributes in Memory	U. Neisser A. Warmoth	28 June 1960	239344	H-118 M \$1.50 P \$3.10
54G-0027	A 6-Symbol 7-State Universal Turing Machine	M. L. Minsky	19 Aug. 1960	242594	H-151 M \$1.50 P \$3.10

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No.				DDC No.	Hayden Serial and Prices
54G-0028	Machine Processing of Line Drawings	L. Hodes	7 Mar. 1961	252850	H-271 M \$1.50 P \$5.20
54G-0029	A 6-Symbol 6-State Universal Turing Machine	M. Minsky	12 Apr. 1961	259727	H-318 M \$1.50 P \$4.40
55-22	Some Connections Between Linear Recursive Sequences and Error-Correcting Codes: Informal Lectures	E. Weiss	22 Jan. 1960	239172	H-123 M \$1.50 P \$38.80
55G-0024	Residue Class Rings and Linear Recursive Sequences	E. Weiss	4 May 1960	236397	H-86 M \$1.50 P \$3.10
55G-0027	Coset Leaders	E. C. Dade	24 Aug. 1960	242595	H-152 M \$1.50 P \$3.70
55G-0028	Compression and Coding	E. Weiss	11 Oct. 1960	244918	H-190 M \$1.50 P \$1.60
55G-0030	The Shortest Path Through Many Points of a Set of Dimension α	J. R. Kinney	1 Dec. 1960	247667	H-224 M \$1.50 P \$2.80
55G-0031	A Limit Theorem for a Position Dependent Branching Process	H. E. Conner	23 Mar. 1961		H-275 M \$1.50 P \$13.00
55G-0033	Mathematical Foundations of Scattering Theory	R. T. Prosser	5 Apr. 1961	254142	H-281 M \$1.50 P \$6.40
55G-0035	Generalized Reed-Muller Codes	E. Weiss	11 May 1961	256547	H-299 M \$1.50 P \$3.90
55G-0037	Tangential Limits of Functions from the Class S_α	J. R. Kinney	9 May 1961	256370	H-298 M \$1.50 P \$1.65
† 55G-1	A Survey of Functional Integration with Applications of the Wiener Integral	T. I. Seidman	16 Oct. 1961	265200	H-350 M \$1.50 P \$15.15
55G-2	An Acquirable Code	E. Weiss D. Gorenstein §	9 July 1962	281751	H-411 M \$1.50 P \$2.90

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No.				DDC No.	Hayden Serial and Prices
55G-3	Computing Good Coefficients for a Linear Evaluation Function	J. R. Slagle	11 Mar. 1963	401774	H-496 M\$1.50 P\$3.60
† 58-2	Remembering the Present States of a Number of Variables	D. B. Yntema G. E. Mueser	16 Mar. 1959	243179	H-462 M\$1.50 P\$4.90
58-6	The Reliability of Empirical Waiting-Time Distributions	J. E. K. Smith L. Klem	19 Aug. 1959	234563	H-57 M\$1.50 P\$5.20
58G-0011	An Introduction to Digital Computing	B. F. Green, Jr.	18 Aug. 1960	242597	H-153 M\$1.50 P\$14.50
58G-0013	Remembering the Present States of a Number of Variables. III: Why It Is Difficult to Keep Track of Several Variables with the Same Set of States	D. B. Yntema G. E. Mueser	17 Aug. 1960	242283	H-148 M\$1.50 P\$4.60
58G-0018	Visual Acuity Under Blue Illumination	R. T. Mitchell R. R. Mitchell	10 Feb. 1961	251570	H-260 M\$1.50 P\$4.60
58G-0024	Information Processing Language V (IPL-V) Special Procedures for the Lincoln 709/7090 Version	B. F. Green, Jr. A. Wolf	14 Aug. 1961	261867	H-330 M\$1.50 P\$11.40
61G-1	Design Curves for a Circular Polarizer	W. C. Danforth, Jr. L. J. Ricardi	19 Aug. 1963	417184	H-536 M\$1.50 P\$2.40
61G-2	A Reflection-Type Polarizer for the West Ford Antennas	B. F. LaPage	30 Dec. 1963	440430	H-565 M\$1.50 P\$7.60
61G-3	The Aperture Efficiency of Some Horn-Fed Paraboloidal Reflectors	A. R. Dion	30 Dec. 1963	431779	H-566 M\$1.50 P\$4.60
62G-1	Vocoded Speech	B. Gold	7 May 1963	407512	H-515 M\$1.50 P\$5.60
62G-2	Characteristics and Applications of Solid-State Operational Amplifiers	J. N. Harris K. E. Perry	23 July 1963	413473	H-528 M\$1.50 P\$14.20
62G-3	Pointing the Lincoln Laboratory Building B Roof Antenna in Real Time Using the CDC 160-A Computer	J. D. Drinan	26 June 1962	410546	H-524 M\$1.50 P\$9.80

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No.				DDC No.	Hayden Serial and Prices
62G-4	A Qualitative Description of Sequential Decoding	I. L. Lebow	12 July 1963	413949	H-529 M \$1.50 P \$6.20
62G-5	An Investigation of the Fano Sequential Decoding Algorithm by Computer Simulation	G. Blustein K. L. Jordan, Jr.	12 July 1963	412632	H-525 M \$1.50 P \$4.80
62G-6	Strategy for a Two-Way Feed- back Communication System	F. G. Popp	5 Dec. 1963	426203	H-552 M \$1.50 P \$9.40
62G-8	The Volume Common to Two Intersecting Radar Beams	W. R. Crowther	31 Oct. 1963	425547	H-551 M \$1.50 P \$3.00
64G-1	Performance of Coherent Detection Systems Using Decision Directed Channel Measurement	J. G. Proakis P. R. Drouilhet	27 June 1963	409819	H-521 M \$1.50 P \$5.40
64G-3	Optimum Pulse Transmissions for Multipath Channels	J. G. Proakis	16 Aug. 1963	416639	H-532 M \$1.50 P \$8.20
64G-4	Computer Programs for Proc- essing Signals Received in Radar Astronomy Experiments	P. L. Fleck, Jr. T. J. Goblick, Jr.	16 Aug. 1963	419091	H-540 M \$1.50 P \$5.80
64G-5	The Doubly Non-Central F- Distribution Expressed in Finite Terms	R. Price	13 Sept. 1963	420434	H-543 M \$1.50 P \$10.60
64G-6	Further Considerations in the Use of Large Seismometer Arrays	N. M. Abramson §	14 Nov. 1963	424594	H-550 M \$1.50 P \$3.20
65G-1	A Note on Power Require- ments for Digitalized Voice Transmission	B. Reiffen	6 May 1963	405622	H-513 M \$1.50 P \$3.20
65G-2	Optimum Jamming of In- coherently Received FSK Signals	L. I. Bluestein	26 June 1963	413482	H-537 M \$1.50 P \$5.80
65G-3	An Efficient Demodulator for an Analog Pseudo-Noise Multiplex System	H. L. VanTrees	2 July 1963	410795	H-523 M \$1.50 P \$5.80
65G-4	A New Method for Delay- Modulating a Pulse Train	L. I. Bluestein	28 May 1963	406108	H-511 M \$1.50 P \$3.80

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No.				DDC No.	Hayden Serial and Prices
65G-5	An Introduction to Feedback Demodulation	H. L. VanTrees	16 Aug. 1963	416586	H-531 M \$1.50 P \$12.20
65G-6	A Note on Sequential Decoding Applied to Large Alphabet Incoherent Channels - R_{comp} Determination	M. H. Check B. Reiffen	31 May 1963	410883	H-519 M \$1.50 P \$2.80
65G-7	Delay in Data Transmission Through General Networks	B. J. Moriarty	18 Dec. 1963	427258	H-553 M \$1.50 P \$12.20
65G-8	Average Scattering Cross Section of Randomly-Oriented Dipoles	M. H. Check B. Reiffen	30 Dec. 1963	427756	H-555 M \$1.50 P \$4.00
66G-1	Cyclotomic Fields and Their Real Subfields	E. Weiss	9 Aug. 1963	416409	H-530 M \$1.50 P \$2.20
† 71G-1-I	Distortions and Stresses of Paraboloidal Surface Structures	J. W. Mar § F. Y. M. Wan	9 Jan. 1962	296298	H-476 M \$1.50 P \$24.40
† 71G-1-II	Distortions and Stresses of Paraboloidal Surface Structures. Part II. The Membrane Behavior	J. W. Mar § F. Y. M. Wan	4 Jan. 1963	296491	H-477 M \$1.80 P \$41.90
71G-1-III	Distortions and Stresses of Paraboloidal Surface Structures. Part III.	J. W. Mar § F. Y. M. Wan	15 Aug. 1963	417081	H-535 M \$1.70 P \$20.00
*† 71G-2	A Theoretical Analysis and Experimental Study of the Behavior of Panels of Isotropic and Orthotropic Material Under Static and Dynamic Loads	H. A. Balmer § E. A. Witmer § W. A. Loden §	Feb. 1962	273137	H-383 M \$2.05 P \$33.65
71G-3	Dynamic Buckling of Space Frame Radome Models	R. A. Muldoon	15 Feb. 1962	273237	H-387 M \$1.50 P \$18.90
71G-4	Preliminary Investigations on the Mechanical Design of Hardened Foam Radomes	R. A. Muldoon	3 May 1963	275713	H-402 M \$1.50 P \$10.65
71G-5	Air Loads and Pressure Distribution on a Parabolic Antenna Model	J. Bicknell § R. Yeghiayan §	30 Oct. 1962	290512	H-451 M \$1.50 P \$23.15

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No.				DDC No.	Hayden Serial and Prices
† 75-4	Experimental Investigation of Wind-Induced Vibrations in Antenna Members	W. Weaver, Jr.	26 Aug. 1959	231946	H-40 M \$1.70 P \$30.40
75G-0005	Antenna Range Area Construction, Antenna Test Facility, Bedford, Massachusetts	T. J. Lambie	19 Mar. 1960	237349	H-105 M \$1.50 P \$16.30
76-5	Maximum Temperatures in 55-Ft. Rigid Radomes for Temperate and Extreme Desert Environments	S. L. Hensel, Jr.	Nov. 1958		H-498 M \$1.50 P \$18.20
76G-0002	Some Considerations on Shell Theory	K. Washizu	Oct. 1960	252204	H-265 M \$1.95 P \$53.20
† 76G-0003	The Electrical Evaluation of 110 Foot Diameter Metal Space-Frame Model Radomes and the CW-413 Radome	A. Cohen A. W. Maltese	25 Apr. 1961	256858	H-294 M \$1.50 P \$10.15
8G-0012	Semi-Metals – A New Horizon	B. Lax	24 Apr. 1961	256267	H-296 M \$1.50 P \$9.65
† 81G-0022	Ground State Properties of Nuclear Matter	R. D. Puff	22 July 1960	241463	H-138 M \$1.50 P \$18.70
81G-0026	Symmetry Property of Configurational Entropy	W. H. Kleiner	11 Jan. 1961	249989	H-246 M \$1.50 P \$10.60
81G-0028	The Generation of Microwave Phonons and Their Use in Studying the Spin Phonon Interaction	P. H. Carr	7 Mar. 1961		H-266 M \$1.50 P \$30.00
81G-0030	Symmetry of Configurational Entropy in Lattice Statistics	W. H. Kleiner	22 Mar. 1961	263341	H-340 M \$1.50 P \$8.65
81G-0031	Simple Theory of Tunneling and Its Dependence on a Magnetic Field	P. N. Argyres B. Lax	24 May 1961	257184	H-303 M \$1.50 P \$9.65
81G-1	Broadening in the Master Equation	P. L. Kelley	25 Oct. 1961	266360	H-352 M \$1.50 P \$6.40
† 82-8	Circulators at 70 and 140 kMcps	J. B. Thaxter G. S. Heller	10 July 1959	227946	H-23 M \$1.50 P \$3.40

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No.				DDC No.	Hayden Serial and Prices
† 82-9	Millimeter Instrumentation for Solid State Research	G. S. Heller	20 July 1959	230102	H-29 M \$1.50 P \$8.10
† 82G-0017	Areas for Research and Applications in the Millimeter Range of the Electromagnetic Spectrum	G. S. Heller P. E. Tannenwald	6 May 1960	237002	H-97 M \$1.50 P \$10.90
82G-0021	Atmospheric Absorption of 10-400 kMcps Radiation: Summary and Bibliography to 1960	E. S. Rosenblum	15 Aug. 1960	242598	H-150 M \$1.50 P \$7.90
82G-0029	Determination of Magneto-elastic Coupling by Spin Wave Resonance	M. H. Seavey, Jr.	31 July 1961	261601	H-328 M \$1.50 P \$6.40
82G-1	100 Kcps Modulation Paramagnetic Resonance Spectrometers for Centimeter and Millimeter Wavelengths	W. H. From E. D. Mills	26 Apr. 1962	282039	H-410 M \$1.50 P \$9.90
83G-0031	Concerning the Identity of the Predominant Acceptors in GaSb	A. J. Strauss E. B. Owens	24 Apr. 1961	256889	H-301 M \$1.50 P \$2.15
84-4	Tabulated Energy Values of Optical Transitions Observed in Experiments on the Zeeman Effect of Impurity Levels in Silicon	S. Zwerdling K. J. Button B. Lax	11 Feb. 1960	233266	H-24 M \$1.50 P \$6.10
85G-0004	An Infrared Image Tube for the Spectral Region of 1 to 40 Microns	R. J. Keyes	5 July 1960	258795	H-313 M \$1.50 P \$2.40
† 85G-0008	Photo and Thermal Effects in Compensated Zinc Doped Germanium	R. J. Keyes	21 Oct. 1960	245671	H-203 M \$1.50 P \$5.20
85G-0011	Free Carrier Faraday and Voigt Effects for a Cubic Crystal with a Pb-Te Like Band Structure	J. Halpern	25 Aug. 1961	262923	H-337 M \$1.50 P \$9.40

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No.				<u>DDC No.</u>	<u>Hayden Serial and Prices</u>
1964-1	An Approximate Method for the Calculation of Scalar Scattering by Two-Dimensional Bodies	A. D. MacGillivray A. F. Smith	9 Jan. 1964	431781	H-564 M \$1.50 P \$3.40
1964-2	The Angular Resolution of Multiple Targets	J. R. Sklar F. C. Schweppe	14 Jan. 1964	430185	H-560 M \$1.50 P \$48.80
1964-3	Backscatter Radar from Some Low Cross-Section Shapes	A. F. Smith	16 Jan. 1964	431780	H-567 M \$1.50 P \$7.80
1964-4	Optimization of Signals	F. C. Schweppe	16 Jan. 1964	430345	H-557 M \$1.50 P \$10.20
1964-9	Diplexer Using Side-Wall Couplers in One-Half Height Large X-Guide	J. A. Kostriza	17 Jan. 1964	429200	H-557 M \$1.50 P \$3.60
1964-10	A High-Performance He ³ Refrigerator	C. J. Rauch	29 Jan. 1964	433544	H-570 M \$1.50 P \$6.60
1964-11	Error Analysis of a Digital Monopulse Radar	M. Schneider N. T. Gaarder	30 Jan. 1964	430297	H-561 M \$1.50 P \$3.60
1964-12	Fuel-Optimal Singular Control of a Nonlinear Second Order System	M. Athans M. D. Canon	30 Jan. 1964	430272	H-559 M \$1.50 P \$10.80
1964-14	Electromagnetic Back-scattering Cross Section of a Circular Cylindrical Section	S. L. Borison	18 Feb. 1964	433714	H-568 M \$1.50 P \$7.80
1964-15	The Representation of Seismic Waves in Frequency-Wave Number Space	E. J. Kelly	6 Mar. 1964	433611	H-569 M \$1.50 P \$9.20

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| 1 | Change of Electron Temperature in an Electron Beam | H. M. Mott-Smith | J. Appl. Phys. <u>24</u> , 249 (1953) |
| 2 | The Solution of the Boltzmann Equation for a Shock Wave | H. M. Mott-Smith | Phys. Rev. <u>82</u> , 885 (1954) |
| 3 | A Model of the Auditory Threshold and Its Application to the Problem of the Multiple Observer | M. H. Smith, Jr.
E. A. Wilson | Psychol. Monographs <u>67</u> , 9 (1953) |
| 6 | Mixing of States and Antiferromagnetism | H. P. Hanson | Phys. Rev. <u>89</u> , 1154 (1953) |
| 7 | The Phase-Bistable Transistor Circuit | R. H. Baker
I. L. Lebow
R. H. Rediker
I. S. Reed | Proc. IRE <u>41</u> , 1119 (1953) |
| 9 | Relativistic Dynamics of a Charged Particle in Crossed Magnetic and Electric Fields with Application to the Planar Magnetron | L. Gold | J. Appl. Phys. <u>25</u> , 683 (1954) |
| 10 | Method of Time-Free Solutions for Radioactive Decay and Radionuclide Production | L. Gold | J. Appl. Phys. <u>24</u> , 88 (1953) |
| 11 | Wide-Band Data Transmitter | D. J. Gray
V. P. Gurske
W. E. Morrow, Jr. | Electronics <u>26</u> , No. 9, 168 (1953) |
| 13 | On the Diffusion of Decaying Particles in a Radial Electric Field | J. Keilson | J. Appl. Phys. <u>24</u> , 1397 (1953) |
| 14 | The Transient Response of Transistor Switching Circuits | I. L. Lebow
R. H. Baker | Proc. IRE <u>42</u> , 938 (1954) |
| 15 | On the Nature of the Transcendental Curves Associated with the Relativistic Trajectories of Charged Particles | L. Gold | J. Appl. Phys. <u>25</u> , 691 (1954) |
| 16 | Potential Distribution and Prevention of a Space-Charge-Induced Minimum . . . | G. C. Sponsler | J. Appl. Phys. <u>25</u> , 282 (1954) |
| 18 | Orbital Effect in Neutron-Electron Magnetic Scattering | W. H. Kleiner | Phys. Rev. <u>90</u> , 168 (1953) |

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| 21 | A Two-Electron Example of Ferromagnetism | J. C. Slater
H. Statz
G. F. Koster | Phys. Rev. <u>91</u> , 1323 (1953) |
| 22 | Exact Interpolation of Band-Limited Functions | A. Kohlenberg | J. Appl. Phys. <u>24</u> , 1432 (1953) |
| 23 | Direct Viewing of an Ultrasonic Beam in a Transparent Solid | F. L. McNamara
T. F. Rogers | J. Acoust. Soc. Am. <u>25</u> , 338 (1953) |
| 32 | Magnetic and Dielectric Amplifiers | D. A. Buck | Sec. III-C-3, <u>Dielectric Materials and Applications</u> , A. R. von Hippel, Ed. (Wiley/Technology Press, New York, 1954) |
| 33 | Eigenfunctions of S^2 by a Spin-Operator Method | G. W. Pratt, Jr. | Phys. Rev. <u>92</u> , 278 (1953) |
| 35 | The Refractive Index of Germane | M. Green
P. H. Robinson | J. Phys. Chem. <u>57</u> , 938 (1953) |
| 36 | A More Exact Treatment of the Equations Describing Dielectric Relaxation and Carrier Motion in Semiconductors | J. Keilson | J. Appl. Phys. <u>24</u> , 1198 (1953) |
| 37 | On Diffusion in an External Field and the Adjoint Source Problem | J. Keilson | Quart. Appl. Math. <u>12</u> , 435 (1955) |
| 42 | A Suggested Modification of Noise Theory | J. Keilson | Quart. Appl. Math. <u>12</u> , 71 (1954) |
| 43 | An Historical Note on the Autocorrelation Function | P. E. Green, Jr. | Proc. IRE (Correspondence) <u>41</u> , 1519 (1953) |
| 46 | Fused-Quartz Ultrasonic Delay-Line Memory | D. A. Spaeth
T. F. Rogers
S. J. Johnson § | Electronics <u>16</u> , No. 12, 151 (1953) |
| 47 | Rapid Interferometric Analysis of Germane-Hydrogen Mixtures | M. Green
P. H. Robinson | Anal. Chem. <u>25</u> , 1913 (1953) |
| 48 | Measurement of Permeability Tensor in Ferrites | J. O. Artman
P. E. Tannenwald | Phys. Rev. <u>91</u> , 1014 (1953) |
| 49 | Transistor Shift Registers | R. H. Baker
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397	On the Scattering of Radio Waves by Turbulent Fluctuations of the Atmosphere	F. Villars V. F. Weisskopf	Proc. IRE <u>43</u> , 1232 (1955)
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433	Effects of Growth Rate on Crystal Perfection and Lifetime in Germanium	A. D. Kurtz S. A. Kulin B. L. Averbach	J. Appl. Phys. <u>27</u> , 1287 (1956)
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449	Galvanomagnetic Theory for Electrons in Germanium and Silicon: Magnetoresistance in the High-Field Saturation Limit	L. Gold L. M. Roth	Phys. Rev. <u>103</u> , 61 (1956)
456	Estimating the Ratio of Steady Sinusoidal Signal to Random Noise from Experimental Data	M. L. Phillips	Proc. IRE (Correspondence) <u>44</u> , 692 (1956)
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480 R	Session on Rapid-Access Storage, Including the Use of Magnetic Cores for Storage and Switching	N. H. Taylor	Proc. IEE (London) <u>103</u> , 289 (1956)
482 R	Some Effects of Unequal Spatial Distribution on the Detectability of Radar Targets	P. E. Nicely G. A. Miller	J. Exptl. Psychol. <u>53</u> , 195 (1957)
488	On the Determination of the Phase of a Fourier Integral, II	E. J. Akutowicz	Proc. Am. Math. Soc. <u>8</u> , 234 (1957)

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516 R	Classical Boltzmann Theory of Cyclotron Resonance for Warped Surfaces	H. J. Zeiger B. Lax R. N. Dexter	Phys. Rev. <u>105</u> , 495 (1957)
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532	Measurement of Reproducibility	B. W. White E. Saltz	Psychol. Bull. <u>54</u> , 81 (1957)
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549	The Anisotropy of the Hot-Electron Problem in Semiconductors with Spheroidal Energy Surfaces	L. Gold	Phys. Rev. <u>104</u> , 1580 (1956)
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558 R	Microwave Propagation Well Beyond the Horizon from Marconi to the Present	T. J. Carroll	L'Onde Elec. (Paris) <u>37</u> , 421 (1957)
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1138 R	Resonance Isolator at 70 kMcps	L. C. Kravitz G. S. Heller	Proc. IRE (Correspondence) <u>47</u> , 331 (1959)
1143 R	Connections Plated With Wiring	E. A. Guditz	Electronics <u>32</u> , No. 51, 96 (1959)
1143A R	Lincoln Lab Builds Electronic Package Backwards	E. A. Guditz	Business Week (2 January 1960)
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1149	Oscillatory Magneto-Absorption in Gallium Antimonide	S. Zwerdling B. Lax K. J. Button L. M. Roth	J. Phys. Chem. Solids <u>9</u> , 320 (1959)
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1201	The Representation of Signals	R. M. Lerner	Trans. IRE, PGCT <u>CT-6</u> , 197 (1959); Trans. IRE, PGIT <u>IT-5</u> , 197 (1959)
1209 R	Transistorized Generator for Pulse Circuit Design	L. Neumann	Electronics <u>32</u> , No. 14, 47 (1959)
1210	The Magnetic Properties of Thin Films	J. B. Goodenough D. O. Smith	Am. Soc. Metals Seminar Volume, Chap. 7 (1959)
1211 R	Polynomial Codes Over Certain Finite Fields	I. S. Reed G. Solomon	J. Soc. Ind. Appl. Math. <u>8</u> , 300 (1960)
1216	Fine Structure in the Zeeman Effect of Excitons in Germanium	K. J. Button L. M. Roth W. H. Kleiner S. Zwerdling B. Lax	Phys. Rev. Letters <u>2</u> , 161 (1959)
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1397 R	Delay-Line Specifications for Matched-Filter Communications Systems	R. M. Lerner B. Reiffen H. Sherman	Trans. IRE, PGCP <u>CP-6</u> , 263 (1959)
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1399 R	Accuracy in Reconstructing the Arrangement of Elements Generating Kinetic Depth Displays	B. W. White G. E. Mueser	J. Exptl. Psychol. <u>60</u> , 1 (1960)
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1409	Material for Microwaves	B. Lax	Microwave J. <u>2</u> , 9 (1959)
1410 R	g Factor of Electrons in Germanium	L. M. Roth B. Lax	Phys. Rev. Letters <u>3</u> , 217 (1959)
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1786 R	The Negative Resistances in Junction Diodes	I. Hefni	Proc. IRE (Correspondence) <u>49</u> , 1427 (1961)
1788 R	The Dielectric Constant of Liquid Helium	C. E. Chase E. Maxwell W. E. Millett §	Physica <u>27</u> , 1129 (1961)
1789	Magnetism and the Chemical Bond	J. B. Goodenough	Magnetism and the Chemical Bond, Interscience Monographs on Chemistry, F. A. Cotton, Ed., Vol. I (Interscience-Wiley, New York, 1963)
1790 R	Existence in the Large of Parallelism Homomorphisms	R. Hermann	Trans. Am. Math. Soc. <u>108</u> , 170 (1963)
1791 R	Magnetic Field Dependence of the Superconducting Penetration Depth in Thin Specimens	D. H. Douglass, Jr.	Phys. Rev. <u>124</u> , 735 (1961)
1793 R	Millimeter Cyclotron Resonance Experiments in Diamond	C. J. Rauch	Phys. Rev. Letters <u>7</u> , 83 (1961)
1794 R	Solid-State Devices Other than Semiconductors	B. Lax J. G. Mavroides	Proc. IRE <u>50</u> , 1011 (1962)
1795 R	Oscillatory Magnetoabsorption in InSb Under High Resolution	S. Zwerdling W. H. Kleiner J. P. Theriault	J. Appl. Phys. <u>32S</u> , 2418 (1961)
1796 R	Noncoherent Switching in Permalloy Films	D. O. Smith K. J. Harte	J. Appl. Phys. <u>33</u> , 1399 (1962)
1797 R	Crystallographic Polarity in the II-VI Compounds	E. P. Warekois M. C. Lavine A. N. Mariano H. C. Gatos	J. Appl. Phys. <u>33</u> , 690 (1962)
1798	The Structure and Switching of Permalloy Films	D. O. Smith	Chap. 34, Magnetism: a Treatise on Modern Theory and Materials, H. Suhl and G. T. Rado, Eds. (Academic Press, New York, 1963)
1799 R	Proposal for Magnetic Domain-Wall Storage and Logic	D. O. Smith	Trans. IRE, PGEC <u>EC-10</u> , 708 (1961)
1802 R	Tangential Limits of Functions of the Class S_α	J. R. Kinney	Proc. Am. Math. Soc. <u>14</u> , 68 (1963)
1803 R	Compression and Coding	E. Weiss	Trans. IRE, PGIT <u>IT-8</u> , 256 (1962)

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1805 R	Signal Sets with Uniform Correlation Properties	J. Max	J. Soc. Ind. Appl. Math. <u>10</u> , 113 (1962)
1808 R	Radiation Damage Experiments on PbS Infrared Detectors	R. R. Billups W. L. Gardner	Infrared Phys. <u>1</u> , 199 (1961)
1809 R	Sequential Decoding for Discrete Input Memoryless Channels	B. Reiffen	Trans. IRE, PGIT <u>IT-8</u> , 208 (1962)
1810 R	Effects of the Earth's Magnetic Field on the Orbit of a Charged Satellite	I. I. Shapiro H. M. Jones	J. Geophys. Res. <u>66</u> , 4123 (1961)
1812 R	Electrochemical and Adsorption Measurements on Single Crystals: The Germanium-Iodide Solution System	W. W. Harvey H. J. LaFleur H. C. Gatos	J. Electrochem. Soc. <u>109</u> , 155 (1962)
1813A R	Radiation Effects in $\text{CaF}_2\text{:Sm}$	J. R. O'Connor H. A. Bostick	J. Appl. Phys. <u>33</u> , 1868 (1962)
1815 R	A Note on a New Class of Codes	G. Solomon	Inform. and Control <u>4</u> , 364 (1961)
1816 R	Classical Theory of the Ground Spin-State in Cubic Spinels	D. H. Lyons T. A. Kaplan K. Dwight N. Menyuk	Phys. Rev. <u>126</u> , 540 (1962)
1817 R	A Versatile Stochastic Model of a Function of Unknown and Time Varying Form	H. J. Kushner	J. Math. Anal. Appl. <u>5</u> , 150 (1962)
1818	Computer Techniques for the Study of Patterns in the Electroencephalogram	B. G. Farley L. S. Frishkopf W. A. Clark, Jr. J. T. Gilmore, Jr.	Trans. IRE, PGBME <u>BME-9</u> 4 (1962)
1819 R	Characteristics of the {III} Surfaces of the III-V Inter-metallic Compounds: III The Effects of Surface Active Agents on InSb and the Identification of Antimony Edge Dislocations	M. C. Lavine H. C. Gatos M. C. Finn	J. Electrochem. Soc. <u>108</u> , 974 (1961)
1820 R	Interband Transitions for Metals in a Magnetic Field	M. S. Dresselhaus G. F. Dresselhaus	Phys. Rev. <u>125</u> , 499 (1962)
1821	Microwave Devices	K. J. Button	Chap. 25, <u>Magnetism: a Treatise on Modern Theory and Materials</u> , H. Suhl and G. T. Rado, Eds. (Academic Press, New York, 1963)
1822 R	Visual Acuity under Blue Illumination	R. T. Mitchell R. R. Mitchell	Trans. IRE, PGHFE <u>HFE-3</u> , 14 (1962)

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1825 R	Eyes and Ears for Computers	E. E. David, Jr. § O. G. Selfridge	Proc. IRE <u>50</u> , 1093 (1962)
1826	Magnetism and Crystal Structure in Nonmetals	J. B. Goodenough	Chap. 9, <u>Magnetism: a Treatise on Modern Theory and Materials</u> , H. Suhl and G. T. Rado, Eds. (Academic Press, New York, 1963)
1828 R	Nonparabolic Conduction Band in HgSe and HgSe _{0.5} TE _{0.5}	G. B. Wright A. J. Strauss T. C. Harman	Phys. Rev. <u>125</u> , 1534 (1962)
1830A R	The Multiplicity of Thought	U. Neisser	Brit. J. Psychol. <u>54</u> , 1 (1963)
1831 R	Diurnal Power Variations of the Earth-Ionosphere Cavity Modes and Their Relationship to Worldwide Thunderstorm Activity	M. Balser C. A. Wagner	J. Geophys. Res. <u>67</u> , 619 (1962)
1832A R	A New Teehnique for Investiga-tion of Meteor Echoes at UHF	G. H. Pettengill	J. Geophys. Res. <u>67</u> , 409 (1962)
1833 R	Theory of Bloch Electrons in a Magnetic Field	L. M. Roth	J. Phys. Chem. Solids <u>23</u> , 433 (1962)
1834	Lifetimes of Orbiting Dipoles	I. I. Shapiro H. M. Jones	Science <u>134</u> , 973 (1961)
1835 R	Mechanical Developer for Mass Spectrographic Plates	E. B. Owens	Rev. Sci. Instr. <u>32</u> , 1420 (1961)
1840 R	Interband Transitions in Superconductors	G. Dresselhaus M. S. Dresselhaus	Phys. Rev. <u>125</u> , 1212 (1962)
1841 R	An RF Multiple Beam-Forming Technique	W. P. Delaney	Trans. IRE, PGMIL <u>MIL-6</u> , 179 (1962)
1841A	Steering Radar Antenna Beams with a Lossless R-F Matrix	W. P. Delaney	Electronics <u>35</u> , No. 28, 50 (1962)
1847 R	Tunnel Diode Burnout from the Video Transient of Gaseous Noise Sources	C. Blake W. C. Ince	Trans. IRE, PGMTT <u>MTT-10</u> 88 (1962)
1848 R	Computer Program for Pitch Extraetion	B. Gold	J. Acoust. Soc. Am. <u>34</u> , 916 (1962)
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1875 R	Computer Applications to Psychological Research: Studies in Perception	B. W. White	Behavioral Sci. <u>7</u> , 396 (1962)
1877 R	Decision Time Without Reaction Time: Experiments in Visual Scanning	U. Neisser	Am. J. Psychol. <u>76</u> , 376 (1963)
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1880B	An Experimental Study of Bibliographical Coupling Between Technical Papers	M. M. Kessler	Trans. IEEE, PTGIT <u>IT-9</u> , 49 (1963)
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1884 R	High Magnetic Fields and High Frequencies	B. Lax	Microwave J. <u>5</u> , No. 2, 13 (1962)
1885 R	Adaptation of Lattice Vacancy Theory to Gas Adsorption Phenomena	J. M. Honig C. R. Mueller §	J. Phys. Chem. <u>66</u> , 1305 (1962)
1886 R	Ferro- and Antiferromagnetism in a Cubic Cluster of Spins	G. F. Dresselhaus	Phys. Rev. <u>126</u> , 1664 (1962)
1887 R	Hg-Se System	A. J. Strauss L. B. Farrell	J. Inorg. Nucl. Chem. <u>24</u> , 1211 (1962)
1888 R	Infrared Oscillations from $\text{CaF}_2:\text{U}^{+3}$ and $\text{BaF}_2:\text{U}^{+3}$ Masers	H. A. Bostick J. R. O'Connor	Proc. IRE <u>50</u> , 219 (1962)

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1891 R	Measurement of Turbulent Transition, Motion, Statistics, and Gross Radial Growth behind Hypervelocity Objects	R. E. Slattery W. G. Clay	Phys. Fluids <u>5</u> , 849 (1962)
1892 R	Array Radars - A Survey of Their Potential and Their Limitations	J. L. Allen	Microwave J. <u>5</u> , No. 5, 67 (1962)
1893 R	Quantitative Measurement of Semiconductor Homogeneity from Plasma Edge	D. F. Edwards P. D. Maker §	J. Appl. Phys. <u>33</u> , 2466 (1962)
1894 R	Negative Resistance InSb Diodes with Large Magnetic Field Effects	I. Melngailis R. H. Rediker	J. Appl. Phys. <u>33</u> , 1892 (1962)
1895 R	Likelihood Ratios for Stochastic Processes Related by Groups of Transformations	T. S. Pitcher	Illinois J. Math. <u>7</u> , 396 (1963)
1896 R	Hierarchies in Concept Attainment	U. Neisser P. Weene	J. Exptl. Psychol. <u>64</u> , 640 (1962)
1897A R	Riccati Algebras	J. J. Levin S. S. Shatz	Duke Math. J. <u>30</u> , 579 (1963)
1898 R	Communication Theory vs Communications	R. M. Lerner	Trans. IRE, PGIT <u>IT-8</u> , 325 (1962)
1901 R	Nonlinear Interband and Plasma Effects in Solids	B. Lax J. G. Mavroides D. F. Edwards	Phys. Rev. Letters <u>8</u> , 166 (1962)
1903 R	Idler Circuits in Varactor Frequency Multipliers	B. L. Diamond	Trans. IEEE, PTGCT <u>CT-10</u> , 98 (1963)
1904 R	Parametric Amplification and Oscillation at Optical Frequencies	R. H. Kingston	Proc. IRE (Correspondence) <u>50</u> , 472 (1962)
1905	A Heuristic Program that Solves Symbolic Integration Problems in Freshman Calculus	J. R. Slagle	J. Assoc. Comp. Mach. <u>10</u> , 507 (1963)
1907 R	An Electron Diffraction Technique for Identifying Oxide Layers on Crystal Surfaces	T. P. Turnbull	Norelco Reporter <u>9</u> , 77 (1962)
1908 R	Gibbs' Phase Rule and Euler's Formula	J. Mindel	J. Chem. Educ. <u>39</u> , 512 (1962)
1909 R	Time Optimal Control for Plants with Numerator Dynamics	M. Athanassiades P. L. Falb R. E. Kalman § E. B. Lee §	Trans. IRE, PGAC <u>AC-7</u> , 47 (1962)

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1913 R	Ferro- and Antiferromagnetism in a Simple Cubic Lattice	G. F. Dresselhaus	Phys. Rev. <u>127</u> , 1137 (1962)
1914 R	Synthesis and Superconducting Properties of Nb ₃ Sn ₂ and Nb ₂ Sn ₃	T. B. Reed H. C. Gatos	J. Appl. Phys. <u>33</u> , 2657 (1962)
1915 R	Crystalline Structure and Surface Reactivity	H. C. Gatos	Science <u>137</u> , 311 (1962)
1916 R	Some Statistical Properties of Pulsed Oblique HF Ionospheric Transmissions	M. Balser W. B. Smith	J. Research Natl. Bur. Standards <u>66D</u> , 721 (1962)
1917 R	On Frequency Variations of the Earth-Ionosphere Cavity Modes	M. Balser C. A. Wagner	J. Geophys. Res. <u>67</u> , 4081 (1962)
1919 R	A Radar Investigation of Venus	G. H. Pettengill H. W. Briscoe J. V. Evans E. Gehrels G. M. Hyde L. G. Kraft R. Price W. B. Smith	Astron. J. <u>67</u> , 181 (1962)
1920 R	Note on the Creation of Pitch through Binaural Interaction	N. I. Durlach	J. Acoust. Soc. Am. <u>34</u> , 1096 (1962)
1921 R	Thermal Conduction in Liquid Helium II. I. Temperature Dependence	C. E. Chase	Phys. Rev. <u>127</u> , 361 (1962)
1922	Theory of Galvano-Thermomagnetic Energy Conversion Devices: I. Generators	T. C. Harman J. M. Honig	J. Appl. Phys. <u>33</u> , 3178 (1962)
1923A R	Optimal Control for Linear Time-Invariant Plants with Time, Fuel and Energy Constraints	M. Athanassiades	Trans. IEEE, Appl. and Indust. <u>82</u> , 8 (1963)
1924 R	An Alpha-State Finite Automaton for Multiplication by Alpha	J. M. Winett	Trans. IRE, PGEC <u>EC-11</u> , 412 (1962)
1925 R	Energy of a Vortex Ring in a Tube and Critical Velocities in Liquid Helium II	J. C. Fineman C. E. Chase	Phys. Rev. <u>129</u> , 1 (1963)
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1987 R	Comments on Similarity Considerations for Varactor Multipliers	P. Penfield § B. L. Diamond	Microwave J. <u>5</u> , No. 9, 22 (1962)
1988	A Lunar Theory Reasserted – A Rebuttal	J. V. Evans	J. Research Natl. Bur. Standards <u>67D</u> , 1 (1963)
1990 R	Exact Distribution Functions of Test Length for Sequential Processors with Discrete Input Data	J. G. Proakis	Trans. IEEE, PTGIT <u>IT-9</u> , 182 (1963)
1991 R	Operating Characteristics of Transverse (Nernst) Anisotropic Galvano-Thermomagnetic Generators	T. C. Harman J. M. Honig	Appl. Phys. Letters <u>1</u> , 31 (1962)
1992 R	Enhancement of Radar Reflectivity Associated with the Lunar Crater Tycho	G. H. Pettengill J. C. Henry	J. Geophys. Res. <u>67</u> , 4881 (1962)
1993 R	Velocity of Sound in Liquid Helium at Low Temperatures	W. M. Whitney § C. E. Chase	Phys. Rev. Letters <u>9</u> , 243 (1962)
1994 R	The Scattering Behavior of the Moon at Wavelengths of 3.6, 68 and 784 Centimeters	J. V. Evans G. H. Pettengill	J. Geophys. Res. <u>68</u> , 423 (1963)
1995 R	Operating Characteristics of Nernst Refrigerators for Anisotropic Materials	T. C. Harman J. M. Honig	J. Appl. Phys. <u>34</u> , 239 (1963)
1997 R	On the Sample Functions of Processes Which Can Be Added to a Gaussian Process	T. S. Pitcher	Ann. Math. Stat. <u>34</u> , 329 (1963)
1998	Golden Years of Applied Science	B. Lax	Microwave J. <u>5</u> , No. 10, 13 (1962)
2000 R	Nonlinear Effects in Solids	P. L. Kelley	J. Phys. Chem. Solids <u>24</u> , 607 (1963)
2001 R	Magnetoreflexion in Bismuth	R. N. Brown J. G. Mavroides B. Lax	Phys. Rev. <u>129</u> , 2055 (1963)
2004 R	Low-Cost Thermocouple Potentiometer	F. T. Worrell	Am. J. Phys. <u>31</u> , 216 (1963)
2005 R	High-Field Superconductivity in Niobium	S. H. Autler E. S. Rosenblum K. H. Gooen §	Phys. Rev. Letters <u>9</u> , 489 (1962)

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2006 R	Routing Procedures in Communications Networks. Part I: Random Procedures; Part II: Directory Procedures	R. T. Prosser	Trans. IRE, PGCS <u>CS-10</u> , 322 (1962)
2007A R	Experimental Study of Charge Drag on Orbiting Dipoles	I. I. Shapiro I. Maron § L. G. Kraft, Jr.	J. Geophys. Res. <u>68</u> , 1845 (1963)
2008 R	Switching Thresholds of Weakly Coupled Ferromagnetic Domains	K. J. Harte D. O. Smith	J. Appl. Phys. <u>34</u> , 442 (1963)
2009 R	The Microwave Spectrum of Oxygen in the Earth's Atmosphere	M. L. Meeks A. E. Lilley §	J. Geophys. Res. <u>68</u> , 1683 (1963)
2012 R	Computation with Finite Fields	T. C. Bartee D. I. Schneider	Inform. and Control <u>6</u> , 79 (1963)
2013 R	Helium-Cooled L-Band Parametric Amplifier	C. Blake L. W. Bowles E. P. McCurley J. A. Nuttall	Appl. Phys. Letters <u>2</u> , 17 (1963)
2014 R	Galvano-Thermomagnetic Phenomena. IV. Application to Anisotropic Adiabatic Nernst Generators	T. C. Harman J. M. Honig B. M. Tarmy	J. Appl. Phys. <u>34</u> , 2215 (1963)
2015 R	The Degarbler – A Program for Correcting Machine-Read Morse Code	C. K. McElwain M. B. Evens	Inform. and Control <u>5</u> , 368 (1962)
2016	Correlated Orientation Sounds and Ear Movements of Horseshoe Bats	D. A. Cahlander F. A. Webster § D. R. Griffin § D. C. Dunning §	Nature <u>196</u> , 1185 (1962)
2018 R	Criteria for the Optimization of the Nernst Figure of Merit	T. C. Harman	Appl. Phys. Letters <u>2</u> , 13 (1962)
2019 R	Pitch-Induced Spectral Distortion in Channel Vocoders	B. Gold J. Tierney	J. Acoust. Soc. Am. <u>35</u> , 730 (1963)
2021A R	Convergent Perturbation Expansions for Certain Wave Operators	R. T. Prosser	J. Math. Phys. <u>5</u> , 708 (1964)
2022 R	Key to Faster Computers: Ten-Nanosecond Amplifier	K. H. Konkle J. E. Laynor	Electronics <u>35</u> , No. 50, 39 (1962)
2023 R	A Survey of Varactor Diode Parametric Amplifier Characteristics	C. Freed	Microwave J. <u>6</u> , No. 1, 75 (1963)
2024 R	The Imitation of Man by Machine	U. Neisser	Science <u>139</u> , 193, (1963)

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W. H. Kleiner | Surface Sci. <u>1</u> , 71 (1964) |
| 2026
R | Aberration Theories for Semi-automatic Lens Design by Electronic Computers. I. Preliminary Remarks; II. A Specific Computer Program | D. S. Grey | J. Opt. Soc. Am. <u>53</u> , 672 (1963) |
| 2028
R | Injection Electroluminescence in Gallium Antimonide | A. R. Calawa | J. Appl. Phys. <u>34</u> , 4660 (1963) |
| 2034
R | Is the Slug Necessary? | F. T. Worrell | Am. J. Phys. <u>31</u> , 305 (1963) |
| 2032-I
R | Theory of Semiconductor Maser of GaAs | A. L. McWhorter
H. J. Zeiger
B. Lax | J. Appl. Phys. <u>34</u> , 235 (1963) |
| 2032-II
R | Semiconductor Maser of GaAs | T. M. Quist
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A. L. McWhorter
H. J. Zeiger | Appl. Phys. Letters <u>1</u> , 91 (1962) |
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R | Nonlinear Oscillations of Fixed Period | J. J. Levin
S. S. Shatz | J. Math. Anal. Appl. <u>7</u> , 284 (1963) |
| 2034
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| 2035 | Cyclotron Resonance and Magneto-Optical Effects in Semiconductors | B. Lax | <u>Proceedings of the International School of Physics Enrico Fermi</u> , (Academic Press, New York, 1963) |
| 2036
R | Phenomena at a Solid-Melt Interface | J. R. O'Connor | J. Electrochem. Soc. <u>110</u> , 338 (1963) |
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R | Oscillatory Quantum Effects in the Ultrasonic Velocity in Bismuth | J. G. Mavroides
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Y. Shapira § | Phys. Rev. Letters <u>9</u> , 451 (1962) |
| 2038
R | Effect of a High-Altitude Nuclear Detonation on the Earth-Ionosphere Cavity | M. Balser
C. A. Wagner | J. Geophys. Res. <u>68</u> , 4115 (1963) |
| 2039
R | Galvano-Thermomagnetic Effects in Semiconductors and Semimetals. III. The Standard and Kane Band Models | T. C. Harman
J. M. Honig
B. M. Tarmy | J. Phys. Chem. Solids <u>24</u> , 835 (1963) |
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| 2041A
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C. S. Roberts § | Trans. IEEE, PTG-MTT <u>MTT-11</u> , 543 (1963) |
| 2042
R | Color Centers in Alkaline Earth Fluorides | J. R. O'Connor
J. H. Chen § | Phys. Rev. <u>130</u> , 1790 (1963) |
| 2043
R | High Speed Heterojunction Photodiodes and Beam-of-Light Transistors | R. H. Rediker
T. M. Quist
B. Lax | Proc. IEEE (Correspondence) <u>51</u> , 218 (1963) |
| 2044
R | Likelihood Ratios for Stochastic Processes Related by Groups of Transformations, II | T. S. Pitcher | Illinois J. Math <u>8</u> , 271 (1964) |
| 2045
R | High-Pressure Tetragonal Phase of InSb | M. D. Banus
R. E. Hanneman
A. N. Mariano
E. P. Warekoiis
H. C. Gatos
J. A. Kafalas | Appl. Phys. Letters <u>2</u> , 35 (1963) |
| 2046A
R | Asymptotically Optimum Quantizers and Optimum Analog to Digital Converters for Continuous Signals | L. Bluestein | Accepted Trans. IEEE, PTGIT |
| 2048
R | Modern Radar | H. G. Weiss | Intl. Sci. and Tech. No. 13, 75 (1963) |
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R | Heat-Transfer Intensity from Induction Plasma Flames and Oxy-Hydrogen Flames | T. B. Reed | J. Appl. Phys. <u>34</u> , 2266 (1963) |
| 2050
R | Magnetoelastic Sensitivities in Evaporated and Electrodeposited Permalloy Films | I. W. Wolf §
T. S. Crowther | J. Appl. Phys. <u>34</u> , 1205 (1963) |
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R | Criterion for Continuous Amplitude Oscillations of Optical Masers | J. I. Kaplan | J. Appl. Phys. <u>34</u> , 3411 (1963) |
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R | Radar Observations of Venus, 1961 and 1959 | W. B. Smith | Astron. J. <u>68</u> , 15 (1963) |
| 2055
R | Neurophysiological Investigations of the Bat, <u>Myotis lucifugus</u> , Stimulated by Frequency Modulated Acoustical Pulse | A. D. Grinnell §
J. J. G. McCue | Nature <u>198</u> , 453 (1963) |
| 2056
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A. L. McWhorter | Phys. Rev. Letters <u>10</u> , 20 (1963) |

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2057 R	On the Minimum <u>a priori</u> Information Necessary to Construct Adaptive Filters for Stationary Time Series	H. J. Kushner	Trans. IEEE, PTGAC <u>AC-8</u> , 179 (1963)
2059 R	Signal and Context Components of Word-Recognition Behavior	A. N. Stowe W. P. Harris D. B. Hampton §	J. Acoust. Soc. Am. <u>35</u> , 639 (1963)
2060 R	Time-, Fuel-, and Energy-Optimal Control of Nonlinear Norm-Invariant Systems	M. Athans P. L. Falb R. T. Laocss §	Trans. IEEE, PTGAC <u>AC-8</u> , 196 (1963)
2061A R	Cryogenics for the Electronics Engineer	J. W. Meyer A. M. Rieh	Electronics <u>36</u> , No. 35, 29 (1963)
2062 R	Second Harmonic Generation in Solids	P. L. Kelley	J. Phys. Chem. Solids <u>24</u> , 1113 (1963)
2064 R	The Orthomatch Data Transmission System	B. G. Kuhn K. H. Morey W. B. Smith	Trans. IEEE, PTGSET <u>SET-9</u> , 63 (1963)
2065	New Light Sources	B. Lax	<u>McGraw-Hill Yearbook of Science and Technology</u> (1963)
2066 R	Measurement of Internal Friction in Thin Films	G. P. Weiss D. O. Smith	Rev. Sci. Instr. <u>34</u> , 522 (1963)
2067 R	Theory of Galvano-Thermomagnetic Energy Conversion Devices. V. Devices Constructed from Anisotropic Materials	T. C. Harman J. M. Honig B. M. Tarmy	J. Appl. Phys. <u>34</u> , 2225 (1963)
2068 R	Anomalous Thermoelectric Power as Evidence for Two Valence Bands in SnTe	R. F. Brebrick A. J. Strauss	Phys. Rev. <u>131</u> , 104 (1963)
2069 R	The Influence of Anisotropy Dispersion on Magnetic Properties of Ni-Fe Films	M. S. Cohen	J. Appl. Phys. <u>34</u> , 1841 (1963)
2070 R	Instantaneous Spectra and Ambiguity Functions	M. J. Levin	Trans. IEEE, PTGIT <u>IT-10</u> , 95 (1964)
2073 R	Equalization and Cancellation Theory of Binaural Masking-Level Differences	N. I. Durlach	J. Acoust. Soc. Am. <u>35</u> , 1206 (1963)
2074 R	A Note on "Very Noisy" Channels	B. Reiffen	Inform. and Control <u>6</u> , 126 (1963)
2075 R	On a Nonlinear Delay Equation	J. J. Levin J. A. Noel §	J. Math. Anal. Appl. <u>8</u> , 31 (1964)
2076 R	Optical Communications Employing Infrared Emitting Diodes and FM Techniques	E. J. Chatterton	Proc. IEEE (Correspondence) <u>51</u> , 612 (1963)

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R | Interactions Between a Hyper-sonic Wave and a Following Hypersonic Projectile | R. E. Slattery
W. G. Clay
R. R. Stevens | AIAA J. <u>1</u> , 974 (1963) |
| 2079
R | A Low-Level Peak Holding Circuit Using an Operational Amplifier | K. H. Morey
K. E. Perry | Proc. IEEE (Correspondence) <u>51</u> , 953 (1963) |
| 2083
R | Matched Filter Approximation Errors | M. J. Levin | Trans. IEEE, PTGCS <u>CS-11</u> , 254 (1963) |
| 2084 | Encapsulating Precision Antennas in Plastic | C. A. Pappas
E. B. Murphy | Electronics <u>36</u> , No. 10, 68 (1963) |
| 2085A
R | Nernst and Seebeck Coefficients in Bismuth at High Magnetic Fields | T. C. Harman
J. M. Honig | Adv. Energy Conversion <u>3</u> , 525 (1963) |
| 2086
R | The Thermodynamic Activity of the Semiconductor | W. W. Harvey | J. Phys. Chem. Solids <u>24</u> , 701 (1963) |
| 2087
R | Geomagnetic Effects on the Frequency Spectrum of Incoherent Backscatter Observed at 425 Mcps at Trinidad | V. C. Pineo
D. P. Hynek
G. H. Millman § | J. Geophys. Res. <u>68</u> , 2695 (1963) |
| 2088
R | Adaptation to Displaced Vision: Visual, Motor, or Proprioceptive Change? | C. S. Harris § | Science <u>140</u> , 812 (1963) |
| 2089A
R | Galvano-Thermomagnetic Effects in Multi-Band Models | J. M. Honig
T. C. Harman | Adv. Energy Conversion <u>3</u> , 529 (1963) |
| 2090
R | Thermal Conduction in Liquid Helium II. II. Effects of Channel Geometry | C. E. Chase | Phys. Rev. <u>131</u> , 1898 (1963) |
| 2091
R | Quantitative Mass Spectrography of Solids | E. B. Owens
N. A. Giardino | Anal. Chem. <u>35</u> , 1172 (1963) |
| 2092 | Chemical Behavior of Semiconductors: Etching Characteristics | H. C. Gatos
M. C. Lavine | <u>Progress in Semiconductors</u> , Vol. 7 (Wiley, New York, 1963) |
| 2094
R | Preparation of Actual-Size Printed Wiring Layouts | E. A. Guditz | Trans. IEEE, PTGPEP <u>PEP-7</u> , 24 (1963) |
| 2096
R | Radar Astronomy | G. H. Pettengill | Trans. Am. Geophys. Un. <u>44</u> , (1963) |
| 2097
R | Liquid-Helium Temperature Regulator | C. Blake
C. E. Chase | Rev. Sci. Instr. <u>34</u> , 984 (1963) |
| 2098
R | Small Phase-Shift Vacuum Can for Low Temperature ac Susceptibility Measurements | M. Strongin
E. Maxwell | Rev. Sci. Instr. <u>34</u> , 590 (1963) |

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2099 R	Relativistic Potential Scattering	R. T. Prosser	J. Math. Phys. <u>4</u> , 1048 (1963)
2100 R	Exchange Energy of an Elec- tron Gas in a Periodic Potential	L. Eyges	Phys. Rev. <u>130</u> , 2218 (1963)
2101 R	The Influence of Terrain Shielding on Radio Wave Propagation at 8000 Mc	W. E. Morrow D. Karp R. V. Locke, Jr. W. C. Provencher	Proc. IEEE (Correspondence) <u>51</u> , 955 (1963)
2102 R	Modulated Infrared Diode Spans 30 Miles	R. J. Keyes	Electronics <u>36</u> , No. 14, 38 (1963)
2103 R	Filamentary Structure in Superconductors	E. Maxwell M. Strongin	Phys. Rev. Letters <u>10</u> , 212 (1963)
2104	Field Experiments Pertaining to Hypersonic Wakes and Trails	S. Edelberg	Accepted AIAA J.
2105 R	Error Statistics and Coding for Digital Data Transmission over Telephone and Teletype Circuits	A. B. Fontaine	Proc. IEEE (Correspondence) <u>51</u> , 474 (1963)
2106 R	A Lower Bound on Stability in Phase-Locked Loops	H. L. Van Trees	Inform. and Control <u>6</u> , 195 (1963)
2108 R	A Proposed UHF Transistor Using an Electroluminescent Emitter and a Collector- Base Heterojunction	A. G. Foyt	Proc. IEEE (Correspondence) <u>51</u> , 853 (1963)
2109 R	The Resistance of Bats to Jamming	D. R. Griffin § J. J. G. McCue A. D. Grinnell §	J. Exptl. Zoology <u>152</u> , 229 (1963)
2111 R	Prototypes for Use in Broad- banding Reflection Amplifiers	W. J. Getsinger	Trans. IEEE, PTG-MTT <u>MTT-11</u> , 486 (1963)
2112	Directed Heating with Atoms, Electrons and Photons	T. B. Reed	ASM Technical Report No. NY9.1.62 (Natl. Metal Cong., New York, 1962)
2113 R	Application of Sequential Decoding to High-Rate Data Communication on a Tele- phone Line	I. L. Lebow P. G. McHugh A. C. Parker P. Rosen J. M. Wozencraft §	Trans. IEEE, PTGIT <u>IT-9</u> , 124 (1963)
2115 R	Acoustical Control of Airborne Interceptions by Bats	F. A. Webster §	Proc. Intl. Cong. on Technology and Blindness, Vol. 1, New York, June 1962
2116 R	The Reaction of Rare Earth Oxides with a High Tempera- ture Form of Rhodium (III) Oxide	A. Wold R. J. Arnott W. Croft	J. Inorg. Chem. <u>2</u> , 972 (1963)

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D. B. Rogers | J. Phys. Chem. Solids <u>25</u> , 161 (1964) |
| 2119
R | Observations of Ionospheric Movements by Incoherent Scattering | G. H. Millman §
V. C. Pineo
D. P. Hynek | J. Geophys. Res. <u>68</u> , 3323 (1963) |
| 2120
R | Segal's Quantization Procedure | R. T. Prosser | J. Math. Phys. <u>5</u> , 701 (1964) |
| 2122
R | Electron Paramagnetic Resonance of Cr^{3+} in SnO_2 | W. H. From | Phys. Rev. <u>131</u> , 961 (1963) |
| 2123
R | On the Dynamical Equations of Conditional Probability Density Functions, with Applications to Optimal Stochastic Control Theory | H. J. Kushner | J. Math. Anal. Appl. <u>8</u> , 332 (1964) |
| 2124
R | Equivalence and Antiequivalence of Irreducible Sets of Operators. I. Finite Dimensional Spaces | J. S. Lomont
H. E. Moses
K. Yu § | J. Math. Phys. <u>4</u> , 420 (1963) |
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| 2128
R | Effects of Sunlight Pressure on Air Density Determinations Involving Cylindrical Satellites | I. I. Shapiro | J. Geophys. Res. <u>68</u> , 5349 (1963) |
| 2129
R | Negative Anisotropy in Nickel-Iron Films | D. O. Smith | Appl. Phys. Letters <u>2</u> , 191 (1963) |
| 2130A
R | Scattering of Electromagnetic Waves from Dielectric Coated Conducting Spheres | J. Rheinstein | Trans. IEEE, PTGAP <u>AP-12</u> , 334 (1964) |
| 2131
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G. B. Wright
W. E. Krag
T. M. Quist
H. J. Zeiger | Phys. Rev. Letters <u>10</u> , 472 (1963) |
| 2133
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| 2134 | Infinite Dimensional Control Problems. I. On the Closure of the Set of Attainable States for Linear Systems | P. L. Falb | Accepted J. Math. Anal. Appl. |
| 2136 | Compounds with the B31 Structure. II. Magnetic Properties of MnP | E. E. Huber, Jr.
D. H. Ridgley | Accepted Phys. Rev. |

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D. B. Rogers
A. Wold | J. Phys. Chem. Solids <u>24</u> , 1535 (1963) |
| 2138
R | Quantum Theory of Kinetic Equations for Electrons in Phonon Fields | P. N. Argyres | Phys. Rev. <u>132</u> , 1527 (1963) |
| 2139 | Maser Action in InAs Diodes | I. Melngailis | Appl. Phys. Letters <u>2</u> , 176 (1963) |
| 2140
R | Recall as a Search Process | D. B. Yntema
F. P. Trask | J. Verb. Learning and Verb. Behav. <u>2</u> , 65 (1963) |
| 2141
R | Second-Order Exchange Interactions from Spin Wave Resonance | R. Weber
P. E. Tannenwald | J. Phys. Chem. Solids <u>24</u> , 1357 (1963) |
| 2142
R | Fast AGC Amplifier Locks Monopulse Radar on Target | W. W. Smith | Electronics <u>36</u> , No. 39, 34 (1963) |
| 2143A
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J. H. Chen § | J. Phys. Chem. Solids <u>24</u> , 1382 (1963) |
| 2144
R | Early Synchrotron Radiation Resulting from the July 9 High-Altitude Nuclear Detonation | M. Balser
J. H. Pannell | J. Geophys. Res. <u>68</u> , 4119 (1963) |
| 2145
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P. L. Falb | Trans. IEEE, PTGAC <u>AC-8</u> , 379 (1963) |
| 2147
R | The Assignment of Wave Functions to Energy Densities and Probability Densities | J. S. Lomont
H. E. Moses | Nuovo Cimento <u>30</u> , 1291 (1963) |
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R. H. Rediker | Appl. Phys. Letters <u>2</u> , 202 (1963) |
| 2151 | Parametric Upconverter Receiving Array | H. J. Pratt, Jr.
N. G. Damocogna § | Accepted Microwave J. |
| 2152
R | Semiconductor Lasers | B. Lax | Science <u>141</u> , 1247 (1963) |
| 2153
R | Microwave Ultrasonics | P. E. Tannenwald | Microwave J. <u>6</u> , No. 12, 61 (1963) |
| 2155
R | Properties of GaAs Alloy Diodes | R. H. Rediker
T. M. Quist | Solid-State Electron. <u>6</u> , 657 (1963) |
| 2156
R | A Free-Space Method of Measuring Radar Cross Section in the Laboratory | P. C. Fritsch | Proc. IEEE (Correspondence) <u>51</u> , 1271 (1963) |

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2157 R	Some Interactions Between Vacuum Gauges	F. T. Worrell	Rev. Sci. Instr. <u>34</u> , 1352 (1963)
2158 R	Infrared and Visible Light Emission from Forward-Biased p-n Junctions	R. H. Rediker	Solid State Des. <u>4</u> , No. 8, 19 (1963)
2159	Parameter Estimation for Stochastic Processes	T. S. Pitcher	Accepted Acta Math.
2161 R	High-Power Low-Density Induction Plasmas	T. B. Reed	J. Appl. Phys. <u>34</u> , 3146 (1963)
2162 R	Measurement of Thermoelectric Materials and Devices	T. C. Harman	Semiconductor Prod. <u>6</u> , No. 9, 13 (1963)
2163 R	Nernst-Ettingshausen (Transverse) Energy Conversion	T. C. Harman J. M. Honig	Semiconductor Prod. <u>6</u> , No. 7, 19 (1963)
2165	VLF and LF Fields Propagating Near and Into a Rough Sea	R. M. Lerner J. Max	J. Research Natl. Bur. Standards
2166A R	Searching for Ten Targets Simultaneously	U. Feisser R. Novick § R. Lazar §	Percept. and Motor Skills <u>17</u> , (1963)
2167 R	Electromagnetic Theory of the Semiconductor Junction Laser	A. L. McWhorter	Solid-State Electron. <u>6</u> , 417 (1963)
2168 R	New Method for Investigating Micrometeoroid Fluxes	I. I. Shapiro	J. Geophys. Res. <u>68</u> , 4697 (1963)
2169	An Iterative Procedure for Computing Time-Optimal Controls	H. K. Knudsen	Trans. IEEE, PTGAC <u>AC-9</u> , 23 (1964)
2170 R	Complex AC Susceptibility of Some Superconducting Alloys	M. Strongin E. Maxwell	Phys. Letters <u>6</u> , 49 (1963)
2171 R	Units in Vacuum Measurements	F. T. Worrell	Nature <u>199</u> , 476 (1963)
2173 R	Comparison of Line and Square Source Near Fields	L. J. Rieardi R. C. Hansen §	Trans. IEEE, PTGAP <u>AP-11</u> , 711 (1963)
2175 R	Orbital Lifetime of the West Ford Dipoles	H. M. Jones C. W. Perkins I. I. Shapiro	Science <u>140</u> , 1173 (1963)
2176 R	Instability in the Magnetron Gauge	F. T. Worrell	Rev. Sci. Instr. <u>34</u> , 1384 (1963)
2178A R	A Sensitive Threshold Circuit Using Positive and Negative Nonlinear Feedback	R. C. Johnston	Proc. IEEE (Correspondence) <u>51</u> , 1788 (1963)
2179 R	Magnetic Susceptibility of Praseodymium Oxides	S. Kern	J. Chem. Phys. <u>40</u> , 208 (1964)

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2182 R	Radar Observations of Venus at 38 Mcps	J. C. James R. P. Ingalls	Astron. J. <u>69</u> , 19 (1964)
2183	Some Physical Properties of Nonlinear Elastic Suspensions as Analyzed by the Averaging Method of Ritz	E. Jozefowicz	Machine Design <u>35</u> , 169 (24 Oct. 1963)
2184 R	Semiconductor Diode Masers of $(\text{In}_x\text{Ga}_{1-x})\text{As}$	I. Melngailis A. J. Strauss R. H. Rediker	Proc. IEEE (Correspondence) <u>51</u> , 1154 (1963)
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2188 R	Method for Fabricating Strain-Free Gallium Surfaces	H. H. Ehlers D. F. Kolesar	Rev. Sci. Instr. <u>34</u> , 1054 (1963)
2189 R	Partitioned IR Cell	R. Teoste	Infrared Phys. <u>4</u> , 43 (1964)
2190A R	Theory of the Infinite Stage Nernst-Ettingshausen Refrigerator	T. C. Harman	Adv. Energy Conversion <u>3</u> , 667 (1963)
2192 R	The Radar Cross Section of the Moon	J. V. Evans G. H. Pettengill	J. Geophys. Res. <u>68</u> , 5098 (1963)
2193 R	Theory of the Faraday Effect in Solids	L. M. Roth	Phys. Rev. <u>133</u> , A542 (1964)
2194	Magnetoreflexion Experiments in Graphite	M. S. Dresselhaus J. G. Mavroides	Carbon <u>1</u> , 263 (1964)
2197	Properties of InAs Diode Masers	I. Melngailis R. H. Rediker	Trans. IEEE, PTGED <u>ED-10</u> , 333 (1963)
2198 R	Index of Refraction of KDP	J. H. Dennis R. H. Kingston	Appl. Optics <u>2</u> , 1334 (1963)
2199A R	Visual Search	U. Neisser	Scientific American <u>210</u> , No. 6, 94 (1964)
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2324	A Proposal for an Associative Memory Using Magnetic Films	J. I. Raffel T. S. Crowther	Accepted Trans. IEEE, PTGEC
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2333	A Note on Buzz-Hiss Detection	B. Gold	Accepted J. Acoust. Soc. Am.
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2339 R	Microwave Modulation of a GaAs Injection Laser	B. S. Goldstein J. D. Welch	Proc. IEEE (Correspondence) <u>52</u> , 715 (1964)
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78	The M.I.T. Magnetic-Core Memory	W. N. Papian	Proc. Eastern Joint Computer Conf., Washington, Dec. 1953
317	Theory of Ferrites in Rectangular Waveguides	K. J. Button B. Lax	Proc. Symp. on Electromagnetic Wave Theory, Ypsilanti, June 1955
434 R	Communication through Noisy, Random-Multipath Channels	G. L. Turin	IRE Natl. Conv., Record (1956)
475 R	Conference Keynote Speech	N. H. Taylor	Proc. Western Joint Computer Conf., San Francisco, Feb. 1956
542	Theory of Magneto-Band Effect and Cyclotron Resonance at Infrared Frequencies	B. Lax K. J. Button	Bull. Am. Phys. Soc. Ser. II, <u>1</u> , 299 (1956)
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544	High-Speed, Sensitive Infrared Detector for Magneto-Band Effect and Cyclotron Resonance Measurements	R. J. Keyes S. Zwerdling	Bull. Am. Phys. Soc. Ser. II, <u>1</u> , 299 (1956)
545	Experiments on Magneto-Band Effect and Cyclotron Resonance at Infrared Frequencies	S. Zwerdling R. J. Keyes S. Foner H. H. Kolm H. Lipson D. Warschauer B. Lax W. Paul	Bull. Am. Phys. Soc. Ser. II, <u>1</u> , 299 (1956)
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570 R	1/f Noise and Germanium Surface Properties	A. L. McWhorter	Proc. Conf. on Physics of Semiconductor Surfaces, Univ. of Pennsylvania, June 1956
575	The Interaction of Oxygen with Clean Germanium Surfaces	P. H. Robinson M. Green J. A. Kafalas	Proc. Conf. on Physics of Semiconductor Surfaces, Univ. of Pennsylvania, June 1956

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611	The Production and Use of High Intensity Pulsed Magnetic Fields	S. Foner H. H. Kolm	Proc. Conf. on Magnetism and Magnetic Materials, Boston, Oct. 1956
636 R	Advances in Solid-State Electronics — Magnetics	P. E. Tannenwald	Proc. Natl. Electronics Conf., Chicago, Oct. 1956
659 R	TX-0, A Transistor Computer with a 256 by 256 Memory	J. L. Mitchell K. H. Olsen	Proc. Eastern Joint Computer Conf., New York, Dec. 1956
838 R	Magnetic Properties of Dilute Magnetic Alloys and of the Rare Earth Metals	G. W. Pratt, Jr.	J. Appl. Phys. <u>29</u> , 520 (1958)
850 R	Detection of Dislocation Tilts and Strains by X-Rays	L. Kaufman S. A. Kulin	Proc. AIME, Chicago, Nov. 1957
856 R	Constraint Principle in Ferromagnetic Domain Theory	L. Gold	J. Appl. Phys. <u>29</u> , 544 (1958)
857 R	Magnetization Processes in Heat-Treated Single Crystal Cobalt Ferrite	S. Foner J. O. Artman	J. Appl. Phys. <u>29</u> , 443 (1958)
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861 R	Ferromagnetic Resonance in Ultra-Thin Films	M. H. Seavey, Jr. P. E. Tannenwald	J. Appl. Phys. <u>29</u> , 292 (1958)
863 R	Recent Advances in the Design of High Field DC Solenoid Magnets	H. H. Kolm	J. Appl. Phys. <u>29</u> , 489 (1958)
865 R	Steady-State and Pulse Measurement Techniques for Thin Magnetic Films in the VHF-UHF Range	D. O. Smith G. P. Weiss	J. Appl. Phys. <u>29</u> , 290 (1958)
866	Suggestion Concerning the Role of Wave-Function Symmetry in Transition Metals and Their Alloys	J. B. Goodenough	J. Appl. Phys. <u>29</u> , 513 (1958)
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868	Static and Dynamic Behavior of Thin Permalloy Films	D. O. Smith	J. Appl. Phys. <u>29</u> , 264 (1958)

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R. J. Arnott
J. B. Goodenough | J. Appl. Phys. <u>29</u> , 387 (1958) |
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R | Further Development of the Vibrating-Coil Magnetometer | K. Dwight
N. Menyuk
D. O. Smith | J. Appl. Phys. <u>29</u> , 491 (1958) |
| 878 | SAGE - A Data Processing System for Air Defense | R. R. Everett
C. A. Zraket
H. D. Benington § | Proc. Eastern Joint Computer Conf., Washington, Dec. 1957 |
| 879
R | Operation of the SAGE Duplex Computers | P. R. Vance
L. G. Dooley §
C. E. Diss § | Proc. Eastern Joint Computer Conf., Washington, Dec. 1957 |
| 910 | A Band Separation Filter for the 225-400 Mcps Band | A. I. Grayzel | IRE Natl. Conv. Record (1958) |
| 912 | Signals with Uniform Ambiguity Functions | R. M. Lerner | IRE Natl. Conv. Record (1958) |
| 913 | The Measurement of Delay-Line Transducer Resistance | J. J. G. McCue
J. A. Leavitt § | IRE Natl. Conv. Record (1958) |
| 914
R | Analysis of the Spectral Shape of Modulation Splatter | R. Price | IRE Natl. Conv. Record (1958) |
| 916 | Algebraic Decoding for the Binary Erasure Channel | M. A. Epstein | IRE Natl. Conv. Record (1958) |
| 933
R | Recent Developments on Solid State Masers | J. W. Meyer | Proc. Intl. Conf. on Solid State Physics in Electronics and Telecommunications, Brussels, June 1958 |
| 937 | Tutorial Session on Detection Theory and Its Applications: Communications Applications | W. B. Davenport, Jr. | IRE Natl. Conv. Record (1958) |
| 950
R | A Study of Sea Clutter Spectra | J. W. McGinn, Jr.
E. W. Pike | Proc. Symp. on Statistical Methods in Radio Wave Propagation, Univ. of California, June 1958 |
| 958
R | Oscillatory Magneto-Absorption of Radiation in Semiconductors | S. Zwerdling | Proc. Am. Optical Soc., Washington, Mar. 1958 |
| 994 | Resonance and Magneto-Absorption in Solids at Millimeter and Infrared Frequencies | B. Lax | Proc. Intl. Conf. on Solid State Physics in Electronics and Telecommunications, Brussels, June 1958 |

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995	Low-Temperature Semiconducting Computing Elements	R. H. Rediker A. L. McWhorter	Proc. Intl. Conf. on Solid State Physics in Electronics and Telecommunications, Brussels, June 1958
1012A R	Magneto-Absorption Experiments in Semiconductors	S. Zwerdling	Proc. Intl. Conf. on Solid State Physics in Electronics and Telecommunications, Brussels, June 1958
1015 R	Liquid Helium Cryostat with an Integral Superconducting Resonator	E. Maxwell A. F. Schmidt §	Proc. Intl. Inst. of Refrigeration, Delft, June 1958
1033 R	Cross Modulation of DC Resistance by Microwave Cyclotron Resonance	H. J. Zeiger C. J. Rauch M. E. Behrndt	J. Phys. Chem. Solids <u>8</u> , 496 (1958)
1034 R	Quantum Magneto-Absorption Phenomena in Semiconductors	B. Lax L. M. Roth S. Zwerdling	J. Phys. Chem. Solids <u>8</u> , 311 (1958)
1035 R	The Direct and Indirect Transition Excitons in Germanium	S. Zwerdling L. M. Roth B. Lax	J. Phys. Chem. Solids <u>8</u> , 397 (1958)
1036 R	A Many-Body Treatment of Dielectric Screening for Impurity States and Excitons in Semiconductors	L. M. Roth G. W. Pratt, Jr.	J. Phys. Chem. Solids <u>8</u> , 47 (1958)
1039 R	A Computer-Integrated Rapid-Access Magnetic-Tape System with Fixed Address	R. L. Best T. C. Stockebrand	Proc. Western Joint Computer Conf., Los Angeles, May 1958
1049	Optical Information Handling with Thin Magnetic Films	L. Kleinrock	Proc. Natl. Electronics Conf., Chicago, Oct. 1958
1091	Radar Observation of Birds	R. E. Richardson J. M. Stacey H. M. Kohler F. R. Naka	Proc. Seventh Weather Radar Conf., Miami Beach, Nov. 1958
1104	Angular Diversity Reception at 2290 Mcps Over a 188-Mile Path	J. H. Chisholm J. F. Roche L. P. Rainville H. G. Root	Rec. IRE Symp. on Extended Range and Space Communications, George Washington University, Oct. 1958
1111 R	Anisotropy in Permalloy Films	D. O. Smith	J. Appl. Phys. <u>30</u> , 264S (1959)
1112 R	Properties of Permalloy Films Having a Magnetoelastic Easy Axis Normal to the Film	E. E. Huber, Jr. D. O. Smith	J. Appl. Phys. <u>30</u> , 267S (1959)
1113 R	Magnetic Properties of Nickel-Iron Ferrite	N. Menyuk K. Dwight	J. Appl. Phys. <u>30</u> , 36S (1959)

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1115 R	Internal Structure of Cross-Tie Walls in Thin Permalloy Films Through High Resolution Bitter Techniques	R. M. Moon	J. Appl. Phys. <u>30</u> , 82S (1959)
1116 R	Test of Spin-Wave Theory with Precision Magnetization Measurements	S. Foner E. D. Thompson	J. Appl. Phys. <u>30</u> , 229S (1959)
1119 R	The Logical Design of CG 24	G. P. Dinneen I. L. Lebow I. S. Reed	Proc. Eastern Joint Computer Conf., Philadelphia, Dec. 1958
1128 R	Earth Satellite Observations Made with the Millstone Hill Radar	G. H. Pettengill L. G. Kraft, Jr.	Avionics Research, AGARD No. 40, 125 (1958)
1139 R	Automatic Design of Logical Networks	T. C. Bartee	Proc. Western Joint Computer Conf., San Francisco, Mar. 1958
1148	Wind Regimes for Radome Design	J. M. Austin § S. L. Hensel, Jr.	Proc. Lincoln Laboratory Rigid Radome Symp., MIT, Sept. 1958
1151	‡ Stress Distribution and Jump Phenomena in Spherical Frameworks under Pressure Loading	J. F. Besseling §	Proc. Lincoln Laboratory Rigid Radome Symp., MIT, Sept. 1958
1160 R	A Dynamic Programming Approach to Adaptive Control Processes	M. Freimer	IRE Natl. Conv. Record (1959)
1161 R	The Probability Density of the Output of a Filter When the Input is a Random Telegraphic Signal	J. A. McFadden	IRE Natl. Conv. Record (1959)
1163 R	Measuring the Characteristics of Present-Day Ultrasonic Delay Lines	J. J. G. McCue M. Axelbank	IRE Natl. Conv. Record (1959)
1164 R	Operating Characteristics of a Thin Film Memory	J. I. Raffel	J. Appl. Phys. <u>30</u> , 60S (1959)
1174	Impulse Switching of Ferrites	R. E. McMahon	Proc. Solid State Circuits Conf., Philadelphia, Feb. 1959; Proc. Eastern Joint Computer Conf., Philadelphia, Dec. 1958
1180 R	Optical Absorption of CoO and MnO Above and Below the Néel Temperature	G. W. Pratt, Jr. R. Coelho §	Proc. Am. Phys. Soc., New York, Jan. 1959
1219 R	Millimeter Instrumentation for Solid State Research	G. S. Heller	Proc. Symp. on Millimeter Waves, Polytechnic Institute of Brooklyn, Mar. 1959

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1301 R	Transistor Circuit Techniques for a Core Memory with 500 Millimicroseconds Cycle Time	V. J. Sferrino	Rec. IRE, WESCON Conv., San Francisco, Aug. 1959
1314	Self-Organizing Models for Learned Perception	B. G. Farley	Proc. Information Systems Branch Conf., Illinois Institute of Technology, May 1959
1317 R	An Error Correcting Encoder and Decoder for Phone Line Data	K. E. Perry	Rec. IRE, WESCON Conv., San Francisco, Aug. 1959
1324	A Communication System for a Small Interplanetary Vehicle	M. I. Skolnik L. Cartledge	Proc. IRE, PGSET Conv., San Francisco, Sept. 1959
1325 R	Properties of Thin Magnetic Films for Microwave Applications	P. E. Tannenwald	Rec. IRE, WESCON Conv., San Francisco, Aug. 1959
1326	Space-Charge Theory of Multicavity Klystrons	A. Bers § S. F. Catalano H. M. Jones	Rec. IRE-AIEE Conf. on Electron Tube Research, Univ. of Mexico, June 1959
1350	A Study of UHF Space Communications Through an Aurora Using the Moon as a Reflector	R. P. Ingalls J. C. James M. L. Stone	Ballistic Missiles and Space Technology <u>3</u> , 272 (1961)
1352A	Mechanical Design of 150-Foot Diameter Metal Space Frame Radome	L. P. Farnsworth T. F. King	Proc. ASME, Atlantic City, Nov. 1959
1375 R	Chemical Configuration of Germanium Surfaces in Aqueous Media	W. W. Harvey	J. Phys. Chem. Solids <u>14</u> , 82 (1960)
1380A R	Automatic Digital Data Error Recorder	E. J. Hofmann	Trans. IRE, PGI <u>I-10</u> , 27 (1961)
1384	Some Properties of Magnetic Films by Microwave Resonance	P. E. Tannenwald	Proc. Intl. Conf. on Structures and Properties of Thin Films, Lake George, Sept. 1959
1385	Etching and Inhibition of the {111} Surfaces of the III-V Intermetallic Compounds: InSb	H. C. Gatos M. C. Lavine	J. Phys. Chem. Solids <u>14</u> , 169 (1960)
1386	Some Structure-Sensitive Magnetic Properties of Permalloy Films	D. O. Smith	Proc. Intl. Conf. on Structures and Properties of Thin Films, Lake George, Sept. 1959
1391 R	The Oxidation of Intermetallic Compounds - III. The Room-Temperature Oxidation of $A^{III}B^V$ Compounds	A. J. Rosenberg	J. Phys. Chem. Solids <u>14</u> , 175 (1960)

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1392A R	The Oxidation of Intermetallic Compounds: IV. The Sorption of Oxygen by InSb at 78°K	A. J. Rosenberg A. A. Menna	<u>Reactivity of Solids</u> , J. H. deBoer, et al., Eds. (Elsevier, Amsterdam, 1960)
1412A	Pulsed Field Millimeter Wave Maser	S. Foner L. R. Momo A. Mayer R. A. Myers §	Proc. Quantum Electronics Conf., Bloomingburg, N. Y., Sept. 1959
1421 R	Initial Susceptibility Spectra of Permalloy Films	R. F. Soohoo	J. Appl. Phys. <u>31</u> , 218S (1960)
1422 R	Galvanomagnetic Effects in Ferromagnetic Resonance	M. H. Seavey, Jr.	J. Appl. Phys. <u>31</u> , 216S (1960)
1423A R	The Millstone Radar in Satellite and Missile Tracking	J. S. Arthur J. C. Henry G. H. Pettengill P. B. Sebring	Ballistic Missiles and Space Technology <u>3</u> , 84 (1961)
1424 R	Direct Cation-Cation Interactions in Primarily Ionic Solids	J. B. Goodenough	J. Appl. Phys. <u>31</u> , 359S (1960)
1425 R	Interpretation of the Magnetic and Crystallographic Properties of Several Iron, Nickel, and Iron-Nickel Nitrides	J. B. Goodenough A. Wold R. J. Arnott	J. Appl. Phys. <u>31</u> , 324S (1960)
1426 R	Classical Theory of Spin Configurations in the Cubic Spinel	T. A. Kaplan	J. Appl. Phys. <u>31</u> , 364S (1960)
1429 R	Magnetic Transitions in Ti_2O_3 and V_2O_3	P. H. Carr S. Foner	J. Appl. Phys. <u>31</u> , 344S (1960)
1430 R	Low-Temperature X-Ray Diffraction Studies on Vanadium Sesquioxide	E. P. Warekois	J. Appl. Phys. <u>31</u> , 346S (1960)
1433 R	Flux Reversal by Nonequivalent Rotation in Magnetic Films	K. J. Harte	J. Appl. Phys. <u>31</u> , 283S (1960)
1451	Cyclotron Resonance and Impurity Levels in Semiconductors	B. Lax	Proc. Quantum Electronics Conf., Bloomingburg, N. Y., Sept. 1959
1472	The Spin Wave Spectrum in Magnetic Fields	R. F. Soohoo	Bull. Am. Phys. Soc. <u>4</u> , 453 (1959)
1478 R	Solid State Microwave Devices	R. H. Kingston	Nachrichtentechnische Fachberichte, Band 22 (1961)
1486 R	Anisotropy and Inversion in Permalloy Films	D. O. Smith E. E. Huber, Jr. M. S. Cohen G. P. Weiss	J. Appl. Phys. <u>31</u> , 295S (1960)

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1487	Investigations into the Origin of Anisotropy in Oblique-Incidence Films	M. S. Cohen E. E. Huber, Jr. G. P. Weiss D. O. Smith	J. Appl. Phys. <u>31</u> , 291S (1960)
1496	Thermal Conduction in Rotating Liquid Helium II	C. E. Chase	Bull. Am. Phys. Soc. <u>5</u> , 13 (1960)
1507	Application of Boolean Matrices to the Analysis of Flow Diagrams	R. T. Prosser	Proc. Eastern Joint Computer Conf., Boston, Dec. 1959
1518A	Activity in Networks of Neuron-Like Elements	B. G. Farley W. A. Clark	Proc. Fourth Symp. on Information Theory, London, Aug. 1960
1518B	Activity in Networks of Neuron-Like Elements	B. G. Farley W. A. Clark	Proc. IRE Natl. Aeronautics Elec. Conf., Wright-Patterson AFB, Dayton, May 1960
1530	Communication in Digital Systems	I. L. Lebow	<u>Information Theory</u> (Butterworths, London, 1961)
1544	Recognition of Sloppy, Hand-Printed Characters	W. Doyle	Proc. Western Joint Computer Conf., San Francisco, May 1960
1552	Use of Pivotal Microbalance Design for the Determination of Mass Changes	J. M. Honig	Proc. Conf. on Microbalance Techniques, Ft. Monmouth, Jan. 1960
1564	Critical Heat Currents in Rotating Liquid Helium II	C. E. Chase	Bull. Am. Phys. Soc. <u>5</u> , 291 (1960)
1584	Precision Speed Control of a High-Speed Camera	D. A. Cahlander	Proc. Fifth Intl. Cong. on High-Speed Photography, Washington, Oct. 1960

Note: Since 1960, Meeting Speeches are designated MS rather than JA.

MS No.

10A	Some Characteristics of Ionospheric Backscatter Observed at 440 Mc/s	V. C. Pineo L. G. Kraft H. W. Briscoe	J. Geophys. Res. <u>65</u> , 2629 (1960)
14	Minimum Energy Spin Configurations in the Spinel Structure	T. A. Kaplan K. Dwight N. Menyuk	Bull. Am. Phys. Soc. <u>5</u> , 460 (1960)
22	Magneto-Spectroscopy in Semiconductors	B. Lax	Proc. Intl. Conf. on Semiconductor Physics, Prague, Aug. 1960
24	Damaged Layers in the {111} Surfaces of the III-V Semiconductor Compounds	H. C. Gatos M. C. Lavine E. P. Warekois	Proc. Intl. Conf. on Semiconductor Physics, Prague, Aug. 1960

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25	Moon Relay Communication	W. H. Radford	IRE Intl. Conv., Record (1960)
26	Impact Ionization of Impurities in Compensated Germanium	A. L. McWhorter R. H. Rediker	Proc. Intl. Conf. on Semiconductor Physics, Prague, Aug. 1960
28	On Geodesics That Are Also Orbits	R. Hermann	Bull. Am. Math. Soc. <u>66</u> , 91 (1960)
32 R	Pattern Recognition with an Adaptive Network	L. G. Roberts	IRE Intl. Conv., Record (1960)
40	General Spin-Wave Dispersion Relations	R. F. Soohoo	Bull. Am. Phys. Soc. <u>5</u> , 356 (1960)
42 R	Reproducibility of Electro-deposited Thin Film Memory Arrays	I. W. Wolf§ T. S. Crowther	Proc. IRE Electronics Components Conf., Washington, May 1960
45 R	Magnetoplasma Effects in Solids	B. Lax	Trans. IRE, PGMTT <u>MTT-9</u> , 83 (1961)
49 R	Quantum Mechanical Three-Body Problem. II	L. J. Eyges	Phys. Rev. <u>121</u> , 1744 (1961)
52	Proposed Symbolology for Digital Systems	T. C. Bartee	Proc. AIEE Natl. Electronics Conf., Chicago, Oct. 1960
56 R	Some Results in the Measurement of Impulse Noise on Several Telephone Circuits	H. L. Yudkin	Proc. AIEE Natl. Electronics Conf., Chicago, Oct. 1960
58 R	Measured Error Distributions on the Bell A-1 Facility over Various Media	E. J. Hofmann	Proc. AIEE Natl. Electronics Conf., Chicago, Oct. 1960
59 R	The Testing of Digital Data Transmission Channels and Circuits	R. G. Enticknap	Proc. AIEE Natl. Electronics Conf., Chicago, Oct. 1960
60	The Design of Data Transmission Systems	R. G. Enticknap R. M. Lerner	Proc. AIEE Winter General Meeting, New York, 1961
61	Advanced Radar Information Evaluation System - ARIES	D. L. Lovenvirth W. F. Holst	<u>Ballistic Missile and Space Technology</u> , Vol. III, D. P. LeGalley, Ed. (Academic Press, New York, 1960)
66 R	Errors in Data Transmission Systems	R. G. Enticknap	Trans. IRE, PGCS CS-9, 15 (1961)
67 R	Modulation and Signal Selection for Digital Data Systems	R. M. Lerner	Proc. AIEE Natl. Electronics Conf., Chicago, Oct. 1960
69 R	A Helium ³ Refrigerator	C. J. Rauch	Proc. Cryogenic Eng. Conf., Boulder, Aug. 1960

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78 R	The Effect of Channel Geometry and Rotation on the Critical Heat Current in Liquid Helium II	C. E. Chase	Proc. Seventh Intl. Conf. on Low Temperature Physics, Univ. of Toronto, Aug. 1960
82	Low-Temperature Devices	A. L. McWhorter	Trans. IRE, PGE E-3, 137 (1960)
84 R	Learning in Random Nets	M. Minsky O. G. Selfridge	Information Theory (Butterworths, London, 1961)
86 R	An Account of the Factors That Are Important in the Tracking of Space Vehicles by Means of Radar	W. W. Ward	Trans. IRE, PGSET Natl. Symp., Washington, Sept. 1960
86A R	Radar Tracking of Space Vehicles	W. W. Ward	NEREM Record, Boston (1960)
89 R	The Computer as a Pattern Generator for Perceptual Research	B. W. White	Behavioral Sci. 6, 252 (1961)
91 R	Distances and Ratios in Psychophysical Scaling	W. S. Torgerson	Acta Psychol. 19, 201 (1961)
94 R	Spin-Lattice Interaction for Electrons in Semiconductors	L. M. Roth	Proc. Intl. Conf. on Semiconductor Physics, Prague, Aug. 1960
106 R	Anisotropy in Permalloy Films Evaporated at Grazing Incidence	M. S. Cohen	J. Appl. Phys. Suppl. 32, 87S (1961)
112 R	Superconducting Resonant Cavities	E. Maxwell	Proc. Cryogenic Eng. Conf., Boulder, Aug. 1960
121 R	Excitation and Boundary Effects in Spin-Wave Resonance	R. F. Soohoo	J. Appl. Phys. Suppl. 32, 148S (1961)
124 R	Impulse Selection for Core Logic	R. H. Tancrell	J. Appl. Phys. Suppl. 32, 40S (1961)
126 R	Antiferromagnetic Resonance in $(\text{Cr}_2\text{O}_3)_{1-x} \cdot (\text{Al}_2\text{O}_3)$ Single Crystals	S. Foner	J. Appl. Phys. Suppl. 32, 63S (1961)
127 R	Annealing of Oblique-Incidence Permalloy Films	G. P. Weiss D. O. Smith	J. Appl. Phys. Suppl. 32, 85S (1961)
132 R	Anisotropy in Nickel-Iron Films	D. O. Smith	J. Appl. Phys. Suppl. 32, 705S (1961)
133 R	Classical Theory of the Ground Spin State in Spinels	T. A. Kaplan K. Dwight D. H. Lyons N. Menyuk	J. Appl. Phys. Suppl. 32, 135S (1961)
135 R	Areas for Research and Development in the Millimeter Wavelength Region	J. W. Meyer G. S. Heller	NEREM Record (1960)

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141 R	Antiferromagnetic Materials for Millimeter and Sub-millimeter Devices	G. S. Heller J. J. Stickler J. B. Thaxter	J. Appl. Phys. Suppl. <u>32</u> , 307S (1961)
143 R	A Random Access Cryosar Memory	R. C. Johnston	NEREM Record (1960)
144A R	CW Millimeter Wavelength Maser	S. Foner L. R. Momo J. B. Thaxter G. S. Heller R. M. White	<u>Advances in Quantum Electronics</u> , J. R. Singer, Ed. (Columbia Univ. Press, New York, 1961)
159 R	A Sequential Detection System for the Processing of Radar Returns	A. A. Galvin	Proc. IRE <u>49</u> , 1417 (1961)
160 R	Radar System Performance in a Dense-Target Environment	E. N. Fowle E. J. Kelly, Jr. J. A. Sheehan	IRE Intl. Conv. Record (1961)
161 R	A Method of Designing Signals of Large Time-Bandwidth Product	E. L. Key E. N. Fowle R. D. Haggarty	IRE Intl. Conv. Record (1961)
162 R	Ultrasonic Instrumentation for Research on Bats	J. J. G. McCue	IRE Intl. Conv. Record (1961)
163 R	The Measurement of the Phenomena Associated with the Hypervelocity Re-entries Into the Atmosphere	G. F. Pippert	NEREM Record (1960)
170A	Stochastic Approximation and Its Application to Problems of Prediction and Control Synthesis	L. A. Gardner, Jr.	<u>International Symposium on Non-linear Differential Equations and Nonlinear Mechanics</u> (Academic Press, New York, 1963)
172 R	Radar Measurements of the Lunar Surface	G. H. Pettengill J. C. Henry	Proc. Lunar Symp. of Intl. Astronomical Union, Leningrad, Dec. 1960; <u>Advances in the Astronautical Sciences</u> , Vol. 8 (Plenum Press, New York, 1963)
173	The Design of an "Error-Free" Data Transmission System for Telephone Circuits	B. Reiffen W. G. Schmidt H. L. Yudkin	Proc. AIEE Winter General Meeting, New York (1961)
178	An Operational UHF Reactance Amplifier	A. Parsons E. McCurley C. Blake	Proc. Symp. on Low Noise Receivers, Lincoln Laboratory MIT, Oct. 1960
179	Recent Experiences with an X-Band Maser Receiver and an S-Band Parametric Amplifier Radar Receiver	F. J. Dominick	Proc. Symp. on Low Noise Receivers, Lincoln Laboratory, MIT, Oct. 1960

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MS No.

180 R	Perturbation Theory of the Reciprocal Ferrite Phase Shifter	K. J. Button B. Lax	Proc. IEE <u>109B</u> , Suppl. 21, 56 (1962)
181 R	Stoichiometry of Copper Bonding Using Copper Oxide	E. B. Murphy T. P. Turnbull	Proc. Am. Electroplaters' Soc., Newark (1961)
199	Nonquadratic Conduction Band in HgSe	G. B. Wright A. J. Strauss T. C. Harman	Bull. Am. Phys. Soc. <u>6</u> , 155 (1961)
200	Electrical Properties of HgSe and HgSe-HgTe Alloys	A. J. Strauss T. C. Harman	Bull. Am. Phys. Soc. <u>6</u> , 156 (1961)
201	Overlapping Bands in HgSe and HgSe-HgTe Alloys	T. C. Harman A. J. Strauss	Bull. Am. Phys. Soc. <u>6</u> , 156 (1961)
202	Ferro- and Antiferromagnetism for Spin I	G. F. Dresselhaus	Bull. Am. Phys. Soc. <u>6</u> , 124 (1961)
203	Observation of Quantum Effects in Germanium and Silicon at Millimeter Wavelengths	J. J. Stickler C. J. Rauch H. J. Zeiger G. S. Heller	Bull. Am. Phys. Soc. <u>6</u> , 115 (1961)
204	Interband Transitions in Metals	M. S. Dresselhaus G. F. Dresselhaus	Bull. Am. Phys. Soc. <u>6</u> , 146 (1961)
205	Simple Theory of Tunneling and Its Dependence on a Magnetic Field	P. N. Argyres B. Lax	Bull. Am. Phys. Soc. <u>6</u> , 105 (1961)
208	One-Electron Energy Band Method	L. J. Eyges	Bull. Am. Phys. Soc. <u>6</u> , 108 (1961)
209	High-Resolution Oscillatory Magneto-Absorption Measurements of InSb at Liquid-Helium Temperature	S. Zwerdling J. P. Theriault	Bull. Am. Phys. Soc. <u>6</u> , 147 (1961)
210	Perturbation Theory of Cavities	R. F. Soohoo	Bull. Am. Phys. Soc. <u>6</u> , 125 (1961)
211	Antiferromagnetic Ground State	L. M. Roth	Bull. Am. Phys. Soc. <u>6</u> , 124 (1961)
217 R	Cyclotron Resonance Maser	B. Lax	<u>Advances in Quantum Electronics</u> , J. R. Singer, Ed. (Columbia Univ. Press, New York, 1961)
227 R	Spin-Orbit vs Jahn Teller Deformation in Chromium Spinels	J. B. Goodenough	J. Phys. Soc. Japan <u>17</u> , Suppl. B-4, 185 (1962)
229	Design of a Twelve Horn Monopulse Feed	L. J. Ricardi L. Niro	Rec. Seventh Annual Radar Symp., Univ. of Michigan, May 1961
237 R	Spin Wave Resonance in Magnetic Films	P. E. Tannenwald	J. Phys. Soc. Japan <u>17</u> , Suppl. B-4, 592 (1962)

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238 R	Positive and Negative Anisotropy in Nickel-Iron Films	D. O. Smith	J. Phys. Soc. Japan <u>17</u> , Suppl. B-1, 550 (1962)
240	Deep Space Probes at Millimeter Wavelengths	J. W. Meyer V. L. Lynn C. M. Steinmetz E. A. Crocker	Rec. Seventh Annual Radar Symp., Univ. of Michigan, May 1961 H-417, M \$1.50, P \$6.15
241 R	Mass Spectrographic Evidence for Deviations from Stoichiometry in GaSb	E. B. Owens A. J. Strauss	Proc. Conf. on Ultrapurification of Semiconductor Materials, Boston, Apr. 1961
242 R	Technical Information Flow Patterns	M. M. Kessler	Proc. Western Joint Computer Conf., Los Angeles, May 1961
249	Baseball: An Automatic Question-Answerer	B. F. Green, Jr. A. K. Wolf C. Chomsky K. Laughery	Proc. Western Joint Computer Conf., Los Angeles, May 1961
253A R	Experimental Studies of the F Region Using the Incoherent Backscatter Technique at Frequencies Around 400 Mc/s	V. C. Pineo L. G. Kraft H. W. Briseoe D. P. Hynes	<u>Electron Density Profiles</u> (Pergamon Press, New York, 1962)
257 R	High Field Magnetic Resonance Experiments	S. Foner	J. Phys. Soc. Japan <u>17</u> , Suppl. B-1, 424 (1962)
267 R	Solar Radiation Pressure Effects, Gas Leakage Rates, and Air Densities Inferred from the Orbit of Echo I	H. M. Jones I. I. Shapiro P. E. Zadunaisky §	<u>Space Research II</u> (Proc. Second Intl. Space Science Symp.), H. C. Van de Hulst, <u>et al.</u> , Eds. (North-Holland, Amsterdam, 1961)
268 R	Band Structure of HgSe and HgSe-HgTe Alloys	T. C. Harman A. J. Strauss	J. Appl. Phys. <u>32S</u> , 2265 (1961)
269 R	Magnetoreflexion Experiments in Intermetallics	G. B. Wright B. Lax	J. Appl. Phys. <u>32S</u> , 2113 (1961)
270 R	Interband Faraday Rotation in III-V Compounds	B. Lax Y. Nishina §	J. Appl. Phys. <u>32S</u> , 2128 (1961)
272 R	Infrared and Dielectric Analysis of Structural Polyurethane Foams	E. B. Murphy W. A. O'Neil	SPE J. <u>18</u> , 47 (1962)
285 R	Report from a Symposium on the Application of Low Noise Receivers to Radar and Allied Equipment	J. W. Meyer	<u>Low Noise Electronics</u> (Proc. Fifth AGARD Avionics Panel Conf.) (Pergamon Press, London, 1962)
292 R	Some Results of Computer Simulation of Neuron-Like Nets	B. G. Farley	Proc. Fed. of Amer. Soes. for Exptl. Biology, Apr. 1961
301 R	Magnetic Field Dependence of the Superconducting Energy Gap in Ginzburg-Landau Theory with Application to Al	D. H. Douglass, Jr.	IBM J. Research Develop. <u>6</u> , 44 (1962)

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MS No.

307 R	Texture and Orientation of Evaporated Bismuth Films	T. P. Turnbull E. P. Warekois	<u>Metallurgy of Semiconductor Materials</u> (Interscience Publishers, New York, 1962)
328	The Design of Radar Astronomy Instrumentation	H. G. Weiss	NEREM Record (1961)
343	The $(1 - \cos \varphi)$ Radiometer	J. W. McGinn	NEREM Record (1961)
344	Radiometric Instrumentation at Eight Millimeters	J. W. Meyer J. J. Kirwan D. M. Towle	NEREM Record (1961)
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LINCOLN LABORATORY PUBLICATIONS

An Introduction to the Theory of Random Signals and Noise	W. B. Davenport, Jr. W. L. Root	1958	McGraw-Hill Book Co., Inc., New York
Microwave Ferrites and Ferrimagnetics	B. Lax K. J. Button	1962	McGraw-Hill Book Co., Inc., New York
Theory and Design of Digital Machines	T. C. Bartee I. L. Lebow I. S. Reed	1962	McGraw-Hill Book Co., Inc., New York
Digital Computers in Research	B. F. Green, Jr.	1963	McGraw-Hill Book Co., Inc., New York

LINCOLN LABORATORY MONOGRAPHS

The Prediction of Ballistic Missile Trajectories from Radar Observations	I. I. Shapiro	1958	McGraw-Hill Book Co., Inc., New York
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		<u>DDC No.</u>	<u>Hayden Serial and Prices</u>
Abstracts of Scientific and Engineering Papers			
†1954-1956		249720	H-240 M \$2.05 P \$57.40
1956-1960	June 1960	249839	H-241 M \$2.20 P \$51.10
1960-1962	June 1962	276880	H-449 M \$1.50 P \$21.65

SPECIAL REPORTS

		DDC <u>No.</u>	Hayden Serial <u>and Prices</u>
Symposium on Rigid Radomes, M.I.T., 8-10 September 1958	15 Oct. 1958		
†Vol. 1		232582	
Conference on Lubrication of Large Bearing and Drive Gearing Systems, Lincoln Laboratory, 13-14 May 1959	Dec. 1959		
Symposium on the Application of Low Noise Receivers to Radar and Allied Equipment, Lincoln Laboratory, 24-28 October 1960	22 Nov. 1960		
†Vol. 2		248691	
†Vol. 3		248692	
†Final Report, Project Barnstable	30 June 1960	240363	

LINCOLN LABORATORY LIBRARY REFERENCE BIBLIOGRAPHIES

No.			DDC No.	Hayden Serial and Prices
1	Generation and Properties of Thermal Plasmas (1955-1960)	28 Nov. 1960	250956	H-251 M \$1.50 P \$2.80
2	Infrared Spectrum Analysis of Plastics and Resins, Particularly Polyurethanes, Polyesters, Epoxys, and Polymers (1950-1960)			
3	Preparation and Properties of Indium Antimonide Thin Films and Devices Using Indium Antimonide (1955-1960)	28 Dec. 1960	250957	H-252 M \$1.50 P \$4.90
4	Continuous Motion Principle as Applied to Photography and Television (1950-1960)			
5	Adaptive or Self-Optimizing Control Systems (1950-February 1961)	8 Feb. 1961	254335	H-282 M \$1.50 P \$4.90
6	Instrumentation for Recovery and Re-entry of Manned Spacecraft (1955-April 1961)			
7	Perturbative Forces Affecting the Motions of Artificial Earth Satellites (1955-April 1961)	2 Oct. 1961	272830	H-381 M \$1.50 P \$14.40
8	Artificial Intelligence - Soviet Bloc (1950-1961)	27 Dec. 1961	271667	H-378 M \$1.50 P \$6.65
9	Network Flow Theory Especially the Transportation Problem, the Shortest Route Problem and Queuing Theory (1957-1961)			
10	Transition Probabilities, Dissociation Energies, and Emissivities of Atoms and Molecules of the Elements and Common Metal Oxides (1947-May 1962)			
11	Ship Stabilization and Position Keeping Devices (1950-March 1962)			
12	Tropospheric Scatter Communication Systems (1955-July 1962)			

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13	Soviet Books on Radiotechnology and Electronics in 1962 (1962)	4 Sept. 1962	285491	H-429 M \$1.50 P \$12.40
14	Radar Astronomy (1946-August 1962)	31 Dec. 1962	294683	H-462 M \$1.50 P \$4.15
15-1	Radomes, Part I (1949-November 1962)	31 Jan. 1963	401159	H-493 M \$1.50 P \$7.90
15-2	Radomes, Part II (1949-November 1962)	28 Feb. 1963	403145	
16	Raman Spectra of Inorganic Solids with Emphasis on Quartz (1947-December 1962)			
17	Diamond: Synthesis and Properties (1958-December 1962)	30 Apr. 1963	415716	H-509 M \$1.50 P \$4.20
18	Superconducting Magnets and Properties of Superconductors (1960-January 1963)			
19	Photometric Measurements of the Lunar Surface (1952-April 1963)			
21	Redundancy Techniques for Achieving Reliability in Logical Networks (1962-July 1963)			
22	Representations and Applications of Lorentz Groups (1956-September 1963)			
23	Attitude Perturbation and Control of Artificial Earth Satellites (1957-December 1963)			
24	Depolarization of Electromagnetic Radiation Scattered from Anisotropic Media (1947-April 1964)			

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Q-1	Electronic Aids in Air Navigation	1956-1962	July 1962
Q-2	Recent Developments in Package Nuclear Power Reactors	1959-Sept. 1962	Sept. 1962
Q-3	Design of Logic Circuits Using Transistors	1958-1962	Nov. 1962
Q-4	Instrumentation for Television Scan and Frame Rate Conversion	1952-1962	Dec. 1962
Q-5	Residual Gas Analysis in Vacuum Systems	1959-Apr. 1963	July 1963
Q-6	Artificial Dielectrics for Focusing Microwaves	1948-Jan. 1963	Aug. 1963
Q-7	Ultrasonic Absorption in Air	1946-June 1963	July 1963
Q-8	Electronic Photography	1958-Apr. 1963	May 1963
Q-9	Integrating Microdensitometry of Photographs	1959-June 1963	July 1963
Q-10	Preparation and Properties of Europium Monoxide and Chromium Dioxide	1928-Oct. 1963	Nov. 1963

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