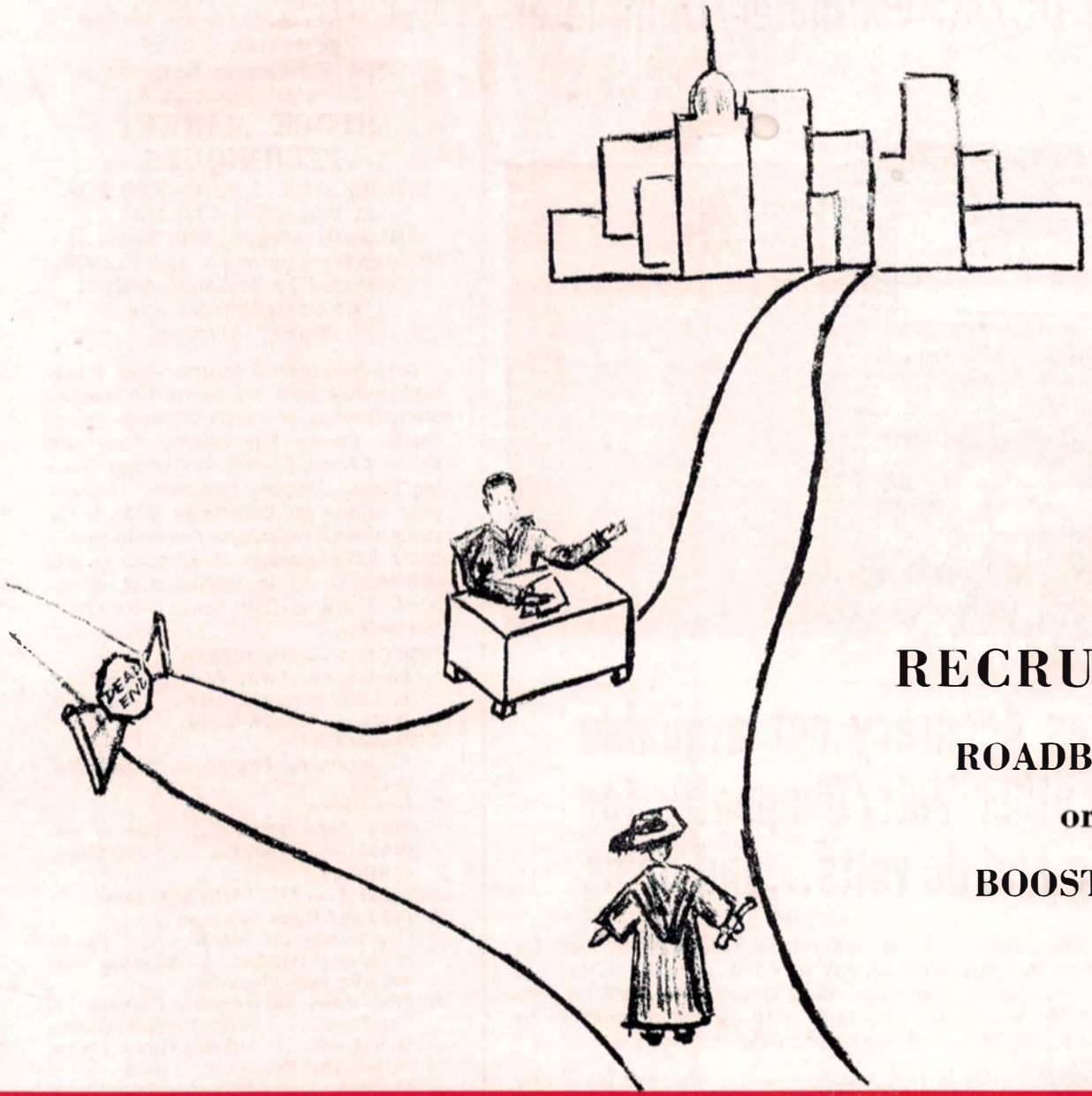

RECRUITER:

ROADBLOCK

or

BOOSTER?

The IEEE

Newsletter

The Magazine of the North Jersey Section

ANNUAL STUDENTS' NIGHT PROGRAM

FRIDAY EVENING - DECEMBER 3, 1965

FAIRLEIGH DICKINSON UNIVERSITY GYMNASIUM
TEANECK, NEW JERSEY

STARTING 7:30 P.M. **FREE REFRESHMENTS** **COMPLIMENTARY GIFTS**

DECEMBER 1965 Volume 12 / Number 4

The Power & Industrial Division
New York Section
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A slide-illustrated lecture series organized to show how you may profit from an understanding of charts of stock movements. Covers Bar Charts, Point and Figure Charts, Market Psychology, Timing Tactics, Velocity Indicators. Improve your investment knowledge through the mathematical techniques described specifically for engineers. A stimulating and informative aid to sophisticated investment. Valuable Chart books given FREE to enrolees.

SESSION 1 — DECEMBER 2, 1965

1. *Introduction of The Technical Approach:* Technical vs. fundamental . . . purpose of charts . . . market timing.
2. *Market Cycles:* Accumulation, Progression, Distribution, Decline.
3. *Line Charts:* What charts represent . . . how to construct . . . Their use . . . logarithmic charts.

SESSION 2 — DECEMBER 9, 1965

4. *Point and Figure Charting:* Construction and meaning . . . use by institutional investors . . . determine short and long term objectives.
5. *Trend Lines and Trendline Channels:* Significance . . . construction and meaning tactical use . . . Industry Group Charts.
6. *Support and Resistance:* Definition . . . use for timing (in and out).

SESSION 3 — DECEMBER 16, 1965

7. *Reversal and Consolidation Patterns:* Head and Shoulder tops and bottoms . . . Broadening tops . . . measured moves.
8. *Market Indicators:* Popular averages . . . odd lot index . . . moving averages . . . advance decline index . . . short interest ratio.
9. *Market Tactics:* Trading vs. long term, margin or cash . . . market psychology and timing . . . Long position vs. short position . . . stop loss orders . . . avoidance of large losses . . . breakouts and new high approach.

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ABOUT ADDRESS CHANGES

It is not necessary to inform the North Jersey Section when you change your mailing address. The NEWSLETTER and other section mailings use a list provided by IEEE's national headquarters in New York. This means the Section has no need to maintain a mailing list or addressing plates. Section membership records are changed when Headquarters notifies us.

**REPORT ALL ADDRESS CHANGES TO:
INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS INC., 345 EAST 47th STREET
NEW YORK, N. Y. 10017**

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Executive Committee Meeting
at Verona Public Library
December 1
January 5

North Jersey Section
IEEE Executive Committee

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Chairman	Walter L. Glomb
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Secretary	Joseph O'Grady
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Member-at-Large	Herbert Blaicher, Jr.
Past Chairman	John K. Redmon

EDITORIAL
JOIN THE NEWSLETTER STAFF!

In the past several months new names have been added to the column on the left. Some names have been dropped. Those who left the Newsletter staff deserve our appreciation for their efforts, and best wishes on their future endeavors.

The new people have already contributed a great deal and they deserve our encouragement. But they could also use some help. More staff members are needed. The positions open require little effort, for those interested, and only a few hours a month.

Staff work presents an opportunity to observe and participate in other aspects of engineering, non-electrical-and-electronics ones. Other advantages to the staff member in order of importance are:

- his name gets printed, at least once every issue and circulated among 5600 engineers (one of them may be his boss)
- he gets acquainted with prominent engineers in other companies who may get to recognize him (one may even become his next boss)
- he falls in line for promotion to become managing editor, and then editor of the Newsletter

Other advantages could be listed, but as they are less tangible they cannot be correctly weighed. Their importance varies with the individual for they relate to such values as pride, satisfaction, a job-well-done complex, etc. . . .

For more details on the "work" involved, write the Newsletter c/o Staff Associates at the address given on the left.

NORTH JERSEY SECTION ANNUAL STUDENT NIGHT

RECRUITER: ROADBLOCK OR BOOSTER?

Fairleigh Dickinson University will once again act as host for the Annual IEEE-North Jersey Section Student Night which will be held on Friday, December 3, 1965, at 7:30 P.M., in the FDU Gymnasium, 1000 River Road, Teaneck, New Jersey.

The Student Affairs Committee of the Section, under the leadership of Mr. James W. Earle of the staff of Newark College of Engineering, has arranged an interesting and enjoyable evening for the fledgling electrical and electronics engineers. They are all invited to the meeting, whether or not they are student members of IEEE.

The feature of the evening is a symposium on the subject of college recruiting. A group of experienced recruiters have agreed to serve on the panel, and plenty of time will be allowed for questions from students. What an opportunity to find out what these influential men are thinking about when they interview!

The panel will include the following men:

MR. M. NORTON
College Relations Dept.
General Electric Co., Schenectady

MR. LEO ADELSON
EE Recruiter
Picatinny Arsenal

MR. E. K. GILL
College Relations Dept.
Western Electric Co.

MR. C. RUFFLE
Public Service Electric and Gas Co.

MR. RICHARD A. DONOVAN
Director of Industrial Relations
Electronics Associates, Inc.,
West Long Branch

Through the efforts of Mr. J. G. O'Grady, the Section Secretary, and the kindness of the RCA Corp., 150 RCA handbooks will be available for distribution at the meeting. In addition, RCA has donated a Designer's Handbook which will be used for a door prize.

All members of the North Jersey Section are urged to attend. Their advice and encouragement will be appreciated by the younger men.

REFRESHMENTS WILL BE SERVED

Standing Committee Chairmen

Awards	R. Chipp
Education	Earl Van Tassel
History and Procedures	Frank Polkinghorn
Membership	
Nominations	A. G. Kandoian
Program	M. Irvine
Publications	Marcel Kozuch
Publicity	Harry Raven
Student Affairs	J. W. Earle
Group Coordinator	D. R. Campbell

N. Y. COMPUTER GROUP

AUTOMATA THEORY — WHAT IT IS AND WHAT IT SHOULD BE

A very basic survey of automata theory will be presented at the December meeting of the Metropolitan N. Y. Chapter of the Computer Group. This meeting is scheduled for *December 16, 1965*, 8:00 P.M. at the IBM building, 590 Madison Avenue, N. Y. C. A Dutch-treat, no reservation needed dinner will precede the meeting. It will be held at Schrafft's, 675 Madison Avenue (58th Street) at 6:00 P.M. and will be an opportunity to meet the speaker, *Dr. Richard M. Karp*, the chapter officers and other members of the computer group.

Dr. Karp is a research staff member at IBM's Research Center at Yorktown Heights, and visiting associate professor at Polytechnic Institute of Brooklyn.

The idea of the survey is to help the non-specialist interpret the increasingly important but discouragingly impenetrable subject of automata theory. Dr. Karp will tell in ordinary language what automata theory is, what it includes and does not include, how it relates to the various professional interests of the audience, and where it seems to be heading.

The emphasis will be on definitions, perspective and general understanding, with detail avoided except as needed to answer questions. Dr. Karp will assume that the audience has a general knowledge of computers but that it has forgotten almost all of the mathematics it ever learned.

For more information contact Philip Rosenblatt, 212 - 577-4052.

EXECUTIVE COMMITTEE COLUMN

WHO ARE WE? WHY ARE WE HERE? WHERE ARE WE GOING?

We are the North Jersey Section, over 5,000 strong, with most of our membership living or working in the North Jersey area. This area has a cross-section of extremely diversified electrical and electronics industries in all of which the IEEE is represented in depth. In this respect our Section can be equaled to few other Sections. Our objectives for the current year, were given in Chairman Glomb's article in the September issue of the Newsletter, and in establishing objectives for our current operation, Mr. Glomb did not neglect planning for the future.

Looking to the future, we must give careful consideration to the needs of the student engineers who make up the three student chapters in our Section. At last count, there were nearly 650 student members. During this month, we are setting aside a Section meeting that is devoted entirely to the interests of these members. This is but one of several programs that are planned by which the Section shows its interest in the young men who will be future members, senior members and Fellows of the Institute. However, it is not enough to bridge the gap between present and future by merely holding a handful of meetings that could be interpreted as nothing more than casual interest. Each of us, as members, must take a personal interest in our student membership. We can help in a significant way not only through our participation in Section activities that are helpful to students, but also in our day to day contact with those young men who need and can use our professional guidance. It is essential that each of us help in any way possible to communicate to the students the interest that the North Jersey Section has in their welfare.

Where are we going? The prospects appear bright for greater growth and more meaningful professional development. But without our student members we are indeed without hope.

J. G. O'GRADY

INFORMATION THEORY

Current Research on the Gaussian Channel

Speaker: Dr. David Slepian
Bell Telephone Laboratories
Murray Hill, New Jersey

Place: "Little Theatre"
New York Telephone Co.
(main floor)
140 West Street
New York City
(near Chambers Street stop of IND or Cortland Street stop of IRT)

Time: 8:00 P.M.

Date: December 9, 1965

David Slepian attended the University of Michigan, Ann Arbor, and Harvard University, Cambridge, Mass., where he received the M.A. degree in 1946, and the Ph.D. degree in physics, in 1949.

In 1950 he joined the Bell Telephone Labs., Inc., Murray Hill, N. J., as a research mathematician and has remained in this position since. His interest here has been in communication theory and applied mathematics, especially applications of probability theory. During the academic year 1958 to 1959 he was a Visiting McKay Professor of electrical engineering at the University of California, Berkeley, Calif.

PARTS, MATERIAL & PACKAGING GROUP

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STUDENT AFFAIRS

Activities at NCE

Meetings Are Held

• On October 15 the Student Chapter at Newark College of Engineering conducted a meeting which was highlighted by two noteworthy speakers. Mr. Hal Flanders, Northeastern Region Manager of Systems Equipment Engineering for Western Electric Company, and Mr. Ed Youch, of the Sprague Electric Company, discussed two of the primary functions of engineering.

Mr. Flanders answered the question: "Are current engineering graduates meeting production-oriented industrial needs?" Mr. Youch stressed the work of the sales engineer. Along with design engineering and research and development, production and sales engineering account for the employment of a vast segment of practicing engineers.

• A November first meeting featured a discussion about the relationship between graduate school and industry. Mr. Maurice Norton, who is Eastern Regional Manager of College Placement for General Electric Company, presented his ideas on the topic. He then answered pertinent questions from the students.

Students Form Committees

• Can you recall that first electrical lab session when, instead of completing your assigned experiment, you exhausted your time trying to "get the oscilloscope to work?" An *Instrument and Calibration Committee* has been formed by the NCE Student Chapter. Its goal is to study the test equipment, looking for ways to make the lab more meaningful to the students. "Perhaps some simplified operating procedures can be written," states Professor Wayne Clements, the advisor for the Day Students Chapter at NCE.

• All good electrical engineers appreciate the value of feedback. At NCE the chairman and vice-chairman of the EE Department are now receiving the opinionated variety. The feedback "circuit" was designed by the *Feedback Committee*, which was conceived by the IEEE Student Branch, Eta Kappa Nu, and the *Vector* (student newspaper).

Dr. Fred Russell and Professor Robert Anderson invite the Junior and Senior classes to avail themselves of the open-door policy and to discuss any type of problem which may exist. *This column strongly endorses such a plan that enables the students to swiftly and satisfactorily state their opinions to those who can and will assist them.*

OFFICERS OF IEEE STUDENT BRANCHES

Fairleigh Dickinson University	Newark College of Engineering DAY	Newark College of Engineering EVENING	Stevens Institute of Technology
Chairman: R. C. Crawford	*Chairman:* R. Poinsett	*Chairman:* H. Meyer	*Chairman:* J. Suzansky
Vice-Chairman: R. H. Ponsi	*Vice-Chairman:* W. Hnat	*Vice-Chairman:* V. Rendenna	*Vice-Chairman:* C. Fairbanks
Treasurer: W. Guyton	*Treasurer:* R. Salkie	*Treasurer:* E. Merchant	*Treasurer:* A. Bahr
Secretary: A. K. Scragg	*Secretary:* A. Nawy	*Secretary:* A. Stolpen	*Secretary:* R. Pease
Faculty Advisor: Dr. E. Wantuch	*Faculty Advisor:* Prof. W. Clements	*Faculty Advisor:* J. W. Earle	*Faculty Advisor:* Prof. H. Phair

People and Communications

The world's scientific effort is certain to create more complexities, but in their correct perspective, the most complex factors are *people* and *communications* between people. Scientific achievements, which collectively make the environment, are simply the tools for people to use creatively or misuse destructively. Responsibility for learning to live and communicate creatively with people starts in the home, and at an early age. The important effort needed to instill common sense and encourage young people to think for themselves. Then their future is safe.

J. P. Wheeler, *IRE Echoes*

GAES

The Optically Pumped NMR Gyroscope

The December meeting of the New York Metropolitan Chapter of GAES will be held as follows:

Date:	Thursday, December 9, 1965
Time:	8:00 P.M.
Place:	Wilkie Memorial Auditorium 20 West 40th Street New York City
Subject:	*The Optically Pumped NMR Gyroscope.* The optically pumped NMR gyro is an unconventional inertial sensor with no large sized moving parts. Rotation information is derived from observations on a precessing nuclear magnetization. The principles of operation, instrumentation, and performance of an experimental model will be described. The characteristics such as high reliability, ruggedness, that make it a potentially attractive device, will be discussed.
Speaker:	Dr. James H. Simpson GPL Division — Aerospace Group General Precision, Inc. 63 Bedford Road Pleasantville, New York
Pre-meeting	6:30 P.M.
Dinner:	Old Seidelburg Restaurant 626 Third Avenue (between 40th & 41st Street on the West Side of Third Avenue)

Dr. Simpson has been concerned with nuclear-gyroscope research since joining GPL in 1958, upon receiving a Ph.D. in physics at Rutgers State University, and is senior GPL investigator on applying nuclear magnetic resonance techniques to instrumentation. Previously, Dr. Simpson was an instructor at Fairleigh Dickinson and assistant professor at Delaware University. He is a member of APS, Phi Beta Kappa, and Sigma XI.

IEEE INTERNATIONAL CONVENTION PROGRAM COMMITTEE ANNOUNCES PRELIMINARY PLANS

Preliminary plans for the 1966 IEEE International Convention technical program have been formulated by the Convention Program Committee. The plans include a change in the times for scheduling sessions, and the concentration of all technical sessions at the New York Hilton Hotel.

The 1966 Convention will be held March 21st through 25th at the New York Hilton Hotel and the Coliseum.

Eighty technical sessions are planned for the five day convention. Session hours will be:

Monday:

9:30 a.m.—12:00 noon
2:00 p.m.— 4:30 p.m.

Tuesday, Wednesday, Thursday:

9:00 a.m.—11:30 a.m.
2:00 p.m.— 4:30 p.m.

Friday:

9:00 a.m.—11:10 a.m.
11:20 a.m.— 1:30 p.m.

The Technical Program Committee has stated that panel discussions, tutorial, and state-of-the-art presentations as well as recent technical advances are all worthy subjects for discussion at this convention.

Members of the Technical Program Committee are: Mr. P. K. McElroy, Chairman; and Messrs. J. V. N. Granger, L. G. Abraham, I. G. Easton, E. L. Harder, E. W. Herold, R. W. Sears, and R. M. Emberson.

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NONE

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Total number of copies distributed	5700

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Free distribution (Including samples)	100
Total number of copies distributed	5383

I certify that the statements made by me above are correct and complete.

A. J. LaRouche
Office Manager

DEATH OF AN ENGINEER

Ten years ago he was abreast of his profession, understood latest technologies, was sought after, promoted . . . recruited.

But he avoided the technological literature, (too hard on the eyes) thought professional societies were a waste of time (I'm not a joiner).

Today he has been passed over in his company . . . worse, he no longer quite understands what his more alert friends are talking about — "tunnel diodes", "molecular electronics", "solid state phenomena," and many other subjects.

Knowledge is the life-blood of a professional career — continuing knowledge in an expanding technology. This is the job that the Institute of Radio Engineers helps perform . . . at its local, regional, and national meetings . . . in its literature . . . in joint endeavors with other professional societies. You have too great an investment in your professional career to let it deteriorate through negligence.

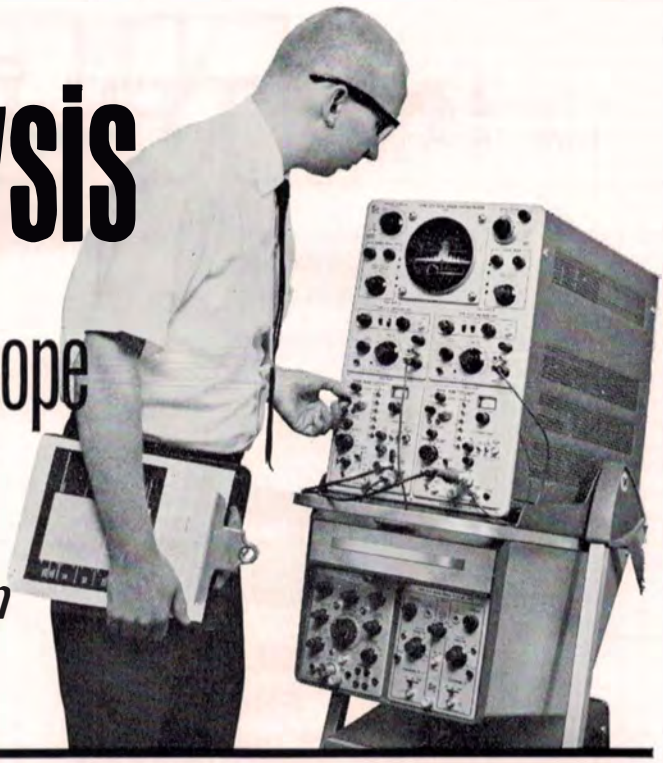
— IRE ECHOES
August 1961

Tomorrow Science will
have moved forward
yet one more step,
and there will be no appeal
from the judgment which
will then be pronounced
on the uneducated.
—Alfred North Whitehead

spectrum analysis

with your TEKTRONIX® oscilloscope

provides phase lock and 100 MHz dispersion



TYPE 1L20	TYPE 1L30
10 MHz · 4.2 GHz	**925 MHz · 10.5 GHz**

These new spectrum analyzer plug-in units can be used in all Tektronix oscilloscopes that accept letter-series plug-ins. They provide a rapid and accurate method for display and analysis of energy distribution over a wide range of frequencies. *Type 1L10 with similar features covering frequency range from 1 MHz to 36 MHz also available.*

phase lock — Permits stable displays at 1 kHz/cm dispersion by locking the frequency of the RF local oscillator to the internal 1-MHz crystal-controlled reference, or to an external standard frequency.

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display flatness — ±1 dB over 100 MHz dispersion.

recorder output — A front-panel connector provides a dc-coupled analog output of the spectral display for chart recorders or other uses.

other characteristics	Type 1L20	Type 1L30
Frequency Range	10 MHz—4.2 GHz	925 MHz—10.5 GHz
Minimum Sensitivity	110—90 (-dBm)	105—75 (-dBm)
Incidental FM	With Phase Lock, less than 300 Hz on fundamental.	
Dial Accuracy	±(2 MHz ±1% of rf input frequency)	
IF Attenuation	51 dB ±0.1 dB/dB in 1-dB steps	
IF Gain	50 dB, variable	
Display	Log, linear, square law, video	
Price	$1995.00	$1995.00

Type 3L10 for Tektronix 560-Series Oscilloscopes provides 1 MHz to 36 MHz spectrum analysis capability.

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NEW INSTRUMENTS

HP MODEL 537A COAXIAL FREQUENCY METER ELIMINATES SPURIOUS RESPONSES

There are no spurious resonances at any setting with model 537A Coaxial Frequency Meter. A one-quarter wavelength tuning mode is employed and capacitively loaded to prevent the three-quarter wavelength mode of higher frequencies from being excited and giving a spurious response.

Frequencies 3.7 to 12.4 Ge can be read directly and accurately with Model 537A Coaxial Frequency Meter. Convenient read-out with high resolution is provided by the spiral dial which has a scale over 80 in. (2030 mm) long. The dial has all frequency calibrations visible so you can tell at a glance the specific portion of the band you are measuring.

Over-all accuracy of Model 537A is 0.17% and includes such variables as dial calibration, temperature variation over a 20°C range, relative humidity effects, and backlash.

The Model 537A Coaxial Frequency Meter is 5-3/4" high, 4-5/8" wide, and weighs 3-1/2 pounds. The Model 537A costs $500.00.

NEW MOSELEY X-Y RECORDER COSTS UNDER $800.00

A wholly new, low-priced X-Y recorder from Moseley Division of Hewlett-Packard features floated and guarded input, photo-chopper dc amplifiers, the exclusive Autogrip paper hold-down, and disposable ink reservoir.

The Model 7035A recorder, for standard 8½"x 11" paper, has floated and guarded differential dc inputs, which give 130 db common mode rejection for dc, 110 db for ac, on the 1 mv/inch sensitivity range. Each of its two servo systems uses a photochopper solid-state amplifier.

Standard equipment includes the Moseley-developed silent Autogrip paper hold-down, which has no moving parts and requires no maintenance other than routine cleaning.

Optional with Model 7035A are local or remote electric pen lift, lockable zero and variable range controls for both axes, and retransmitting potentiometers on either or both axes.

Five calibrated ranges from 1 mv/inch to 10 volts/inch, and five continuously adjustable ranges from 1 mv/inch to 25 volts are provided. Accuracy is ±0.2% full scale, and linearity is ± 0.1%.

The compact dimensions of the new Model 7035A X-Y Recorder are 17-1/2" width, 10-1/2" depth, and 4-7/8" height. The recorder is priced at $795.00. And for complete information on Moseley Model 7035A Recorder, call your RMC Field Engineer.