[illegible]

[illegible], [illegible]

...atizatsiya ... a ... ape, ... e editors ... zhur ...

'57.

... Nachal'nik montazhnogo uchastka ... vyaz ... (Mine haulage) Automatic control

MIZYUK, L. YA.

Electronic Vector Meter With Keyed Operation

The schematic operation diagram of a vector meter containing three tubes is analyzed. Limits of errors are established. (RZhFiz, No. 9, 1955) Nauch. Zap. in-ta Mashinoved. i Avtomatiki AN SSSR, 3, 1954, 122-141.

SO: Sum. No. 744, 8 Dec 55 - Supplementary Survey of Soviet Scientific Abstracts (17)

MIZYUK, L.Ya.

KARANDEYEV, K.B.; MIZYUK, L.Ya.

Classification and properties of a.c. electronic indicators. Nauch. zap. IMA AN URSR. Ser. avtom. i izm. tekh. 4:5-27 '55. (MLRA 10:8)
(Electronic instruments)

MIZYUK, L.Ya.

Electronic vector meters with asymmetric points of entry. Nauk. zap IMA AN URSR. Ser. avtom. i izm. tekh. 4:98-11[illegible] 5[illegible].
(Electronic instruments) (MIRA 1[illegible]:[illegible])

KARANDEYEV, K.B.; MIZYUK, L.Ya.; SHTAMBERGER, G.A.

Measuring total resistance in a.c. semibalance bridges. Nauch.zap. IMA AN URSR. Ser.avtom. i izm. tekh. 5:64-82 '55. (MIRA 9:10)

(Electric resistance)

MIZYUK, L.Ya.

Electronic phase-insensitive differential a.c. indicators. Nauch.zap. IMA AN URSR. Ser.avtom. i izm. tekh. 5:184-212 '55. (MLRA 9:10)

(Electronic instruments)

MIZYUK, L.Ya.

Quadratic broken-line approximation for the grid characteristics of triodes. Nauch.zap. IMA AN URSR. Ser.avtom. i izm. tekh. 5: 213-219 '55. (MLRA 9:10)

(Triodes)

KARANDEYEV, K.B., MIZYUK, L.Ya., SHTAMBERGER, G.A.

Separate measurement of active and idle components of complex resistances. Dop. AN URSR no.5: 458-461 '55. (MLRA 9:3)

1. Institut mashinoznavstva ta avtomatiki AN URSR. Predstaviv diysniy chlen AN URSR G.M. Savin.
(Electric resistance)

... Electronic ... Circuits FD-

Mizyuk L. Ya.

Pub. 90 - ... 12

Author : Mizyuk, L. Ya.

Title : Calculation of a Cathode Detector

Periodical : Radiotekhnika, ..., May

Abstract : A procedure is proposed for calculating ... detector in the case ... an amount ... signal and using ... segmental approximation of a tube characteristic. It is shown ... convenient to ... in a segmental ... to strong signals. An equivalent circuit relative to the output terminals is given, and the ... of the equivalent circuit of the detector are determined. The ... agree with experimental results and indicate that ... detector should ... only in the ... Tubes ..., ..., and ... G... diagrams ... USSR references.

... ation :

Submitted : January 13, 195[illegible]

USSR/Physics of the Earth - Geophysical Prospecting, 0-5

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 36463

Author: Karandeyev, K. B., Mizyuk, L. Ya.

Institution: None

Title: On New Automatic Measuring Apparatus for Electric Prospecting with Direct Current Methods

Original Periodical: Razvedka i okhrana nedr, 1956, No 1, pp 31-44

Abstract: Two instruments were developed, which make it possible to measure the emf in rocks and under complicated conditions, for example, when prospecting for ore deposits, when the transfer resistances vary from fractions of an ohm to 10^6 ohms at a considerable level of noise from stray telluric currents, from induction, etc. On the basis of these instruments it is proposed to build an electric prospecting station. The first instrument is a high speed automatic electronic compensator (EK), operating on the principle of static compensation. The uncompensated part of the measured

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APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134810012-0"

USSR/Physics of the Earth - Geophysical Prospecting, 0-5

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 36463

Abstract: voltage is transformed by a vibrator transformer into a pulsating voltage which is amplified and is used to control with the aid of a phase-sensitive stage and a reversible motor, the displacement of the carriage of a slide wire resistance, a pen, and the pointer of the indicating instrument until a balance is established. The voltage across the terminals MN with and without current flowing in the circuit AB are automatically recorded alternately every 30 seconds, with a pen on a paper chart 100 mm wide, and this makes it possible to eliminate the effect of the interference. The electronic compensator has 6 measurement ranges for voltage, from 1.5 to 500 mv, and 6 ranges for current, from 15 to 5,000 ma. The input resistance of the electronic null indicator is 250,000 ohms. The reduced relative error of the measurement does not exceed 2%. The electronic compensator consists of 2 blocks weighing 10 kg each and a power pack weighing 3.4 kg. The electronic compensator is fed from a 6-volt storage battery. The current consumption does not exceed 3.5 amperes. Provision is made in the electronic compensator for compensation of the polarization with an adjustment limit of ±350 mv. The second instrument is an electronic

Card 2/4

USSR/Physics of the Earth - Geophysical Prospecting, 0-5

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 36463

Abstract: automatic compensator, which amplifies the measured voltage with a d-c electronic amplifier and which records automatically, in sequence, by means of a galvanometer of the GN-53 type, on a standard motion picture film, the voltage across the terminals MN with and without current flowing in the circuit AB; the instrument also records the zero level with the aid of a second galvanometer. It also records the current in the circuit AB. To interpret the results on the film, a type TPU-1 enlarger is used. The electronic automatic compensator has a scale 60 mm long for visual control. The electronic automatic compensator has 6 measurement ranges for voltage, from 1.5 to 500 mv, and 6 for current from 6 to 2,000 ma. The input resistance of the instrument reaches several tens of megohms, permitting normal operation at practically all values of transfer resistance. The spring mechanism ensures the advance of the film for 40-45 minutes with one winding. The instrument with the dry cells for its supply does not weigh more than 13 kg. The electronic automatic compensator has a lower inertia, a lower weight, and smaller dimensions than the electronic compensator, but unlike the

Card 3/4

15-57-7-9935

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 7, p 174 (USSR)

AUTHORS: Karandeyev, K. B., Mizyuk, L. Ya.

TITLE: Automatic Measuring Instrument for Direct Current Electrical Geophysical Exploration (Avtomaticheskaya izmeritel'naya apparatura dlya geofizicheskoy razvedki postoyannym tokom)

PERIODICAL: Novosti neft. tekhn. Geologiya, 1956, Nr 5, pp 28-31

ABSTRACT: The Institute of Machine Science and Automatics of the Ukrainian SSR has developed two models of an instrument for automatic measurement of the voltage and current in electrical exploration. The first model is based on the principle of automatic electronic compensator. The measured voltage is balanced against the voltage obtained from the rheostat. If there is a lack of balance, the difference in these voltages is

Card 1/2

15-57-7-9935

Automatic Instrument for Measuring Direct Current (Cont.)

transformed into an alternating current, is amplified, and acts on the servomotor through a phase-sensitive cascade. The motor, revolving, moves the rheostat carriage and the pen and needle of the indicator until the state of balance is restored. The voltage and current are recorded with a pen on a paper ribbon 1800 mm wide. The initial resistance of the instrument amounts to some tens of megohms. The instrument is fed by a 6-volt storage battery. Total weight of the instrument is 13.4 kg. The second model is also based on the principle of automatic electronic compensation. The difference between the measured voltage and the part of the rectified outgoing voltage is supplied to the booster from the vibrator at the input. The outgoing voltage is rectified by the same vibrator. Current and voltage are recorded on standard motion picture film by means of a type GH-53 galvanometer. The initial resistance of the second model is not less than 2.5 megohms. The film is stretched by means of a spring mechanism. This model is fed by dry batteries; it is in the form of a suitcase and weighs 13 kg. Diagrams and photographs of the two models are included.

N. I. Voskoboynik

Card 2/2

MIZYUK, L.Ya.; ZUBOV, V.G.

Calculating the limits and the scales for some multilimit measuring and computing devices. Izm.tekh.no.5:30-34 S-O '56. (MLRA 10:2)
(Measuring instruments) (Calculating machines)

KARANDEYEV, K.B.; MIZYUK, L.Ya.; SOGOLOVSKIY, Ye.P.; SHTAMBERGER, G.A.

The ESK-1 electrical prospecting automatic compensator with direct reading. Razved.i okh.nedr 22 no.7:39-49 Jl '56. (MLRA 9:11)

1. Institut mashinovedeniya i avtomatiki Akademii nauk USSR. (Prospecting--Geophysical methods) (Electric instruments)

MIZYUK, L.Ya.; ZUBOV, V.G.

Using a computing automatic compensator for direct-current oil prospecting. Razved.i okh.nedr 22 no.12:33-43 D '56. (MLRA 10:2)

1. L'vovskiy institut mashinovedeniya i avtomatiki.
(Prospecting--Geophysical methods) (Electric measurements)

KARANDEYEV, K.B.; MIZYUK, L.Ya.; SHTAMBERGER, G.A.

Automatic electronic compensators used in geophysical measurements. Avtom. kont. i izm. tekh. no.1:5-20 '57. (MIRA 11:6)
(Electronic measurements)
(Prospecting)

KARANDEYEV, K.B.; MIZYUK, L.Ya.; ZUBOV, V.G.

Using pointer instruments in solving the solution $\alpha = \frac{x}{y} z$. (MIRA 11:6)
Avtom. kont. i izm. tekh. no.1:21-29 '57.
(Electronic analog computors)

SIVOLAPOV, Vsevolod Petrovich; KARANDEYEV, Konstantin Borisovich; MIZYUK, Leonid Yakovlevich; GONCHARSKIY, Vladimir Nikolayevich; LYUSTIBERG, V.F., inzh., ved. red.; SHTEYNBOK, G.Yu., inzh., ved. red.; SOROKINA, T.M., tekhn. red.

[MFI phase meters. Light-sensitive EAK-3 automatic compensators for electric prospecting] Fazometr MFI. Fotoregistriruiushchii elektrorazvedochnyi avtokompensator EAK-3. [By] K.B. Karandeev i dr. Moskva, Filial Vses. in-ta nauchn. i tekhn. informatsii, 1958. 25 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt. Tema 35. No.P-58-27/4) (MIRA 16:3)

(Electric prospecting--Equipment and supplies)
(Electric measurements)

PHASE I BOOK EXPLOITATION

Karandeyev, Konstantin Borisovich, and M...

Elektronnaya izmeritel'naya apparatura dlya geofizicheskoy razvedki metodami postoyannogo toka (Electronic Measuring Equipment for Geophysical Prospecting Using Direct Current Methods) Moscow, ...tekhizdat, 1958. 287 p. 5,000 copies printed.

Ed.: Godovikov, ...A.; Tech. Ed.: Krynochkina, K.V.

...: ...he book may be useful to engineers and geologists ... in prospecting for coal, oil, iron ore and other deposits.

... According to the authors, the book is an attempt to generalize and systematize the information on measuring equipment ...ed in geophysical prospecting by direct-current methods. The ...uipment described in the book was developed by IMA (Institute of Mechanical Engineering and Automation of the USSR Academy of Sciences). In 1954 the Institute developed two types of portable automatic instruments with photographic and pen recorders. In 1955, upon the suggestion of A.S. Semenov, A.V. Veshev, and A.... ...kin, the Institute also developed direct-reading instruments.

[illegible] onic Measuring E[illegible]ipment [illegible]

At the same time a working [illegible] [illegible] meas- [illegible] compensator [illegible] further development [illegible] and is being [illegible] the [illegible] measuring instruments. [illegible] [illegible]ments [illegible] miniature single-channel oscillograph [illegible] methods [illegible] sounding method [illegible] currents [illegible] for prospecting by telluric currents [illegible] and M.N. [illegible] were A.S. Alekseyev, A.M. [illegible]mistr, [illegible] [illegible] participated members of NIIGR (Scientific Research [illegible] [illegible] Prospecting Methods). The following [illegible] in the development of measuring instruments [illegible] prospecting: G.A. Shtamberger, V.I. [illegible] [illegible] I.G. Mityukhin, L.D. Gik, [illegible] Kuznetsov, E.[illegible] [illegible] Kuzovkin, L.V. [illegible] A.I. Antonov, [illegible] [illegible] the [illegible]vitskiy. The authors thank [illegible] text. [illegible] Yakovlev[illegible], and [illegible] A.S. Alekseyev [illegible] [illegible] during the manus[illegible] [illegible] Soviet [illegible] There are [illegible] references. [illegible] German and 1 French (translation), [illegible] English [illegible]

Card [illegible]

Electronic Measuring Equipment (Cont.) 1171

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Electronic Measuring Equipment (Cont.) 1171

AVAILABLE: Library of Congress

JP/atr
[illegible]-20-59

Card 4/4

AUTHORS: Karandeyev, [illegible] Mizyuk, L. Ya., [illegible]

TITLE: Directly Measuring [illegible] in Direct-Current [illegible]

PERIODICAL: Referativnyy [illegible] 2, 1959, [illegible]

TEXT: The authors give [illegible] directly measuring [illegible] coefficient K of [illegible] distance, at any value of [illegible] element is a millivoltmeter [illegible] ratus. The scheme's basic [illegible] additional resistance. To [illegible] of the millivoltmeter [illegible] the authors recommend the [illegible] autocompensator scheme. The meter [illegible] electronic autocompensator [illegible] which ensures scale uniformity. [illegible] graduated [illegible]

[illegible] ter's note: Complete translation.]

Card 1/1

PHASE I BOOK EXPLOITATION SOV/4059

Veshev, A. V., L. Ya. Mizyuk, G. A. Petrov, A. F. Fokin, and A. N. Chir'yev

Elektronnaya elektrorazvedochnaya apparatura ESK-1 , KSR-1 i KSRM-1 (ESK-1, KSR-1, and KSRM-1 Electronic Equipment for Electrical Prospecting) Moscow, Gosgeoltekhizdat, 1959. 103 p. Errata slip inserted. 4,000 copies printed.

Sponsoring Agencies: Vsesoyuznyy nauchno-issledovatel'skiy institut metodiki i tekhniki razvedki; USSR Ministerstvo geologii i okhrany nedr.

Ed. of Publishing House: V. I. Korchagin; Tech Ed.: V. V. Bykova.

PURPOSE: This textbook is intended for geophysicists, field geologists, and persons engaged in geological exploration.

COVERAGE: The book describes new electronic equipment manufactured for electrical prospecting by the use of direct current. The book also describes principles of operation, construction, and efficiency tests performed under both field and laboratory conditions. The book also gives directions for using the eliminating them. The basic diagrams and first models of the equipment were developed by the Institute of Science of Machines and Automation, Academy of Sciences, Ukr SSR, in cooperation with the electrical prospecting laboratory of the VIRG (VITR). Field tests of the equipment were carried out jointly by the above-mentioned laboratory and the IMA AN Ukr SSR. Production models of the apparatus were developed in the OKB of the Ministry of Geology and Conservation of Mineral Resources, USSR. The following persons participated in the development of the electrical prospecting equipment: A.V. Veshev, V.G. Zubov, K.B. Karandeyev, L.Ya. Mizyuk, G.A. Petrov, E.P. Sogolovskiy, A.A. Flaksman, A.F. Fokin, G.A. Shtamberger, A.N. Chir'yev, and L.M. Jaffe. In writing this textbook, the following persons participated on behalf of the OKB MGiON: A.N. Chir'yev and G.A. Petrov; on behalf of the IMA AN Ukr SSR: L.Ya. Mizyuk, V.G. Zubov; on behalf of VITR; A.V. Veshev, L.V. Larionov, and A.F. Fokin. General editing was done by A.V. Veshev. There are 15 references: 12 Soviet, 1 Swedish, 1 English, and 1 French.

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Appendixes:

AVAILABLE: Library of Congress

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KM/rm/fal
8-10-60

27352
S/194/61/000/003/005/046
D201/D306

3,9410

AUTHORS: Karandeyev, K.B. and Mizyuk, L.Ya.

TITLE: The design of geophysical survey equipment using D.C. methods

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 3, 1961, 12, abstract 3 A92 (Tr. Konferentsii po elektr. izmereniyam i priborostr., Kiyev, AN USSR, 1959, 481-500)

TEXT: The best results in measuring small emf's with sharply varying internal resistances are attained by using self-compensating circuits. On this basis, the Institute mashinovedeniya i avtomatiki (Institute of Sciences of Machines and of Automation) developed a set of instruments for electrical survey by the D.C. current method. 1) Electronic self-compensating device with photo-recording (a second variant with paper tape recording) type ЭКА -2 (EKA-2) for continuous measurement and recording of voltages within 100 microvolt to 500 mV and of currents 1 mA - 2 A. The input res-

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D201/D306

The design of geophysical survey...

istance of the instrument varies between 2-5 megohms. The relative error of the order of 2%. 2) A small-dimension instrument with indirect reading for small distances between the electrodes of the operating and measuring circuits, based on an electronic self-computing circuit, with limits 1000 to 1 mV and from 3000 to 10 mA. The input resistance of the instrument 8 megohms, accuracy 1.5 - 3% depending on range. 3) A double-channel oscilloscope for recording slowly varying voltages based on the method of tellurium currents. The range of each channel is 0 - 1000 microvolts and 0 - 30 mV. Photorecording is used. Input resistance of each channel 1 megohm. Frequency distortions do not exceed 2%. 4) A digital computer instrument, self-compensating with direct read-out of $\Delta U, I_{AB}, \rho_k$, for measuring ρ_k within the range 0.001 - 3,162,000 ohms, having an input resistance $\geqslant$ 8 megohm. For division a millivoltmeter with additional attenuator and switched shunts is used. The relative error depends on the range and is 1.5 - 3%. All instruments have battery supplies. [Abstracter's note: Complete translation]

Card 2/2

MIZYUK, L.Ya.; GOL'DGEFTER, V.I.; ZUBOV, V.G.

DETA-58 double electric prospecting transitor compensator. Izv. vys. ucheb. zav.; geol. i razv. 2 no.12:134-139 '59.

1. L'vovskiy institut mashinovedeniya.
(Electric prospecting--Equipment and supplies)

32080
S/169/62/000/006/043/093
D228/D304

9.7000

AUTHORS: Zubov, V. G. and Mizyuk, L. Ya.

TITLE: Computing autocompensator [illegible] (KOR-M)

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 6, 1962, 34, abstract 6A253 (Byul. nauchno-tekhn. inform. M-vo geol. i okhrany nedr SSSR, no. 4 (21), 1959, 37-40)

TEXT: A computing compensator intended for fulfilling division and multiplication operations is described. The device solves equations for the calculation of the impedance (in the range 0.01 - 10[illegible] ohms) and the reduced gradient (in the range 1 - 1000 mv), the measurement range of the values being thereby varied and controlled automatically. The use of the same variable resistance as the converting unit throughout the measurement range is a peculiarity of the layout; this allows the instrument's communications circuit to be simplified. /Abstracter's note: Complete translation./

Card 1/1

KARANDEYEV, K.B.; MIZYUK, L.Ya.

Developing apparatus for airborne electrical surveys. Izv. Sib. otd. AN SSSR no.7:16-25 '59. (MIRA 12:12)

1. Institut avtomatiki i elektrometrii Sibirskogo otdeleniya AN SSSR.

(Prospecting--Geophysical methods)
(Aeronautics in geology)

PHASE I BOOK EXPLOITATION SOV/4407

Akademiya nauk Ukrainskoy SSR. Institut elektrotekhniki

Voprosy obshchego elektropriborostroyeniya (Overall Problems of the Electric Instrument Industry) Kiyev, 1960. 262 p. 3,000 copies printed.

Additional Sponsoring Agency: Nauchno-tekhnicheskoye obshchestvo priborostroitel'noy promyshlennosti. Ukrainskoye respublikanskoye pravleniye.

Editorial Board: A. D. Nesterenko, Corresponding Member, Academy of Sciences Ukrainskaya SSR (Resp. Ed.), M. I. Levin, Doctor of Technical Sciences, P. P. Ornatskiy, Candidate of Technical Sciences, V. P. [illegible], Candidate of Technical Sciences, A. F. Gorodovskiy, Engineer, [illegible], Engineer, and B. A. Seliber; Ed. of Publishing House: S. A. Kazantsev; Tech Ed.: M. I. Yefimova.

PURPOSE: This book is intended for technical personnel working in the field of electric measurement techniques, in electrical instrument plants, in laboratories of electric power systems and in electric measurement laboratories of plants.

COVERAGE: This is a collection of reports presented at a conference on the overall development of the Soviet electrical instrument industry held in Kiyev on October 23-27, 1956. The conference was convened by the Institut elektrotekhniki AN USSR (Institute of Electrical Engineering, Academy of Sciences UkrSSR) and the Ukrainskoye respublikanskoye pravleniye NTO priborostroitel'noy promyshlennosti (Ukrainian Republic Administration of NTO of the Instrument-making Industry). Problems relating to electrical instrument-making as a whole (reports by A. D. Nesterenko, P. P. Ornatskiy, Ya. S. Aver[illegible], A. Ya. Shramkov) were discussed, as well as problems relating to the development of reference instruments (Ya. S. Averbukh, I. K. Khuleyev), the automation of electric-measuring circuits (A. Ya. Shramkov, L. Ya. Mizyuk and [illegible]) the theory and practice of magnetic measurements [illegible]. Attending the conference were workers of scientific research [illegible] and schools of higher education, along with representatives [illegible] instrument plants ("Vibrator" in Leningrad, [illegible] "Omelektrotochpribor" in Omsk, ZIP in Krasnodar [illegible]) electric power systems. No personalities are mentioned [illegible] accompany ten of the reports.

Tinyakova, L. A. New Materials for Stretchings 218
The author recommends alloys of platinum with 20% Ag and [illegible] Ni as material for stretchings. There are 6 references: 3 English, 1 German and 2 Soviet.

Sokolin, F. K. and I. B. Popova. Induction Voltage Divider 226
The authors recommend the manufacture of induction voltage dividers by electric measurement plants.

Mizyuk, L. Ya. Analysis of Circuits Used for the Measurement of Small Constant EMF's 233
The author investigates circuits used for measuring small voltages and makes a comparative evaluation of these circuits from the point of view of their usefulness in working conditions when measuring small emf's of power sources characterized by a large or considerably changing internal resistance. There are [illegible] references: [illegible] Soviet and 2 German.

Popov, [illegible] Measuring Power With the Help of Heater-Type Resistances 246
In the [illegible] AN SSSR bolometers were developed, designed, produced and tested. These devices use heated resistances consisting of a tungsten filament and a nichrome heater placed in a glass insulating tube. The bolometers demonstrated the required [illegible] inertia which is a characteristic of static power converters. There are 3 references: [illegible] Soviet and 1 English.

Shramkov, A. Ya. Automatic Device With Digital Reading [illegible]
The author points to the fact that in the USA digital computers have been produced by more than ten firms since [illegible]. These types of computers have found a wide application in industry. In the USSR, very little is done in this field, and there is little Soviet technical literature on this subject. The author aims at developing an electronic [illegible] type of digital device with automatic balancing and [illegible] count. The device would serve for precision measuring [illegible] electrical quantities [illegible] resistance [illegible]. There are [illegible] references: [illegible] Soviet, [illegible] Polish, [illegible] German, [illegible] Japanese and [illegible] English.

AVAILABLE: Library of Congress [illegible]

JP/[illegible]
[illegible]

S/194/61/000/009/002/053
D209/D302

AUTHOR: Mizyuk, L.Ya.

TITLE: An analysis of circuits for measuring small d.c. e.m.f.

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 9, 1961, 5, abstract 9 A31 (V. sb. Vopr. obshch. elektropriborostr. Kiyev, AN USSR, 1960, 233-245)

TEXT: Devices for measuring in industrial environmental conditions of small e.m.f's having large source resistance (R) are examined. They consist of directly indicating and compensating instruments. The first ones include galvanometers, electrometers and instruments with amplifiers. This group of instruments has a series of disadvantages which preclude their use in industrial conditions. As a result of their comparatively low input R and instability of sensitivity (or amplification factor in the instruments with amplifiers) the accuracy of these instruments is not high, especially

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An analysis of circuits...

those with very large internal R of the source of measured e.m.f. Compensating instruments are more ideal since, having a high voltage sensitivity are large R of the mill indicator they are considerably more accurate. In such instruments an automatic balancing is often used by means of a servo-motor driven via an electronic amplifier with a chopper at the input. Their disadvantage is the need to maintain a d.c. working current, and the need for a servo-motor. So-called autocompensating systems are also examined, in which amplifier output current flows through a constant R and sets a voltage that compensates the e.m.f. being measured. The amplifier employs a large (nearly 100%) feedback. An analysis of the circuit based on a generalized scheme of an autocompensating instrument is given. It is shown that the error is basically determined by the accuracy class of the instrument output and does not depend on the instability of the amplifier amplification factor. Known autocompensating systems, in particular a photocompensator with valve photoelements, with magnetic amplifier of the second harmonic and with an electronic amplifier are analyzed. A stress is put on the latter since it

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An analysis of circuits...

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D209/D302

is capable of measurements with very high R of the source of e.m.f.
[Abstracter's note: Complete translation]

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A Composite A.C. Autocompensator

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twofold transforming of the frequency spectrum. The mode of operation of this filter is explained in detail. It proves possible to reduce the error in the entire measuring device and to create an autocompensation-alternating current circuit, since not only the amplifier but also the rectifier are covered by the feedback. The block circuit scheme of a composite alternating current autocompensator is shown in figure 2. The circuit scheme is explained in detail and the main equations for it are written down. It is shown that with a sufficient stability of the transmission coefficient of the feedback circuit (K_4', K_5) and when satisfying the equations (9), the error in measurement of such a circuit scheme does not depend on the stability of the parameters of the selective amplifier and of the rectifiers. Such a circuit scheme in its essence is therefore a composite alternating current autocompensator. Its setup which is described here, was tested experimentally with various types of selective amplifiers and synchronous phase filters. One of the investigated circuit schemes is shown here in figure 3 and described. The course of the experiment is shown and the resonance characteristics obtained for

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A Composite A.C. Autocompensator

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signals which alter in the vicinity of the frequencies ω and 3ω, are shown in figure 4.- The noiseproof feature of three circuit schemes was compared in the experiment: a selective amplifier with a detector for medium values at the exit, the same amplifier with a synchronous detector, and an autocompensator circuit scheme at which $|\beta\dot{K}| = 18$ for the resonant frequency. The results are shown in figure 5. It can be seen that only in a small frequency range the selectivity of the autocompensator is worse than that of the amplifier with a synchronous detector. Without being inferior to the selective rectifier with a synchronous detector at the exit with regard to its noiseproof feature, the autocompensator shows at the same time a considerable gain with regard to the parameter stability. There are 5 figures and 2 Soviet references.

ASSOCIATION: Institut mashinovedeniya i avtomatiki AN USSR (Institute of Machine Construction and Automation of the AS UkrSSR)

SUBMITTED: July 11, 1959

Card 3/3

AUTHORS: Mizyuk, L. Ya. and [illegible], L. D.

TITLE: An amplifier for electrical exploration [illegible] based on the method of magnetic stabilization

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 1, 1962, abstract 1-2-2?yu (V sb. Avtomat. [illegible] i elektr. izmereniya, vyp. 2, Novosibirsk [illegible] AN SSSR, 1960, 47-54)

TEXT: The authors consider a recording apparatus for electrical exploration by the method of magnetic stabilization. In the design of this apparatus an electronic amplifier with [illegible] converter is recommended. A circuit diagram of the amplifier with the half-period interruption of the signal at the input and [illegible] chronous rectification of the voltage at the output is offered. Theoretical foundations for principal elements of the amplifier are given. It is recommended choosing the [illegible] in the form of a Γ-shaped [illegible] rheostat circuit and using [illegible]

Card 1/2

An amplifier for ...

[illegible]
D40?, D70?

[illegible]graph as the output element of the [illegible]. A [illegible] tion, [illegible] to the method of multiplying the frequen[illegible] characteristics, is considered. The basic structure of the ampli[illegible] fier with a correcting circuit for the galvanometer is [illegible]. Experimental tests of the amplifier of the structure proposed [illegible] sures recording of signal in the frequency band of 0 [illegible]. Limit of measurements is 40 μw. The level of natural noise [illegible] duced to input, does not exceed 1.5 μw. No [illegible] drift with time [illegible] observed. 2 figures, 1 reference. [Abstracter's note: Complete translation.]

MIZYUK, L.Ya.

Methods and apparatus for airborne electric prospecting. Izv. AN SSSR. Ser.geofiz. no.6:787-797 Je '60. (MIRA 13:6)

1. Akademiya nauk AN USSSR. Institut mashinovedeniya i avtomatiki.
(Electric prospecting) (Aeronautics in surveying)

MIZYUK, L.Ya.

Measuring apparatus for two-frequency aerial electric prospecting. Izv.Sib.otd.AN SSSR no.9:34-43 '60. (MIRA 13:11)

1. Institut avtomatiki i elektrometrii Sibirskogo otdeleniya AN SSSR. (Electric prospecting)

6,4731

83526
S/115/60/000/009/006/011
B012/B054

AUTHOR: Mizyuk, L. Ya

TITLE: Pulse-height- and Phase Indicator With Alternating Action of the Voltages to Be Compared

PERIODICAL Izmeritel'naya tekhnika, 1960, No 9, pp. 38-40

TEXT: The present paper recommends a differential indicator for pulse heights and phases with alternating action of signals to increase the accuracy of comparing alternating voltages. Fig. 1 shows the block diagram of such an indicator. It is pointed out that a similar scheme was used for pulse height measurements by M. R. Bal'son (Ref. 5) and Yu. A. Skripnik. The mode of operation of the present circuit consists in an alternating supply of the voltages $u_1 = U_{m1} \sin(\omega t + \varphi)$ and $u_2 = U_{m2} \sin \omega t$ of the frequency $\Omega \ll \omega$ to the input of the aperiodic or selective amplifier (tuned to the frequency ω) by means of a commutator. Thus, the voltage u_{input} changing according to the law shown in Fig. 2 is modulated as to pulse height and phase. The mode of operation of the circuit is thoroughly

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Pulse-height- and Phase Indicator With Alternating Action of the Voltages to Be Compared

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B012/B054

described, and the formulas characterizing the work of the instrument are derived. It is pointed out that the channels for the phase indication and for the pulse height indication are working independently of each other. This makes it possible to use the indicator described for circuits with automatic control of pulse height and phase of the voltage measured (Fig. 4). Further, it is pointed out that with the use of this indicator a zero creep and the asymmetry of channels are excluded. An experimental check of the indicator circuit showed that with careful adjustment of the interrupter it is easily possible to attain an accuracy of 1% or 1°, respectively, in comparing the voltages as to pulse height or phase. There are 4 figures and 5 Soviet references.

Card 2/2

80479
S/020/60/132/02/23/067
B014/B007

9.3240

AUTHORS: Karandeyev, K.B., Corresponding Member of the AS USSR
Mizyuk, L.Ya., Gik, L.D.

TITLE: The Frequency Band of Direct Current Amplifiers With Conversion

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol 132, No 2, pp 329-332

TEXT: In the introduction it is stated that the investigation of the transmission band of a direct current amplifier with converter and the determination of the relationship between the upper limiting frequency of the signals to be amplified and the frequency of conversion is of considerable interest. Two conditions which must be satisfied in the determination of the limiting frequency of the band, transmitted by the direct current amplifier, are mentioned. They concern the amplification coefficient and the combination-components. The authors define the half-wave and the full-wave conversion, according to whether the input signal is interrupted in dependence on the inter-connection of the modulator or whether a phase shift occurs. With equations (1) and (2), formulas are given for the calculation of the transmission coefficient of both kinds of conversion. Modulation is followed by amplification which, in turn, is followed by demodula-

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R0011348100

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B014/B007

The Frequency Band of Direct Current Amplifiers With Conversion

tion. For the demodulator the same connecting systems exist as for the modulator, and also the transmission coefficients are calculated according to the same formulas. Further, the determination of the transmission band of the direct current amplifier with conversion at various connections of the modulators and demodulators is dealt with. The investigation showed that in the case of full wave conversion at the in- and output the output signal has no combination frequencies. By the influence of the intermediate-frequency amplifier which has feedbacks, the transmission band is limited. Fig. 1 shows the frequency characteristic of such a direct current amplifier. It is shown that the spectrum of the output voltage of a double fullwave conversion has the best properties. In conclusion, the authors investigate a direct current amplifier with a non-synchronous linear detector at the output. A half-wave conversion is assumed, and analysis shows that this amplifier is useless for the amplification of alternating voltages, but may well be used as mean-value voltmeter for a large frequency range. The mere possibility of producing broad-band direct current amplifiers with high sensitivity and stability is pointed out. There are 3 figures and 1 Soviet reference.

Card 2/3

The Frequency Band of Direct Current Amplifiers With Conversion

S/020/60/132/02/ /067
B014/B007

ASSOCIATION: Institut avtomatiki i elektrometrii Sibirskogo otdeleniya Akademii nauk SSSR (Institute of Automation and Electrometry of the Siberian Branch of the Academy of Sciences, USSR)

SUBMITTED: February 13, 1960

Card 3/3

82521

S/020/60/133/04/21/031
B019/B060

3 9000

AUTHORS: Karandeyev, K. B., Corresponding Member of the AS USSR, Mizyuk, L. Ya

TITLE: On the Construction Principles of Geophysical Devices for the Electric Geophysical Exploration by Measuring the Frequency Characteristics

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 133, No. 4, pp. 831-834

TEXT: An electric geophysical exploration with several frequencies is carried out for an investigation into the electric structure of the earth's crust. The method involves measuring the amplitude and the phase, or the active and the reactive component of signals. The frequencies of these signals lie in a range of from 25 cycles to 12 kilocycles. The first method dealt with here is the one in which measurements made at the individual frequencies are carried out in the frequency range provided. A high noise immunity can be attained here by the use of a high-selective amplifier, and it is therefore possible to work with

Card 1/3

82521

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B019/B060

On the Construction Principles of Geophysical Devices for the Electric Geophysical Exploration by Measuring the Frequency Characteristics

weak signals. This type of device thus allows measurements over large distances. The drawbacks of this method are that the operations cannot be conducted from a mobile station, and also that the quality of geophysical measurements is low. An improved method worked out by Yu. V. Yakubovskiy in 1959 is then discussed. By this method, current jumps of a duration of some milliseconds are caused in the measuring frame, and the transient curve is recorded. The normal field is missing here, and only the anomalous effects are recorded, which fact is regarded as a notable advantage of this method. A drawback is pointed out to be the low noise immunity, which, in its effects, makes its use for the aeroelectric geophysical exploration impossible. The authors discuss the question as to how the advantages offered by the method with the transient resp (high effectivity) can be combined with those of the method with several frequencies (high noise immunity). The authors then deal with the recording of the frequency characteristic with a sweep generator, in which connection the achievement of a high noise immunity is particularly considered. In the authors' opinion, this would make it possible ... an electric geophysical exploration

Card 2/3

82521

On the Construction Principles of Geophysical Devices for the Electric Geophysical Exploration by Measuring the Frequency Characteristics

S/020/60/133/04/21/031
B019/B060

with several frequencies from the air. The authors discuss the design modifications in the selective amplifier required for this purpose, and furthermore, they discuss the setup of the measuring device. The block diagram of the entire system is shown in Fig. 1 and is dealt with in great detail. The frame antenna is fed with a harmonic alternating current with acoustic frequency, the frequency varying linearly with time. Another frame antenna takes up, amplifies, and records the signals. An experimental test of the system, in which an exact synchronization of the exciting field and of the measuring device is secured, supplied evidence of the high efficiency. There are 1 figure and 5 Soviet references.

ASSOCIATION: Institut avtomatiki i elektrometrii Sibirskogo otdeleniya Akademii nauk SSSR (Institute of Automation and Electrometry of the Siberian Branch of the Academy of Sciences, USSR)

SUBMITTED: April 25, 1960

Card 3/3

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134810012-0"

KOTYUK, Andrey Fedorovich; MIZYUK, L.Ya., kand. tekhn. nauk, otv. red.; DUDNIK, R.L., red.; MAZUROVA, A.F., tekhn. red.; VYALYKH, A.M., tekhn. red.

[Analysis of airborne electric prospecting charts by the induction method] Analiz skhem aeroelektrorazvedki metodom induktsii. Otv. red. L.IA.Miziuk. Novosibirsk, Izd-vo Sibirskogo otd-niia AN SSSR, 1961. 113 p. (MIRA 15:3)
(Aeronautics in geology) (Electric prospecting)

S/169/62/000/001/028/083
D228/D302

AUTHORS: Karandeyev, K. B. and Mizyuk, L. Ya

TITLE: Measuring apparatus for aerial electroprospecting

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 1, 1962, ..., abstract 1A287 (Tr. Konferentsii po avtomat. kontrolyu i metodam elektr. izmereniy, 1959; Novosibirsk, Sib. otd. AN SSSR, 1961, ...)

TEXT: The apparatus is described for two methods of aerial electrical prospecting -- by an infinitely long cable and by induction. In the first, the field is created by a current in a straight cable which is grounded at its ends and has a length of 10 - 15 km and is measured from the helicopter. In the induction method the field is excited and measured in an aircraft. In both methods the reception element -- a frame with a ferrite core -- and the scheme of preliminary amplification are carried in the gondola. The length of the two rope is ~20 m in the cable method and 150 m in the induction technique. In the method of an infinitely long cable mea-

Card 1/2

Measuring apparatus for ...

S/169/62/000/001/028/083
D228/D302

surements are made on the frequencies 8? 244 or ... 3406 c/s. The preliminarily amplified signal is fed to a selective amplifier, after which it enters two synchronous detectors. The supporting voltage is taken up by a УКВ- (UKV-) receiver. In the component measuring circuit it is transmitted to a square phase-commutator and a synchronous detector; in the phase measurement circuit it is transmitted to a phase-regulator and a synchronous detector. In the induction method measurements are made on any pair of the frequencies 488, 976, 1956, 3904 and 7808 c/s. The generator frame is placed in the form of a rectangle between the center-plane and stabilizer of the aircraft's tail-unit. There are primary-field-compensators in the measurement apparatus. The field-amplitude measurement is carried out by a recording voltmeter, the phase measurement being made by a phasometer with a two-contact releasing device. Considerations are adduced about the conditions which are satisfactory for the apparatus of aeroelectrical prospecting and about the perfection of the developed schemes. [Abstracter's note: Complete translation.]

Card 2/2

[illegible]IZYUK, L. [illegible]

[illegible]

[illegible]

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134810012-0"

S/637/61/000/...
D201/D301

AUTHORS: Mizyuk, L. Ya., Candidate of Technical Sciences, Senior Scientific Co-worker, and Gol'dgefter, V. I., Junior Scientific Co-worker

TITLE: A self-compensating and differential a.c. circuit

SOURCE: Konferentsiya po avtomaticheskomu kontrolyu i metodam elektricheskikh izmereniy. Novosibirsk, 19.. Trudy. Novosibirsk, 1961, 63 - 71

TEXT: The authors describe self-compensating and differential circuits for comparing two voltages which do not require a reference signal source, but only a reference voltage. The a.c. autocompensator is based on a selective amplifier with a heavy negative feedback. The block diagram of the arrangement is described and illustrated. Experiments with an auto-compensator having a ...-stage selective amplifier (K_0 = 3000) and /β k/ = 20 have shown that supply voltage and k_0 variations do not affect the accuracy of measurements. A high degree of measurement accuracy may also be obtained

Card 1/2

A self-compensating and differential . . . S/637/61/... D201/D301

by the differential method in which the error due to the asymmetry of the signal and reference channels is eliminated by using a single-channel differential analyzer, to which the measured and known voltages are alternately applied with a known repetition frequency. If the moduli and phase angles of the voltages being compared are unequal, the voltage at the output of the analyzer-amplifier becomes modulated in phase and amplitude. By applying it to an amplitude and phase detector and by adjusting the amplitude and phase of the reference voltage, the absence of both modulations is noted and the equality of amplitude and phase of both the unknown and known voltages established. The block diagram of such an arrangement is given. There are 5 figures and ? Soviet-bloc references.

ASSOCIATION: Institut avtomatiki i elektrometrii SO AN SSSR, Novosibirsk (Institute of Automation and Electrical Measurement of the Siberian Branch of the AS USSR, Novosibirsk)

Card 2/2

S/3J0/61/000/079/001/011
E202/E592

AUTHORS: Karandeyev K.B. and Mizyuk L.Ya.

TITLE: Analysis of an auto-compensating circuit

SOURCE: L'vov. Politekhnichnyy institut. Nauchnyye zapiski. no.79. Voprosy elektroizmeritel'noy tekhniki. no.1. 1961, 3-22

TEXT: Self-compensating circuits based on the principle shown in Fig.2 are discussed. The measured e.m.f. is balanced by a voltage drop across R; this voltage produces current i_2 appearing on the output of the amplifier with the coefficient of amplification K due to the entry to the output of the amplifier of a non-compensated part of the e.m.f. equal to $e - u_k$. With large K, almost full compensation is attained so that the voltage u_k is equal to the measured e.m.f. e. Making use of the negative feedback theory, the authors analyzed a general self-compensating circuit, shown in Fig.3, in which e, r_i - the magnitude and the internal resistance of the measured e.m.f.; u_i - the voltage at the input of the amplifier; r_v - input resistance of the amplifier; i_i - current in the input circuit; K_∞ - no-load amplification coefficient of the amplifier; e_2 - output e.m.f.; r_{out} - output

Card 1/3

resistance of the amplifier; u_2, i_2 - output voltage and current of the amplifier, respectively; r - resistance of the meter; R - resistance of the current feedback; R_1 - additional resistance included in the measuring circuit; R_2, R_3 - high resistance potential divider where $R_2 + R_3 \gg r$; u_k - compensating voltage opposing the measured one. This circuit with a simultaneously combined current and voltage feedback is discussed in detail and a general expression for the current i_2 has been found. Analyzing further the circuit with current feedback, it was found that with a sufficiently large amplification coefficient the current in the measuring device $i_2 = e/R$. The lower limit of measurement of the auto-compensator with a current feedback is determined by the zero drift of the amplifier, the amplification coefficient of the latter and it also depends on the resistance of the measuring instrument. The smaller the latter the lower the e.m.f. which may be measured. The circuit with voltage feedback is also discussed in detail but it is concluded that although both methods are useful for the measurement of small e.m.f.'s giving identical results, it is preferable to use the current feedback variant, since it is easier to use a microammeter than a millivoltmeter. The latter

Analysis of an auto-compensating circuit S/580/61/000/079/001/011
E202/E592

requires additional series resistances and parallel shunts to compensate temperature errors. It is stressed that the above system closely approaches the ideal measuring instrument due to its high sensitivity with respect to the measured quantity and low sensitivity with regard to the interfering parameters. There are 6 figures.

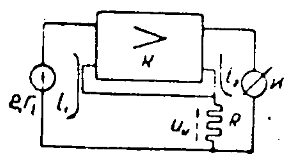

Fig.2

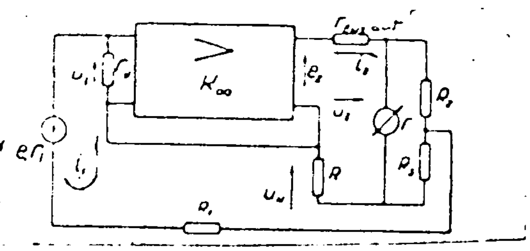

Fig.3

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S/651/61/000/005/008/009
D209/D303

AUTHORS: I. Ya. Mizyuk, and V. I. Zubov

TITLE: Compact transistorized high speed automatic recorder

SOURCE: Akademiya nauk Ukrayins'koyi RSR. Instytut mashynoznavstva i avtomatyky, L'viv. Avtomaticheskiy kontrol' i izmeritel'naya tekhnika. No. 5, Kiev, 1961, ...

TEXT: This paper describes the design and construction of a compact high speed instrument, suitable for recording rapidly changing parameters. The factors that govern the speed of response of the instrument are enumerated. In order to conform with the analytical requirements for optimum operation, all the moving parts are made of light materials; ball bearings are used in the pen carriage. The instrument operates at 400 cycles. A 1 watt, 2-phase servomotor with a hollow rotor is used. The synchronous speed reaches 18000 r.p.m. Thus high reduction ratio in the gear train can be used which decreases the moment of inertia of the load applied to the shaft. The circuit diagram of the system

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Compact transistorized ...

S/651/61/000/005/008/009
D209/D303

is shown. The speed of response depends largely on the reduction gear. The optimum gear ratio for the above instrument was found empirically. The gears have an involute profile. The error signal is converted to 400 cycles by means of a transistor chopper operated by a 400 cycle power oscillator. The residual voltage of the converter with matched transistors does not exceed 20 ... μV. The gain of the amplifier is around 210,000, threshold sensitivity of the order of 20 μV. The circuit is described in detail. In order to furnish the instrument with the required dynamic characteristic (degree of overshoot and magnitude of error in a given range) an elastic negative feedback is added. This increases the damping. This method is superior to that using a tachogenerator since it eliminates blacklash and need for phasing. The chart has a spring drive. The operation is stable in the temperature range ... The span is 0 - 20 μV; the basic error of measurement and recording is not greater than 1% of the span; speed of response $<$ 0.2 sec. with a chart 100 mm wide. Power is obtained from a 5 volt accumulator or 400 cycle mains. The instrument can be fixed or portable. It can be used with a number of measuring points inserted periodically into the same recorder

Card 2/3

MIZYUK, L.Ya.; KCTYUK, A.F.

Airborne electromagnetic prospecting methods. Geol. i geofiz. no.6:83-93 '61. (MIRA 14:7)

1. Institut avtomatiki i elektrometrii, Novosibirsk.
(Electromagnetic prospecting)
(Aeronautics in geology)

MIZYUK, L.Ya.

Analysis of noise control methods in measuring weak harmonic signals. Izv. Sib. otd. AN SSSR no.7:23-3? '61. (MIRA 14:8)

1. Institut avtomatiki i elektrometrii Sibirskogo otdeleniya AN SSSR, Novosibirsk.

(Information theory)

MIZYUK, L.Ya.

Interference-killing methods in the measurement of harmonic signals with a varying phase. Izv.Sib.otd.AN SSSR no.8:22-35 '61. (MIRA 14:8)

1. Institut avtomatiki i elektrometrii Sibirskogo otdeleniya AN SSSR, Novosibirsk.

(Electric measurements)

S/106/61/000/009
A055/A127

9.4374 (1040, 1159)

AUTHORS: Mizyuk, L.Ya. and Gol'dgefter, V. I.

TITLE: Narrow-band synchronous-phase filter

PERIODICAL: Elektrosvyaz', no. 9, 1961, 44

TEXT: In this article a filter system with frequency conversion is described, in which the input and ouput signal frequencies coincide. The filter operation is based on a double conversion of the frequency by four balanced modulators (BM) controlled by quadrature heterodyne voltages U and U. The frequency of the heterodynes coincides with the frequency to which must be tuned the filter. The output voltage U_2 is taken from the sum circuit (SC). The salient feature of this filter-system is that the zero beats, separated (after the first conversion) with the aid of the low-frequency filters (l-f F), are used as the intermediate frequency. The first conversion becomes practically a synchronous detection. With the aid of the second conversion, the whole range of the zero-beats passed by the l-f filters is converted into a band with a center (quasi-resonance) frequency coinciding with the frequency of the input signal. The

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S/... A.../A...

Narrow-band synchronous phase filters

filter is tuned to this frequency, which coincides with the heterodyne frequency. The image interference is impossible here. When single-mesh RC l-f filters are used, the described filter-system is equivalent to a resonant ... band can be easily controlled by varying the time constant of the RC ... When l f filters with a steeper cutoff are used, the system is equivalent ... band-filter. The input signal u_1 with frequency ω_s is applied ... to two balanced modulators BM_1 and BM_2, whose transmission ... with the heterodyne frequency ω_0. If u_1 ... U_{m1} sin ... the voltage ... of BM_1 and BM_2 will be

$$u_1' = U_{m1} \sin(\omega_s t \ \ \varphi) K_1 \sin \omega_r t$$

$$u_1'' = U_{m1} \sin(\omega_s t \ \ \varphi) K \sin(\omega_r t + 90°)$$

Since the l f filters (supposed identical) pass only signals with ... ω_s ... ω_r ... $\omega_r - \omega_s$, the voltage applied to the input ... will be

Card 2/6

$$u_{1\,upper}''' = \frac{1}{2} K_1 K_{fil} U_{m1} \cos\left[(\omega_s - \omega_0) t - \varphi + \psi\right]$$
$$u_{1\,upper}'''' = \frac{1}{2} K_2 K_{fil} U_{m1} \cos\left[(\omega_s - \omega_0) t - \varphi + \psi - 90^\circ\right] \quad (5)$$

for the upper half of the pass-band ($\omega_s > \omega_0$), K_{fil} and ψ being, respectively, the modulus and the phase angle of the l-f filter "transmission factor" at frequency .... An analogous expression is easily obtained for the lower half of the pass-band. After conversion in BM_3 and BM_4, the voltage at the output of the filter system is finally found to be:

$$u_{2\,upper} = A\,U_{m1} \sin(\omega_s t - \varphi + \psi) \quad (6)$$

for the upper half of the pass-band, and

$$u_{2\,lower} = \frac{1}{2} A U_{m1} \sin(\omega_s t - \varphi - \psi) \quad (7)$$

for the lower half of the pass-band. In these formulae, $A = \frac{1}{2} K' K_{fil}$ is the modulus of the transmission factor of the filter-system and K is the modulus ...

2* 49
S/106/61/000/004/...
A055/A127

Narrow-band synchronous-phase filters;

the transmission factor of the balanced modulators. When single-mesh RC filters are used, the transmission factor of the i f filters is

[illegible]

where [illegible] is the relative detuning, and [illegible] = RC. Expressing the frequency characteristic of the filter system in relative units, we obtain

[illegible]

The pass band at attenuation [illegible] is equal to

[illegible]

In the majority of real modulators, however, the transmission factor varies according to a more complicated law [illegible] rectangular shape [illegible] the most usual one, in which case formula [illegible] becomes

Card 4/[illegible]

$$u_1' = U_{m1} \sin (\omega_s t - \psi) \frac{4K}{\pi} \sum_{n=1}^{n=\infty} \frac{\sin (2n-1)(\omega_0 t + \gamma)}{2n-1}, \qquad (19)$$

where γ is the initial phase-shift angle of the reference voltage (0 for BM_1 and 90° for BM_2); n is an integer. In this case (and for the signal with quasi-resonance frequency ($\omega_s = \omega_0$), at which $\psi = 0$), the output voltage is.

$$u_2 = A_1 U_{m1} \left[\sin (\omega_0 t + \varphi) + \frac{1}{3} \sin (3\omega_0 t + \varphi) + \frac{1}{5} \sin (5\omega_0 t + \varphi) + \ldots\right] \quad (20)$$

where $A_1 = \frac{1}{\pi}K^2K_{fil}$. Examining the operation of the described filter-system it is easy to ascertain that, with a rectangular shape of the reference voltage, the system lets also pass frequency bands in the range of all the odd harmonics of the heterodyne frequency. In order to tune out the odd harmonics of the input signal, it is possible to use a preselector at the filter input. The described filter-system can work at any frequencies (from sound frequencies up to radiofrequencies). To ensure normal operation, it is essential that the modulators should be perfectly balanced. At the end of the article, the author briefly describes some practical variants of his filter-system 1) a resonance system in which polarized relays are used as balanced modulators; 2) a system using double transistorized ba-

lanced modulators; 3) a band-filter system based on the use of point-contact germanium diode ring-type modulators. One of the most valuable properties of the described filter-system is the stability of the tuning frequency, determined by the stability of the heterodyne frequency. There are 7 figures and ? Soviet-bloc references.

SUBMITTED: May 16, 1960

[Abstracter's note; The following subscripts are translated in formulae and text: s (signal) stands for c, fil (filter) stands for Φ; upper stands for B, lower stands for H

KARANDEYEV, K.B.; MIZYUK, L.Ya.

Analysis of autocompensating systems. Nauch. zap. LPI ... 1,3-... '61. (MIRA ...)

(Electric measurements)

S/169/62/000/007/075/149
D228/D307

AUTHORS: Mizyuk, L. Ya. and Zubov, V. G.

TITLE: Transistorized computing autocompensator КСР-Т1 (KSR-T1)

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 7, 1962, 33, abstract 7A217 (V sb. Razved. i promysl. geofiz., no. 42, M., 1961, 41-47)

TEXT: In the described KSR-T1 transistor autocompensator division and multiplication operations are accomplished by means of a variable instrument shunt. When there is such a circuit the converting unit is independent of the measuring limit and allows the equation $\rho_k = K(\Delta U/I)$ to be solved in one stage. A negative direct-current feedback is employed to compensate temperature changes in the device. This ensures the instrument's stable operation in the temperature range from -20 to +60°C. The principle of the device's circuit is given. [Abstracter's note: Complete translation.]

Card 1/1

VISHENCHUK, Igor' Mikhaylovich; KOTYUK, Andrey Fedorovich; MIZYUK, Leonid Yakovlevich; LYUSTIBERG, V.F., red.; YEMZHIN, V.V., tekhn. red.

[Electromechanical and electronic phase meters] Elektromekhanicheskie i elektronnye fazometry. Moskva, Gosenergoizdat, 1962. 206 p. (MIRA 15:7)
(Electric measurements) (Electronic measurements)

GRINEVICH, F.B.; MIZYUK, L.Ya.

Measuring apparatus for electric prospecting by the pulse method.
Izv.Sib.otd.AN SSSR no.1:5-10 '62. (MIRA 15:3)

1. Institut avtomatiki i elektrometrii Sibirskogo otdeleniya
AN SSSR, Novosibirsk.
(Electric prospecting)

BLAZHKEVICH, B.I., kand. tekhn. nauk, otv. red.; MIKHAYLOVSKIY, V.N., red.; SVENSON, A.N., kand. tekhn. nauk, red.; MIZYUK, L.Ya., kand. tekhn. nauk, red.; KOZOVKIN, S.K., glav. inzh., red.; BELICHENKO, A.I., ved.inzh., red.; SABANEYEV, R.D., red.izd-va; RAKHLINA, N.P., tekhn.red.

[Apparatus for electric prospecting by air; its design and operation] Apparatura aeroelektrorazvedki; proektirovanie i ekspluatatsiia. Kiev, Izd-vo AN Ukr.SSR, 1963. 155 p. (MIRA 17:.)

1. Akademiya nauk UkSR. Kiev. Instytut mashynoznavstva ta avtomatyky, Lvov. 2. Chlen-korrespondent AN Ukr. SSR (for Mikhaylovskiy).

MIZYUK, L.Ya.; PODZHARYY, V.M.

Change in the parameters of an elliptically polarized field in inductive electric prosprecting. Izv. AN SSSR. Ser. f... no.7:1050-1063 Jl ... (MIRA 16:8)

1. Institut mashinovedeniya i avtomatiki AN UkrSSR. Predstavleno chlenom redaktsionnoy kollegii Izvestiy AN SSSR, Seriya geofizicheskaya, B.M. Yanovskim.
(Electric prospecting)

MIZYUK, M.G.; MIZYUK, L.Ya.

Measurement of the intensity of weak alternating magnetic fields using magnetically modulated sensors. Elektrichestvo no.12: 50-53 D '63. (MIRA 17:1)

MIZYUK, L.Ya.

Output a.c. converters and an analysis of their noise immunity. Geofiz. prib. no.15:40-72 '63. MIRA 17:4)

ACCESSION NR: AP4041923 S/0120/64/000/003/0084/0087

AUTHOR: Belichenko, A. I.; Mizyuk, L. Ya.

TITLE: High-resistance input stage for infralow frequency symmetrical signal amplification

SOURCE: Pribory* i tekhnika eksperimenta, no. 3, 1964, 84-87

TOPIC TAGS: infralow frequency signal, weak signal amplification, symmetrical signal, high resistance input, cophase noise emf, subtraction circuit, differential circuit, noise compensation

ABSTRACT: The use of an electronic subtraction circuit is considered for the amplification of infralow frequency signals in certain medical, hydroacoustic, and other instruments in which the signal source has a symmetrical output and is a considerable distance away. In the case when considerable cophase emf's are induced at commercial frequency, often greatly surpassing the useful signal in power. In order to reduce the effect of such inductions, input devices are used which secure both the amplification of the symmetrical signal and a considerable suppression of cophase inductions. Such an input device is

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ACCESSION NR: AP4041023

shown in Fig. 1 of the Enclosure. Two methods of noise compensation are discussed: one consists in the regulation of static amplification factors of both tubes μ_1 and μ_2. This method is found to be unsuitable as it necessitates the reduction of μ_2 and thus also of the weak signal amplification. The other consists in the regulation of noise voltage amplitudes at the input of the output tube. Since there usually is not strict cophasing of inductions in both link wires, one has to adjust the two noise emf's for their phase difference. Further adjustment can be obtained by an alternate regulation of amplitude and phase. In practice a compensation of [illegible] to [illegible] is obtainable by this method. Remaining noise harmonics may be suppressed in subsequent amplifying stages using RC circuits. A practical circuit of the input device for amplifying symmetrical signals with frequencies from 1 to 10 cps is presented in Fig. 2b of the Enclosure. Theoretical analysis and experimental checking of the subtraction circuit according to the second method demonstrate that with the introduction of amplitude and phase noise regulation great

[illegible] 2/5

ACCESSION NR: AP4041023

advantages were obtained as compared with the other methods of noise suppression in weak infralow frequency signal amplification. Orig. art. has: 2 figures and 10 formulas.

ASSOCIATION: Institut mashinovedeniya i avtomatiki AN SSSR (Institute for Machine Building and Automatic Control, AN SSSR)

SUBMITTED: 13Jul63	ATD PRESS: 3047	ENCL: 02
SUB CODE: EC	NO REF SOV: 003	OTHER: 001

Card 3/5

ENCLOSURE: 01

ACCESSION NR: AP4041023

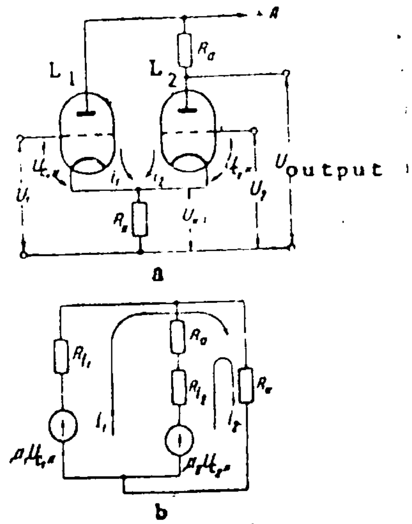

Fig. 1. Asymmetrical subtraction stage

a - Elementary diagram; b - equivalent diagram.

ACCESSION NR: AP4041023

ENCLOSURE: 02

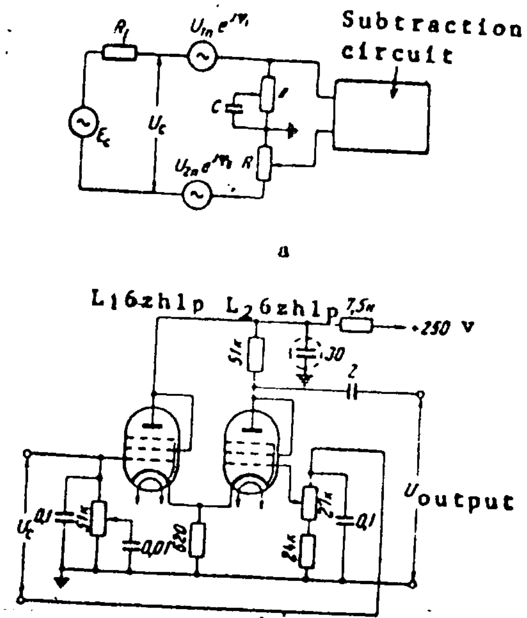

Fig. 2. a - Equivalent input circuit with symmetrical signal; b - input circuit of a cascade for amplifying symmetrical signals.

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L 41863-65 EWT(1) IJP(c) GW

ACCESSION NR AM5006617 BOOK EXPLOITATION S/ 24 B+1

Mizyuk, Leonid YAkovlevich 71

Input converters for measuring the intensity of low-frequency magnetic fields (Vkhodnyye preobrazovateli dlya izmereniya napryazhennosti nizkochastotnykh magnitnykh poley), Kiev, Naukova dumka, 1964, 166 p. illus., biblio. 2,475 copies printed. (At head of title: Akademiya nauk Ukrainskoy SSR. Fiziko-mekhanicheskiy institut).

TOPIC TAGS: induction transformer, magnetic modulation, low-frequency, electromagnetic field, geophysical exploration 12

PURPOSE AND COVERAGE: This book examines the properties of induction and magnetic modulation input converters and presents calculated ratios for determining the magnetic moment and inductiveness of an induction magnetic receiver with a multilayer coil whose diameter considerably exceeds the diameter of the core. There is a detailed investigation of the conditions of agreement with a load of an aperiodic, untuned and resonance induction magnetic receiver. The book includes calculated ratios for determining sensitivity, Q-factor, number of coils, wire diameter and other parameters of a resonance coil. The operation of a converter when there is a weakened connection with a load is investigated. The book presents an analysis of the operation of a magnetic-

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L 41863-65

ACCESSION NR AM5006617

modulation converter with simultaneous DC and AC magnetic fields. The noise level of the converters and external interference when measuring low-frequency magnetic fields is estimated. The book is intended for researchers, designers, electrical engineers, radio engineers, and geophysicists.

TABLE OF CONTENTS [abridged]:

Card 2/3

SUBMITTED: 8 Sep 64

L 13282-66 EWT(1) GW
ACC NR: AR5028757

SOURCE: Ref. zh. Geofizika, Abs. 8D138 SOURCE CODE: UR/0169/65/000/008/D020/D020

AUTHOR: Mizyuk, L. Ya.; Lutsyshin, A. S.

TITLE: Elimination of errors in quadrature phase splitters with flip-flop frequency dividers

CITED SOURCE: Sb. Geofiz. priborostr. Vyp. 19. L., Nedra, 1964, 45-52

TOPIC TAGS: flip flop circuit, phase splitter, phase shifter, frequency divider, DIFFERENTIATING CIRCUIT

TRANSLATION: In order to eliminate the phase shift error in quadrature phase splitters with flip-flop frequency dividers, absolute voltage symmetry is necessary at the input of the differential circuit. This condition is impossible in a sufficiently wide dynamic frequency range for previously described systems. Therefore the authors propose the addition of an intermediate flip-flop with a following differential circuit. Schematic and time diagrams are given together with a brief description of the operating principles of the proposed improved device. It is known that the unit gives a highly accurate quadrature of square voltage in a wide dynamic and

Card 1/2 UDC: 550.830

L 13282-66

ACC NR: AR5028757

frequency signal range, and may be used in circuits for rms addition of voltage with two-phase frequency conversion, synchronous quadrature and quasi-synchronized signal reception, etc. A schematic diagram is given for a model of the unit which is used for experimental testing of its operation. It is found that the total phase shift error, due mainly to instability in flip-flop operation, is less than 0.1°. Quadrature and symmetry of the output square-wave voltages are held with a high degree of accuracy when there are changes in the input signal: (a) in frequency from 400 to 10,000 cps and (b) in amplitude from 0.1 v (minimum value) to + 40 db. The frequency range for this circuit may be expanded.

SUB CODE: 09

Card 2/2

L 56486-65 EWT(1)/EED-2/EWA(h) Pm-4/Feb

ACCESSION NR: AP5017806

UR/0286/65/000/011/0040/0040
621.374

18
B

AUTHOR: Mizyuk, L. Ya.; Gol'dgefter, V. I.; Levchenko, D. G.

TITLE: A phase shifter for a fixed 90° phase shift. Class 21, No. 171434

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 11, 1965, 40

TOPIC TAGS: phase shifter, photoconductive cell, cathode follower

ABSTRACT: This Author's Certificate introduces a phase shifter for a fixed 90° phase shift. The device contains input and output decoupling cathode followers, an incandescent lamp, a photoconductive cell, and two converters. One of the converters is connected to the input cathode follower and to the input of the phase shifting network which contains capacitance, while the other converter is connected to the input of the output cathode follower and to the output of the phase shifting network. The unit is designed for automatically maintaining the phase shift in a wide frequency range. For this purpose it contains an additional incandescent lamp, three photoconductive cells connected between the capacitors of the phase shifting network and a common point, and a comparison circuit with a modulator and power

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134810012-0"

L 56486-65

ACCESSION NR: AP5017806

amplifier. The power amplifier is loaded simultaneously by both incandescent lamps, each of which is placed just before the corresponding pair of photoconductive cells. The input of the comparison circuit is connected to the output of the convertors.

ASSOCIATION: none

SUBMITTED: 29Dec58 ENCL: 00 SUB CODE: EC

NO REF SOV: 000 OTHER: 000

Card 2/2

ACC NR: AT6003005 (A, N) SOURCE CODE: UR/3175/65/000/025/0079/0098

AUTHOR: Mizyuk, L. Ya.; Nichoga, V. A.

ORG: FMI AN UkrSSR

TITLE: Calculation of demagnetization coefficients of hollow cylindrical cores

SOURCE: USSR. Gosudarstvennyy geologicheskiy komitet. Osoboye konstruktorskoye byuro. Geofizicheskaya apparatura, no. 25, 1965, 79-98

TOPIC TAGS: magnetic core, ferromagnetic structure, demagnetization, magnetic permeability

ABSTRACT: Replacement of solid cylindrical cores by equivalent hollow cylindrical cores leads to reduction of core weight. This is especially important in low-frequency instruments using large coils. This paper explains in detail how to calculate demagnetization coefficients of such cores. Analytic equations used for solid core design are modified to account for cavity effects. Curves based on these equations are graphed to show the relationship between various design parameters. Several examples are considered where the use of these parameters is made and the

ACC NR: AT6003005

computed results are tabulated. In the case where magnetic permeability of the material approaches infinity, the demagnetization coefficient is a function of only cavity size and the relative length of the cylinder. Orig. art. has: 4 figures, 1 table, 59 formulas.

SUB CODE: 09, 20/ SUBM DATE: 00/ ORIG REF: 009/ OTH REF: 000

SOURCE CODE: UR/0000/65/000/000/0101/0110

ACC NR: AT6020479 (A)

AUTHOR: Mizyuk, L. Ya. (L'vov); Nichoga, V. A. (L'vov)

ORG: none

TITLE: Evaluation of the efficiency of low frequency magnetic induction receivers

SOURCE: AN UkrSSR. Teoriya i elementy sistem otbora geofizicheskoy informatsii (Theory and elements of systems for selecting geophysical information). Kiev, Naukova dumka, 1965, 101-110

TOPIC TAGS: circuit design, electric measuring instrument

ABSTRACT: The authors discuss problems in designing low frequency magnetic induction receivers. Losses due to the ferromagnetic core of the coils may be calculated from the known magnetic permeability of the ferromagnetic core. Two cases are considered: in the first, the receiver has a passive coil, i. e., its geometry and the position of the core within the frame as well as its internal magnetic field are neglected. In the second case, these factors are taken into account. It is shown mathematically that the expected efficiency of the passive coil exceeds by many times the value obtained experimentally. On the other hand, the theoretical efficiency of the active coil is nearly that obtained experimentally. Orig. art. has: 26 formulas, 1 figure, 1 table.

SUB CODE: 09/ SUBM DATE: 10Nov65/ ORIG REF: 005

Card 1/1

ACCESSION NR: AR4042167 S/0274/64/000/005/A056/A057

SOURCE: Ref. zh. Radiotekhnika i elektrosvyaz'. Svodny*y tom, Abs. 5A300

AUTHOR: Mizyuk, L. Ya.

TITLE: Conditions of coordination of receiving loops with the input of an amplifier

CITED SOURCE: Sb. Geofiz. priborostr. Vy*p. 16. L., Gostoptekhizdat, 1963, 3-29

TOPIC TAGS: receiving loop, amplifier, amplifier input, aperiodic loop, untuned loop, resonance loop

TRANSLATION: The question is considered of optimum relationship between sensitivity of a loop and its input impedance for achievement of the highest transmission factor with respect to voltage on the input of an amplifier at low and infra-low frequencies. It is considered that it is impossible to examine the work of a con-

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ACCESSION NR: AR4042167

verter under conditions of idling since the input impedance of the amplifier has a large, but finite magnitude. Three possible cases are investigated. 1. Aperiodic loop. Here, they disregard the interloop and stray capacitance of the loop and the input capacitance of the amplifier. 2. Untuned loop. The load is capacitive since the stray capacitances render in essential influence, but the resonance frequency of the converter differs from the frequency of the signal. 3. Resonance loop. The load is purely active. All stray capacitances are considered and enter a common capacitance, adjusting the loop to resonance. There is an expression for sensitivity of the system for all three cases through parameters of the loop and the amplifier. For determination of the optimum number of turns of the loop, a differentiation of the expression of sensitivity of the system is made according to the number of turns and the result of differentiation is equated to zero. For an aperiodic loop, a decrease in the number of turns with respect to optimum leads to a sharper drop in sensitivity than an increase of the number of turns. For an untuned loop, calculation of stray capacitances provides a decrease of the optimum number of turns by 11.4% as compared to the considered case of the aperiodic loop. In the case of the resonance loop, the output voltage of the converter is shifted in phase relative to the measured voltage, which is proposed to be used for tuning the loop to zero phase shift. The advantage of

Card 2/3

ACCESSION NR: AR4042167

this method is the higher sensitivity to change of the capacitance and its strict uniqueness independent of subjective data of the operator and number of tunings. Nine illustrations. Bibliography: 6 references.

SUB CODE: EC ENCL: 00

Card 3/3

S V[illegible]-58-[illegible]

Cascade Compensatory [illegible]r[illegible]its

There are [illegible] c[illegible]rcuit [illegible]iagrams and 8 [illegible]ferences, 6 of which are Soviet and 2 German.

Card 2/2

SOV/120-59-2-18/50

AUTHORS: Karandeyev, K.B., Gol'dgefter, V.I. and Mizyuk, M.G.

TITLE: Transistor D.C. Converters for Measurement Amplifiers (Preobrazovateli postoyannogo toka na poluprovodnikovykh triodakh dlya izmeritel'nykh usiliteley)

PERIODICAL: Pribory i tekhnika eksperimenta, 1959, Nr 2, pp 62-64 (USSR)

ABSTRACT: When a transistor is used as a chopper in a d.c. amplifier its performance is limited by certain defects; the equivalent circuits for the "closed" and "open" positions of the switch are shown in Figs 1a and 1b respectively. When the switch is closed the imperfections are a small series resistance R_{cl} and a voltage "pedestal" U_o. When the switch is open its terminals are shunted by a conductance g_{open} through which a leakage current I_o flows. A figure of merit for a convertor is K_{np} which measures the ratio of the fundamental component of output to the direct component of input. This index is the greater when the values of U_o, I_o and the product of the parasitic resistance and the conductance are least. A number of the junction transistors produced in the USSR have been examined and the best device from

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SOV/120-59-2-18/50

Transistor D.C. Convertors for Measurement Amplifiers

this point of view is the P-6A. Fig 2 shows the behaviour of the sw t... in the "closed" condition for various values of base current. Another defect is the delay in the establishment of the steady value of the "pedestal" voltage due to diffusion effects. For the P-6A triode the delay is of the order of 10 μ. If n-p-n triodes were used the delay should be rather less, since the mobility of the carriers (electrons) is greater in that case. The effect of temperature is comparatively slight on the behaviour of the "closed" switch, but is worse in the "open" phase, particularly at temperatures greater than 40 °C. Previous experiments (Refs 1, 2) on this same triode have shown that the residual signals are at a high level because of the absence of a clearly defined earth return path. The new circuits proposed in this paper are the single sided version of Fig 4a and a full wave circuit as in Fig 6a. The figure of merit for the first circuit should be 0.5 according to the equivalent circuit of Fig 4b, while the

Card 2/3 ... of actual performance, Fig 5, shows this to be in

SOV/120-59-2-[illegible]/[illegible]

Transistor D.C. Convertors for Measurement Amplifiers

fact 0.36. A corresponding index for Fig [illegible] should be 0.9, while the graph of Fig 7 shows it to be rather less.

Card 3/3 There are 7 figures and [illegible] references, [illegible] of which are Soviet and 1 English.

ASSOCIATION: Institut mashinovedeniya i avtomatiki AN SSSR (Institute of Machine Construction and Automation of the Academy of Sciences of the USSR)

SUBMITTED: April 14, 1958

AUTHORS: Karandeyev, K.B., Mizyuk, M.G. and Smirnov, N.I. SOV/120-59-2-19/50

TITLE: A Transistorized D.C. Millivoltmeter (Millivol'tmetr postoyannogo toka na poluprovodnikovykh triodakh)

PERIODICAL: Pribory i tekhnika eksperimenta, 1959, Nr 2, pp 65-6? (USSR)

ABSTRACT: The specification to which this instrument was designed called for a direct-reading, battery-driven meter with an accuracy not less than 2.5%, which covered the range from a few mV's up to 1 V with an input resistance not lower than 1 megohm. The instrument was to be small and light and to work over the range -20 to +60 °C. The best circuit for this purpose is the so-called self compensating circuit of Fig 1; this is described with design equations in Ref 2. The essential block diagram of the circuit may be described as a chopper-stabilized D.C. amplifier with high A.C. gain and overall D.C. feedback. The instrument is very bulky if valves are used and transistors are therefore preferred. The mechanical chopper works at 200 cycles per sec and the upper limit of the A.C. amplifier has been chosen as 20 kc/s. The first transistor [illegible] which is

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chosen for its low noise properties and the rest of the amplifier consists of three P6A's in cascade. The base currents in these stages are stabilised by thermistors. The basic circuit of a compensated stage is that of Fig 3 while Fig 4 shows the behaviour of the circuit over the required temperature range. The dotted curve on this graph shows the uncompensated performance. Fig 5 shows the complete circuit of the instrument including component values. The instrument errors for three inputs 1 mv, 3 mv, and 10 mv, are shown in Figs 6 and 7 for variations in supply voltage and operating temperature respectively. The input resistance is 4 megohms, the zero drift is not worse than 20 μ V per hour, the maximum sensitivity is 10 μ V, the current consumption is 10 mA, the dimensions of the instrument are 235 x 155 x 115 mm, and its weight is 3 kg.

Card 2/3

A Transistorized D.C. Millivoltmeter SOV/120-59-2-19/50

There are 8 figures and 5 Soviet references.

ASSOCIATION: Institut mashinovedeniya i avtomatiki AN USSR (Institute of Machine Construction and Automation of the Academy of Sciences, Ukr SSR)

SUBMITTED: February 14, 1958

Card 3/3

MIZYUK, F. G., Cand Tech Sci -- (diss) "Complexation schemes with indicators of junction-type semiconductor devices." L'vov, [illegible] pp with charts; (Ministry of Higher and Secondary Specialist Education Ukrainian SSR, L'vov Polytechnic Inst); 150 copies; price not given; bibliography at end of text (22 entries); (KL, 27-6[illegible], [illegible])

PHASE I BOOK EXPLOITATION SOV/4034

Poluprovodnikovyye pribory i ikh primeneniye; sbornik statey, vyp. 4. (Semiconductor Devices and Their Application; Collection of Articles, No. 4) Moscow, Izd-vo "Sovetskoye radio," 1960. 421 p. Errata slip inserted. No. of copies printed not given.

Ed. (Title page): Ya. A. Fedotov; Ed. (Inside book): I. M. Volkova; Tech. Ed.: A. A. Sveshnikov; Editorial Board: Ya. A. Fedotov (Resp. Ed.), N. A. [illegible], I. G. Bergel'son, A. M. Broyde, Ye. I. Gal'perin (Deputy Resp. Ed.), [illegible] A. Kamenetskiy, S. F. Kausov, A. V. Krasilov, A. A. Kulikovskiy, I. F. Nikolayevskiy, N. A. Penin, and I. P. Stepanenko.

PURPOSE: This collection of articles is for technicians and scientists working in the field of semiconductors.

COVERAGE: These articles cover the following problems: physical processes occurring in semiconductor diodes and transistors; transistor parameters, and methods and instruments for measuring them; special features of transistor operation in amplifying and oscillating circuits; and circuits and systems utilizing transistors. Several articles mention personalities. References accompany most articles.

Novitskiy, P.V., [illegible], and [illegible]. [illegible] of Designing LC-Generators Using Transistors [illegible] Temperature Amplitude 265

The method proposed uses static transistor characteristics obtained under various temperatures.

Komarkov, Ye.T., and Ye.I. Semenov. Diagram of Phase Automatic Frequency Control Using Semiconductor Components 271

The circuit is examined, selection of components considered, and some experimental results are given.

Mal'ko, G.B. Analysis of the Operation of a Transistorized Square-Wave Voltage Generator 278

The article examines the operating principle of a push-pull blocking oscillator using transistor triodes with a saturable transformer.

Zakharov, Yu.K. Use of Transistors For D-C Conversion 288

The article contains experimental data on the use of transistors for d-c converters.

Oliferenko, G.I. Calculation of Rectilinear Sawtooth Current in a Transistor Triode Oscillator 308

The article describes the method of calculating the rectilinear sawtooth current of a television scanning oscillator using transistors. Specifications are given for deflecting coils of vidicon type camera tubes.

Yakovlev, V.N. Research on a Junction Transistor Blocking Oscillator 323

The article describes processes occurring during the formation of the pulse peak. Conditions of blocking oscillator self-excitation are examined and the formula for determining pulse duration is derived. Processes in delay line blocking oscillators are analyzed and formulas are given for calculating delay line parameters.

Shestakov, I.A. Blocking-Oscillator Using Saturable Transistor 340

Processes occurring in a [illegible] oscillator [illegible] triode operating under saturation conditions analyzed. The article demonstrates that transistor parameters have no substantial effect on pulse shape.

Kulya, V.I. Operation Analysis of a Symmetrical Multivibrator Using Junction Transistors [illegible]

Basic ratios for design of multivibrators [illegible] conditions are derived on the basis of a simplified [illegible] cuit using a junction transistor.

Yakovlev, V.N. Comparative Evaluation of Multivibrators Using Point Contact Transistors, and Fields of Their Application [illegible]

Special features of pulse oscillators [illegible] transistors are examined.

[illegible] [illegible]

A device for measuring low constant e.m.f. [illegible]

[illegible] Transistor Phase Meters for the [illegible] [illegible]

Three types of phase meter transistor circuits are [illegible]

Vasil'yev, V.P. Indication of the States of a Decade Transistor Counter By Means of [illegible] [illegible]

A [illegible] counter [illegible] described.

[illegible], V.A. [illegible] Arithmetic Unit Using [illegible] Transistors [illegible]

The unit, which uses transistors [illegible] type, was [illegible] tested.

AVAILABLE: Library of Congress

S/194/62/000/009/023/100
D201/D308

AUTHOR: Mizyuk, M. G.

TITLE: The analysis of stability of a position autocompensator with transistorized indicator

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 9, 1962, abstract 9-2-48 a (In collection: Avtomat. kontrol' i elektr. izmereniya no. 1, Novosibirsk. Sib. otd. AN SSSR, 1960, 77-91)

TEXT: The transfer characteristics of individual stages of an autocompensator are given together with the amplitude-phase characteristics of the a.c. and d.c. amplifiers, filter, input and output networks and of the open-loop system. The basic circuits of the stages are analyzed and their transfer functions tabulated. The results of calculations for a conversion frequency of the order of about 300 c/s are also tabulated. Graphs were used in calculations. Formulas for the values of individual circuit components are given together with transistor parameters in corresponding modes of ope-

Card 1/2

The analysis of stability ...

S/194/62/000/004/02 /100
D201, D308

ration. It is shown that it is possible to increase the stability of the autocompensator: 1) by compensation outside the d.c. amplifier by means of compensating the amplitude-phase characteristic of the open-loop compensator by suitable choice of the elements of input filter or by introducing additional compensating units into an appropriate link (tenth in the circuit); 2) by compensation within the d.c. amplifier by passing from one-half-period to two-period conversion and rectification. The above analysis of stability was carried out for average transistor parameters. 5 figures. 8 references. [Abstracter's note: Complete translation.]

Card 2/2

MIZYUK, M.G.

Analyzing the stability of static self-compensators. Izm. tekh. no.8:49-52 Ag '63. (MIRA 16:10)

MIZYUK, M.G.; MIZYUK, L.Ya.

Measurement of the intensity of weak alternating magnetic fields using magnetically modulated sensors. Elektrichestvo no.12: 50-53 D '63. (MIRA 17:1)

MIZYUKOV, A., mekhanik

Three navigation seasons without cleaning the boiler. Rech. transp. 14 no.5:3-4 My '55. (MLRA 8:7)

1. Parakhod "Pyatiletka". Kamskoye parokhodstvo.
(Feed water purification) (Boilers, Marine)

MIZYUKOVA, I.G.; LOKANTSEV, D.S.

Comparative evaluation of toxic and antidotal properties of certain mercaptoalkylsulfonate derivatives. Farm.i toks. 23 no.4:355-362 Jl-Ag '60.
(MIRA 14:3)

1. Laboratoriya farmakologii (zav. - prof. N.I.Luganskiy) Ukrainskogo nauchno-issledovatel'skogo sanitarno-khimicheskogo instituta.
(DIMERCAPROL) (SULFONIC ACIDS)

MIZYULINA, E.A.

Tonsillectomy in paratonsillar abscesses. Zhur. ush., nos. i gorl. bol. 20 no. 3:64 My-Je '60.
(MIRA 14:4)

1. Iz otolaringologicheskoy kliniki (zav. - prof. M.P. Mezrin) Sverdlovskogo meditsinskogo instituta.
(TONSILS—DISEASES)

1. I. A. [illegible], [illegible].

2. USSR (600)

4. Building, Iron and Steel

7. All around brigades in the erection of steel structures. [illegible]
9 no. 23. 1952.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.