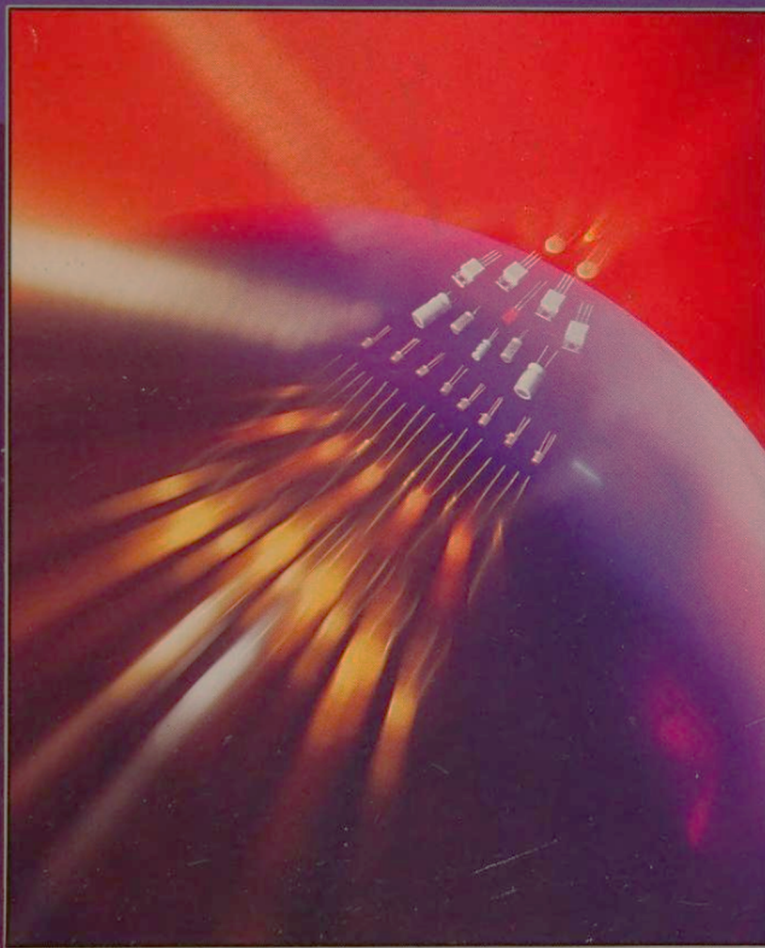


THE
ILLUSTRATED
DICTIONARY
OF
ELECTRONICS

FIFTH EDITION



RUFUS P. TURNER & STAN GIBILISCO

FIFTH EDITION
FIRST PRINTING

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determinant Symbol, D . The difference of the products of the elements in the two diagonals of a matrix. Thus, for the matrix

$$\begin{pmatrix} a_{11} & a_{12} & k_1 \\ a_{21} & a_{22} & k_2 \end{pmatrix} \text{ the determinant } D = \begin{vmatrix} a_{11} & a_{12} \\ a_{21} & a_{22} \end{vmatrix} = a_{11}a_{22} - a_{12}a_{21}.$$

detune 1. To adjust a tuned circuit to some frequency other than its resonant frequency. 2. To set the frequency of a receiver or transmitter to some point other than that normally used. 3. To stagger-tune a receiver intermediate-frequency system.

detuning Tuning to a point above or below the frequency to which a device or system is normally (or initially) adjusted (usually the resonant frequency of the device).

detuning stub A device employed for the purpose of coupling a feed line to an antenna, while choking off currents induced on the feed line as a result of the near-field radiation of the antenna.

deupdating Producing an earlier form of a computer file by substituting older records for current ones.

deuterium Symbol, D , d , H^2 , or ${}^2H$. Heavy hydrogen: the hydrogen isotope having an atomic weight of approximately 2.

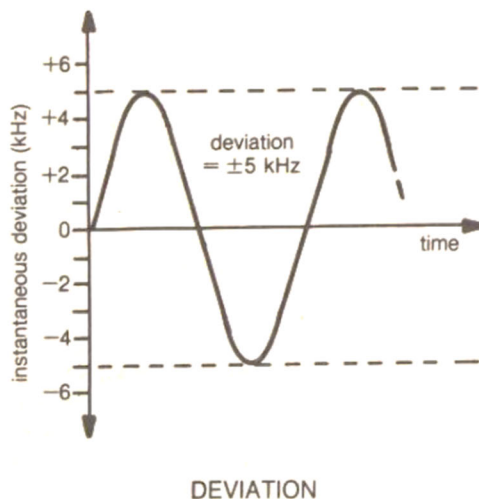
deuterium oxide Symbol, D_2O . Heavy water. This compound has wide use in nuclear reactors.

deuteron The nucleus of a deuterium atom.

deuton See DEUTERON.

deutron See DEUTERON.

deviation 1. In an FM signal, the amount of carrier frequency shift away from its unmodulated frequency during modulation. Deviation is usually expressed in kilohertz and is directly proportional to the amplitude of the modulating signal. 2. The amount by which a quantity drifts from its proper value, e.g., an allowable frequency deviation of ± 10 Hz in a 1 MHz carrier.



deviation absorption In radio waves slowed after reflection from the ionosphere, absorption at frequencies near the critical value.

deviation distortion In an FM receiver, distortion resulting chiefly from discriminator nonlinearity and restricted bandwidth.

deviation ratio In an FM signal, the ratio between the modulating frequency and the deviation. Here, the deviation is the peak frequency shift at full modulation, and the modulating frequency is the highest frequency to be transmitted.

deviation sensitivity For an FM receiver, the smallest frequency deviation which will produce a specified AF output power. Deviation sensitivity is expressed in kilohertz or as a percentage of rated deviation of the receiver measured with the receiver set for maximum gain.

device A simple or complex discrete electronic component. Sometimes, a subsystem employed as a unit and, therefore, thought of as a single component.

device complexity The degree to which a device is complicated. Particularly, the number of circuit elements in an integrated circuit.

device control character In a paper tape, a coded character that controls equipment only; i.e., it has no other significance.

device independence A characteristic of a computer, that allows operation independent of the types of input/output devices used.

Dewar flask A double-walled glass flask whose inner walls are silvered; the space between walls is evacuated. The flask keeps liquids at a desired temperature for several hours. Also called *thermos bottle*.

dew point For a gas containing water vapor (typically air), the highest temperature at which the vapor condenses as the gas is cooled. The dew point depends on the amount of vapor in the gas.

dew-point recorder An instrument for determining and recording the temperature at which water vapor in the air condenses to a liquid.

df Abbreviation of DIRECTION FINDER (often capitalized).

df antenna An antenna that is mechanically rotatable or has an electrically rotatable response pattern for use with a direction finder.

df antenna system Two or more df antennas arranged for maximum directivity and maneuverability, together with associated feeders and couplers.

dF 1. Symbol for differential of force. 2. Symbol for differential of field intensity.

df Symbol for differential of frequency.

D flip-flop A delayed flip-flop. The state of the input determines the state of the output during the following pulse, rather than during the current pulse.

dG Symbol for differential of conductance.

dg Abbreviation of decigram.

dH Symbol for differential of magnetic field intensity.

dh Symbol for differential of height.

dI Symbol for differential of current. (Also, di.)

dia Abbreviation of DIAMETER. (Also, diam.)

diac A two-terminal, bilateral, three-layer semiconductor