

# **McGraw-Hill Dictionary of Scientific and Technical Terms Fifth Edition**

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On the cover: Photomicrograph of crystals of vitamin B<sub>12</sub>.  
(Dennis Kunkel, University of Hawaii)

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**transaction record** See change record. { tran'sak-shən ,rek-ərd }

**transaction tape** See change tape. { tran'sak-shən ,tāp }

**transadmittance** [ELECTR] A specific measure of transfer admittance under a given set of conditions, as in forward transadmittance, interelectrode transadmittance, short-circuit transadmittance, small-signal forward transadmittance, and transadmittance compression ratio. { 'tranz-ad'mit-əns }

**transaminase** [BIOCHEM] One of a group of enzymes that catalyze the transfer of the amino group of an amino acid to a keto acid to form another amino acid. Also known as aminotransferase. { 'tranz'am-ə-nās }

**transamination** [CHEM] 1. The transfer of one or more amino groups from one compound to another. 2. The transposition of an amino group within a single compound. { tran,sam-ə'nā-shən }

**transcapsidation** [VIROL] Change in the capsid of PARA (particle aiding replication of adenovirus) from one type of adenovirus to another. { 'tranz,kap'sə'dā-shən }

**transceiver** [COMPUT SCI] A device which transmits and receives data from punch card to punch card; it is essentially a conversion device which at the sending end reads the card and transmits the data over the wire, and at the receiving end punches the data into a card. [ELECTR] A radio transmitter and receiver combined in one unit and having switching arrangements such as to permit use of one or more tubes for both transmitting and receiving. Also known as transmitter-receiver. { tran'sē-vər }

**transceiver data link** [COMPUT SCI] Integrated data processing by means of punched cards, using transceivers as terminal equipment; the transmission path can be wire or radio. { tran'sē-vər 'dad-ə ,lɪŋk }

**transcendence base** [MATH] A transcendence base of a field  $E$  over a subfield  $F$  is a subset  $S$  of  $E$  which is algebraically independent over  $F$  and is not a proper subset of any other subset  $S'$  which is algebraically independent over  $F$ . { tran'sen-dəns ,bās }

**transcendence degree** [MATH] The transcendence degree of a field  $E$  of a subfield  $F$  is the number of elements in a transcendence base of  $E$  over  $F$ . Also known as transcendence dimension. { tran'sen-dəns di,grē }

**transcendence dimension** See transcendence degree. { tran'sen-dəns di,men-chən }

**transcendental curve** [MATH] The graph of a transcendental function. { ,tran'sən'den-təl 'kərv }

**transcendental element** [MATH] An element of a field  $K$  is transcendental relative to a subfield  $F$  if it satisfies no polynomial whose coefficients come from  $F$ . { 'tran,sen'dent-əl 'el-ə-mənt }

**transcendental field extension** [MATH] A field extension  $K$  of  $F$  where the elements of  $K$  not in  $F$  are all transcendental relative to  $F$ . { 'tran,sen'dent-əl 'fēld ik,sten-chən }

**transcendental functions** [MATH] Functions which cannot be given by any algebraic expression involving only their variables and constants. { 'tran,sen'dent-əl 'fəŋk-shənz }

**transcendental number** [MATH] An irrational number that is the root of no polynomial with rational-number coefficients. { 'tran,sen'dent-əl 'nəm-bər }

**transcendental term** [MATH] In an expression, a term that cannot be expressed solely by numbers and algebraic symbols. { ,tran'sən'den-təl 'tərm }

**transconductance** [ELECTR] An electron-tube rating, equal to the change in plate current divided by the change in control-grid voltage that causes it, when the plate voltage and all other voltages are maintained constant. Also known as grid-anode transconductance; grid-plate transconductance; mutual conductance. Symbolized  $G_m$ ;  $g_m$ . { 'tranz:kən'dəkt-əns }

**transcontinental ballistic missile** [ORD] A ballistic missile having a range of at least 12,500 miles (20,000 kilometers), so it can be fired from any point on the earth's surface and reach any surface target. { 'tranz,kānt-ən'ent-əl bə'lis-tik 'mis-əl }

**transcribe** [COMPUT SCI] To copy, with or without translating, from one external computer storage medium to another. [ELECTR] To record, as to record a radio program by means of electric transcriptions or magnetic tape for future rebroadcasting. { tranz'krɪb }

**transcriber** [COMPUT SCI] The equipment used to convert information from one form to another, as for converting computer input data to the medium and language used by the computer. { tranz'krɪb-ər }

**transcriptase** See ribonucleic acid polymerase. { tran'skrip,tās }

**transcription** [ENG ACOUS] A 16-inch-diameter (40.6-centimeter), 33 $\frac{1}{3}$ -rpm disk recording of a complete radio program, made especially for broadcast purposes. Also known as electrical transcription. [MOL BIO] The process by which ribonucleic acid is formed from deoxyribonucleic acid. { tranz'krip-shən }

**transcription unit** [MOL BIO] The segment of deoxyribonucleic acid between the sites of initiation and termination of transcription by ribonucleic acid polymerase. { tranz'krip-shən ,yü-nət }

**transcrystalline** [MET] Across the crystals of a metal; used of cracks in metals. Also known as intracrystalline; transgranular. { 'tranz'krist-əl-ən }

**transcurrent fault** [GEOL] A strike-slip fault characterized by a steeply inclined surface. Also known as transverse thrust. { 'tranz,kə'rənt 'fəlt }

**transducer** [ENG] Any device or element which converts an input signal into an output signal of a different form; examples include the microphone, phonograph pickup, loudspeaker, barometer, photoelectric cell, automobile horn, doorbell, and underwater sound transducer. { tranz'dü-sər }

**transducer loss** [ELECTR] The ratio of the power available to a transducer from a specified source to the power that the transducer delivers to a specified load; usually expressed in decibels. { tranz'dü-sər ,lɒs }

**transduction** [MICROBIO] Transfer of genetic material between bacterial cells by bacteriophages. { tranz'dək-shən }

**transductor** See magnetic amplifier; saturable reactor. { tranz'dək-tər }

**transect** [SCI TECH] To cut across, or to cut transversely. { tran'sekt }

**transesterification** [ORG CHEM] Conversion of an organic acid ester into another ester of that same acid. { ,tranz'e,ster-ə-fə'kā-shən }

**transfection** [GEN] Infection of a cell with viral deoxyribonucleic acid or ribonucleic acid. { trans'fek-shən }

**transfer** [COMPUT SCI] See jump. [MIN ENG] A vertical or inclined connection between two or more levels, used as an ore pass. [NAV] 1. The distance a vessel moves perpendicular to its initial direction in making a turn of 90° with a constant rudder angle. 2. The distance a vessel moves perpendicular to its initial direction for turns of less than 90°. { 'tranz-fər }

**transfer admittance** [ELECTR] An admittance rating for electron tubes and other transducers or networks; it is equal to the complex alternating component of current flowing to one terminal from its external termination, divided by the complex alternating component of the voltage applied to the adjacent terminal on the cathode or reference side; all other terminals have arbitrary external terminations. { 'tranz-fər ad,mɪt-əns }

**transferase** [BIOCHEM] Any of various enzymes that catalyze the transfer of a chemical group from one molecule to another. { 'tranz-fə,rās }

**transfer caliper** [DES ENG] A caliper having one leg which can be opened (or closed) to remove the instrument from the piece being measured; used to measure inside recesses or over projections. { 'tranz-fər ,kal-ə-pər }

**transfer car** [MIN ENG] A quarry car provided with transverse tracks, on which the gang car may be conveyed to or from the saw gang. { 'tranz-fər ,kār }

**transfer card** See transition card. { 'tranz-fər ,kɑrd }

**transfer case** [MECH ENG] In a vehicle with more than one driving axle, a housing fitted with gears that distribute the driving power among the axles. { 'tranz-fər ,kās }

**transfer chamber** [ENG] In plastics processing, a vessel in which thermosetting plastic is softened by heat and pressure before being placed in a closed mold for final curing. { 'tranz-fər ,chām-bər }

**transfer characteristic** [ELECTR] 1. Relation, usually shown by a graph, between the voltage of one electrode and the current to another electrode, with all other electrode voltages being maintained constant. 2. Function which, multiplied by an input magnitude, will give a resulting output magnitude. 3. Relation between the illumination on a camera tube and the corresponding output-signal current, under specified conditions of illumination. { 'tranz-fər ,karɪk-tə,rɪstɪk }

**transfer check** [COMPUT SCI] Check (usually automatic) on