

IEEE 100

THE
AUTHORITATIVE
DICTIONARY
OF IEEE STANDARDS TERMS

SEVENTH EDITION



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The Authoritative Dictionary of
IEEE Standards Terms

Seventh Edition



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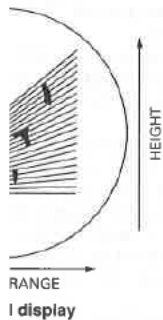
uses a digitally-coded vertically-coded data for both elevation angle and range.

(CS) 686-1982s, [42], 172-1983w
heck that ensures that an item of
blished maximum and minimum
(C) 610.5-1990w

plied to a number of signal and
ic-aperture radar (SAR)] that are
of RF wavefronts. *Note:* These
se used to synthesize an aperture,
tone distortions for spotlight SAR
(AES) 686-1997

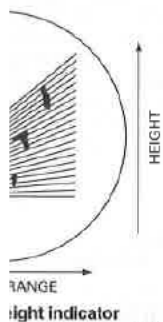
uation.
witching systems Equipment in-
ction to allow an increased loop
(COM) 312-1977w

A type of radar display format.
intensity-modulated display in
al distances of a blip from an or-
of the display represent target
ight, respectively. The display is
ge, sweeps starting at the origin
it varies progressively in accord-
of the radar antenna at a selected
f the display is usually expanded



(AES/RS) 686-1990

(A) A type of radar display for-
An intensity-modulated display in
al distances of a blip from an or-
of the display represent target
ght, respectively. *Note:* The dis-
sive range weeps starting at the
ngle that varies progressively in
on scan of the radar antenna at a
t scale of the display is usually
ge scale.



(AES) 686-1997

(engineering) Groups of color-coded
indicate the direction and limits
ormally on an aerodrome without

runways but exceptionally on an aerodrome with runways.
(EEC/IE) [126]

range mark A calibration marker used on a display to aid in
measuring target range. *Synonym:* range marker.
(AES) 686-1997

range marker *See:* range mark.

range noise The noise-like variation in the apparent distance of
a target, caused by changes in phase and amplitude of the
target-scattering sources, and including radial components of
glint and scintillation error. (AES) 686-1997

range of a radio system The maximum distance for which a
radiowave transmitting system, with specified installation and
operating conditions, produces a usable signal strength at a
specified radio receiver installation. (AP/PROP) 211-1997

range offset processing Synthetic-aperture processing in which
the spectrum is translated from intermediate frequency (IF)
to a carrier offset from zero frequency by approximately half
the IF bandwidth. *See also:* synthetic-aperture radar.
(AES) 686-1997

range resolution The ability to distinguish between two targets
solely by the measurement of their ranges. Range resolution
is usually expressed in terms of the minimum range separa-
tion at which two targets at the same azimuth and elevation
angles can be distinguished. *Note:* The required separation
should be specified for targets of given relative power level
at the receiver. Equal powers are often assumed, but it may
be necessary to specify the separation at two or more power
ratios where resolution of targets of different powers is im-
portant. (AES) 686-1997

range walk The migration of a point scatterer from range cell
to range cell during the signal integration period. *Note:* Range
walk can occur in synthetic-aperture radar; typically caused
by range curvature and/or target rotational or radar line-of-
sight translational motion. Range walk also can occur in a
very high resolution radar if the relative range rate between
the target and the radar is high, relative to the ratio of the
range cell to the integration period. (AES) 686-1997

ranging (communication satellite) The measurement of dis-
tance between two points and a precisely known reference
point. A multiplicity of tones or a PN (pseudonoise) sequence
ranging code is often used. (COM) [19]

rank (networks) (degrees of freedom on a node basis) The
number of independent cut-sets that can be selected in a net-
work. The rank R is equal to the number of nodes V minus
the number of separate parts P . Thus $R = V - P$. *See also:*
network analysis. (Std100) 270-1966w

**rapid access loop (test, measurement, and diagnostic equip-
ment)** In internal memory machines, a small section of mem-
ory which has much faster accessibility than the remainder of
the memory. (MIL) [2]

Rapid Access Management Information System (RAMIS) A
nonprocedural database manipulation language that provides
data management and decision support facilities.
(C) 610.13-1993w

rapid prototyping A type of prototyping in which emphasis is
placed on developing prototypes early in the development
process to permit early feedback and analysis in support of
the development process. *Contrast:* waterfall model. *See also:*
transform analysis; structured design; modular decomposi-
tion; object-oriented design; input-process-output; spiral
model; stepwise refinement; incremental development; data
structure-centered design; transaction analysis.
(C) 610.12-1990

rapid start fluorescent lamp (illuminating engineering) A fluo-
rescent lamp designed for operation with a ballast that pro-
vides a low-voltage winding for preheating the electrodes and
initiating the arc without a starting switch or the application
of high voltage. (EEC/IE) [126]

rapid-starting systems (fluorescent lamps) The designation
given to those systems in which hot-cathode electric dis-
charge lamps are operated with cathodes continuously heated

through low-voltage heater windings built as part of the bal-
last, or through separate low-voltage secondary transformers.
Sufficient voltage is applied across the lamp and between the
lamp and fixture to initiate the discharge when the cathodes
reach a temperature high enough for adequate emission. The
cathode-heating current is maintained even after the lamp is
in full operation. *Note:* In Europe this system is sometimes
referred to as an instant-start system. (EEC/LB) [94]

raptor A bird of prey. (T&D/PE) 751-1990

Rascal A dialect of Pascal. *See also:* Pascal.
(C) 610.13-1993w

raster (1) (television) (cathode-ray tubes) A predetermined
pattern of scanning lines that provides substantially uniform
coverage of an area. (ED/BT/AV) 161-1971w, 201-1979w
(2) *See also:* raster grid; pixel. (C) 610.6-1991w

raster burn A change in the characteristics of that area of the
target that has been scanned, resulting in a spurious signal
corresponding to that area when a larger or tilted raster is
scanned. (ED) 161-1971w

raster CRT *See:* raster display device.

raster display device A cathode ray tube display device in
which the electron beam makes a line by line sweep of the
screen, called raster scanning, creating an image composed
of dots by modifying the intensity of the beam. *Note:* This
method is often called "raster graphics." *Synonym:* raster
CRT. *Contrast:* random-scan display device. *See also:* raster
scan; cell-organized raster display device; matrix-addressed
storage display device. (C) 610.6-1991w, 610.10-1994w

raster font *See:* vector font.

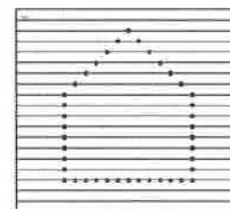
raster graphics The representation of an image by an array of
pixels arranged in rows and columns. *Contrast:* vector graph-
ics. *See also:* raster display device. (C) 610.6-1991w

raster grid The grid of addressable coordinates on the display
surface of a display device.
(C) 610.6-1991w, 610.10-1994w

raster order (A) The order in which pixels are scanned in a
raster display device; usually left-to-right; top-to-bottom.
(B) The order in which pixel information is stored in memory
such that it may be displayed on a raster display device.
(C) 610.10-1994

raster plotter A plotter that generates a display image on a
display surface using a line-by-line scanning technique. *Con-
trast:* digital plotter; analog plotter. *See also:* electrostatic
plotter. (C) 610.10-1994w

raster scan (1) (computer graphics) A technique employed in
raster display devices in which the electron beam "scans" the
display surface line by line, illuminating the pixels, creating
an image on the display surface. *See also:* raster graphics.



raster scan

(C) 610.6-1991w, 610.10-1994w

(2) A method of sweeping the electron beam of a cathode-ray
tube screen or an antenna beam that is characterized by more
than one sweep either from side to side or from top to bottom.
(AES) 686-1997

raster unit The distance between two adjacent addressable lo-
cations on a cathode ray tube display device.
(C) 610.6-1991w

ratchet demand (electric power utilization) The maximum
past or present demands that are taken into account to estab-
lish billings for previous or subsequent periods. *See also:* al-
ternating-current distribution. (PE/PSE) [54]