

"Spread spectrum"

The technique whereby energy in a relatively narrow-band communication channel is spread over a much wider energy spectrum.

"Spread spectrum" radar - see "Radar spread spectrum"

"Sputtering"

An overlay coating process wherein positively charged ions are accelerated by an electric field towards the surface of a target (coating material). The kinetic energy of the impacting ions is sufficient to cause target surface atoms to be released and deposited on the substrate.

N.B.:

Triode, magnetron or radio frequency sputtering to increase adhesion of coating and rate of deposition are ordinary modifications of the process.

"Stabilisers"

Substances used in explosive formulations to improve their shelf-life.

"Stability"

Standard deviation (1 sigma) of the variation of a particular parameter from its calibrated value measured under stable temperature conditions. This can be expressed as a function of time.

"Stored programme controlled"

A control using instructions stored in an electronic storage which a processor can execute in order to direct the performance of predetermined functions.

N.B.:

Equipment may be "stored programme controlled" whether the electronic storage is internal or external to the equipment.

"Substrate"

A sheet of base material with or without an interconnection pattern and on which or within which "discrete components" or integrated circuits or both can be located.

N.B.:

"Discrete component": a separately packaged "circuit element" with its own external connections.

"Substrate blanks"

Monolithic compounds with dimensions suitable for the production of optical elements such as mirrors or optical windows.

"Superalloys"

Nickel-, cobalt- or iron-base alloys having strengths superior to any alloys in the AISI 300 series at temperatures over 922 K (649°C) under severe environmental and operating conditions.

"Superconductive"

Materials, i.e., metals, alloys or compounds, which can lose all electrical resistance, i.e., which can attain infinite electrical conductivity and carry very large electrical currents without Joule heating.

N.B.:

The "superconductive" state of a material is individually characterised by a "critical temperature", a critical magnetic field, which is a function of temperature, and a critical current density which is, however, a function of both magnetic field and temperature.

"Super High Power Laser" (SHPL)

A "laser" capable of delivering (the total or any portion of) the output energy exceeding 1 kJ within 50 ms or having an average or CW power exceeding 20 kW.

"Superplastic forming"

A deformation process using heat for metals that are normally characterised by low values of elongation (less than 20%) at the breaking point as determined at room temperature by conventional tensile strength testing, in order to achieve elongations during processing which are at least 2 times those values.

"Swept frequency network analysers"

Involve the automatic measurement of equivalent circuit parameters over a range of frequencies, involving swept frequency measurement techniques but not continuous wave point-to-point measurements.

"Switch fabric"

That hardware and associated "software" which provides the physical or virtual connection path for in-transit message traffic being switched.

"Synchronous digital hierarchy" (SDH)

A digital hierarchy providing a means to manage, multiplex and access various forms of digital traffic using a synchro-

nous transmission format on different types of media. The format is based on the Synchronous Transport Module (STM) which is defined by CCITT Recommendation G.703, G.707, G.708, G.709 and others yet to be published. The first level rate of "SDH" is 155.52 Mbit/s.

"Synchronous optical network" (SONET)

A network providing a means to manage, multiplex and access various forms of digital traffic using a synchronous transmission format on fibre optics. The format is the North America version of "SDH" and also uses the Synchronous Transport Module (STM). However, it uses the Synchronous Transport Signal (STS) as the basic transport module with a first level rate of 51.81 Mbit/s. The SONET standards are being integrated into those of "SDH".

"Systems tracks"

Processed, correlated (fusion of radar target data to flight plan position) and updated aircraft flight position report available to the Air Traffic Control centre controllers.

"Systolic array computer"

A computer where the flow and modification of the data is dynamically controllable at the logic gate level by the user.

"Tear gases"

Gases which produce temporary irritating or disabling effects which disappear within minutes of removal from exposure.

"Technology"

Specific information necessary for the "development", "production" or "use" of a product. The information takes the form of "technical data" or "technical assistance". Embargoed "technology" is defined in the General Technology Note and in the International Industrial List.

N.B.

1 "Technical data": May take forms such as blueprints, plans, diagrams, models, formulae, tables, engineering designs and specifications, manuals and instructions written or recorded on other media or devices such as disk, tape, read-only memories.

N.B.

2 "Technical assistance": May take forms such as instruction, skills, training, working knowledge, consulting services. "Technical assistance" may involve transfer of "technical data".

"Terminal interface equipment"

Equipment at which information enters or leaves the telecommunication system, e.g., telephone, data device, computer, facsimile device.

"Three dimensional Vector Rate"

The number of vectors generated per second which have 10 pixel poly line vectors, clip tested, randomly oriented, with either integer or floating point X-Y-Z coordinate values (which ever produces the maximum rate).

"Tilting spindle"

A tool-holding spindle which alters, during the machining process, the angular position of its centre line with respect to any other axis.

"Time constant"

The time taken from the application of a light stimulus for the current increment to reach a value of 1-1/e times the final value (i.e., 63% of the final value).

"Total digital transfer rate"

The number of bits, including line coding, overhead and so forth per unit time passing between corresponding equipment in a digital transmission system. (See also "digital transfer rate")

"Transfer laser"

A "laser" in which the lasing species is excited through the transfer of energy by collision of a non-lasing atom or molecule with a lasing atom or molecule species.

"Tunable"

The ability of a "laser" to produce a continuous output at all wavelengths over a range of several "laser" transitions. A line selectable "laser" produces discrete wavelengths within one "laser" transition and is not considered "tunable".

"Two dimensional Vector Rate"

The number of vectors generated per second which have 10 pixel poly line vectors, clip tested, randomly oriented, with either integer or floating point X-Y coordinate values (which ever produces the maximum rate).

* The Export and Imports Permits Act applies only to technical assistance in the form of technical data.