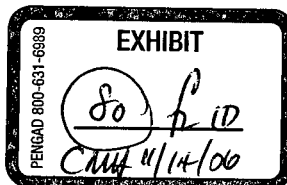


MODERN
DICTIONARY
of
ELECTRONICS

Rudolf F. Graf

SIXTH EDITION

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bundle—bus

122

twisted together without a predetermined pattern.

bundle — 1. A number of optical fibers grouped together, usually carrying a common signal. 2. A collection of glass or plastic fibers that transmit data in the form of optical energy. 3. A group of optical fibers contained within a single jacket.

bundle connector — Fiber-optic connector which joins fiber bundle to fiber bundle. It is used when fiber-optic cables penetrate bulkheads, when new cables are spliced into transmission networks, and for repair of breaks. *See* Source Connector, Detector Connector.

bundled cable — Individual insulated wires laced together to form a bundle to facilitate handling.

bundling — *See* Lacing and Harnessing.

buried cable — 1. A cable installed underground and not removable except by disturbing the soil. 2. A cable installed directly in the earth without use of underground conduit. Also called direct burial cable.

buried channel — Because charge trapping can occur at the surface of the Si-SiO₂ interface, a thin doped layer can be introduced in the silicon just below the oxide (typically by ion implantation) to prevent trapping of charges. (MIS technology term.)

buried layer — A layer of very low resistivity, usually of n⁺ material, between the high-resistivity n-type collector region and p-type substrate of an integrated-circuit transistor. The buried layer tends to reduce the series collector resistance of the transistor without having an adverse effect on the breakdown voltage.

burn — *See* Burned-in Image.

burned-in image — An image which remains in a fixed position in the output signal of a camera tube after the camera has been turned to a different scene. Also called burn.

burn-in — 1. Operation of a device to stabilize its failure rate. 2. The operation of items prior to their ultimate application intended to stabilize their characteristics and to identify early failures. 3. Phase of component testing where infant mortality or early failures are screened out by running the circuit for a specified length of time (such as 168 hours). 4. Subjecting components to a high temperature, normally 125°C, for a specified period under an electrical power stress (normally 80 percent of rated power). The process is designed to accelerate the aging of a device beyond the infant mortality life stage. After an appropriate burn-in, the devices should have a very low failure rate, normally defined by military standards. 5. Operation of a component, module, or system under some increased stress, typically elevated temperature, so

as to cause failure at the vendor's rather than at the user's plant.

burn-in period — The time during which components are operated at predetermined stress conditions prior to their installation in the user's equipment. *See* Early Failure Period.

buried resistors — Terminating film resistors deposited on inner layers of multi-layer boards in order to reduce conductor lengths.

burst — 1. A sudden increase in the strength of a signal. 2. The cosmic-ray effect upon matter, causing a sudden intense ionization that gives rise to great numbers of ion pairs at once. 3. A group of events occurring together in time. *See* Color Burst.

burst error — A series of consecutive errors in data transmission.

burst noise — An unwanted signal that is characterized by an excessively large interfering effect that is extended over a relatively short but finite time interval.

burst pedestal — A rectangular pulselike television signal which may be part of the color burst. The amplitude of the color-burst pedestal is measured from the alternating-current axis of the sine-wave portion of the horizontal pedestal.

burst pressure — The maximum pressure to which a device can be subjected without rupturing.

burst separator output — The amplitude of the chroma reference burst at the output of the gated burst amplifier.

burst sequence — An arrangement of color burst signals in which the polarity of the burst signal is the same at the start of each field so that the stability of color synchronization is improved.

burst transmission — Radio transmission in which messages are stored and then released at 10 to 100 or more times the normal speed. The received signals are recorded and returned to the normal rate for the user.

bus — 1. The term used to specify an uninsulated conductor (a bar or wire); may be solid, hollow, square, or round. 2. Sometimes used to specify a bus bar. 3. The communications path between two switching points. 4. Wire used to connect two terminals inside of an electrical unit. A common point for electrical circuits to return. Can be bare, tinned, or insulated. 5. A power line that provides power to a large number of circuits. In computing, a bus is a group of wires that conveys information to a large number of devices. The information may be data, commands, or addresses, or all three in sequence. All the devices in the system are connected to the bus. Each device is continually listening for a command addressed to it. Only one device is allowed to transmit over the bus at once. Bus-oriented systems are