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bit-line capacitance the equivalent capacitance experienced in each "bit line" in a RAM or ROM device. *See also* bit line.

bitmap strictly a one-bit-per-pixel representation for a defined area of a display.

bitmapped image a digital image composed of pixels. Bitmapped images are resolution-dependent; i.e., if the image is stretched, the resolution changes. Also called a raster image. *See also* image, pixel, vector image.

bit normalization the process of shifting a binary pattern to the left until the most significant bit is a 1.

bit-oriented block transfer (bitBLT) a type of processing used mainly for video information characterized by minimal operations performed on large data blocks; a processor designed for such operations. BitBLT operations include transfers, masking, exclusive-OR, and similar logical functions.

bit parallel method to transmit or process information in which several bits are transmitted in parallel: e.g., a bit parallel adder with 4-bit data has 8 input ports for them (plus an initial carry bit); an 8-bit parallel port includes true 8-bit bi-directional datalines.

bit period the time between successive bits in data transmission or data recording. At the transmitter (or recorder) the timing is established by a clock. At the receiver (or reader) an equivalent clock must be recovered from the bit stream.

bit per second (bps) measure of transfer rate of a modem or a bus or any digital communication support. bps and baud are not equivalent because bps is a low-level measure and media; thus, it includes the number of bits sent for the low-level protocol, while baud is typically referred to as a higher level of transmission. *See also* baud and baud rate.

bit plane the binary $N \times N$ image formed by selecting the same bit position of the pixels when the pixels of an $N \times N$ image are represented using k bits.

bit plane encoding lossless binary encoding of the bit planes is termed bit plane encoding. The image is decomposed into a set of k, $N \times N$ bit planes from the least significant bit to $k - 1$ most significant bits and then encoded for image compression.

bit rate a measure of signaling speed; the number of bits transmitted per second. Bit rate and baud are related but not identical. Bit rate is equal to baud times the number of bits used to represent a line state. For example, if there are 16 line states, each line state encodes four bits, and the bit rate is thus four times the baud. *See* baud.

bit serial processing of one bit per clock cycle. If word length is W, then one sample or word is processed in W clock cycles. In contrast, all W bits of a word are processed in the same clock cycle in a bit-parallel system.

For example: a bit serial adder with 4-bit data has one input signal for each bit of data, one bit for carry-in, and two 4-bit shift registers for data.

bit-slice processor a processor organization that performs separate computations (via multiple processing units) separately upon subsections of an incoming channel.

bits per pixel the number of bits used to describe the color or intensity of a pixel. For example, using 8 bits to store a value from the RGB color model would permit 3 bits to be used for both red and green values and 2 bits for the blue value. Blue gets a smaller range because the human eye contains less blue cones and thus is less sensitive to blue variations. True color images have 24 bits per pixel, or 8 bits for each of the red, green, and blue pixels. Typical grayscale images have 8 bits per pixel, giving 256 different gray levels. Compressed image sizes are often represented in bits per pixel, i.e., the total number of bits used to represent the compressed image divided by the total number of pixels.

bitwise an operation, typically a logical operation such as and, or, complement, or exclusive