P

Pack the process of combining data together into one location in order to save memory and speed up processing. Can be achieved by overwriting insignificant zeros contained before the significant digits in memory.

Package application package. A series of generalised programs written to perform well defined functions, e.g. payroll, accounting, etc. They are constructed in such a manner that the input and output format may be changed to suit an individual client's requirements. Also there may be options within the logic of the processing programs that allow alternate methods of calculation to be chosen. By the use of packages it is possible to share development costs between a number of users, even though the package may impose certain restrictions on the user.

Packaging the outer casing or package which surrounds an electronic device. Refers more particularly to the plastic insulating package which surrounds an integrated circuit, leaving only the connection pins exposed. ◊ CHIP.

Page a segment or block of contiguous memory which can be addressed by special means or by a specific field containing a complete address value. Used in overlaying and virtual memory control systems. ◊ VIRTUAL MEMORY.

Page printer a computer output device in which the output for a whole page of computer printing is accumulated either in the computer's main memory or in the printer's own buffer memory and then simultaneously released to drive the printer mechanism. The fastest computer output is achieved in this manner. Although very costly by comparison with other printer types it can achieve speeds in excess of 12,000 lines of print per minute.

Panel the precursor to the printed circuit board, it contained valves and accumulators and similar technology components. Also refers to an inspection hatch of a computer or electronic system and the central controlling console of an electronic system.

Paper tape similar to punch cards although the medium is a continuous reel of paper in this case. Uses a variety of different punch hole codes, from 5 channel (rows of holes) to 9 channel.

Parallel communications synonymous with PARALLEL OPERATION.

Parallel operation actioning all the digits of a word simultaneously by transmitting each one on a separate channel or bus-line. The technique is faster than serial or sequential operation but requires more equipment to control the process.

Parallel processing ◊ PARALLEL OPERATIONS. ◊ ANALOG COMPUTER.

Parallel run (Parallel running) two different systems operated simultaneously in order to verify results. Generally used to validate the output from a newly installed computer system against an older and more conventional method of achieving the same results.

Parameter constant or known values or known functions having variable values. The upper and lower figures between which a variable is considered valid.

Parity a single BIT extension to a field or word of binary data. It illustrates whether the field contains an odd or even number of ones (1). It enables a limited amount of editing, error detection and correction to take place. ◊ ODD PARITY CHECK.

Pascal a programming language finding rapidly growing acceptance in the field of industrial process control. To some extent replacing the more conventional languages, like FORTRAN. Pascal is also a unit of measure for force in the SI system.

Pass one complete cycle. In the compiling operation more than one pass may be required to complete a compilation.

Passive (Passive elements) any component or device which does not have more than one function or cannot vary its output is said to be passive. Components used for their main properties of resistance, inductance or capacitance are said to be passive. Components such as transistors which can amplify a signal and also act as a switch, in other words they can change their state, are known as active elements. ◊ ACTIVE ELEMENTS.

Patch a small modification to a computer program is often known as a patch. Used widely as the term denoting improvised modification, to either hardware or software.

Patch board (Patch panel) a device for temporarily modifying circuits or programs.

PC Programmable Controller. An electronics or microprocessor device used to control the sequence and duration of repetitive operations, for example, in automatic machine tools and domestic appliances. Earlier versions were known as sequential controllers or PLC. ◊ PROGRAMMABLE LOGIC CONTROLLER.

pcb printed circuit board. The platter or board which contains the circuits and components for a whole system, or part of a system. The raw material is often an insulating layer of phenolic resin coated on one, or both sides, with a conducting film of, for example, copper. Photographic art work is used in a photolithographic process to etch away the unwanted conductive surface, leaving an interconnecting network of conductive paths. Components are then assembled and soldered in the correct position, after drilling the board to facilitate secure loading of components. Printed circuit boards can be loaded on both sides (double sided pcb).

PCM Plug Compatible Manufacturer. The term applied to a computer peripheral manufacturer whose products can replace those of the major systems manufacturer or OEM simply by plugging them in to the system. This implies perfect compatibility of interfaces, plugs, channels, buses, addressing methods and so on. A whole industry of plug-compatibles has grown up since the late 1960's. It has been stimulated by International Standards on interfacing, thus making it easier to simply replace other suppliers' equipment, by economies of scale and because of the pricing policies of some of the larger systems' suppliers. It has also been possible to develop a sizeable industry of special purpose peripheral suppliers, fulfilling needs that could not economically be satisfied by the larger companies.

Peripheral a device in a system which is not part of the central computer but is used for input or output purposes, for example, terminals and printers.

Peripheral (software) driver software which enables programs to control and communicate with peripheral devices.

Peripheral Interface Adaptor ◊ PIA.

Personal computers (Homebrew) the basic, inexpensive microcomputer systems designed for the hobbyist for his own use in his own home. Inevitably these have been taken up by the small business and laboratory for the less demanding computing tasks. A

supporting infra-structure is also beginning to develop such as computer shops, independent software houses, games for use with personal computers, suppliers of media, textbooks and the like. ◊ HOME COMPUTER.

PERT Project Evaluation Review Technique. A sophisticated project planning and production control computer application package. Developed originally by the US Navy it is particularly appropriate for the planning, monitoring and control of large construction projects, such as bridge building and other major engineering projects.

Phoneme a grouping of signals which operate within the audible sound range. Selected groupings of phonemes can represent or simulate speech. ◊ VAB (VOICE ANSWER BACK).

Photocurrent a phenomenon which occurs in semiconductors through the effect of incident electromagnetic radiation (incident light). The effect of the light is to free electrons from their normal position which generates current in proportion to the light intensity.

Photodiode a diode making use of photocurrent generated by incident light. Used in photographic applications (light measurement) and various tasks connected with infrared radiation and sound transmission, especially for remote control and light signal detection and measurement.

Photoetch the process of removing the current-carrying surface of a hybrid material used for printed circuits, generally a copper clad phenolic resin. ◊ PHOTOLITHOGRAPHY.

Photolithography the process which is used to create printed circuits and various semiconductors and integrated circuits. Involves the use of photographic circuit masters (art work) and a version of chemical etching. ◊ PCB.

Photomask a photographic plate which contains photographic images of circuits to be fabricated on a wafer of silicon (an integrated circuit). A photographic mask through photographic reduction techniques, can hold hundreds of circuit images, to be fabricated on a three or four inch diameter wafer.

Photoreceiver the materials and devices which convert light signals into current and voltage signals.

Photoresist a photosensitive material which forms a barrier when exposed to light. Thus, when a circuit is exposed onto a base

material in the photolithographic process the negative photoresist resists the action of the photoetch process; the positive photoresist aids the photoetch process, thus a cohesive circuit remains on an insulating base at the completion of the photolithography process.

Phototransistor a transistor operating on photocurrent. Used in punch card and paper tape readers and photoelectric (optical) isolation devices.

Photovoltaic cell a cell in which voltage generated by incident light causes current to flow in an external circuit. Solar cells utilise this phenomenon.

PIA Peripheral Interface Adaptor. A universal interface for input and output, ensuring that a wide range of standard devices may be directly connected to a microprocessor board. The device handles the necessary intermediate control for harmonising input/output with the microprocessors requirements.

Pick-up (Pick-off) a TRANSDUCER that translates physical movement into a digital electrical signal, for example, a proximity switch.

Pico (p) Meaning divided by 1,000,000,000,000 (1/1,000,000,000,000, or 10^{-12}).

Pin one of the conductive connections to integrated circuits, enabling the chip to be connected into a circuit in position. ◊ SIP, DIP.

Pin-out the term for a listing which describes the purpose for each pin on an integrated circuit or chip. In a memory chip for example, each pin would represent the input/output channel for a particular block of memory, whose location number would be sequential with the next pin.

Pizoelectric where certain materials such as silicon dioxide are placed under physical stress or strain, an electrical polarisation is created on the face of the material. The polarities are reversed if the stress or strain is reversed. Materials exhibiting this effect have obvious applications in strain gauges and other similar transducers. There are predictable relationships between deformation and field strength, which can be used as the gauging, or transducer element, in a gauge. Materials exhibiting the effect are said to have pizoelectric properties.

PL/1 Programming Language/One. Originally an effort to create a universal programming language as a single standard to replace all others. It has not been the universal success that its developers had hoped but it is widely used nevertheless. Various versions now exist

including PL/M, a version for a microcomputer.

PLA Programmable Logic Array. An alternative to having either a standard or custom made circuit on a chip. A PLA enables the user to set his own switches and make his own circuits by selecting those he wants from a standard 'kit of parts' on a board. Can be a prerequisite to having a custom or special chip fabricated; a sort of BREADBOARD chip. Synonymous with ULA (Uncommitted Logic Array).

PLC ◊ PROGRAMMABLE LOGIC CONTROLLER.

Plotter a full graphics (linedrawing) plotter or graph plotter. Converts analog signals from the computer into a graphical form on a special purpose printer.

Plugboard synonymous with PATCHBOARD.

Plug Compatible Manufacturer ◊ PCM.

pMOS or PMOS p-channel MOS. A semiconductor (METAL OXIDE SEMICONDUCTOR) where current does not pass through silicon crystals but through small holes.

Pn junction ◊ BIPOLAR.

Pointer any device which aids the central processing unit in finding data in memory. An ADDRESS can be regarded as 'pointing' to a particular location, or function.

Pointer register the register which stores memory address pointers.

Poles the two opposite parameters positive and negative, in a circuit, device or component.

Poll the process of a computer scanning each device connected to it in sequence to discover whether any data is waiting to be loaded or whether any messages require a response. Used in large interactive and multi-terminal systems.

Polynominal mathematical relationships that define the rate of change, as opposed to linear relationships which define a curve, or straight lines.

Port terminals which provide electrical access to or from a system or circuit.

Position independent code computer code that need not have a fixed or known location since it is to be found by RELATIVE ADDRESSING, or by a lookup table created by the program in memory.

Post-processor a device or program which orients computer results to a particular product or process. ◊ PROCESSOR.

Pot abbreviation for potentiometer. ◊ POTENTIOMETER.

Potential difference (pd) the difference in electric potential (voltage) measured between two terminals or points in a circuit.

Potentiometer (Pot) a variable resistor, having two or three terminals.

Power the energising force for a system or circuit. Usually refers to voltage.

Power fail detect a hardware technique to identify the absence of power and to store away all the important memory locations and component settings in battery backed up memory. This enables the computer to recognise where it was when power failed and thus to complete its cycle when power is restored. Part of HOT START and WARM START procedures.

Power supply a source of electrical power, either AC or DC, which is appropriate to a given circuit or system. In practice the power available from batteries or mains supply may require preliminary filtering or other treatment before it has reached the desired condition for the circuit under consideration. ◊ SIGNAL CONDITIONING.

Power surge ◊ SPIKE.

Power transformer a device for stepping down mains voltage to a lower, more precise, value. Part of the signal conditioning device in many microelectronics applications.

Preprocessor a conditioning program, used to set parameters for the main processor. ◊ PROCESSOR.

Pressure switch a series of switches designed to make and break contacts under pressure or weight rather than the normal lever action, or toggle switches in common use.

Print out the printed reports produced by a computer system or instrumentation device.

Printed circuit board ◊ PCB.

Printer the most common form of output from a computer system. Technologies of printers include impact, matrix, thermal, ink jet, laser and electrostatic.

Priority parameters which set the level of importance of a routine.

Priority interrupt a technique to ensure that a particular condition giving rise to a request to interrupt the normal running of a program in memory is given ascendancy over other types of interrupts. All interrupts can be assigned a priority level, or parameter.

Probe the sensitive end of a measuring instrument or transducer.

Problem-oriented language a high level language designed for the treatment of a particular task, e.g. COBOL for commercial work, FORTRAN for mathematical and scientific tasks, APL for time sharing and enquiry tasks, etc. Some authorities refer to these as 'procedure oriented languages'.

Processor either the actual hardware of the central processing unit or a language designed for a very specific problem.

A post-processor is a type of editing or conditioning program and is used in such things as numerical control programming languages in order to link the program statements into the physical characteristics of the machine tool for which the program has been written.

Another type of processor (a pre-processor) is an attached hardware processor, i.e. a support processor for the main CPU. Its function is to organise programs into the most efficient form for subsequent processing on the main processor. See also CENTRAL PROCESSING UNIT.

Program assembly of instructions which instruct the processor to perform a particular function. Note the spelling which is the internationally acknowledged standard although 'programme' is still widely used.

Program coding the process of writing down the lines of code or program statements, which comprise a computer program.

Program counter one of the registers in the central processing unit which holds all the addresses necessary to proceed through the program.

Program execution the process of running live data through a program to obtain usable output from a computer system.

Programmable Controller ◊ PC.

Programmable Logic Array ◊ PLA.

Programmable Logic Controllers (PLC) a microprocessor or minicomputer system able to accept digital inputs, which can be programmed to output digital outputs in a given sequence with given time delays. They are user programmable, utilising a fairly simple and straightforward programming language. Used in the automation of simple industrial processes, often to replace conventional switchgear or control equipment.

The newer versions of these PLC are almost completely solid state and are being referred to as Programmable Controllers (PC).

The first microprocessor devices were utilised as programmable controllers in such things as domestic appliances. They were used as replacements for conventional wired switches.

Another version of a programmable controller is a Sequential Controller, often using a plug-board to program the sequence of operating and timing delays.

Programmable Read Only Memory ◊ PROM.

Programmer the computer professional who codes problems into the appropriate computer language.

In another sense the term is used to describe the device which loads the binary data into PROM (a PROM 'blower').

Programming language a set of computer instructions organised in a coherent fashion to enable a programmer to fulfil a particular programming task. Languages may be low level (machine oriented) or high level (problem oriented). ◊ LOW LEVEL, LANGUAGE, HIGH LEVEL LANGUAGE, PROBLEM ORIENTED LANGUAGE.

Project Evaluation Review Technique ◊ PERT.

PROM Programmable Read Only Memory. A memory used to hold microprocessing instructions. It is a type of ROM which can be programmed, by the supplier, not the user. There are various technologies available including those that are ineradicable and unalterable, using a fusible link technology. Also available are EAROM, electrically alterable, either in part or whole and electrically programmable using short wave ultra violet rays. Hence the three, partially interchangeable terms: PROM (Programmable Read Only Memory); EPROM (Erasable Programmable Read Only Memory); EAROM (Electrically Alterable Read Only Memory).

PROM programmer the device which loads a PROM with a program. It is normally part of, or connected into, a development

system. The program to be loaded into PROM is normally contained on the development systems' floppy disks. Current technology PROM programmers use an ultra violet source for writing the contents of PROM. Earlier programmers used programs contained on paper tape ('truth' tapes or 'personality' tapes) to enable the programmer to fuse links together to form a binary pattern in PROM. This device was often termed a PROM 'blower'. ◊ PROGRAMMER.

Proposal the sales document presented to a prospective systems purchaser by the aspiring supplier.

Protective relay a device in a circuit used to protect that circuit against overload conditions.

Protocol an agreed set of rules. Serial data transmission must invariably rely on a defined protocol. There are several internationally agreed protocols. ◊ CCITT.

Proximity switch a device that creates a magnetic field which can be broken by objects passing through it at fairly close range or proximity. It has similar uses to limit switches. ◊ HALL EFFECT.

PRT Platinum Resistance Thermometer. A solid state method of determining temperature in which a resistor made from platinum registers changes of resistance due to temperature change. The resistance changes are converted by an instrument or computer system. A PRT is more robust than conventional thermometers and more tolerant, accurate and reliable than alternative methods of measuring temperature.

Pulse to energise a circuit digitally, using 'waves' of power such as AC. This contrasts with driving a circuit directly or in analog fashion.

Punch card a medium used for entering data into a computer. Data is represented by punched holes. Combinations of punched holes represent the full alphanumeric range plus a range of special characters.

Q

QC ◊ QUALITY CONTROL.

Quadrant a sector of circular movement, often used to describe the movement of an arm, fixed at a pivot.

Quality Control (QC) the application of inspection principles to determine acceptability. SQC (Statistical Quality Control) uses sampling and statistical techniques to maintain quality standards but avoid the necessity for 100% inspection.

Quantum (quantum jump) commonly used to denote a dramatic increase in an arithmetic value; a large step in a graph. A revolutionary jump rather than an evolutionary movement.

Quartz the crystal used in oscillators, silicon dioxide. The material exhibits the pizoelectric effect. ◊ PIZOELECTRIC.

Queue a stream of data, or mix of data and programs awaiting processing. Queues are not necessarily processed sequentially; they may be actioned selectively.

Queuing theory a study of queues. Uses various statistical analysis methods and the theory of probabilities.

Quiescent a term sometimes used to describe a state of inactivity in a circuit or system.

R

Rack a standard, basic metal enclosure to enable printed circuit boards to be directly mounted into one of a series of slots. There are many commercially available standard racks which facilitate standard mounting of microelectronic products. Racks and packaging can thus be selected from a range which conforms to the environment in which they are expected to operate thereby avoiding the time and expense of designing specials.

Radix the number or symbol for a system of numbering. In the decimal system the radix is 10, in octal 8, in binary 2, in quintal 5, and so on. ◊ BASE NUMBERS.

RAM Random Access Memory. A memory consisting of a variable number of RAM chips providing access to any storage location point by means of horizontal and vertical co-ordinates. Information may be written into or taken from RAM very rapidly, under computer control. RAM may be dynamic, i.e. the contents may have to be regularly rewritten (refreshed), or it may be static, in which case the storage cell is a FLIP-FLOP element, in one or two stable and electrically alterable states.

RAM loader Random Access Memory loader. A program, often a standard provided with the OPERATING SYSTEM, which reads data being entered through an input device and loads it into Random Access Memory (RAM).

Random Access Memory ◊ RAM.

Random logic design a design using separate and discrete logic units to create a circuit or product. An alternative to the more expensive custom-designed large scale integrated circuit (LSI) approach, which needs high volume for economic justification.

Rated voltage the datum, or design level, in voltage terms at which a device should be operated. There are generally safety margins built in and often overload protection techniques are also incorporated but the rated voltage is the key design criterion.

Reactance the combined effect of inductance and capacitance in an AC circuit. ◊ CAPACITANCE, INDUCTANCE.

Read to find and remove data from memory and then to place the data into a memory location where it can be used for comparison

or processing purposes. The reading process can either destroy or remove the data, or it can be non-destructive of data. Data can also be rewritten immediately it has been read, in order to preserve it. The techniques depend upon the technology in use, the type of memory (main or peripheral) and the system architecture. The way in which the software is written can also determine whether data is destroyed on reading.

Read Only Memory ◊ ROM.

Read Out any presentation of output data from a computer system. Can be in hard copy (paper, card or tape), displayed on a screen or transmitted in magnetic form. ◊ PRINT OUT.

Read/write head ◊ RECORDING HEAD.

Read/Write Memory a memory or memory device which can be used to write into and read from. ◊ ROM.

Reader the device which acts as a primary input device for computer media, e.g. tape, card, magnetic tape, disk, optical media, etc. The term does not apply to data, or devices, in which information is keyed in directly via a keyboard or a video display unit in an on-line system.

Ready analogous to 'end of countdown'. The point at which all preparatory work has been completed where the computer is ready to receive data.

Real time a much misused term implying that the computer instantly performs the command the user has given and dedicates all of its resources to the completion of that one particular task. In practice the computer, when operating in real time mode, has to satisfy many such instantaneous requests. Thus, there are a wide variety of techniques designed to minimise response time by the computer to any user's request and to ensure a reasonably efficient use of computer resources. It requires a sophisticated operating system and inherently demands compromises by the user since the system must share its time and resources to near optimum levels.

Real time clock the timer device that enables a real time operating system to time and share operations rapidly and accurately. It is also used to provide normal time of day functions to 'time and date stamp' reports. Synonymous with 'Interval timer'.

Record format the design and layout of data or programs, generally relating to information to be held on file. The format must

be well thought out since it will need to be regularly accessed for information and updating. A poorly thought out record format will impose a penalty on computer time and storage if it is to be accessed regularly.

Recording head (read/write head) the device employed on disks, floppy disks and magnetic tape drives. It converts electrical variations into magnetic variations and vice versa in order to read or write magnetic information on to a magnetic tape.

Rectifier the family of devices, or techniques, which converts alternating current (AC) into direct current (DC).

Recursive a software routine which is capable of calling and using itself with a nested routine. ◊ LOOPING, NESTED LOOPS AND SUBROUTINES.

Redundancy information in a system or signals in a circuit that are transmitted for verification purposes and are not critical to the function of the system. Thus they could be lost or dissipated without genuine adverse effects.

Reentrant code where a subroutine or program is common to several programs in current use there are two different techniques to ensure that the subroutine is available when needed. The first is to take a copy of it for every program which needs that subroutine and to store it with that program. The second is to form a single copy of reentrant code and locate it in an easily addressable area of memory. This latter technique ensures better utilisation of memory, and generally, faster processing since the programs are smaller. However, it does require a greater flexibility on the part of the OPERATING SYSTEM and programmers.

Refresh the process of rewriting data in memory or on a Cathode Ray Tube where data has to be dynamically restored or regenerated.

Register a register is a memory on a much smaller scale than RAM or ROM. It is used by the computer to store, on a temporary basis, arithmetic, logic or transferral operations.

Regulator a device which maintains voltage or current in a system at the desired value, no matter what the variation might be at the supply level.

Relative address an indirect address which points to the absolute or exact address of the data in question. When called up by the

program the relative address is changed to the absolute address.

Relay a switch which operates with contacts made in the 'on' position on contacts open in the 'off' position, under voltage or current control. Preset limits determine the on and off positions. Relays can be used to indicate binary states of logical one and logical zero. Quite complex industrial logic systems are based on this principle.

Relocatable programs which can be located and reloaded anywhere in memory and still perform perfectly adequately.

Remote any location at which a peripheral or user may wish to use a system to which it is not directly connected by cable. In practice 'remote' means anything in excess of 300 metres (1000 feet) although this figure can be trebled if fibre optic cables are used. ◊ RJE.

Remote Job Entry ◊ RJE.

Repeatability the ability to perform the same operation or function to predefined parameters, or the number of times that the operation can be repeated. A comparative figure for instruments and components.

Requirements specification the document drawn up by a potential computer user. It lists all the main aims of the system, the facilities required and every identifiable factor which will influence the choice of system. Suppliers are then invited to tender against this requirements specification. The specification may be preceded by a feasibility study. ◊ FEASIBILITY STUDY.

Rerun the act of repeating a computer run due to a halt part-way through the process, or faulty output. To ensure valid reruns copies of all files, data and programs need to be maintained in the state that existed before the run commenced. Thus as a matter of good housekeeping the first step in a system is normally to take an up-to-date copy of any relevant input and file material. The maintenance of such data, performed on three successive generations of data is commonly referred to as 'grandfather', 'father' and 'son' maintenance.

Reset a facility which enables the microprocessor to be returned to a known state. The program will then start at address zero.

Resistance a material's tendency to resist the free flow of electric current. Resistance varies with physical makeup and environment. Resistance is measured in ohms (Ω).

Resistor a component having a known resistance.

Resonance when a small force creates a high amplitude oscillation it is known as being in a condition of resonance. ◊ DAMPED.

Reticle the photographic master pattern for a photomask, used in the fabrication of integrated circuits. A reticle is normally ten (10) times the size of the circuit to be fabricated.

Return programs, or subroutines, ending with a 'Return' instruction cause the program counter to be restored to the return address.

Reverse (voltage, current) a semiconductor can exhibit a greater resistance to current flow in one direction. Therefore a voltage applied in this direction is known as a reverse voltage, the resulting current as reverse current.

Reverse bias synonymous with REVERSE VOLTAGE.

Rheostat a variable resistor, exhibiting changeable values between known parameters. The changeable values can be physically controlled by an operator.

Ringing a jargon term for a signal exhibiting a damped oscillation wave form where it seeks stability. ◊ DAMPED.

RJE Remote Job Entry. The term given to the process of entering a job or stream of data in a device which is remote from the processor which is to process the data. Examples of use are where a small computer is used in one location for relatively light and uncomplicated tasks, it can also be used as an input device, by means of phone lines, to a much larger computer installation. In this way it is possible to use a small processor for all except the very largest tasks and then to 'buy time' on another processor for the more complex or higher volume work. A RJE device is used only for batch, or for periodic, volume jobs. It is not used for real time, on-line jobs.

Robotics an area of artificial or machine intelligence involving the use of computers, electronics, sensors and mechanical engineering. ◊ ARTIFICIAL INTELLIGENCE.

ROM Read Only Memory. A device containing information which cannot be changed under computer operation. It can only be read by a computer. ◊ EPROM, EAROM, PROM.

ROM bootstrap a small program enabling recreation of main

memory if the contents of main memory have been lost or corrupted through program or systems error.

Rotary Potentiometer a version of the potentiometer having three terminals, the middle terminal being also known as a wiper. Since the wiper is able to change its position the resultant resistance measured between any two terminals will vary in relationship to the wiper position.

Rounding the process of abbreviating a numerical value to the most accurate figure within a given field length. Rounding can be an exact cut off, or up or down to different rules and to different numbers of decimal places.

Routine a small program. Can be used by many different programs. Written and stored separately, it can be called or NESTED, into other programs on command.

RPG Report Program Generator. A problem oriented programming language. A high level language, it enforces the discipline of documenting all aspects of the program before the actual program coding begins. It is aimed at the non-computer professional and is occasionally referred to as a program generator.

RS232C an international standard governing the transmittal of data or signals over cables. It applies to serial transmission, i.e. one bit at a time. Numerous international conventions aim to specify similar standards. ◊ CCITT.

Run-time the time taken by a discrete object program to complete its execution. ◊ PROGRAM EXECUTION.

Rugged a term used to describe the requirements of computer or electronics system in hostile or demanding environments. It includes the use of appropriate packaging, power supplies, vibration proofing, flame proofing, water proofing, and other requirements depending upon the precise environment to be encountered by the system.