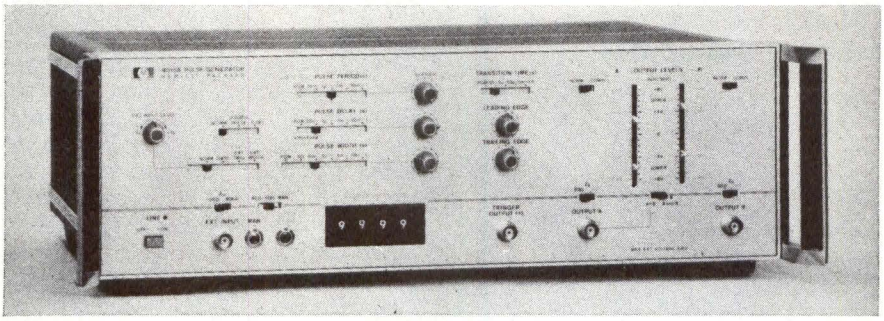
Pulse Generator Options Speed Testing of MOS/CMOS Circuits



Hewlett-Packard's 8015A pulse generator is now available with power supply tracking, external amplifier access, extra TTL output, and remote control options to speed and simplify testing of MOS and CMOS circuitry

Enhancing the usefulness of the 8015A pulse generator in testing MOS/CMOS circuits, four options, introduced by Hewlett-Packard Co, 1501 Page Mill Rd, Palo Alto, CA 94304, provide an extra sensing level connection, make internal amplifiers externally accessible, provide an extra third output connection, and allow remote control of pulse parameter ranges. The options serve to protect the devices under test, allow TTL outputs to be amplified to CMOS levels, and permit testing of mixed TTL and CMOS circuits.

Option 006, a tracking function, assures that test pulses fed to MOS circuits will not exceed power supply voltage levels—thus destroying the device under test. This extra sensing connection, when tied to the power supply, permits the output level of the pulse generator to automatically track the power supply voltage.

By means of option 004, the two linear internal amplifiers of the 8015A are made externally accessible. Either channel will put out a signal up to 16 V peak-to-peak, operated asymmetrically; the two channels may be used separately. Rise time is 6 ns or better. External accessibility allows the output of experimental TTL circuits to be amplified to CMOS levels, as well as the mixing of external and internal signals to produce test signals consisting of noise spikes on sine waves.

Also useful when testing mixed TTL and CMOS circuits is an isolated, third output connection, option 005. In-phase with channel A, this connection puts out signals at fixed TTL level and is a precise 50-Ω resistive source (such a source has the advantage of absorbing reflections caused by external mismatches). While the level is fixed at ≥4.5 V into open circuit for logic 1, all other pulse parameters are variable in concurrence with channel A.

Option 003 provides remote control of pulse parameter range and of the pulse burst option (if included). Pulse parameter ranges may be remoted digitally by external contact closure to ground or by applying TTL-compatible signals (negative-true logic). Vernier control is available by combining external currents or voltages and resistances.

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Minicomputer System Cuts Costs of Applications Programming

Designed to sharply reduce costs of developing transaction-oriented business accounting and inventory control systems, DASL (for Data Access System Language)™ is a multiterminal computer system which provides a powerful language for applications programming, operating system and data base management software, and a 16-bit minicomputer and full range of peripherals. Developed by Ball Computer Products, Inc, 5601 College Ave, Oakland, CA 94618, the system provides a set of more than 250 precoded routines in metacompiler format to handle common business and data management functions; these are combined to develop online business programs, saving up to 90% of the work ordinarily required.

Because routines are written in assembly language, resulting system throughput is several times greater than that of equivalent COBOL or BASIC systems. The ability to specify system parameters for each transaction type, along with the formalized system structure, provides the programmer with all the tools he needs to build a system that exactly matches the end-user's needs.

A minimum operating configuration for an online multiterminal operation includes 16-bit minicomputer with 64K bytes (32K words) of core memory, two CRT terminals operating in page mode with maximum screen size of 20 lines (80 char/line), disc drive providing storage for 5.8M bytes, magnetic tape drive, and control console with hardcopy printer. This basic system can be expanded in stages to a total of 16 CRT terminals and 400M bytes of disc storage; other options include high speed tape drives, printers, card readers, multiplexers, and controllers.

System software includes a file-oriented disc operating system for high level I/O management and system control and a real-time subsystem for multiprogramming of user applications in a multilevel priority interrupt environment. This permits data entry and inquiry to occur uninterrupted at terminals, concurrent with processing and high speed I/O. Different transactions may be processed concurrently at each terminal, or groups of terminals may handle the same task.

Among the system's features are online data entry, with detailed error messages; online data bases for instant access and immediate transaction posting; batch control of data entry, and multiple levels of operator and station security. Error checking keeps untested transactions from undermining system integrity.

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