Burroughs B90 Series
The B92

A step into a new level of computer excellence: Burroughs B92.

A compact, general purpose computer which can be used as a freestanding system, a terminal computer within a data communications network, and a host computer system with its own network of local and/or remote terminals.

The B92's excellent cost/performance ratio results largely from its outstanding hardware design and its advanced operating system—the Master Control Program—which utilizes the computer to its greatest potential.

Among the significant hardware features of the B 92 are:
- A high-speed 2 MHz processor.
- A system display capable of displaying either 256 or 1,920 characters.
- A 120 character-per-second bi-directional matrix printer featuring multi-density print.
- Main memory up to 512KB.
- A Burroughs first: Super Mini-Disk II, the 3/6MB mini-disk subsystem.
- A variety of disk storage subsystems.
- Full data communications capabilities.

Together with either Burroughs Computer Management System (CMS) or Burroughs Accounting Computer System (ACSYS), these hardware features provide an exceptionally versatile and powerful data processing system.

PROCESSOR

The B 92 central processor utilizes state-of-the-art advances in Large Scale Integrated Circuitry (LSIC). This technology allows the processor to be packaged with minimum space requirements, yet offers the processing power of larger computer systems.

Major processor characteristics include:
- Clock speed of 2 MHz.
- "Look Ahead" and "Overlap" of the fetch and execution of microinstructions. The processor operates under control of microinstructions stored in memory. Portions of processor logic continuously fetch and decode microinstructions into control signals which cause processor functions. Buffers in the decode logic enable an overlapping of these functions, allowing more than one function in a single processor cycle and contributing significantly to enhanced throughput.
- One microinstruction can have the capability of multiple character transfers. Data movement and processor efficiency are greatly enhanced by this feature.
- Through hardware interrupt, the processor takes the time to service an I/O port only when it is actually needed. This feature enhances the processor performance because "scanning" of the I/O ports is not required.
- Up to eleven I/O channels for peripheral devices.

Minimum main memory for B 92 systems is 128KB. Main memory consists of Metallic Oxide Semiconductors (MOS) which contain:
- 4KB Read Only Memory (ROM) containing routines for loading interpreters and customer confidence routines.
- 124KB Random Access Memory (RAM) for the Master Control Program (MCP); interpreters; utilities; and user programs.

Memory is expandable up to 512KB in increments of 64 and 128KB.

ON-BOARD DIAGNOSTICS

On-board diagnostics are designed to contribute to optimum B 92 performance. This series of Maintenance Test Routines assists in analyzing faults in the system and detecting degraded performance of a component before a fault occurs. They perform tests on the entire system, including peripherals, with the results printed in simple, easy-to-read statements on the hard copy journal or on the console display. These on-board diagnostics facilitate faster repairs and assist in reducing unscheduled maintenance.

KEYBOARD

Each B 92 system includes a standard, ergonometrically-designed console input keyboard. The following features are standard:

- Keyboard buffering permits data entry at an operator's pace when the printer and processor are in use.
- Standard alphanumeric typewriter.
- Ten-key numeric data input keyboard.
- Four operation control key functions are duplicated on both the alphanumeric and ten-key keyboard for operator convenience.
- Programmatic indicator lights for operator guidance.
- Twenty-four program select keys to simplify operator use of the system.

Keyboards are available in the following versions:
- English-U.S.A.
- French
- German
- Spanish
- Croatian
- Greek
- English-U.K.
- Italian
- Portuguese
- Danish/Norwegian
- Swedish/Finnish
- Icelandic

PRINTER AND FORMS HANDLER

The unique inbuilt printer and forms handler of the B 92 are designed for flexibility and throughput. Characteristics include:
- 120 character-per-second bi-directional serial matrix printer.
- 15-1/2-inch wide pinfeed forms handler, standard
- Second pinfeed is optional.
- Multi-density print: 10 or 15 characters per inch, operator selectable.

DISK STORAGE SUBSYSTEMS

The B 92 may be configured with up to three disk subsystems from a wide range of magnetic disk storage devices, which includes the following:
- Burroughs Super Mini-Disk subsystems
  - 1MB/266ms average access time single drive inbuilt
  - 2MB/266ms average access time dual drive freestanding
  - 6MB/157ms average access time dual drive inbuilt
  - 6MB/157ms average access time dual drive freestanding
- Burroughs cartridge disk subsystems
  - 4.6MB/146ms average access time.
  - 9.2MB/100ms average access time.
- Burroughs fixed disk subsystems
  - 9.4MB/55ms average access time.
  - 18.8MB/55ms average access time.
  - 28.2MB/55ms average access time.
  - 37.8MB/55ms average access time.

FURTHER INPUT/OUTPUT CAPABILITIES (OPTIONAL)

- Industry-compatible mini-disk drive of 243KB per single drive.
- Magnetic tape cassette drives.
  - Up to four Phase Encoded (PE) cassette stations, or
  - Up to four Non-Return to Zero (NRZ), or
  - A combination of the above four, maximum.
  - A single controller will handle two cassettes.
- Operator system display.
- Up to two line printers.
- Data communications.

DATA COMMUNICATIONS CHARACTERISTICS

Up to four synchronous or asynchronous communication channels, in any combination, are available with the following capabilities:
- Asynchronous Modem Connect.
- Asynchronous Direct Connect.
- Synchronous and Bisynchronous Modem Connect.

BURROUGHS COMPUTER MANAGEMENT SYSTEM (CMS)

Burroughs Computer Management System (CMS) is an integrated system of operating and application software; high level language compilers for application program development; and data communications, interpreters and utility programs. CMS is the key to the ability to expand B 90 systems throughout their range of configurations and to move to larger systems without reprogramming. CMS includes:

- Master Control Program
- CMS REPORTER
- DOMAIN™ program products*
- CANDE
- ARCS
- RPG-Edit
- ODESY
- On-Board High-Level Language Compilers (COBOL, RPG, NDL & MPL II)
- Microprogrammed interpreters
- Business Management Systems
- Utility programs
- GEMCOS

MASTER CONTROL PROGRAM (MCP)

The B 92 MCP is a comprehensive operating system designed to simplify operation and control of the system. It increases productivity by automatically directing many functions which would ordinarily be handled by an operator or a programmer. Principal MCP features include:

- Operator Communication—The MCP provides for two-way communication between the operator and the system. MCP messages are simple, easy-to-understand statements.
- Dynamic Multiprogramming—More than one program may be run concurrently. The MCP controls automatic multiprogramming by assuring efficient use of the processor on one program while I/O is occurring for other programs.
- Virtual Memory—The B 92 MCP provides for a virtual memory system. This enables the B 92 to run programs which are larger than the available memory size. This same facility enables the MCP to maximize memory utilization in a multiprogramming environment.
- Dynamic Resource Allocation—The MCP maintains an inventory of the resources available on the system and maximizes productivity by allocating these resources to meet job requirements. Among these resources are:
  - Available memory.
  - Peripheral assignments.
  - Disk storage space.
  - Program priority assignments.
- Add-on peripherals and memory.

Any changes in resources are recognized automatically by the MCP so that optimum system efficiency and throughput can be achieved. This capability makes possible the utilization of additional resources without reprogramming.

- Input/Output Control—The MCP handles all physical I/O operations and also controls the operation of I/O devices. These activities include:
  - Locating files.
  - Data transfer.
  - Buffer management.
  - Automatic lable recognition.
  - Error monitoring.
  - Automatic retry on error detection.

*DOMAIN is a trademark of Burroughs Corporation.

Because these functions are handled automatically by the MCP, program logic for these functions does not have to be included in user programs. This simplifies writing of application programs substantially, and reduces the size of the programs as well.

CMS REPORTER

CMS REPORTER provides a simple method of describing and obtaining repetitive or one-time reports. Report description may be entered through either the operator display station or from communication screens.

- A questionnaire technique simplifies report description.
- Data to be reported may be selected based on:
  - Record type
  - Ranges of records
  - Conditions
  - Run time supplied data
- Formatting, computed values, statistical and summary information may be specified in defining the report.
- Eliminates the need for a business to have an in-house programmer to generate new reports as requirements dictate them.

CMS DOMAIN

CMS DOMAIN provides a method for quickly developing file maintenance and inquiry programs via attached display terminals. DOMAIN will perform the following activities:

- Create a disk file
- Add/delete/maintain disk records
- Inquire into records in a disk file

CMS CANDE

CMS CANDE (Command and Edit Program) provides a timely, effective means for interactive creation, maintenance and text editing of program source files for COBOL, MPL II, and ARCS programming. This enables the user to maintain and create source files for program development and maintenance.

CMS ARCS

CMS ARCS (Automatic Run Control System) is a standard utility within the computer management system software that enables the automatic execution of sequences of commands and programs, particularly those that are repetitive in nature.

This feature allows a business to streamline their repetitive daily functions by significantly reducing the number of commands which must be entered by the system operator.

CMS RPG-EDIT

RPG-EDIT provides a timely, effective means for interactive

creation, maintenance and text editing of program source files for RPG programming. This helps the user in creation and maintenance of his RPG source files.

CMS ODESY

CMS ODESY (On-Line Data Entry System) is designed for the user requiring a comprehensive data entry and verification system via attached display terminals.

Because of its audit facilities, ODESY is able to produce batches of error-free data for input to application packages, thus saving a great deal of program development effort by eliminating conventional input control programs.

HIGH-LEVEL LANGUAGES AND COMPILERS

- On-board Network Definition Language (NDL) compiler simplifies the implementation of data communications networks and allows for changes in the network to be made quickly and easily.
- On-board Message Processing Language II (MPL II) compiler generates programs to process, edit, collect, verify, route and audit messages in a data communications network.
- On-board COBOL compiler.
- On-board Report Program Generator (RPG) compiler.

MICROPROGRAMMED INTERPRETERS

Microprogrammed interpreters provide multiple virtual machines within a single B 92 system. This technique allows the B 92 to adapt to each high-level programming language (COBOL, RPG, etc.) and execute applications written in those languages in a very efficient manner.

BUSINESS MANAGEMENT SYSTEMS

Burroughs Library of Program Products includes Business Management Systems and specialized application program products. They permit newly-installed systems to become readily productive. Burroughs program products have been fully proven in thousands of customer installations. They offer substantial savings compared with developing and maintaining your own programs.

UTILITY PROGRAMS

Sort, merge, file load, file dump and file copy are just a few of the many Burroughs Utility Programs which can assist the user in obtaining maximum productivity from the flexibility of the B 92 system.

BURROUGHS ACCOUNTING COMPUTER SYSTEM (ACSYS)

The Burroughs Accounting Computer System Software permits the use of existing Burroughs Series L/TC magnetic tape cassette programs on the Burroughs B 92 disk systems. Series L/TC Magnetic Tape Cassette programs may be executed without program modification on the B 92 System, providing enhanced throughput not previously possible with cassette programs on the Series L. Additionally, ACSYS system software provides random access to disk files. This allows the user greater flexibility for fulfilling business needs and allows creation of new disk programs with immediate update and response.

- ACSYS software supports the following disk subsystems:
  - Burroughs Super Mini-Disk
  - Burroughs cartridge disk
  - Burroughs Super Mini-Disk II

PHYSICAL CHARACTERISTICS

Height:	30"—76.2 cm.
Weight:	464 lbs.—211 kg.
Depth:	29"—73.7 cm.
Width:	49.7"—126.2 cm.

ELECTRICAL SPECIFICATIONS

Power Supply	Voltage	Amperage
(60 Hz)	120	12.5
(50/60 Hz)	100	15.0
	110	13.6
	115	13.0
	120	12.5
	127	11.8
	200	7.5
	208	7.2
	220	6.8
	230	6.5
	240	6.3

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