133 COMPUTER SYSTEM

The 133 Computer is the newest addition to The Bunker-Ramo Corporation's product line of ultra-reliable, militarized, computing and information processing systems. The 133 is a digital computer that incorporates all the features of the highly successful 130 Computer—simplicity of operation, ruggedness, ease of maintenance—plus such refinements as a three-fold increase in operating speed, and ability to accept and transmit data at far higher rates than before.

This powerful new computer is compatible with the input-output specifications of the Naval Tactical Data System besides offering, at no extra cost, optional higher speed I/O channels for use in non-NTDS applications. The 133 Computer is fully compatible with the 130; it has the same extensive line of peripheral devices and will operate with any 130 program, provided minor changes are made to allow for I/O timing differences.

Other outstanding characteristics of the 133:

**HIGH SPEED:** Operation is synchronous with clock pulses occurring every microsecond. Most commands are executed in four to six microseconds. Any word in memory can be read and regenerated in two microseconds.

**LARGE MEMORY:** Random access core memory; 15-bit words; 8192 or optional 16,384 word capacity; 16,384 word buffered extended memory available.

**FAST, FLEXIBLE INPUT-OUTPUT:** I/O operations are controlled through a multi-level priority interrupt system. Data transfers take place on A, B, and C channels. Normally, A and B channels are NTDS compatible and allow 30-bit parallel word transfers at 43,500 words/sec input, 33,000 words/sec output. At no extra cost, they may be set up according to CP-667 Computer specifications—250,000 words/sec and 143,000 words/sec, input and output.

Channel C, over which standard peripheral devices transmit, will accept input at 52,600 words/sec, and output at 55,000 words/sec. Channel C words consist of 15 bits transmitted in parallel.
**RUGGED:** All circuitry is conservatively designed using solid state silicon components for high reliability. The computer is so constructed that it can operate in a 0-50°C temperature range, will tolerate poor input power control, and will withstand extreme shock and vibration. RF interference is eliminated.

**COMPACT:** 64 inches high, 21½ inches wide, 17½ inches deep.

**CONVENIENT:** Operating controls, maintenance controls, and all internal components accessible from the front.

**FULLY SUPPORTED:** Optimum performance on a continuing basis is made possible through Company supported programs for spares, documentation, training, maintenance, and software.

**OTHER STANDARD FEATURES**
- Variable length multiply and divide
- Direct and indirect addressing
- Six program-controlled registers
- Parity check on all words in memory
- Full complement of manual controls on operator and maintenance panels
- Automatic program protection in event of power failure
- No extensive installation site preparation

**SOFTWARE**
Programs provided with the computer include: FORTRAN Compiler, Symbolic Assembler, SWIFT Interpreter, Subroutine Library, Matrix Package, Floating Point Package, I/O Utility Routines, Diagnostic Routines, MASS 7090 Simulator and Assembler.

**AUXILIARY COMPONENTS**
- 143 Paper Tape System Controller
- 152 Paper Tape Reader; 5-8 level tape at 300 characters per second
- 161 Paper Tape Punch; 5-8 level tape at 60 characters per second
- 185 I/O Typewriter; 10 characters per second
- 141 Paper Tape I/O System; reader, reeler, punch, and controller in a single 138 type cabinet with Selectric I/O typewriter. System has bi-directional tape read and more programmed controls than 143 System.
- 192 Magnetic Tape Controller; accommodates 4 tape units
- 170 Magnetic Tape Units; switch controlled 200 or 566 characters per inch density; 15,000 or 41,700 characters per second transfer rate; IBM Model 729 compatible
- 171 Magnetic Drum Unit; 65,536 words
- 282 Line Printer; 300 lines per minute; 120 characters per line
- 256 Card Reader; 200 cards per minute; Hollerith or binary data
- 197 Data Line Synchronizer; buffer unit for phone line data transmission
- 186 Send-Receive Set; Teletype I/O; prints, punches, and reads tape 10 characters per second

**PHYSICAL**
- **DIMENSIONS** 64" high x 21½" wide x 17½" deep
- **WEIGHT** 600 lbs
- **POWER** 120/208 volts, 60 cycles, 3-phase, 1500 watts
  - Internally mounted motor-alternator

For more information contact: Director of Marketing Defense Systems Division, The Bunker-Ramo Corporation, 8433 Fallbrook Avenue, Canoga Park, California