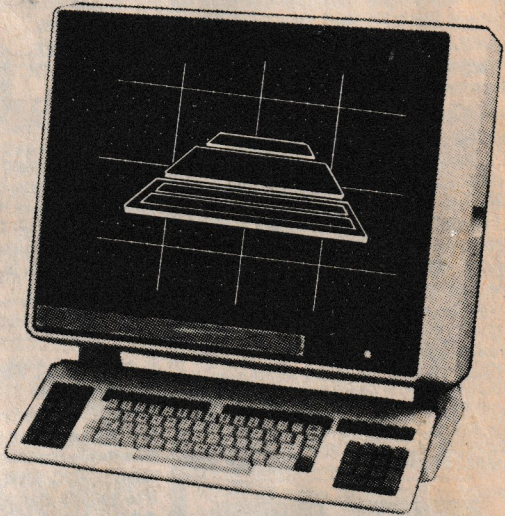


APOLLO COMPUTER INC. DOMAIN SYSTEM

**Technical Work Station for computer assisted design (CAD),
 computer assisted manufacturing and engineering (CAM, CAE)**

Model DN570A-3 consists of a 19" color display, detachable keyboard with mouse.
 Stand alone electronics cell with built-in 5-1/4" 86 M byte Winchester hard disk
 and 1/4 inch 60 M byte streaming tape cartridge unit.

Condensed technical specs: Integrated 16 MHz, MC68020 processor and MC68881 floating point co-processor. Up to 24 concurrent processes, 64 M bytes virtual address space per process, 2 M bytes main memory expandable to 16 M bytes. Integrated VLSI Graphics Processor. Dedicated video memory with 8 color planes allowing 256 simultaneous colors from a palette of over 16 million. Up to 40 K 2-D integer transformed clipped vectors per second. Flicker free 19" 40 Hz non-interlaced non-glare tilt and swivel monitor with high resolution 1024 X 800 bit mapped display. Integrated 12 M bit/sec LAN. 5-1/4" hard disk, 86 M bytes, 1/4 in 60 M byte streaming tape unit. Two RS 232C ports and domain ring interface. Complete with setup instructions. These work stations are still currently in production by the manufacturer and monthly service contracts are available through the manufacturer. Shipped in original manufacturers' carton. Shipped Motor Freight Only.



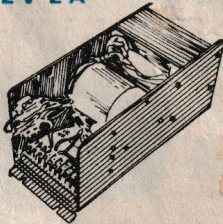
H&R# **TM24K450** **\$17,500.00**

Same as above, except— used for approximately 1 month by original owner. Excellent condition. Shpd Motor Freight Only.

H&R# **TM24K451** **\$12,500.00**

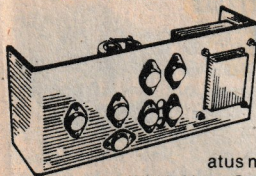
TRIPLE OUTPUT REGULATED POWER SUPPLY +5 V 25 A, +12 V 2 A, -12 V 2 A

Viking Modules #MPC 3S80 . . . Input 115/230 VAC ±12%, 47-63 Hz. Outputs +5 VDC ±0.5 Volts at 25 Amps. Ripple 5 MV with remote sensing and OVP, +12 VDC and -12 V at 2 Amps each with ripple of 12 MV max., no OVP. Common returns. All outputs have fold back current limiting. Regulation line & load 0.5%. For apparatus mounting; terminal strips for connections. Size 13-3/4 x 5-1/2 x 6-1/4" H. Removed from equipment, good condition. Shpg Wt 28 lbs.



H&R# **TM24K454** **\$47.50**

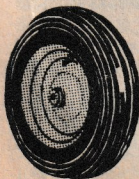
24 VOLT 7.2 AMPS REGULATED POWER SUPPLY



Mfd by Power One Mod. HE24-7.2 A and Condor Inc. Mod. E24-7.2A. . . Input 100-240 VAC (user selectable). Output 24 VDC at 7.2 Amps. Voltage adj. ±5%. Regulation line & load ±0.05% with ripple of 0.02% p-p max. Short circuit protected and equipped with remote sensing terminals. Designed for apparatus mounting. UL & CSA Listed. Size 14 long x 2-3/4 x 4-7/8" H. New. Supplied according to availability, not by specific manufacturer. Shipping Weight, 15 lbs.

H&R# **TM24K463** **\$52.50**

IMPLEMENT WHEEL & TIRE ASSEMBLY



4.80/4.00 X 8 two ply tubeless tire. Maximum inflation pressure 30 PSI. Load range 'A'. Mounted on a steel rim with 5/8" bore (included are valve stem and axle grease fitting). Ideal for construction of small carts, trailers, etc. (not for highway use). New. Shpg Wt 9 lbs/Pr.

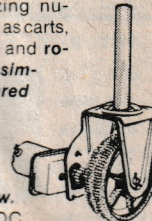
H&R# **TM24K461** **PAIR \$30.00**

Just Arrived!

New shipment. . . of an old friend!

MOTORIZED WHEEL ASSEMBLY

Perfect for motorizing numerous devices such as carts, wagons, turntables and robots. "The Wheel" is similar to the one featured in "How to Build a Computer Controlled Robot" by Ted Loofbourrow.



The low voltage DC PM field reversible motor is geared down to drive the 4" dia. x 1 3/8" W rubber wheel. Motor operates on 6 or 12 VDC & can be rheostat speed controlled. Shipping Weight each, 4 lbs.

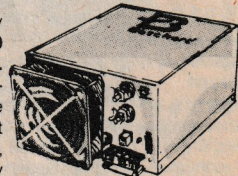
	12 VDC	6 VDC
Speed approx. (no load)	200 RPM	90 RPM
Current (no load)	2 Amps	1.75 A
Pulling force approx.	20 lbs.	8 lbs.
Stall current	10 Amps	8 Amps

Mounting post, heavy wall steel tubing 5" long, 3/4" dia. Heavy duty plastic gears drive the tire which is enclosed in a metal shroud. New.

H&R# **TM21K460** **\$29.95 EA.**

5 VOLT 200 AMP SWITCHING POWER SUPPLY

Boschert Mod. HL1000-4605. . . High quality switching power supply rated input 220 or 110 VAC (user selectable) 50/60 Hz at 15/9 Amps. (Units as supplied strapped for 220 Input). Output 5 VDC at 200 Amps. Voltage adjustable ±10%. Unit features low noise and ripple. Output (50 MV p-p, 0-50 MHz) OVP, remote inhibit, isolated, remote sensing; cooling fan and many other features. UL & CSA Certified; also meets FCC & VDE requirements for Class 'A' EMI. Size 5 x 8 x 11". New. Supplied with data sheets. Shpg Wt, 20 lbs.

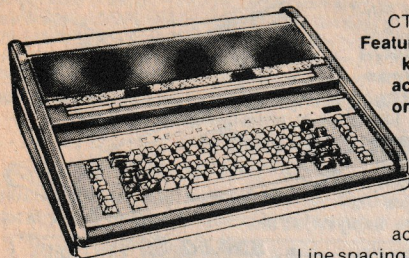


H&R# **TM24K462** **\$225.00**

— FANTASTIC SAVINGS —
CLEARANCE SALE - NEW INVENTORY . . . PAGE 20
TEST EQUIPMENT . . . PAGE 21

COMPUTER COMPONENTS

PORTABLE DATA TERMINAL - 132 CHARACTER WITH KEYBOARD & ACOUSTIC TELEPHONE COUPLER



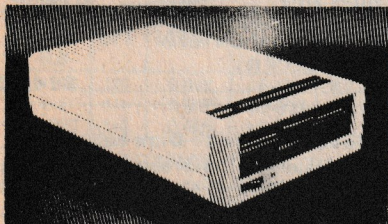
CTSI Execuport® Mod. 4000
Features an ASCII typewriter paired keyboard, thermal printer and acoustic telephone coupler in one easy transportable attache case style unit. Condensed Specifications: **Keyboard ASCII** (typewriter paired). **Printer, thermal type using 8 1/4" or 14 1/2" W x 100 ft. roll.** Character size, 0.110" H x 0.081" W. Line spacing 6/24 lines/inch. Character set

USASCII - 95 printable, print rate 10/30 CPS. I/O data rate 110/300 Baud. Operates on 120 VAC, 1.3 A, 60 Hz. With 3-wire AC cord & plug. Removed from service, good condition (cases may be scuffed). With limited operating instructions. Shpg Wt. 28 lbs.

H&R# **TM24K371**

\$75.00

ADAM™ 5-1/4" DISK DRIVE



Coleco™ Mod. 7817. . . Gives your Adam™ fast, reliable data storage and retrieval. Can hold up to 160 K bytes of information. Uses industry standard SS/DD disks. Connects directly to your Adam™ memory console. Comes with disk drive power supply, Disk Manager

disk and manual. Like new. Shipping Weight, 7 lbs.

H&R# **TM24K388**

\$199.00



**COLECO®
ADAM™
CPU**

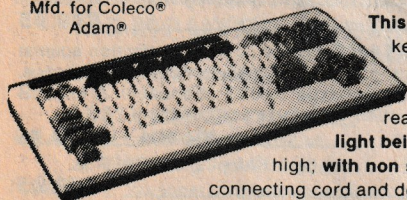
Adam™ CPU (memory console) for use in the Colecovision™ family computer system . . . Features Z80/MC6801 processor technology with 80 K bytes of RAM and 40 K bytes of ROM with built-in digital data drive (256 K byte) with space for adding an additional drive. Output of CPU can be used with any standard TV RCVR or monitor for display. Also can be used as a word processor utilizing the built-in program or Coleco™ game cartridges for entertainment (not supplied). With instructions. Units are refurbished, fully tested and guaranteed by H&R for 30 days. Excellent condition. Supplied less power supply, keyboard and interconnecting cables. Shpg Wt. 14 lbs.

H&R# **TM24K323**

\$79.50

ASCII KEYBOARD

Mfd. for Coleco®
Adam®



This 75 key unit with 21 user defined keys is ASCII 8 BIT serial output type. All connections via a 6 pin female modular connector at rear. Unit is housed in an attractive light beige plastic case, 15 1/8 x 6 1/2 x 2 1/2" high; with non skid rubber feet. Complete with connecting cord and documentation. Shpg Wt. 4 lbs.

H&R# **TM23K665**

\$19.50 EA. 4 @ \$16.50 EA

JOYSTICK With Action Button

Joystick can be used with Atari® 260D, Game Sears® Arcade Game System, Atari® 400/800/1200 XL Home Computers and Commodore® VIC 20® and C64 Computers. Joystick 4 1/2 x 3 3/4 x 1 1/2" H. Complete with action button and 45" long cable terminated with AMP 9 pin repositionable 'D' series plug and data. New. Shpg Wt. 1 lb.

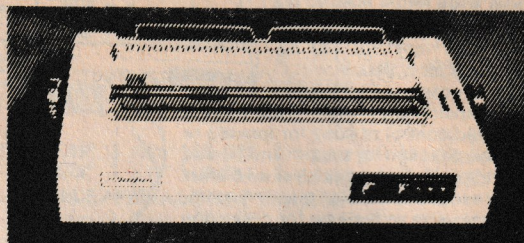


H&R# **TM24K223**

\$3.00 EA.

2 @ \$2.75 EA.

DAISY WHEEL PRINTER



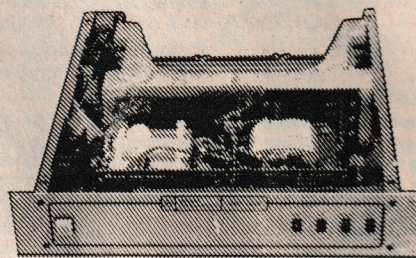
Dictaphone
6710
RS232
Serial

Manufactured for Dictaphone by Ricoh (their Model RP1300). Emulates Diablo 630. First cost in excess of \$1200.00. **Letter quality 35 CPS**, average at 1200 Baud. Uses standard 124 character, double daisy wheel. 15" platen width (16-1/2" form width with optional tractor) and RS232 serial interface. The following can be called up by software: bi-directional printing; paper motion; pitch changes 10-12-15; superscript and subscript; bold strike and underlining (plus much more). Uses DTP handshake. Compatible with 99.5% of all computers. Heavy duty office quality machine. Includes a complete operating and maintenance manual and power cord. Printer operates on 120 VAC, 60 Hz, 1.2 Amps. Size, 23 1/2" W x 13 x 8" H. New. Shpg & Handling \$20.00.

H&R# **TM23K546**

\$395.00

COMPUTER with POWER SUPPLY and Associated Components



RACK MOUNT INTEL SBC 80/20

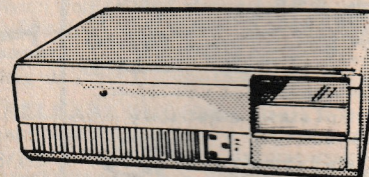
Mfd. by Nat'l Semi-Conductor & other various manufacturers. . . Contains an Intel SBC 80/20 single board computer, regulated power supply, two 3" fans, card rack with room for 3 additional cards & various other components.

Specifications for major components: Intel SBC 80/20 contains, 8080A-CPU, 8255A, 8253, 8251 and 8238 chips and other various types, two I/O ports and 1 serial port. Power Supply: EL PAC #1673 or equivalent has input for 100/115-215/230 VAC, 47-63 Hz. Regulated outputs of +5 Volts @ 14 Amps, -5 Volts, 0.9 Amps, +12 Volts, 2 Amps and -12 Volts, 0.8 Amps. All outputs have OVP. Two Rotron or equal 3" sq. cooling fans. All housed in a shielded rack mount unit 19 wide x 3-1/2 high x 19". Removed from service. Offered for parts contained. Good condition. Shpg Wt. 37 lbs.

H&R# **TM24K248**

\$94.50

'AT' CONFIGURED COMPUTER CABINET



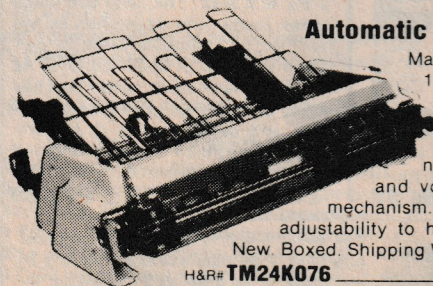
Constructed of hi-impact light gray plastic and sheet metal. Cabinet contains 10 full length expansion slots, 3 half height disk drive slots. Panel mounted security switch and internal room

for 5-1/4" hard disk drive and power supply. Ideal for replacement or refurbishing. Size 22 3/4 wide x 16 3/4 x 6 7/8" high. New. Shpg Wt. 27 lbs.

H&R# **TM24K334**

\$49.50

Automatic Cut Sheet FEEDER



Mannesmann Tally Mod. MTF 130 . . . Automatic Cut Sheet Feeder for use with MT Series Printers which are ported to supply the necessary operating signals and voltage for the sheet feed mechanism. Feeder features complete adjustability to handle various sheet sizes. New. Boxed. Shipping Weight, 18 lbs.

H&R# **TM24K076**

\$39.50

WANTED EXCESS INVENTORY

Similar to products featured in 'This Month' Catalog. Call or write to 'TM' Purchasing Dept.

The Adam® components listed below are in good to excellent condition. ALTHOUGH NOT BRAND NEW, THEY ARE TESTED AND FULLY GUARANTEED WITH H&R's WARRANTY (SEE PAGE 38).



The Original Adam™ Basic SMARTBASIC™

For use with Adam™ Home Computer

All in original boxes get one now as a backup basic tape for your Adam™. Shipping Weight, 1 lb. H&R# **TM23K867** **\$4.95**

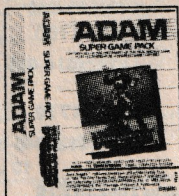
Same as above except with 'HELLO' program on Smartbasic™ tape (program was used to life test Adam™ Printer). Program must be deleted before basic tape can be used. This is easily done; all you need is a second tape drive, and follow the file deletion information found in the Smartbasic™ manual. Wt, 1 lb.

H&R# **TM23K873** **\$3.00**

ADAM™ SUPER GAME PACK For Adam™ Computer Tape Drives

Adam™ Super Game Pack "The Official Buck Rogers™" captures the excitement of the arcade game plus extended play enhances game features. Shpg Wt, 1 lb.

H&R# **TM23K866** **\$3.50**



SOFTWARE FOR ADAM® COMPUTERS

BASIC POWER PACK (DP/D) . . . 8 super programs that took 2 years to develop. **1. Stocks** - A sophisticated program for tracking stock market investments and timing decisions to buy and sell. It graphs stock prices and moving averages and computes yields. The program includes over 2 years of weekly data for 13 funds representing various sectors of the market. **2. Fog** - A clever text analysis program designed to help writers improve their prose. Everybody that writes should use this program. **3. Chess** - This is a fairly sophisticated chess program. **4. Cubic** - 3D version of tic-tac-toe. **5. Ballon** - Design a landscape, land a ballon, 1 or 2 players compete. **6. Paint** - Paint in Hi-RES graphics. **7. Database** - A simple database program that can be easily modified to meet the user's needs. **8. Typing** - improve speed and accuracy. Shpg Wt, 1 lb.

H&R# **R4-200** **\$19.95**

PRO FOOTBALL (DP/D) . . . Strategy, simulation, graphic, all based on last years pro football numbers. 1 or 2 players or computer vs computer. This is a must for all diehard football fans. Shpg Wt, 1 lb.

H&R# **R4-201** **\$19.95**

PRO-GOLF CHAMP (DP/D) . . . This is the most realistic golf we have seen for the Adam. Great graphics (even the golf ball gives a shadow in motion), sound, movement, hazards, angles and wind diagrams, clubs - pic and learn about distance, so much more. From beginner to expert will sharpen skills with this program. Shpg Wt, 1 lb.

H&R# **R4-202** **\$14.95**

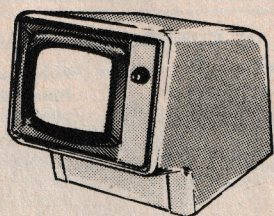
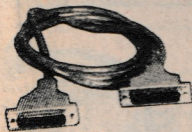
25 Active Conductor COMPUTER EXTENSION or INTERCONNECT CABLE

25-conductor, unshielded, flat gray cable, 30" long. One end terminated with a 25-pin 'D' series female plug. Opposite end has a 26-contact (13 each side) card edge connector (polarizable). New. Shpg Wt, 8 ozs. H&R# **TM24K242** **\$4.00**



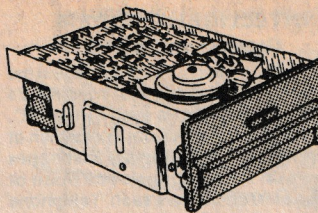
COMPUTER INTERFACE EXTENSION CABLE

Shielded EIA RS232C Special Pinning Alpha #515611 . . . 5 Foot with molded DB25 Series screwlock plugs at each end. 9 active pins, pin #1 to shield, pin to pin for pins #3, 5, 7, 9, 11, 13, 14 and 15 (male to male). New. Factory bagged. Shipping Weight, 1 lb. H&R# **TM23K863** **\$8.00**



5" COMPUTER MONITOR

An experimenters item. . . listed for parts contained. #CP-5A mfd by Hitachi for Burroughs Corp. . . . Has 5" diagonal CRT with long persistence green phosphor. Requires an external power source of 13.3 VDC, 10.7 Watts (approx 800 MA) for operation. Designed for business machine use, but can be utilized by computer buffs as a small display. (The unit we tested accepted a composite video signal on 75 ohm line.) Up front brightness control. Supplied with limited connection data only. Units listed for parts contained, not guaranteed to be operational. Gray plastic case 9 H x 8 x 9-1/2" Dp. Removed from service, good condition. Shpg Wt, 13 lbs. H&R# **TM24K335** **\$32.50**



8" DISK DRIVE

SHUGART #800-2 . . . Single sided, double density. 77 tracks per side. Operates on 115 VAC, 60 Hz. Removed from equipment, excellent condition. Shipping Weight, 16 lbs.

\$89.50
H&R# **TM23K438**

Attention Computer Enthusiasts, Technicians and Experimenters!

8" Master

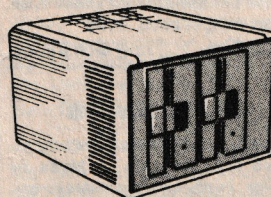


MINI DISK DRIVE

\$14.50
H&R# **TM23K534**

Burroughs Mod. B9489-1 Master Mini Disk Drive Unit . . . An 8" double sided drive with solenoid control for heads. Unit contains electronics for read channel, peak detector, read data encode, write data encode, etc. Drive motor operates from 120 VAC, 60 Hz. Unit also requires external DC supply for electronics operation. Size, 5 1/2 high x 10 x 17 1/2" deep. Removed from equipment, good condition. Offered as an experimenter's item only. Supplied with approximate electronic schematics. Shipping Weight, 22 lbs.

DUAL DISK DRIVE UNIT



Burroughs Disk Drive System #CTP-420 . . . Offered for parts contained. Two full height Shugart #400 or MPI equivalent S.S. S.D. 5 1/4" disk drives, complete with controller board with Z80A or equal CPU, Z80A or equal DMA, memory chips and many other various chips. Also included is a power supply for 115 VAC operation and a 4 1/4"

'Muffin' style fan for cooling. All this housed in a desk top case, 11 1/4 wide x 8 x 12" deep. Removed from service, good condition. No schematics or service information available. Shpg Wt, 21 lbs.

H&R# **TM24K213** **\$89.50**



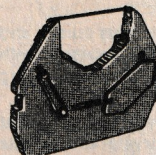
Coleco® GAME UNIT

Ideal as a spare or replacement or for parts contained

For use with Colecovision® & Atari Games and Adam® Computers

This hand-held remote game control unit contains a 10-switch (membrane style) panel with diode matrix, two side mounted P.B. switches and a joy stick assembly (4-switch type). All inputs and outputs are via a coil cord with attached mini 'D' style 9-pin female plug. Sold 2 per pack. Shipping Weight, 2 lbs.

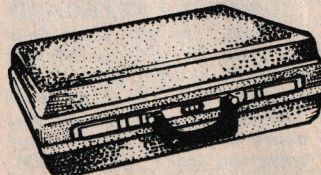
H&R# **TM23K699** **\$4.95/Pk.**



Richo PRINTER RIBBON CARTRIDGE TYPE 2

Richo Printer Ribbon Black Type 2 . . . Multi-strike mylar 6.35 mm x 125 mm. Replacement ribbon for Mod. RP1200/1300/1400/1500 and 1600 series printers. Individually packaged with 12 per standard carton. Shpg Wt each, 8 ozs., carton of 12, 3 lbs.

H&R# **TM24K391** **\$4.95 EACH** **CARTON OF 12/ \$4.50 EA.**



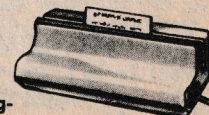
EQUIPMENT CARRYING CASE

This double wall partially foamed case features a settable combination lock, push-to-release latches and large molded handle. Constructed from hi-impact plastic. Originally designed for transportation of the IBM® PCJR®

computer and accessories. Case can be reworked with additional foam to meet your requirements. Black case, 18 1/2 long x 17 x 6 1/4" wide. New. Shpg Wt, 11 lbs. H&R# **TM24K204** **\$42.50**

MAG-STRIPE CARD READER ASSEMBLY

Mfd. for Sperry-Univac P/N 2825386-000 The heart of this unit is an American Magnetics Mod. 40SDA-1 single track mag-



stripe card reader connected to a Sperry microcode board containing an Intel D8748, A8109A and other assorted IC's and diodes. Card reader will read data on striped cards conforming to ANSI 14.16 1976 specs. Assembly housed in a gray molded case, 8 1/2 x 4 1/2 x 2 3/4" H. Information sheet on card reader. Listed for parts contained. New. Shpg Wt ea, 4 lbs.

H&R# **TM24K278** **\$12.50 EA.** **4 @ \$11.50 EA.**