

New ideas in data communications.



A CRT terminal that offers the best in operating features.

We designed the Consul series of CRT terminals to appeal to a broad cross section of the time sharing market.

One way to use a Consul is as direct replacement for Teletypes.* With no changes in software.

But this stand-alone terminal is capable of much more. It has features that allow a user to take full advantage of the inherent flexibility of a buffered CRT terminal. Some examples.

Three operating modes. Both models of Consul — the 840 and 880 — can operate in any of three modes — conversational, message or page.

In the conversational mode, Consul is completely Teletype compatible, transmitting a character at a time. In the page mode, an operator can write and edit data, and then transmit it, a page at a time. In the message mode, she can transmit it a line at a time.

Screen capacity for the 840 is 16 lines of 64 characters; for the 880, 24 lines of 80 characters.

Formatting. In the page or message mode, Consul can display formats consisting of fixed data (gray characters). The operator can then fill in the blanks with variable data (black characters). This not only assures completeness of data, but speeds entry. Also, to save time, the terminal transmits only variable data.

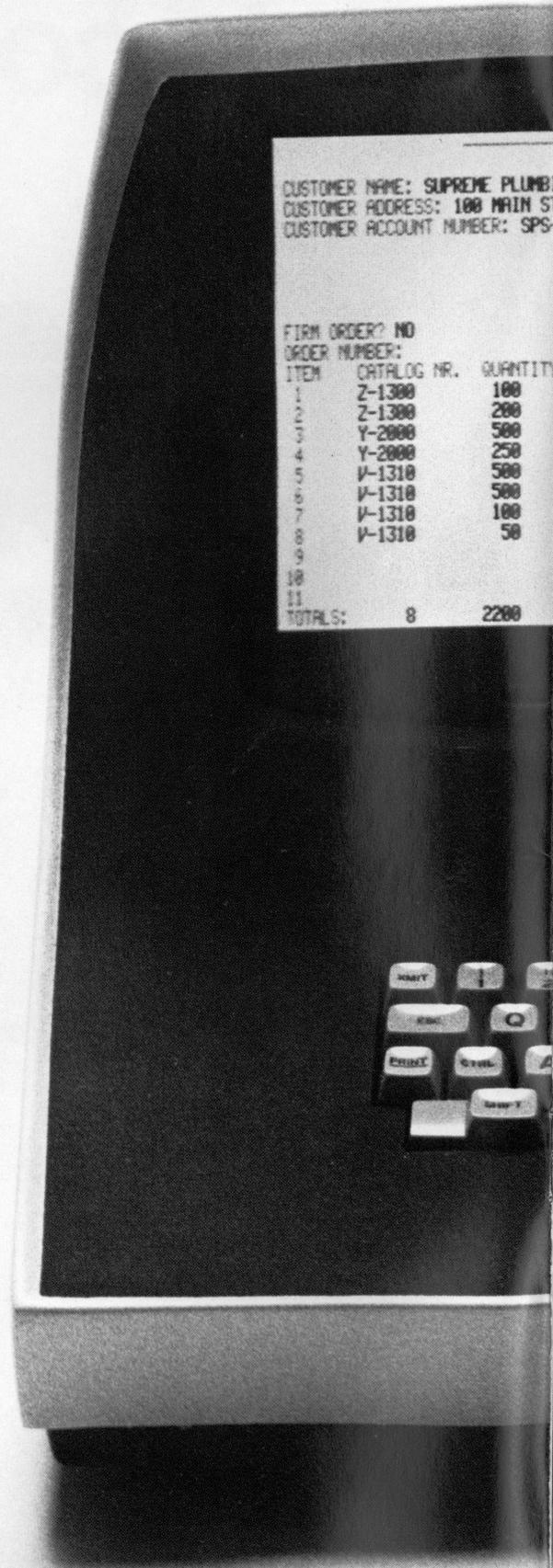
Full editing controls. The operator can move the cursor up, down, forward, backward and home. She can also tab horizontally and erase the screen. Another feature allows her to insert or delete a character at any position on the screen.

Look ahead feature. In the page and message modes, a look ahead feature saves on transmission time. The Consul scans ahead and if the rest of a line is blank, the cursor goes directly to the next line. This avoids transmitting unnecessary blanks.

Other features. An example is the edit sub-mode. This allows an operator to edit in the conversational mode without retyping the whole line. Another feature will blink any character or combination of characters.

Additional information. *Character set* — 64 alphanumeric characters, each formed by a 5x7 dot matrix. *Display presentation* — dark characters on a light background. *Screen size* — 12" diagonal. *Refresh rate* — 60 frames per second. *Keyboard* — solid state. All TTY alphanumerics and control codes can be generated. *Video output* — compatible with EIA standard, drives any 525 line TV monitor. *Transmission* — half duplex at 110, 300, 1200, 1800 or 2400 baud, switch selectable. *Communications interface* — EIA RS-232-B (TTY, 20 ma current loop interface optional). *Parallel interface*, also available, enables data transfer rate of 1500 cps. *Power* — 115±10% VAC/60 Hertz, 110 VA nominal. *Size* — 14¼"x21"x23". *Weight* — 50 lbs. (approx.).

*Registered trademark of Teletype Corporation.



Inexpensive options that make a terminal work harder.

A graphics capability for less than \$200. A built-in modem. Hard copy and cassette capabilities. These options are all available with both models of the Consul. So you can order precisely the terminal configuration you need to do the job.

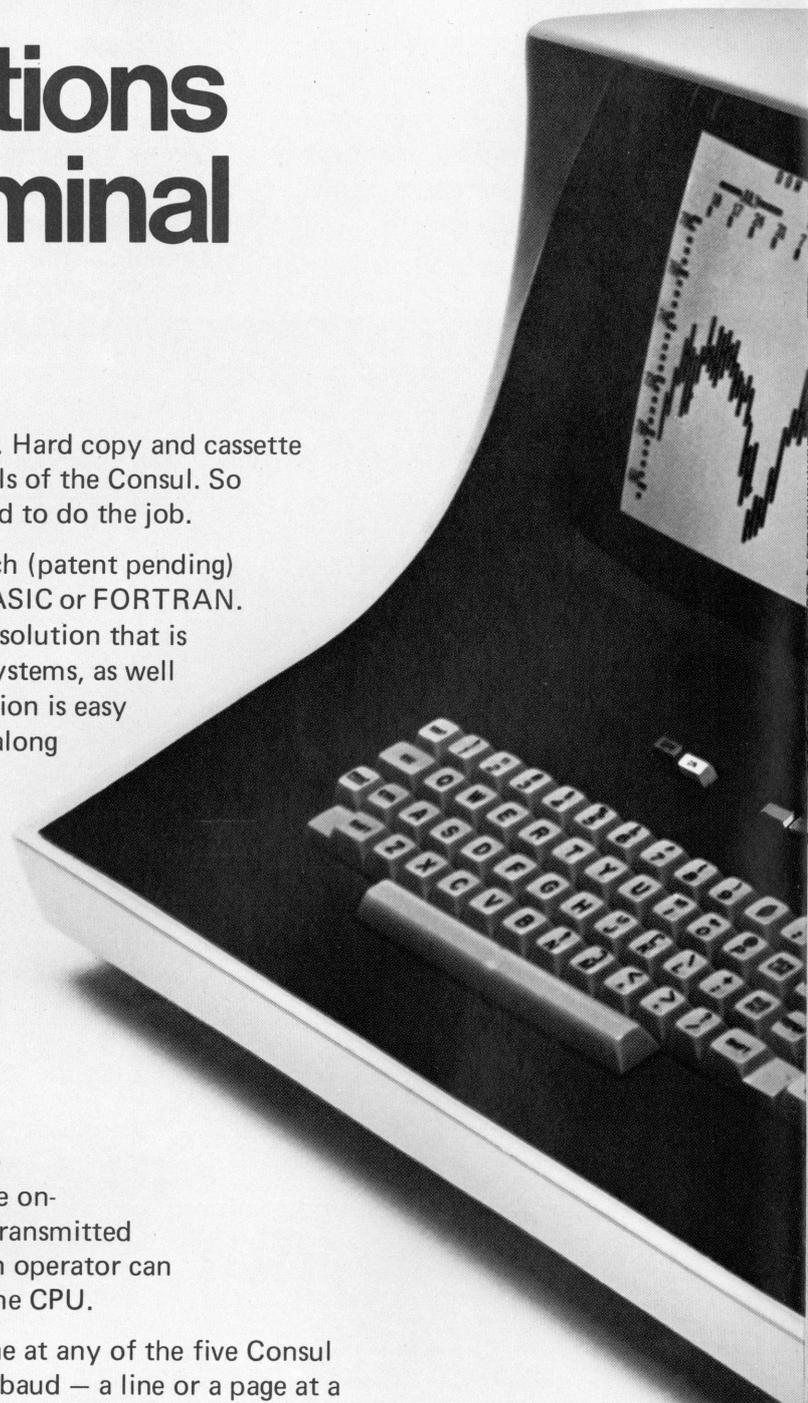
Suppose you want graphics. We not only made our approach (patent pending) inexpensive, but easy to program — for example, in either BASIC or FORTRAN. The 72 (vertical) by 160 (horizontal) dot matrix offers a resolution that is well suited to most management or financial information systems, as well as to many engineering and scientific applications. Annotation is easy because you can generate normal alphanumeric characters along with graphics.

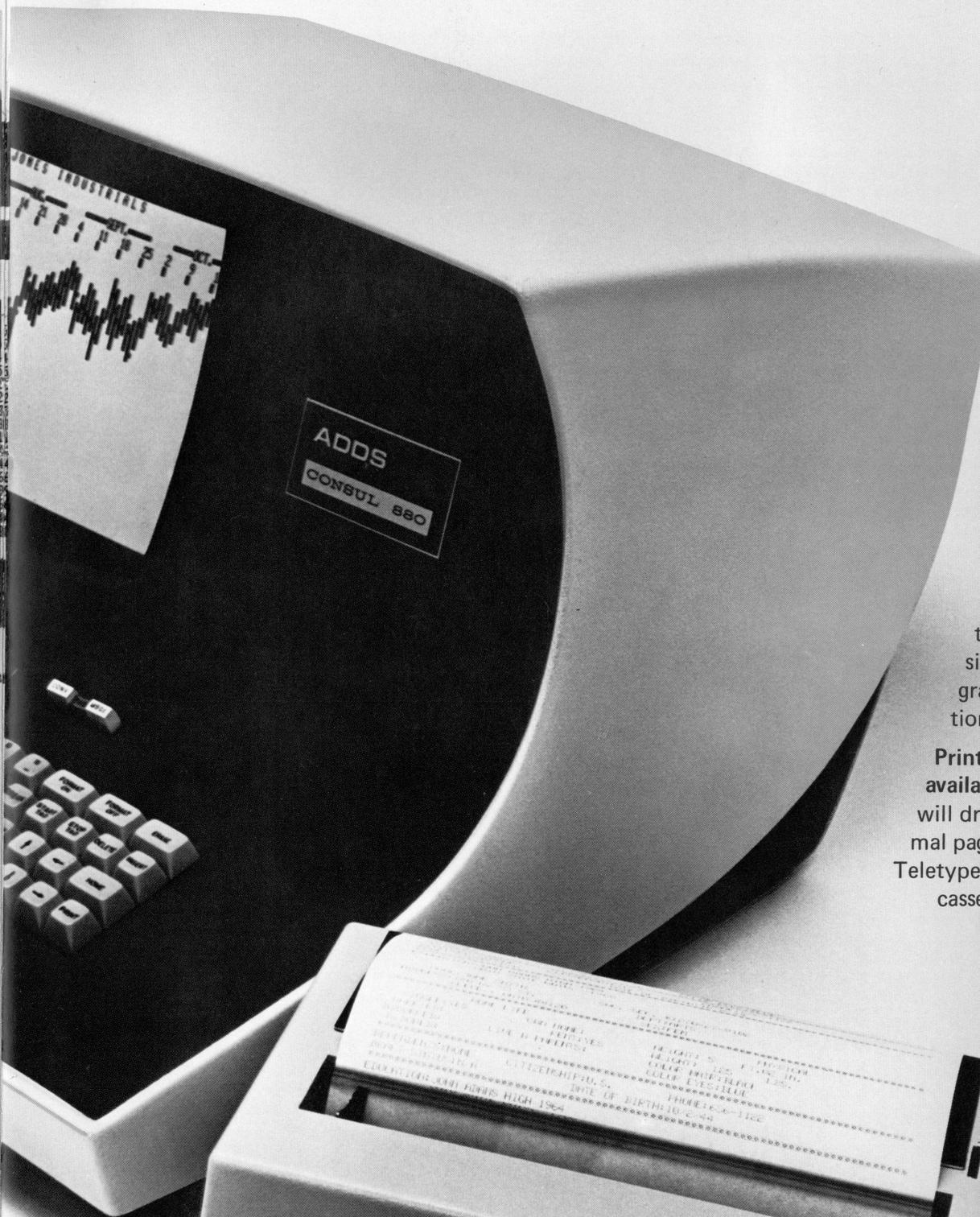
Suppose you want a built-in modem. Ours is probably the best in the business. (See last section of this brochure for detailed information.) It operates either acoustically or hardwired at 110 or 300 baud. It is compatible with Bell System 103 data sets and operates in the "originate" mode. Acoustic coupling is made via the handset of an ordinary telephone. Hardwire connection is made directly to a Data Access Arrangement.

Suppose you want hard copy. Our hard copy interface will drive a thermal page printer at 10 or 30 cps; also a Teletype (Model 33 or 35) at 10 cps. The two modes of operation are on-line and local. When operating on-line, all data received or transmitted by the terminal prints simultaneously. In the local mode, an operator can print out an entire screen of data without transmission to the CPU.

Suppose you want cassette. Ours lets you record data on-line at any of the five Consul transmission speeds. It will also accept data locally at 2400 baud — a line or a page at a time. People interested in off-line data entry or off-line program development will find our cassette a great improvement over Teletype and paper tape. Specifically, you can play back data on a continuous basis — either on-line or locally, a page at a time, or a line at a time.

Suppose you want a rack mounted Consul. It's available. We call it the 700 series. This is the complete Consul electronics package, which fits into a standard 19" RETMA rack. It's available with or without keyboard or TV monitor, and comes with rear panel switches for selecting operating mode and transmission baud rate.





Graphics capability has a 12,000 element resolution. Normal alphanumeric characters can be generated simultaneously with graphics for easy annotation.

Printers and cassettes are available. Hard copy interface will drive a 10 or 30 cps thermal page printer, or a 10 cps Teletype (Model 33 or 35). A cassette is also available to record data on-line or locally.



A CRT terminal that goes where you go.

The Envoy CRT terminal has almost exactly the same specifications as Consul.

Except that it weighs under 30 pounds. And comes in its own scuff-proof carrying case.

You plug it into an ordinary outlet, fold out the keyboard, insert the handset of an ordinary telephone, and you're in two-way contact with your computer.

Which introduces the whole idea of a portable CRT terminal and what it can do.

Take the traveling salesman who sells from inventory. Consider what remote access to a computer would give him. For checking credit. And inventory. And closing an order on the spot.

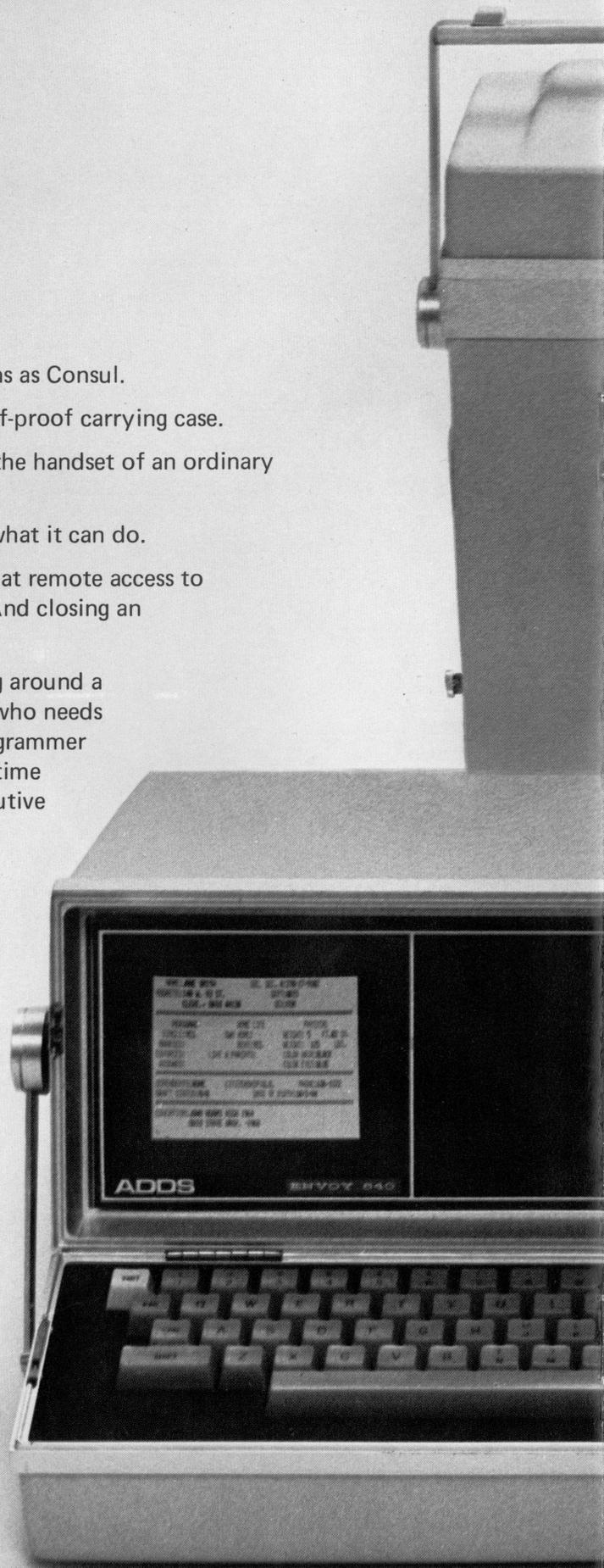
Then there's the scientist working in the lab who's tired of pushing around a Teletype in a marketbasket. The engineer at the construction site who needs to pull PERT information out of a computer on the spot. The programmer who wants to work at home because he can't get prime time. The time sharing salesman who wants to demonstrate his product. The executive who wants to work at home on weekends. And on and on.

Envoy comes in two models. The Envoy-640 displays 16 lines of 64 characters; the Envoy-680 displays 24 lines of 80 characters. Both use the same TV raster techniques that have been so successful in the Consul series. Both use a 5" monitor to display black characters on a light background — again on a centered page.

Built-in acoustic coupler. Designed to transmit at 10 or 30 characters per second using a standard telephone handset, this coupler will tolerate lines ten times weaker than other couplers. Which means it will operate reliably on 40 dB attenuated lines in half duplex.

Rugged construction. A scuff-proof vinyl case and reinforced metal frame means Envoy can stand up to the roughest treatment. It's dimensions are 5"x15"x18". Which means you can slide it under your airplane seat. And take it along like a second attache case.

Video output. Envoy will not only display data on its own 5" built-in TV monitor, it also has a video output. Which means it can drive any number of TV monitors, of any size. This, of course is particularly useful for a salesman who wants to make a presentation to a roomful of people. Or a teacher who wants to instruct a classroom of students.





Three operating modes include page, conversational and message, just as in Consul.

Look ahead feature saves transmission time, just as in Consul.

Full editing controls include cursor, screen erase plus insert/delete, just as in Consul.

Formatting allows the operator to put up a form of fixed data and then fill in the blanks, just as in Consul.



A readout device that displays data on TV.

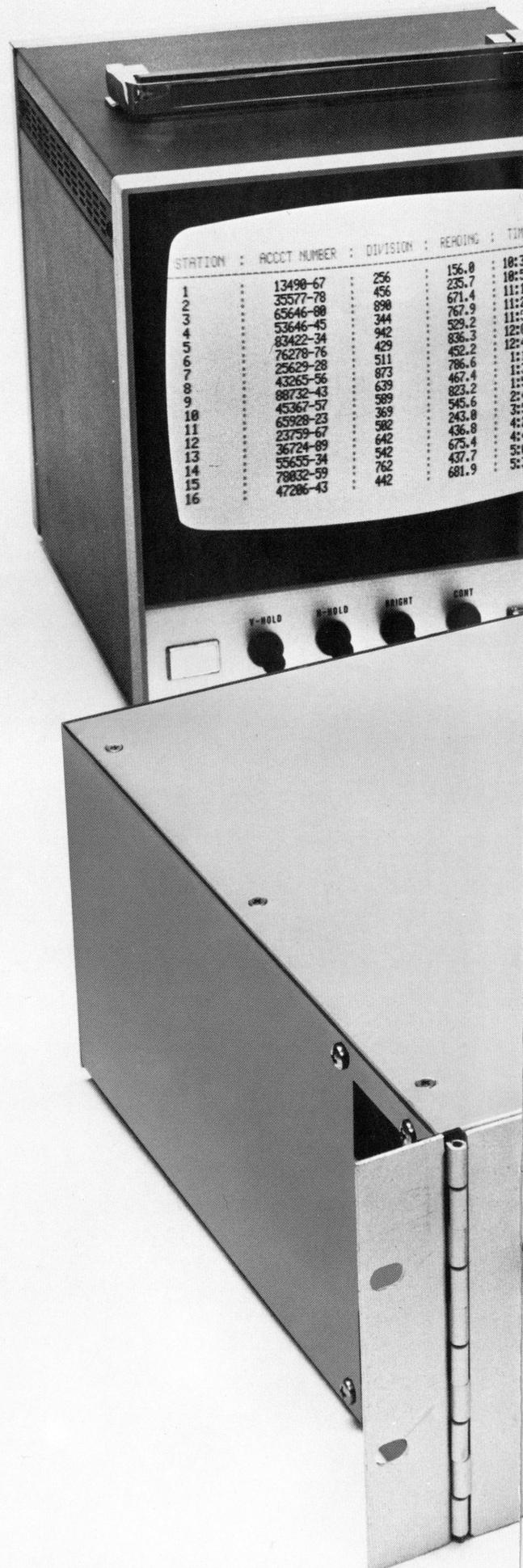
The MRD-200 (Memory Raster Display) is a new, low-cost way to read out alphanumeric data — from computers, keyboards, magnetic tapes or any other sequential data source. Speed, formatting ability and low cost make it a valuable alternative to printers or complete CRT terminals. It is ideal for process control, data acquisition, medical testing and numerical control systems.

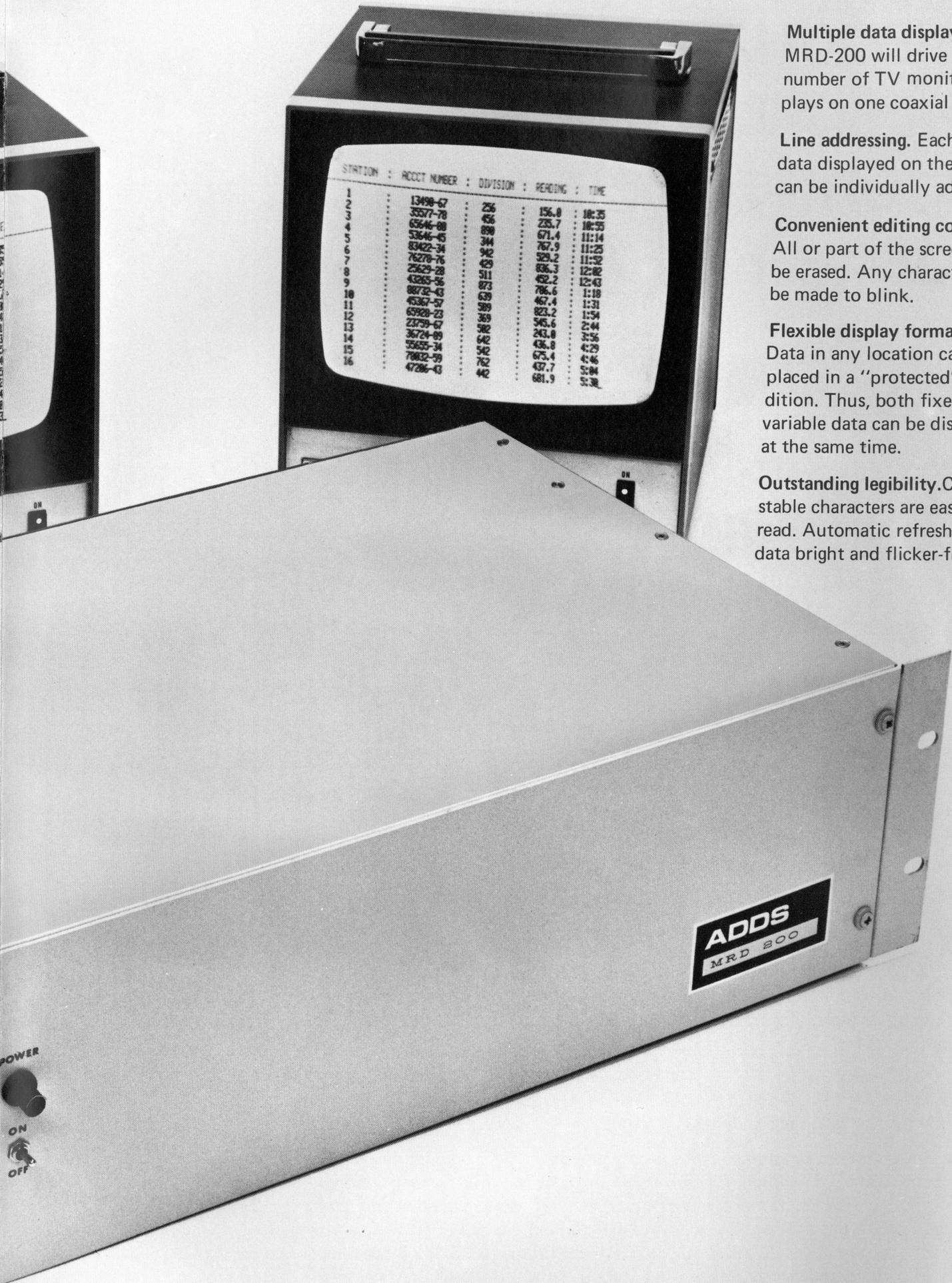
Unique approach to data display. Unlike other readout systems, it employs low-cost TV monitors for data display. It will display data on a single TV monitor. Or it will display the same data on multiple TV monitors at any number of locations, and on a single coaxial cable.

Flexible screen capacity. During operation, the MRD-200 accepts serial or parallel ASCII data, stores it in its own memory, converts it to a composite video signal and displays it on any 525-line TV monitor. Memory capacities available from 512 to 1920 characters — in 8 or 16 lines of 64 characters each, or 24 lines of 80 characters.

Many control features. Control features let the computer address the beginning of any line, move the cursor to any position on the screen, blink any character or combination of characters, and erase all or part of the screen. In other words, the MRD-200 has many of the same operating features as the Consul series. (In fact, the MRD-200 is basically the memory electronics of the Consul.)

Additional information. *Character set* — 64 alphanumeric characters each formed by 5x7 dot matrix. *Display presentation* — centered display page; choice of dark characters on a light background or light characters on a dark background. *Cursor controls*. — forward, back, up, down, and home. *Parallel interface* — TTL compatible. *Optional serial interface* — EIA RS-232-B and TTY, 20 ma current loop available. *Video output* — composite signals compatible with EIA Standard, 525-line TV monitor. 1 volt p-p, unbalanced, from 75 ohms able to drive more than 1,000 ft. over RG59/U cable. *Refresh rate* — 60 frames/second. *Size* — 5¼" x 19" x 8", rack mountable in standard 19" RETMA relay rack. *Weight* — 15 pounds (approx.). *Power* — 20 watts at 117 VAC/60 Hertz.





Multiple data display. One MRD-200 will drive any number of TV monitor displays on one coaxial cable.

Line addressing. Each line of data displayed on the screen can be individually addressed.

Convenient editing controls. All or part of the screen can be erased. Any characters can be made to blink.

Flexible display formatting. Data in any location can be placed in a "protected" condition. Thus, both fixed and variable data can be displayed at the same time.

Outstanding legibility. Clear, stable characters are easy to read. Automatic refreshing keeps data bright and flicker-free.

STATION	ACCCT NUMBER	DIVISION	READING	TIME
1	13498-67	256	156.8	18:35
2	35377-78	456	233.7	18:55
3	65646-88	898	671.4	11:14
4	53646-45	344	767.9	11:25
5	83422-34	942	529.2	11:52
6	76278-76	429	836.3	12:02
7	25629-28	511	452.2	12:43
8	43265-56	873	786.6	1:18
9	88732-43	639	467.4	1:31
10	45367-57	589	823.2	1:54
11	65928-23	369	545.6	2:44
12	23759-67	582	243.8	3:56
13	36724-89	642	436.8	4:29
14	55655-34	542	675.4	4:46
15	78832-59	762	437.7	5:04
16	47286-43	442	681.9	5:38

ADD5
MRD 200

POWER
ON
OFF

An acoustic coupler that solves the second harmonic problem.

The reliability of our COM-100 series of acoustic couplers approaches that normally associated only with hardwire modems. That's because our design virtually eliminates the second harmonic distortion problem that has been plaguing acoustic couplers for years.

This problem stems from the non-linear characteristics of the telephone microphone which cause a second harmonic of the transmitted signal to be generated. This harmonic, in the same frequency band as the received signal, couples into the receiver section of the telephone and interferes with the received signal.

Our method (patent pending) virtually cancels generation of the second harmonic regardless of the characteristics of the microphone. The result is a lower error rate, reliable full duplex operation over lines of up to 30 dB attenuation and reliable half-duplex operation over lines of up to 40 dB.

Two models available. The COM-100 series includes two low-speed data modems that will transmit and receive asynchronous digital data at a rate of up to 300 baud. The COM-120 is for hardwire connection to a DAA (Data Access Arrangement) only; the COM-130 is for both acoustic and hardwire.

Both operate over the dial-up telephone network in half or full duplex and are compatible with Bell System 103 data sets. They interface directly with Teletype printers arranged for current loop operation or any equipment with an EIA RS-232-B interface.

Remote Echo Option. This option (patent pending) allows confirmation of the accuracy of data transmitted from a computer to a remote terminal. Received data is "echoed" back over the unused reverse channel for verification by the computer and, for example, subsequent repeat printout.

Parallel Input/Output Option. A COM-100 series data modem can be provided with a direct parallel interface (at TTL levels) to the user's terminal. This option avoids the need for the user's equipment to serialize and deserialize data.

Additional information. *Operating modes* — originate only, half or full duplex. *Transmission* — asynchronous, 300 baud maximum. *Transmitted output power (on the line)* — acoustic: -11dBm, average; hardwire: -8 dBm (other levels may be specified). *Acceptable line attenuation* — acoustic (full-duplex): 30dB line attenuation; acoustic (half-duplex), hardwire: 40 dB line attenuation. *Terminal interfaces* — TTY: 20 ma at 10 volts; EIA: conforms to RS-232-B specification; parallel I/O (option): TTL compatible levels. *Power* — 115±10% VAC/60 Hertz, 20 VA. *Physical* — size: 9 7/8" x 11 1/2" x 5 1/8", desk or wall mounted; weight: 5 pounds (approx.).





COM-100 Series of acoustic couplers transmit data reliably over lines noisier and 10 times weaker than other couplers can tolerate (up to 40 dB line attenuation in half duplex).

The company that offers a better way of doing things.

ADDS is the company that was built on innovation. This is best reflected in our products, and in our growing list of customers. It can also be seen in the new manufacturing techniques we employ at our manufacturing facilities in Hauppauge, N.Y. In the patents we have filed. And in the attitudes of our people. Call us at (516) 231-5400 and see for yourself. Or write ADDS, 100 Marcus Blvd., Hauppauge, N.Y. 11787.

ADDS
Applied Digital Data Systems Inc.

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