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August 1983

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Videogram

News & Information from the World of Video

by Pat Wadsley



Moses 1, Darkness 0

What if Reggie Jackson had to know who the prophets of the Old Testament were before he could steal a base? That's not his problem, but if you play "Bible Baseball"—a new video game from Davka—better bone up on the Scriptures or you'll sit in the dugout. "Bible Baseball" is one of Davka's 40 religious vidgames, compatible with the Atari and Apple systems.

Players avoid striking out by correctly answering questions like: "From what book in the Bible comes, 'For everything there is a season?' " (Ecclesiastes), or "Who was not one of the prophets:



In search of ancient matzoh: unusual adventures in the land of the Pharaohs.

Micah, Josiah, Ezra, or Joel?" (Ezra). Two of the games Davka developed

for Passover are the adventure game "Afikoman Adventure," which takes you back to Egypt in search of the original matzoh, and "Crumb-Eater," Davka's answer to "Pac-Man." Davka (that's Hebrew for "precise") has also developed a fast action game called "Jericho" wherein Joshua blows his horn as he evades lightning bolts.

Davka programmer Mike Carasik says the games appeal to folks of all denominations. One Lutheran minister uses them to teach Sunday school. If you've a more musical bent, try Sparrow's "Name That Hymn," which gets you in shape for singing along with the congregation.



In-flight mini-consoles mean no more fear of flying for vidgamers.

The User-Friendly Skies

Now that video has replaced film for most airlines' movies, video games have come to the friendly skies too.

Ozark and World Airlines are two of the first carriers to include in-flight video games. According to Bruce Hilton of Larmo Enterprises (which has exclusive rights to airline video games), by the end of this year all the major airlines will have weary businessmen, restless kids, and ardent gamers whiling away the hours zapping, popping, and buzzing on specially designed hand-held consoles.

For a dollar passengers can order: "Fire" (people jump out of burning building), "Fire Attack" (Indians attack

fort), "Popeye" (age-old conflict between spinach-eater and Brutus), "Snoopy Tennis" (dog and opponents whack away on the court), and "Octopus" (you're the sucker if you can't wrest buried treasure away from this leggy mollusk). The one game all the airlines turned down was "Parachute."

The games have been interference-tested and all six have grey screens with color tinting rather than LED screens (which emit signals that conflict with airplane and control-tower signals). They're all so small that to prevent passengers from pocketing them, most airlines ask for credit cards and driver's licenses as collateral.

Disc Land Is Not Your Land

It may not be ready for recording your favorite Laurel-&-Hardys, but the first recordable LaserDisc system, using eight-inch discs that can be rerecorded over one million times, has just been unveiled by Matsushita.

The industrial erasable optical-memory disc recorder is about the size of a home LV player and designed to interface with a still camera and TV set. The discs can store 15,000 still pictures of 10,000 letter-size pages. That's 1000 times the capacity of a conventional floppy disk.

For erasing, the disc uses tellurium suboxide—the same material used in conventional recording/playback systems. With submetals like germanium, indium, and lead, the structure of recording materials becomes reversible between the crystalline and amorphous (non-crystalline) phases through irradiation of the laserbeam.

So if you want to erase or update, all you do is access the frame, push Erase, press Record, turn on the camera, and photograph new material in place of the old.

Matsushita designed this contraption for office use and sees future use in government, banking, insurance, museums—wherever lots of data must be updated regularly. Naturally everybody wants to know when a home model will be ready, but the price of this technology is prohibitive. No price is set, but it's projected to be in the mid-five-figure category—and the cost won't come down for the next eight to ten years.



Bikinis, Beads, and Bytes

The next time you're shipwrecked in the Caribbean, hope you float to the shore of Club Med/Atari Village.

Club Med prides itself on helping guests escape from civilization. That means no telephones (even E.T. couldn't call home), no TVs, no radios. But—scattered along the beach, next to the tennis courts and the pool—are Atari 800 and 1200 XL computers. Visitors learn how to cope with high technology back home while getting back to nature.

Say you've just been scuba diving and discovered an incredible piece of coral. Since the computers have been programmed especially for this location (Punta Cana in the Dominican Republic), all you have to do to identify the coral is step on the sand, walk up to one of the computers, and access "coral." You'll find everything you want to know.

Or maybe you've just been slaughtered at tennis. Drag yourself to one of the courtside computers and it will tell you how to improve your stroke. You can also sit poolside with an exotic drink and practice what you learned in the morning's computer workshop. You might check the schedule for the evening's activities. You can even leave messages for other guests. If you need a date for dinner, you don't have to tell the social director.

The charge for Atari Village is \$499, plus airfare and Club Med memberships (\$30 for the first year, \$25 thereafter).

Princess Yum Yum?

Look for what could start a new age in arcade games: "Dragon's Lair," the first LaserDisc animated video game. Instead of seeing graphics that look like geometry problems, players will view fully illustrated animated stories that resemble the best Saturday-morning cartoons.



New Laserdisc arcade games offer the best in cartoon-quality graphics.

As dashing knight Dirk the Daring tries to rescue Princess Yum Yum from the Evil Wizard's Dragon Lair, the player guides his movements through a series of 42 encounters. In a brilliantly designed room of fire, for instance, Dirk has to grab ropes and swing from ledge to ledge. He must also avoid a witch's

cauldron and a giant spider.

The animation was created by Secret of NIMH's Don Bluth as a joint project of arcade-game manufacturers Starcom and Cinematronics. The play in "Dragon's Lair" isn't as quick as in computer video games—but as LaserDisc games are refined, they may eventually be as challenging as animated computer games are now.

"Dragon's Lair" costs 50 cents per play and should be in your corner store any day.

Vidbits

England swings: According to *Rolling Stone*, Ringo Starr may go into the cable-TV business later this year. Starr and Virgin Records President Richard Branson have formed a company called Cable Music and hope to start broadcasting an MTV-like service round the clock to Britons. Only 500,000 homes are hooked up to cable in England, but one of Cable Music's first franchises will be in Starr's old hometown Liverpool.

British doctors are using robots to help shy patients talk about their problems. The robots are programmed to ask questions two or three times to get information from patients reluctant to

Gloves a Mother Can Love

Tennis players have sweatbands. Runners have Nikes. And now video-game players have the Video Pro Glove, the first accessory to stem the tide of injuries incurred while playing video games—and to show opponents that you're a serious player. The gloves are fingerless with nylon uppers and soft flexible Cabretta leather, which soaks up moisture and (says the maker) facilitates play.

The idea for the gloves came about when a Mrs. Carmel Delaney waited and waited and waited for her son to show up for last Mother's Day dinner. When he finally did, his hands were blistered, sore, and callused from hours at the arcade. "At least you could wear a glove so I don't know what you're doing," admonished Mrs. Delaney—the proverbial lightbulb popping in her brain. Delaney designed the gloves, and since they've gone on sale, Video Pro Gloves have won the distinction of being the most stolen item in New Orleans' 7/11s!



Serious protection for serious gamers. 'Look ma—no sores!'

Video Pros are now being sold across the country, including Hawaii. They come in an assortment of colors with stripes designed to look like video game graphics. You can get small, medium, or large (extra large in yellow), and they cost \$6.95. If you can't find them in your store, write to Dan Kelly Warehouse (Box 23663, New Orleans, La. 70183).

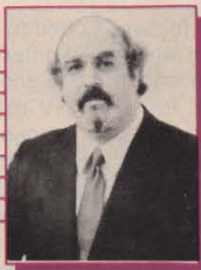
talk to doctors. Plans are to equip the robots with TV screens featuring images and voices of famous actors to give patients someone familiar to chat with.

Behind the Great Wall, China's small middle class would rather have TVs than refrigerators. In a consumer poll, Professor Hans Thorelli of Indiana University says that 3 out of 4 in a group of 150 Chinese middle managers had TVs, but only 8 percent had fridges. Eight in ten had bicycles; none had a car or telephone; and the majority had a special fondness for advertising, saying it was absolutely necessary and painted an accurate picture of products.

Computer Ease

The Human Interface

by Ivan Berger



Altair: The First Home Computer

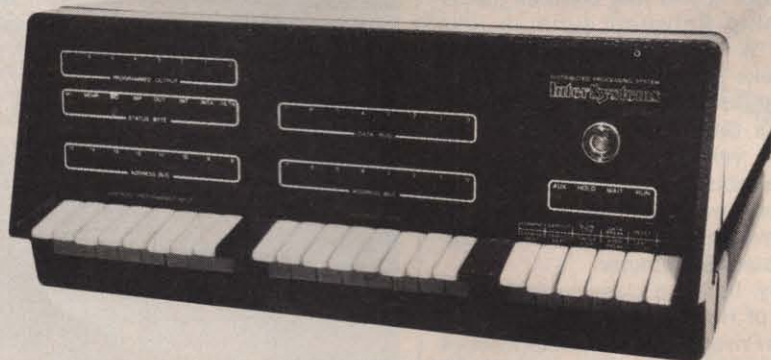
Home computers may look complex and baffling at first. But when you know how far they've come since their horse-and-buggy days, they begin to look powerful and simple. And they are.

Those days weren't all that long ago. In fact, it's possible to date precisely when the home-computer era started: January 1975, when *Popular Electronics* ran a story on how to build a home computer. *Radio-Electronics*, a rival magazine, had run a computer project a few months earlier, but it was based on an already-outdated processor and failed to make the splash that *PE*'s "Altair" project did.

I read that article, and began immediately thirsting—lusting!—for a computer of my own, both to learn about computing (which I did, the hard way) and to achieve great and useful things with it. By late '76 I had my Altair. And what did I accomplish with my wonderful machine? Nothing, or darn close to it. I was ready for computers, but the computers of those days weren't ready for people like me.

Unwrapped, my Altair turned out to be just a box. Its rear panel had oval-shaped holes and its front panel carried neat rows of red light-emitting diodes (LEDs) and toggle switches—no typewriter-like keyboard, no TV screen. The instructions told me almost nothing about how to use the thing—the start of a long, dishonorable tradition which still flourishes today.

The switches on the Altair panel were an input device. The LEDs were output, glowing and darkening in patterns that showed what had been input from the switches and what the computer had done as a result. They operated at the same simpleminded level as the computer itself, in binary (base-2) numbers rather than the decimal (base-10) numbers we use in daily life. Binary numbers are built up of ones and zeroes: a one was entered by raising a switch, and a



This Intersystems computer is a direct spiritual (if not corporate) descendant of the original Altair; some even use old Altair boards. Newer versions lack the lights and switches, since they are already set up for control from external terminal keyboards.

zero by lowering it. The corresponding LEDs glowed for each one and darkened for each zero.

Nothing could be simpler—for the machine. For humans it was excruciatingly complex, though many mastered it. Since a "byte" contains eight "bits" (binary digits), programming in a simple one-byte instruction (such as "stop") took eight binary-switch settings. More complex instructions might take 24 settings—plus, at times, another 16 to tell the computer where in memory the new instruction went.

Luckily, I knew the owner of a similar machine (by then, the Altair had spawned imitators, some of which survive today). He inaugurated me into the mysteries. There was a world beyond the binary level, and the Altair could be readily forced into it. First I needed a "terminal" with the keyboard and video-display screen which the Altair, unlike today's computers, lacked. Such terminals were already being made for use on big computers, and I got one.

But I found nothing on the computer in which to plug it. To remedy that I needed an input/output (I/O) circuit board through which the computer and terminal could communicate. The Altair was a "bus-oriented" machine (see last month's column), with about a dozen slots into which boards like this could plug. Put a 25-pin connector into one of the oval holes in the computer's back, run a cable from there to the I/O board,

and you had a place to plug in the terminal.

Problem: typing on the terminal had no effect on what the Altair did. Just as nice children don't speak until they're spoken to (or so my Grandma said), computers don't communicate with terminals until a program has told them that they can and must, and how to do it. There were two ways, my friend said, to get that program into the machine. He had a program listing—in "octal" (base-8) numbering—which I could translate into binary (child's play by that time) and toggle in from the front panel of the Altair. But I would have had to do that every time I wanted to use the machine. Or he could put that program and some others that I needed into an Erasable Programmable Read-Only Memory (EPROM), a type of memory which would hold its contents even when the computer was shut off. To use that EPROM, though, I'd have to buy a special kind of memory board to hold it—which I did.

With those programs, typing in instructions such as "C3 D5 01" ("jump to memory address 01 D5") became as simple as that, rather than a switch sequence of "11000010 1101010 00000001." However, writing programs in tiny steps of arbitrary symbols like those was still infuriatingly slow. What I needed, said my friend, was a "high level" language: BASIC. BASIC was available from Altair—on punched

paper tape, which required a special paper-tape reader. Luckily my friend's terminal was a Teletype, a printing terminal that could also read and punch paper tapes.


I ordered BASIC and he read it into his machine, then re-recorded it from his machine onto a tape cassette. I might not have a paper-tape reader, but I did have a cassette recorder. However, my Altair had no place to plug one in, so I needed still another board to translate between computer and cassette deck. In theory, I would then have had to type in from the terminal a short program telling the computer how to load the tape. In practice, that program was already on the EPROM my friend had given me, and all I had to do was type in the instruction to start using it.

By this time I had a fully functioning computer with all the major trimmings: keyboard and screen (on the terminal), mass storage (the cassette), processor, and both Read-Only Memory (ROM) and Random-Access Memory (RAM). The problem was that the computer had come with only 4K (4096) bytes of RAM, and my BASIC took up 8K. The solution: still more memory boards, eventually raising it to 56K.

Now I could start writing BASIC programs, and save them on the cassette to reload when I wanted to rerun them. I could even use the programs that my friend had written and had put on cassette for me. I could not, however, buy many programs ready-made—partly because not all the programs sold were available in my tape format, let alone for my machine, and partly because not that many programs were around yet. Nonetheless, I was cookin', though still at the scrambled-eggs stage.

By then, the next generation of computers was upon us: computers like the TRS-80 Model I, the Commodore PET, and the Apple II. These had RAM and ROM, cassette connections, keyboards, and (except for the Apple) screens built in. Not only that, but they had BASIC built into their ROMs so that you could start programming in BASIC instantly—no waiting while you loaded it from a tape. Marvelous.

What ever happened to the Altair? The company was bought out and the line discontinued. But its basic structure survives as an international standard now known as the "S-100 bus." Boards that fit it are still made, and so are computers that can use those boards. Such computers are used by people who want the freedom to configure their computer with whatever boards they need.

But while the descendants of the Altair soldier on, so do descendants of the TRS-80 I, the PET, and the Apple II. They are the point from which the vast majority of today's home computers start. 

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Arcade Alley

A Critical Look at Video Games

by Bill Kunkel & Arnie Katz



A winner ('RealSports Tennis,' right) and a loser ('RealSports Soccer,' left) from Atari's series of sporting cartridges.

The Sporting Life



Sports and electronic gaming may sound like strange bedfellows, but they often fit together as smoothly as one of those legendary Tinkers-to-Evers-to-Chance double plays. Millions of sports enthusiasts watch athletic events on the tube, so why shouldn't some of them seek out the more personal experience of an electronic game with a sports theme?

This doesn't mean that those who love sports games necessarily care about the real-life activity on which the simulation is based. More than one video racqueteer would flee in horror at the sight of a genuine tennis court. So even if your most cherished idea of a perfect Sunday is curling up with the paper for a nice snooze, as opposed to rising at the crack of dawn for 18 or 36 holes of golf, don't automatically turn up your nose at electronic sports games. Most sports simulations present intriguing situations that call forth gamers' best strategic thinking. And though such highly anticipated goodies as the new baseball programs from Coleco and Mattel have yet to appear, there's no shortage of state-of-the-art sports contests.

Turning to cartridges first, begin with **RealSports Tennis** (Atari/Atari 2600). Pride as well as profits are at stake with Atari's fast-expanding RealSports line of cartridges for the 2600. After taking it on the chin from George Plimpton and Mattel for a couple of years about its original batch of sports games, Atari has made a big effort to produce a series of athletic-oriented programs that rate with the best.

With "RealSports Tennis," at least, Atari is serving nothing but aces. This kissin' cousin of Activision's long-

popular "Tennis" serves up plenty of fun for one or two competitors, and is enhanced by graphics that feature a trapezoidal playing field and a well-rendered grandstand. It's a good simulation of the basics of tennis: the scoring system is true to life, and players can even test strategies that some may use on the court. One small problem is that the graphics may be a might obtrusive for some—particularly the grandstand, which can hide the ball's path when it passes in front of the rendering. If you don't have a tennis game, investigate this one first.

Deciding to revise an existing cartridge is a tough decision. Most companies prefer to spend their dollars to create new ones—they sell better. Publishing a revision is also a tacit admission that your firm may not have done such a hot job the first time around.

RealSports Soccer (Atari/Atari 2600) is unique in Atari's library. Other RealSports games are either based on sports for which Atari had no previous cartridge or replacements for elderly designs that have become obsolete. "RealSports Soccer," however, supplants "Championship Soccer"—a solid arcade-oriented treatment that only came out in 1981. Also known as "Pele Soccer," it was a bit different from what many expected a soccer cartridge to be, but also had tremendous play value when taken on its own terms. And the fireworks display that saluted the victorious team at the end of the match was one of the most impressive graphic trimmings ever offered by a 2600 cartridge.

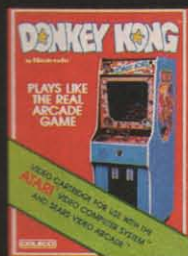
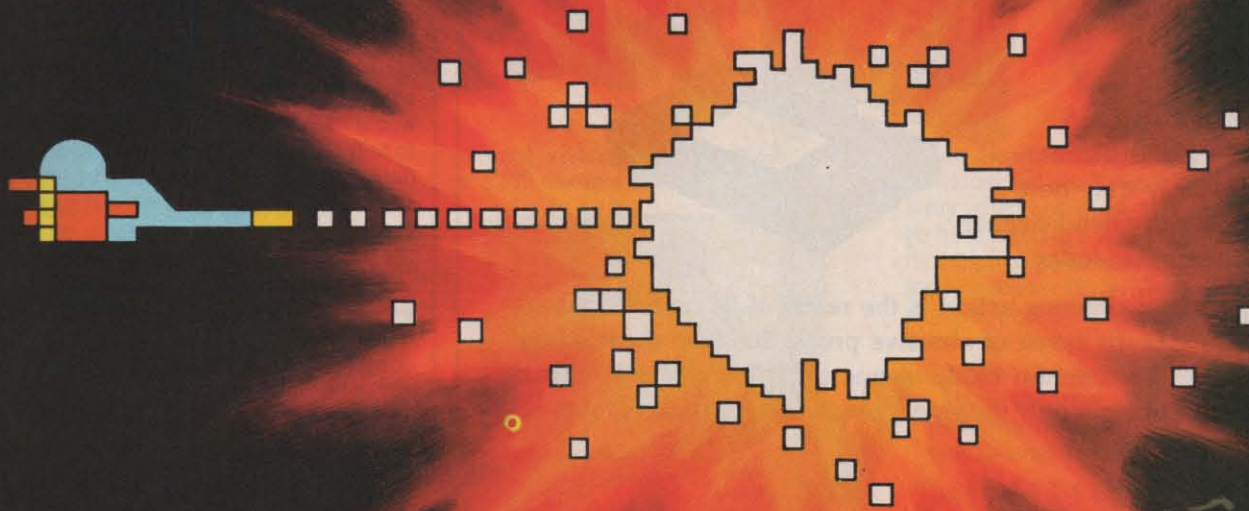
Perhaps Atari hoped its designers could make a reasonably decent game even better. If that was the goal,

"RealSports Soccer" is a clean miss. This time the nets are located at the sides of the screen rather than the top and bottom. Another change is that the players are huge, which makes the playfield appear cramped and the movements of the electronic athletes clumsy. Beyond these and a few other, more minor differences, not much distinguishes this new game from the one it replaces. It is doubtful that anyone who didn't like "Championship Soccer" will develop a great fondness for the RealSports version.

More sports games are now appearing in the computer-gaming field than in earlier years. Last year witnessed the introduction of "Cypher Bowl," a top-notch gridiron game for the Atari computers. This year is continuing in the same high style with such sports contests as "Baja Buggies" and, from the same company, **Starbowl Football** (Gamestar/Atari Computers/24K disk).

Have you ever noticed that certain kinds of games seem to gravitate toward certain systems? For instance, video pinball has proven a repeated winner for the Apple II, and games that stress audiovisual effects are a natural for the Atari 400, 800, and 1200. That's why the publication of "Starbowl Football" will come as a surprise to many diehard computerists who devoutly believe that the words "Atari" and "sport" rarely get together, and seldom to anyone's benefit. "Starbowl," on disk for the 400-800-1200 machines, is the most spectacular arcade-style football simulation yet created. This one- or two-player contest makes signal calling as easy as pie, while not unduly restricting the creativity of the human coach. It takes maximum advantage of the Atari

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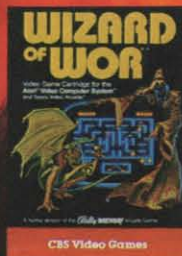
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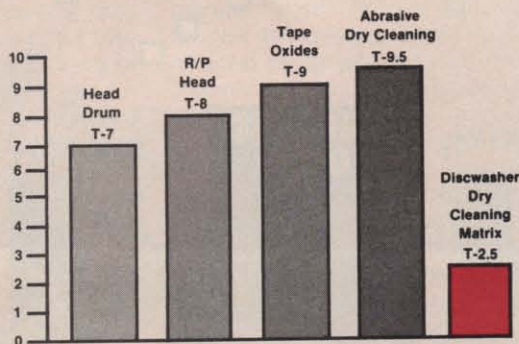
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computer's graphics and sound capabilities as no sports game has before, creating one of the few pieces of entertainment software that qualifies as a masterpiece.

Designer Dan Ugrin considered utilizing a three-quarter perspective for the gridiron. This concept works beautifully in Mattel's "NASL Soccer" for the Intelivision, but could've ruined "Starbowl." Football players stand much closer to each other on the field, especially when the teams set up at the line of scrimmage. The three-quarter perspective could easily have resulted in a riot of overlapping animated images that would have made it virtually impossible to follow events as they unfolded on the field. Far better to use a more traditional overhead view and save the surplus memory for other aspects of the program.

This disk is crammed with the stuff of which real football is made. Its breathtaking simulation provides for a complete kicking game—including punts, field goals, and kickoffs—as well as a wide selection of passing and running plays. Coaches choose from 196 play variations, all accessible without lots of time-wasting memorization. Ugrin hasn't neglected the niceties, either. "The Star Spangled Banner" blares at the start of the game, teams change sides of the field after each quarter, and there's even a halftime break. But the worthiest feature is the option for solitaire play. The computer coach is entirely capable of (metaphorically) grinding your nose in the astroturf at either the "pro" or "college" difficulty settings.

Not that "Starbowl" is without flaw. The running game may be a bit warped, giving too much prominence to going outside with an end-around or sweep. It's nearly impossible to punch a runner straight up the middle through the closely packed defensive line.

On offense, the key is to watch what the middle linebacker is doing. If this defender hangs back, a quarterback keeper can net a quick five yards. If he's rushing the passer, a dump-off screen pass can take a chance on breaking for a big gainer. Blitzing is a valuable defensive strategy, but only when used with restraint in the right situations. Having the linebacker caught flatfooted near the line of scrimmage as the quarterback lofts a short pass just beyond his reach can sometimes lead to giving up a sudden touchdown.

Like the real NFL, this program belongs to the passers. Nothing chews up the yardage in such satisfying big hunks, and the frequent interference calls of the computer-controlled officials give tossing the pigskin an even better chance of success. "Starbowl Football" definitely belongs in the Super Bowl of electronic gaming. ✓