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THE #1 MAGAZINE OF HOME VIDEO

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WHAT'S THE DIFFERENCE?

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To Backyard

Berger–Braithwaite VideoTests On: Bally Game / Computer

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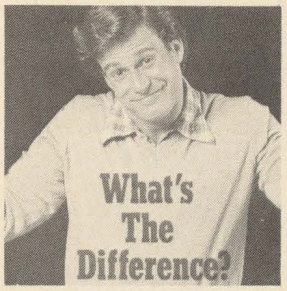
ABOUT OUR COVER
The confusion many people face when weighing the possibilities of which home VCR format to buy is depicted on our cover this month. Seen on the left is Sony's new SL-5400 Betamax (Beta), and on the right RCA's new VCT-600 SelectaVision (VHS). Cover concept by Harvey Hersh & Gary Jitt. Photography by Bob Ghiraldini.



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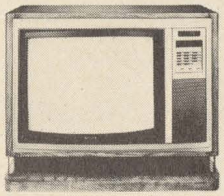

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AUDITED PAID CIRCULATION ABC

Cheap
It's Not . . .

Would you pay $250 for a sophisticated computer video game system? Mattel Toy Company and Jerrold Electronics, a subsidiary of General Instruments, think people will, and they'll begin tests this fall with their Playcable TV project to find out.

Moline, Ill., Jackson, Miss., and Boise, Idaho are among the cities that will receive the new entertainment tool, with Electric Company Math and Major League Baseball games.

To take part in the fun, subscribers must pay the $250 for an Intellivision computer unit manufactured by Mattel and a special adaptor produced by Jerrold.

Granted, the cost for this seemingly common pleasure is certainly more than most video games already on the market. But should the experiment prove successful, more computerized programs are promised, and the service opens up an abundance of other uses. □

Bally Arcade Game / Computer

WE HAVEN'T figured out exactly what Bally calls this product—some of the literature calls it the "Professional Arcade"; the rest refers to it as the "Bally Computer System." (Our box said "Professional Arcade.") That double name is a sign of its dual personality: the Bally is a video game you can turn into a full-fledged computer—or a half-fledged one, if that's your pleasure.

The Bally won't be the last such split-personality product, either. Its basic format—a video game console to which an upgraded unit with a typewriter keyboard can be fitted—will be seen soon in products from Mattel and others. And all programmable video games have microprocessors* built into them.

Bally's keyboard add-on isn't available yet, though. But it's just the third level of a three-level system. Level I is the video console shown here, a programmable video game with a built-in calculator keypad plus two hand controls and provision for two more. All by itself, it gives you three games to play plus its calculator function, and there are 28 more games and 6 educational programs now available on sixteen Videocade ™ ROM cartridges.

Level II, which we also tested, consists of a similar ROM cartridge holding Bally's BASIC language interpreter, that lets you write your own computer programs, and an optional audiocassette interface that lets you save those programs on your tape recorder.

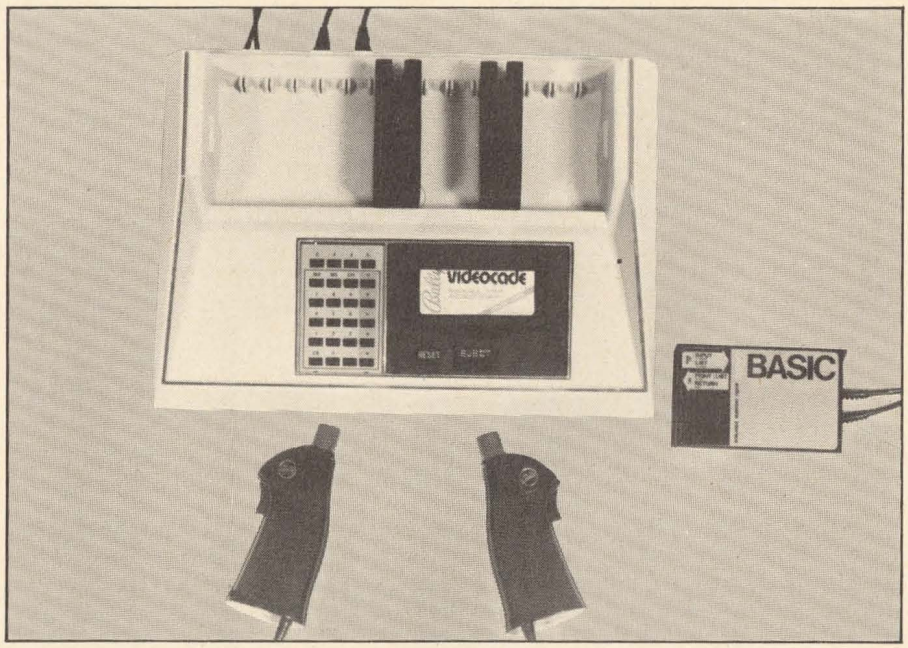
Level III turns the system into as fully fledged a computer as you'll find anywhere. Besides the typewriter keyboard, it has more programs in ROM memory, more RAM (Random-Access Memory), plus inputs and outputs for a printer, floppy discs for program and data storage, modems for computer-to-computer phone communications, and more.

At $300, the basic video console unit costs noticeably more than most programmable video games; but add the $50 BASIC cartridge and the $50 audiocassette interface, and you have a $400 computer that can do many things most home computers can't do—though the others can perform some tasks more easily than the Bally can.

Level I: The Video Console: At $299.95, with two hand controls ($329.95 with four), the Bally is well in the upper reaches of the video game price range. Much of that is doubtless due to its versatility—after all, not all games can expand into true computers. It's reasonably compact, about the size of a portable typewriter with the keyboard cut off, and it has a built-in storage compartment with slots for ROM program cartridges or tape cassettes holding BASIC programs. The compartment has a smoked-plastic dust cover—a good thing, since the slots hold only uncased cassettes.

Following Bally's very clear instructions, set-up took less than three minutes. The pictorial diagram covered all the questions that arose, and all connections were firm-fitting plug-ins except for the flat wire leads to the TV set's 300-ohm antenna terminals, which took a screwdriver. (Installing the tape interface for the computer was easy, too, though we had to break out one protective tab that covered the cassette interface jack. All connections are made inconspicuously on the rear panel.

The on/off and channel 3/4 switches were also on the rear; we'd have liked to see the on/off switch more accessible. Once the power is on, all game selection and set-up may be handled from the calculator keypad or the #1 hand control. That makes the Professional Arcade "the only programmable video game with remote game selection," according to Bally: from your chair you can start and initiate games, select how many times or how long the game will be played, and tell the Arcade how many people will be playing.



Using the keypad, you can do all of the above (sometimes a bit faster), and you can also pause in the middle of the game by pressing the "C" key. Pressing "C" again will resume the game from where you left off. The keypad is also used with the calculator program (one of the four built into the machine) as a very useful calculator indeed. It has ten separately addressable memory registers and holds 92 lines of calculation in memory that can be scrolled up and down on the screen like a printing calculator's paper tape.

A TV-tube protector circuit automatically shuts off the Arcade and blanks the TV screen if it's left unattended for about four minutes. Pressing any key on the keypad will resume operation.

The keypad requires almost as much effort as manual typewriter keys, which can be a trifle annoying during long calculations, but this helps prevent accidental miskeying. The smooth-operating pistol-grip hand controls were comfortable for both right- and left-handers. Each contained a trigger switch, an eight-direction joystick, and a continuously variable analog control (the knob in the top of the joystick).

The hand-control functions varied from game to game. In Scribing (one of the four built-in programs), for example, the joystick moves the cursor (lighted spot) in any of the eight directions, the knob changes cursor size and color, and the trigger governs whether it will leave a trace as it moves on the screen.

(In this particular game, the keypad has several functions, too: its top row changes the background color, the second row reverses color changes, the third and fourth rows increase and decrease color intensities, and the sixth row's first key clears the screen. An overlay snaps over the keypad to show you which keys do what.)

Getting accustomed to all the joystick actions was easy, but co-ordinating them all took practice. But then, the whole point of the games is to test or compare the players' coordination.

On the other hand, Bally gave us plenty of instructions to work with. Those that came with the video console (and with Bally BASIC and its audiocassette interface) were detailed and very clear. Those with the game cartridges were a bit less detailed, but most of the games had enough clear "prompt messages" built in to guide you as you went along. (Football was the main exception.)

And the games were fun.

Picture and Sound Quality: Much of our enjoyment of the games came from the Professional Arcade's full rich color, detailed graphics, and appropriate, high-quality

* *For definitions of computer terms used in this review, see page 47.*

sounds. Graphically, it offers 256 different shades of color, with fairly fine resolution (87 lines of 159 picture elements each). You can't control the colors of most of the Bally games except for Scribing and the games you write yourself in Bally BASIC.

Audio quality is equally impressive. The tonal range covers three octaves, complete with sharps and flats, with complex tones available for the game-program sound effects (though only musical notes seemed to be accessible to BASIC programs).

Both audio and video were used imaginatively in the Bally games. In Baseball, for example, each game began with a playing of the National Anthem. During play, moving fielders didn't just slide their images around—it made their legs move, too (since the entire outfield moves together, they look a bit like the Rockettes). Similarly, in Gunfight there were sounds of shots and the funeral march when either cowboy bit the dust, plus sufficient figure detail so that you could see which way each gun was aiming. (The games themselves are reviewed in "Arcade Alley"; see page 32.) Overall, both the audio and video are as good as we've seen on any video game, and better than those on many home computers—a fair comparison since the Bally is both.

There isn't space here to list all the games available (they're $20 or $25 each), but they divide into several basic categories; games of strategy (Checkers, Backgamman, Poker, Black Jack. . .); games of action and skill (Red Baron, Dodgem, Space Race. . .); sports (Baseball, Tennis, Hockey, Handball, Football, Grand Prix. . .); educational "games" (for math, music, spelling, and the like); and, of course, Bally BASIC.

Level II: Instant Computer: Turning the Bally Professional Arcade into the Bally Home Computer is as simple as plugging in the BASIC ROM cartridge and pressing the Reset. To be even more reassuring, turning yourself into a computer programmer, though a lengthier task, isn't much more complicated. Bally BASIC won't make you ready for one of the "high-paying jobs in the computer industry" that the computer-school commercials talk about, but it won't take long—an evening or two—before you're writing programs that do simple things, but *do* them.

BASIC is a well-nigh universal computer language. But there are probably more dialects of BASIC than there are computer models; few computers speak the same dialect, and some speak more than one.

Bally's BASIC has some commands you won't find in other BASICs: graphics commands *(Line* and *Box)*, color commands (*FC* for foreground color, *BC* for background), musical notes and note times. It also uses unusual input devices: the keypad and the hand controls (a typewriter keyboard add-on will be available sometime this year). On the other hand, it lacks features found in some more advanced BASIC dialects, such as the ability to correct errors in a program line without having to rewrite that program line from scratch.

To those familiar with the BASIC language, Bally BASIC will be about the equal of most "Tiny BASICs" (it's a version of Palo Alto Tiny BASIC, running on a Z80 microprocessor), with additional capability for electronic music, graphic games, graphs and bar-charts, and other video and audio diversions. You won't be able to write programs quite as fancy as the game programs made for the Arcade, though: they're written in machine language, which is harder to write but runs faster and allows more versatile programming. (In its present form, the Bally unit doesn't let you write machine-language programs, but the Level III version—which will also have a special graphics language available—probably will.)

The keypad has both advantages and disadvantages in comparison to the standard keyboard on most other computers. Place an overlay (supplied with the BASIC cartridge) over the keypad and each key is labelled with four new functions in addition to its original calculator function. The "5" key, for example, can be used to input the letters "P," "Q," and "R" and the word "RETURN" as well as the number "5." Four keys on the bottom row control which function the key will perform at any time.

With just one BASIC command per key, the number of commands is limited—but it's limited in any Tiny BASIC. But being able to input a command with just one or two keystrokes does prevent most errors. On our own computer, we've had many programs stumble over typos like "NXT" for "NEXT" and "LIAR" for "LIST" (that one happens when your left hand is one key too far to the left), which the dumb computer cannot figure out. With the Bally system, you may hit the wrong command but you can't mistype the right one. Again, the high key pressure demanded helps you catch errors before they're entered, and there's an Erase key to correct whatever typos do sneak into the line you're working on. Non-typists will find the keypad input far easier to use than a typewriter keyboard; typists, though, will find it takes them about as long to learn the system as non-typists take.

If you make a programming error, the computer will tell you so—though less specifically than bigger BASICs, which tell you more or less precisely just which error you've made. If you give it a command it can't recognize, it responds "WHAT?" If it recognizes the command but can't perform it (as when you tell it to "GO TO" a line that doesn't exist), it answers "HOW?" When it runs out of memory (it has 1800 bytes' worth), it should say "SORRY!" (we didn't write any programs long enough to encounter that problem, though). And the instruction book at 36 pages is just long enough to be instructive but not long enough to drive you bats. It gives you a very good idea of what results to expect, both when you do the right thing and when you don't.

Once you have a program running properly, it pays to save it on tape, so you can load it again quickly the next time you want to use it. Bally's $50 audiocassette interface lets you do that with just about any tape recorder you own; we got perfect results with an ordinary cassette portable that we bought for about $50 five years back. The penalty of being foolproof, though, is that the interface is a bit slow—though only by comparison.

Level III: The Brain Gets Brainier: We didn't test the Level III system, as it is not available at this writing. When available, it will consist of a box with a typewriter keyboard and a space on which the Professional Arcade sits. But it will add more than a keyboard.

The keyboard itself will allow the use of both upper-case (capital) and lower-case (small) letters, plus some other characters not on the upper-case-only Level II. Level III will also have 20 kilobytes of RAM (Random-Access Memory), a substantial, if not huge, amount. It will increase the graphics resolution to 102 lines by 160 characters, allow the use of video monitors (with higher resolution) instead of standard TV receivers, and will allow connection to a floppy disk (a very fast, high-capacity program-storage device, and a considerable improvement over audiocassette), a modem (for telephone communications with other computers and remote terminals), and a printer.

There will be more and better software (programs) for Level III, too. Most interesting of the promised additions will be GRAFIX, a cross between Bally BASIC and GRASS, the graphics language used in some of *Star Wars's* special effects. GRAFIX will instruct you as you go along (just type "HELP"), will allow you to write new commands to add to the language, and will let you run one program while writing another.

Conclusion: If this review seems extra-long, it's because we're actually reviewing two machines in one: The Level I Professional Arcade was itself so much fun that we found it hard to stop playing its games and get down to the serious business of writing the report. But drop in the Bally BASIC cartridge and Level I slips into a phone booth to emerge as supergame—or junior computer. We look forward to getting our hands on a Level III—both for its own sake and as an excuse to try more Level I games. □

Akai Portable VCR System

THE AKAI VT-350 system consists of the VT-350 portable VCR, a VC-300 portable video camera, and a VA-300 AC adaptor; but strangely enough the camera comes without lenses and without viewfinders—they are considered accessories. Among the accessories is the VT-300, a sharp little 3-inch monitor that docks into the left side of the recorder.

The Akai is neither a VHS nor a Beta; it uses its own unique incompatible cassette format. However, since it has some interesting features (like very slow motion), it has a dedicated following and shouldn't be dismissed only because it isn't standard. For example, if you want to analyze your golf swing, there is nothing that will do the job better.

We received the recorder, camera, zoom lens, electronic viewfinder, and monitor for testing. The camera, viewfinder, and zoom lens are carbon copies of the ones reviewed as the VC-8300 in the Winter 1979 VIDEO (VideoTest #17); Akai simply used a copy of those very

Arcade Alley

A Critical Look at Video Cartridge Games & Programs

by Bill Kunkel & Frank T. Laney II

BALLY PROFESSIONAL ARCADE

- Gunfight
- Checkmate
- Scribing
- Brickyard/Clowns
- Seawolf/Missile
- Football

Anticipation ran high when the Bally Manufacturing Co. announced the debut of its Professional Arcade—or "Fun and Brains" as Bally dubbed the device. Gamers felt there was much reason to hope, since Bally has long reigned as the king of the amusement arcades.

Although the system is state-of-the-art in many respects, we found it something of a disappointment. It would be grossly unfair to label the Professional Arcade a failure, but it is less than a total success from the gamer's point of view. Most of the games are good, but they could have been better with just a little more design work.

Of course, Bally's system does much, much more than "just" play games. In effect, the Professional Arcade bridges the gap between game-playing machines and true home computers. A separately available module teaches the user a simple computer language that opens the door to a wide variety of applications. Bally owners with sufficient skill can even invent their own video games!

So it's important to remember, when reading this column, that we are evaluating the unit primarily as a home arcade. Those looking for easy entry into the world of home computing may well find that the Bally system is their best buy. See the VideoTest section, starting on page 24, for a review of the Professional Arcade by Berger-Braithwaite Labs.

One unusual feature of the Professional Arcade is that it is pre-programmed to play three games and function as a calculator. Since these programs are, in effect, part of the basic system, they are the logical place to start this examination of software.

GUNFIGHT is a two-player game as good as anything you'll find at the local amusement arcade. In fact, the commercial version has long enjoyed great popularity among gamers.

The home game makes maximum use of the Bally controller; players move their gunslinger with the joystick, aim with the paddle, and fire by squeezing the trigger. Gunfighters get six shots per round, and a 10-second reload cycle activates whenever one or both exhaust their ammo. A different field, with a varying number of obstacles, appears for each scoring set. Players can cower behind trees, cacti, and even a lumbering covered wagon.

The well-animated gunfighters are relatively small compared to the size of the field, producing more fluid action than similar cartridges from other manufacturers. It's hard to devise a pat strategy for a game in which each player's actions so directly affect the other's moves, but "keep covered" makes a good beginning. The gunfighter who fires a hail of six bullets will score few hits—and will have ten agonizingly long seconds to contemplate his rashness.

CHECKMATE, players steer their symbols across the playfield, creating serpentine lines on the screen. The object is to avoid crashing into any line or the boundary of the field. Averting a crash scores a point, and the cartridge program allows the players themselves to decide how many points constitute a complete game. We found that two out of three 11-point games makes a fair contest.

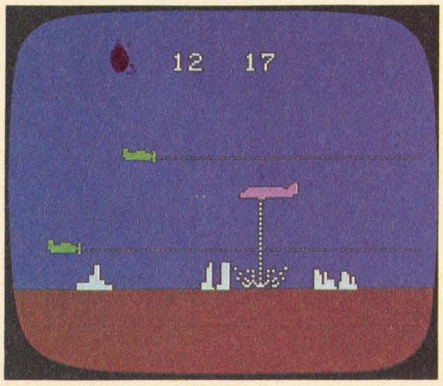
Checkmate is that home arcade rarity—a game playable by more than two at a time. Even better, it's one of the few multi-player games that uses the joystick. (Bally sells extra controllers for use by the additional players.)

Simply trying to outlast your opponent is not as effective in Checkmate as it is in other, similar games. Steering is so easy that good positional play generally beats manual dexterity. Always pre-empt as much of the screen as possible during the first few seconds, since most rounds end when a player runs out of maneuvering room after getting blocked into a small section of the field.

SCRIBING, though not technically a game, deserves special mention. For our money, it's the best video drawing program available. Using the joystick to paint

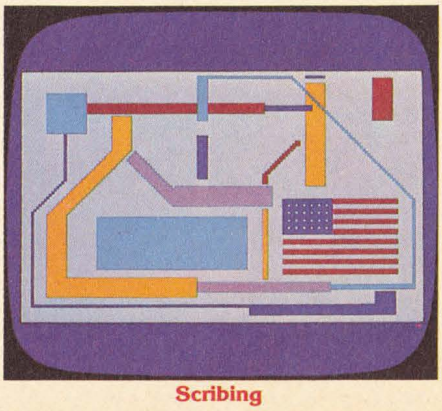
(continued on page 74)

Bill Kunkel is a N.Y.-based writer and veteran video game hustler. Frank T. Laney II is a freelance writer specializing in pseudonyms.



Missile

Checkmate



Scribing

Arcade Alley

continued from page 32

and the keyboard to alter color, brightness, and hue, some electrifying visual effects are possible. For a pleasant diversion, let one player handle the joystick while the other works the keyboard.

Now let's turn to a few of the additional cartridges available for use with the Bally Professional Arcade. They retail for $20 or $25, and most have two games on a single cartridge.

BRICKYARD/CLOWNS (Videocade 2004) features two entertaining variations on the standard ball-and-paddle theme. In **Brickyard,** two players alternate attempts to score points by blasting a multi-layered wall. When the screen is cleared the machine automatically sets up a new target wall, the number of rounds pre-set by the players. Bally adds an extra strategic dimension by having both players pound away at the same wall, making them compete directly against each other for scoring opportunities.

Quick reflexes are more important than the anticipation of rebound angles, since

the ball takes some funny bounces after striking certain bricks. For best results, work on the bricks at the edges of the screen so that the ball quickly tunnels through. Once a ball is behind the wall it will rattle around, scoring points in bunches.

Clowns substitutes a teeter-totter for the paddle, a clown for the ball, and rows of balloons for the bricks—with fantastic results.

Clowns dance in to the calliope strains of *March of the Gladiators* and hop into space from platforms situated a quarter of the way up the screen on both sides. When the clown finally leaps into space, players try to catch him on the vacant end of their movable seesaws, sending his partner flying into the air to break balloons. The closer to the fulcrum of the teeter-totter the falling clown lands, the straighter the other one ascends. When arced into the air at the right angle, a clown can swing from balloon to balloon, bursting a whole run in a single flight.

Enchanting graphics and background sounds make this an ideal game for younger arcade addicts. But anyone who doesn't like this one should have his plug pulled.

SEAWOLF/MISSILE (Videocade 2002) is for arcade fans with a military bent. **Seawolf** combines outstanding graphics with chillingly realistic sound effects. It pits submarine against submarine in a race to sink the most battleships, tankers, and P.T. boats with non-guided projectiles. After firing a barrage of four torpedoes, each player must complete a 4-second load cycle before his sub is again ready to deal out computerized death.

Missile, on the other hand, is a rather straightforward and visually tame program. Each player moves a launcher along a horizontal axis and fires guided missiles at an array of airborne targets. A few more variations, such as different size and speed missiles, would greatly enliven this game.

The final bars of the National Anthem fade, the crowd roars, and it's time to play Bally **FOOTBALL** (Videocade 3002), one of the most exciting and true-to-life video sports games we've seen.

Between plays, the scoreboard flashes vital data: time remaining in the 4-minute half, score, down, and yards to go. The offense then secretly selects a play from a list that varies with down and field position. This is primarily a passing game, though an end run is possible in short-yardage situations. The graphics are superb, with the line of scrimmage always near the center of the screen, and the cheers and chants of the crowd keep the excitement level high. (Playing area is effectively increased by showing only the needed portion of the field at any one time.)

Although the game is easier to play than it might at first appear, it isn't the sort