

Modla

**Game Instruction Manual  
for  
Studio II and Studio III**

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BLACK & WHITE GAME CARTRIDGES

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## 1. SPACE WAR

### VERTICAL INTERCEPT (1 or 2 players)

Vertical intercept is a SPACE WAR game for 1 or 2 players. An enemy spaceship is moving vertically at the center of the screen, trying to touch the marker at the top of the screen. When the spaceship touches the marker eight times, the game is over.

Each player fires missiles at the spaceship. When the missile hits the target, the player scores 10 points. Whenever a hit is made, the spaceship reverses direction, going down if it was going up, and going up if it was going down. By hitting the spaceship on its way up, you can prevent it from touching the top marker and thus prolong the game.

With one player, you try for the highest possible score. With two players, each tries to score higher than the opposing player.

1. Insert SPACE WAR cartridge in STUDIO II console.

Press CLEAR key.

Press Key 3 on Keyboard A.

2. Each player fires the missile launcher by pressing Key 2 on their keyboard (if only one person is playing, either keyboard may be used). Holding Key 2 down will hold the missile on a straight course. Releasing the key will make the missile angle downward.
3. Each hit scores 10 points and causes the spaceship to reverse direction. A tone will be heard with each hit. The game is over when the spaceship touches the top marker eight times.

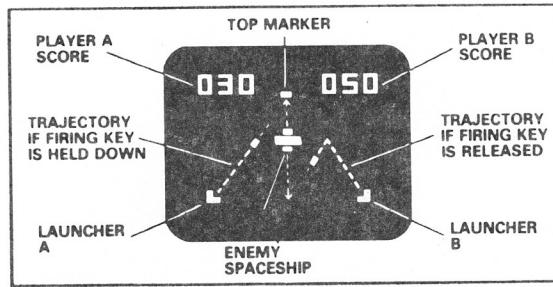
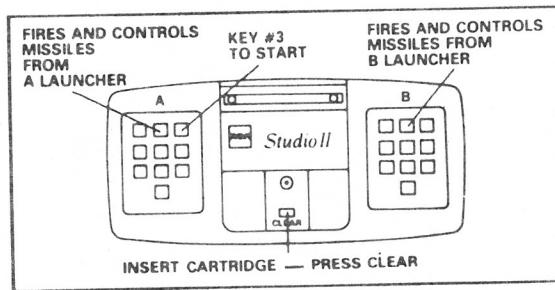
### Hints

- A skillful player can capture control of the spaceship motion so that the ship has difficulty in reaching the top marker. This also can make it harder for the opposing player to score a hit.
- Remember if you hold the missile firing key (Key 2) down, the missile will go straight. If you release the key, the missile will angle downward so that you can hit the spaceship at the lower part of the screen. After the missile has angled downward, you can still alter its course upward by again pressing Key 2.

### 1 Player Scoring

- 160 - Rocket Expert
- 140 - Excellent Shooting
- 100 - Fair Shooting
- 70 - You need practice

NOTE: Press CLEAR key before removing the cartridge.



HORIZONTAL INTERCEPT (one or more players - one at a time)

The Horizontal Intercept SPACE WAR game provides the player with 20 rocket missiles to shoot down and destroy overhead enemy spaceships. You get the highest score for hitting the small fast moving attack ships, and lower scores for hitting the large transport ships. You can steer the rockets to maintain an intercept course.

1. Insert SPACE WAR cartridge in the Studio II console.

Press CLEAR key.

Press Key 1 on Keyboard A.

2. A pattern similar to the illustration will appear on the TV screen. Large and small spaceships will fly across the screen at various heights and speeds. The number at the lower left of the screen indicates the number of rockets remaining (out of 20). The number at the lower right of the screen indicates your score. Place your left hand on Keyboard A and your right hand on Keyboard B.
3. Fire rocket at spaceship by pressing key 2 on Keyboard A.
4. Steer rocket to left with key 4 on Keyboard B. Steer rocket right with key 6 on Keyboard B.
5. If the missile hits the target, a tone will be heard and the score indicated on the lower right side of the screen will increase.

Play Horizontal Intercept Space War alone, trying for highest possible score, or with two or more other players, each in turn trying to score higher than the competitors.

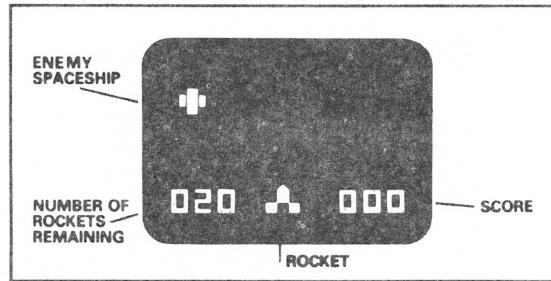
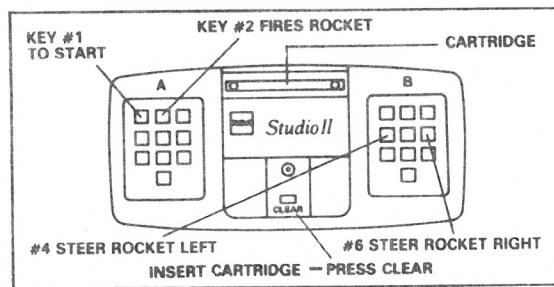
Space War Hints

- The enemy fleet consists of about 50 spaceships. The game is over when you've used all your rockets, or when the entire fleet has passed.
- You get a higher score for hitting the small fast moving spaceships.
- For a more difficult game requiring a greater degree of timing, try playing Horizontal Intercept without using the steering controls (Keys 4 and 6 on Keyboard B).
- The computer scores your hits electronically. On occasion, it may appear that you hit the edge of the target, but if your score doesn't increase, then the "warhead" missed.

Scoring:

- 165 - Fantastic marksmanship!
- 150 - Excellent shooting - You've defeated the invaders
- 130 - You've won, but it was close
- 100 - The enemy has triumphed

NOTE: Press CLEAR key before removing the cartridge.



## 2. FUN WITH NUMBERS

### GUESS THE NUMBER - 1 PLAYER

Guess the Number - (1 Player) is a puzzle-game between you and the computer. The Studio II computer will randomly determine a secret three-digit number (6-2-4, 3-8-7, 9-0-5 etc.). Your challenge is to exactly guess this number in 20 turns or less. Each time you make a guess, the computer gives you clues to help you with your next guess. If, after you have used your 20 guesses and have not found the secret number, the game is over and the computer will reveal the secret number.

1. Insert FUN WITH NUMBERS cartridge into the Studio II console. Press CLEAR key.  
Press Key 1 on Keyboard A.
2. • The number of turns you have left appears at the lower left of the screen.  
• The guess you enter will appear at the right-center of the screen.  
• Clues from the computer will appear at the lower right of the screen. Note the clue quickly, since it will appear on the screen for only a short time.
3. Enter your 3-digit guess on Keyboard B. The computer will evaluate your guess, and provide you with a clue to help you with your next answer. Analyze your clue as indicated under Computer Clues.
4. After a few seconds, the clue and the number you guessed will disappear, the number of guesses you have remaining will be reduced by one, and you are ready to enter (on Keyboard B) your next guess. The game is ended when you guess the computer's secret number (clue score of 006 and beeping tone), or when you've used all your 20 guesses.

### Computer Clues

The clues are in the form of a number, from 000 to 006, the sum which represents a combination of the following:

- 000 - None of the digits are correct
- 001 - one digit is correct but is not in the proper position
- 002 - one digit is correct and is in the proper position, or two digits are correct, but both are in the wrong position
- \*003 - Any feasible combination of the above clues (except 000)
- 004 - Any feasible combination of the above clues (except 000)
- 005 - Any feasible combination of the above clues (except 000)
- 006 - YOU GUESSED IT

\*For example, 003 could represent 3 digits correct but none in the proper position or 2 digits correct, one of which is in the proper position and one of which is in the wrong position.

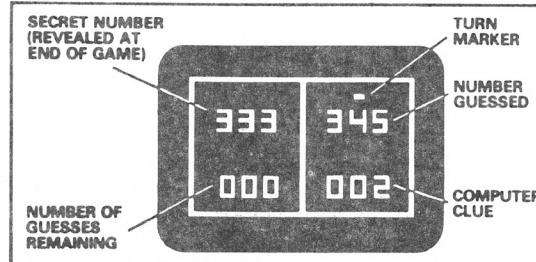
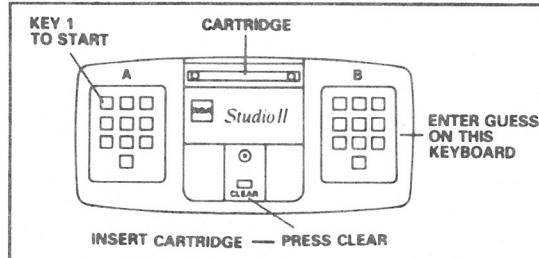
You may be fooled!

Different combinations can result in the same clue. For example: One correct digit in the proper location will provide a clue of "002". But, two digits correct but both in the wrong location will also provide a clue of "002".

Hints

- The secret number may have two or even three of the same digits.
- Don't forget, "0" is a number.
- The computer clue total is based on each digit in your guess, and at times this can result in a real puzzler. For example, if the secret number is 3-4-5, and you enter 3-3-3, the clue will be 004. This is because your clue includes 2 points for having 3 in the right position, and 1 point each for entering the other two 3's which are part of the secret number, but in the wrong location.
- The computer selects its secret numbers at random. Some are easier to guess than others.
- Develop your own logic, or technique, to guess the number in the fewest turns.

NOTE: Press the CLEAR key before removing the cartridge.

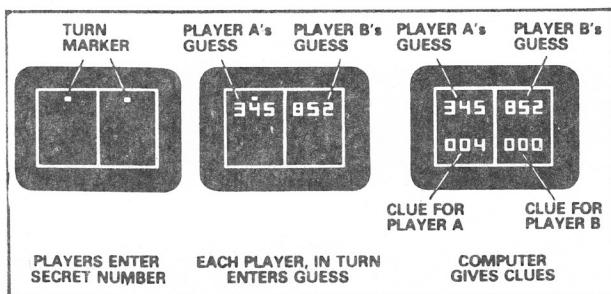
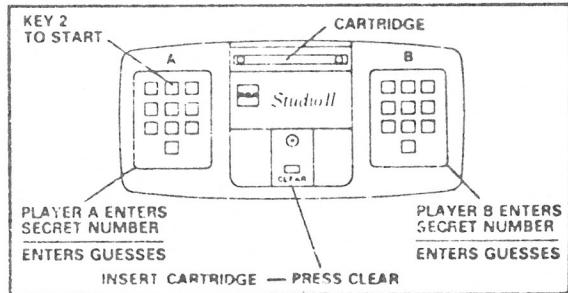


GUESS THE NUMBER - 2 PLAYERS

This is a two-player game-puzzle, similar in principle to the one player game. Each player thinks up his or her own three-digit number, and enters it into the computer without the opponent watching. The challenge is to be first to guess the opponent's secret number. Clues are provided by the computer to help you guess your opponent's number.

1. Insert FUN WITH NUMBERS cartridge into the Studio II console. Press CLEAR key.  
Press Key 2 on Keyboard A.
2. First player enters secret 3-digit number (383, 402, etc.) on keyboard A. Be sure the other player isn't looking. The number will not be shown on the TV screen.
3. Now the second player enters his or her secret number on keyboard B.
4. The marker on the left side of the TV screen means it is Player A's turn. Player A enters a 3-digit guess on keyboard A.
5. The marker will move to the right side of the screen, and Player B enters a 3-digit guess.
6. Now the computer will provide clues to help both players with their next guess. Note the clues quickly, since they will appear on the screen for only a short time. Analyze the clues in the same manner as for the single player game.
7. After a few seconds both guesses and clues will disappear and it will be Player A's turn to enter the next guess. The game continues until one player guesses the other's secret number; as indicated by 006 clue, and a beeping tone.

NOTE: Press CLEAR key before removing cartridge.



REVERSE

Reverse is an interesting, stimulating puzzle-game for one person, although others can join in by offering advice to the player. The computer provides a random scrambled sequence of the numbers from 1 to 9. The challenge is to rearrange these numbers to be in the sequence 1, 2, 3, 4, 5, 6, 7, 8, 9. This is done by reversing the order of selected groups of numbers. You are given 30 chances to do this, but your goal is to complete the puzzle in as few moves as possible. You must think hard and study the problem carefully to find a way to beat the system and obtain the best score. You can improve your technique and obtain better scores with practice. Test your skill against experts who can solve this puzzle in 14 moves or less.

1. Insert the FUN WITH NUMBERS cartridge into the Studio II console. Press CLEAR key.  
Press Key 3 on Keyboard A.
2. The scrambled series of numbers will appear at the top of the screen, and the number of moves remaining will be at the bottom of the screen (starting with 30).
3. To change the number sequence, press any one key, 2 through 9, on keyboard B.

Key 2 reverses the order of the first two numbers  
(starting at left)

Key 3 reverses the order of the first three numbers  
(starting at left)

Key 4 reverses the order of the first four numbers  
(starting at left)

Key 5 reverses the order of the first five numbers  
(starting at left)

Key 6 reverses the order of the first six numbers  
(starting at left)

Key 7 reverses the order of the first seven numbers  
(starting at left)

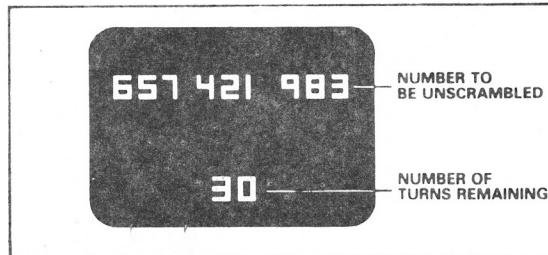
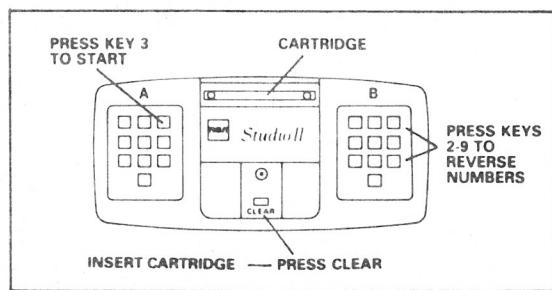
Key 8 reverses the order of the first eight numbers  
(starting at left)

Key 9 reverses the order of the first nine numbers  
(starting at left)

Example: If the numbers to be unscrambled are 8 3 6 4 2 9 5 7 1, and you press key 6 on Keyboard B, your new number would be 9 2 3 6 3 8 5 7 1.

4. Continue pressing the keys two through nine on Keyboard B, carefully selecting the keys so that you are working toward arranging the numbers in 1, 2, 3, 4, 5, 6, 7, 8, 9 sequence. Each time you reverse a group of numbers, your number of remaining turns is reduced by one. Remember the object is to use the least number of turns to arrange the numbers in proper sequence.

NOTE: Press CLEAR key before removing the cartridge.



### 3. COMPUTER QUIZ

This cartridge changes your Studio II computer into an educational quiz machine with tests of your knowledge in arithmetic, algebra, fractions, metrics, geography, sports, and American writers. Studio II makes learning fun by providing a two player educational game which can be enjoyed by the whole family, long after the quiz material has been mastered. The object of this educational game is to press the right answer key before your opponent to get the highest score. You can also use the Studio II computer quiz alone by trying to beat your previous score. You get from 1 to 10 points for a right answer depending on how fast you answer the question. 120 is a perfect score.

#### How to Play Computer Quiz

1. Insert the cartridge into the console.
2. Press CLEAR button - an "S" will appear on the screen, which indicates the start of the game.
3. Press a "1" or "2" on the A keyboard. Pressing "2" will give you more time to answer each question. (Pressing "1" gives you approximately 10 seconds, pressing "2" gives you approximately 20 seconds.)
4. Decide which Quiz you want to play and press the number of that quiz on the A keyboard.
5. Studio II will show a letter --A to H-- next to an empty box. The letter tells you which question to answer. Look at your quiz booklet, read the question, decide on the right answer, and press the number of the correct answer on your keyboard. As a two player game, the object is to press the right answer key before your opponent does to get the highest score. You can also use the game alone on either keyboard. As a two player game, if the wrong answer is pressed by either player, the word "NO" appears and the player pressing the wrong answer is locked out, the other player has the chance to press the right answer and score if he does so before the next question appears. You get 1 to 10 points for a right answer depending on how fast you answer the question. 120 is a perfect score. You only get one answer to a question. If the question is not answered in the allotted time, the next question is shown. The quiz ends after 12 questions.
6. Press CLEAR key after game is over before removing cartridge.

STUDIO II SELECTS THE QUESTIONS AT RANDOM SO THAT YOU NEVER KNOW IN WHAT ORDER YOU WILL HAVE TO ANSWER.

4. SPEEDWAY/TAG

SPEEDWAY

Studio II Speedway is an exciting, competitive racing game for two players.

A racetrack appears on the screen, with two racing "cars," one for each player. Four-way directional control is provided so that each player can maneuver his car around the track. Hitting the wall, or running into the opponent's racer will slow the car down. A clever driver can negotiate clean turns, achieve full speed on the straightaway, and effectively block the opponent from passing.

The Speedway winner is the first car to complete 9 laps. The lap count for both racers is continuously displayed.

How to Play

1. Insert cartridge in the Studio II console.

Press CLEAR key.

Press Key 1 on Keyboard A.

The race will start immediately.

2. The player using keyboard A controls the car with the black spot; the player using keyboard B controls the solid car.

Car direction is controlled as follows:

Key 2 - Up              Key 4 - Left

Key 8 - Down            Key 6 - Right

3. The players maneuver the cars around the racetrack, attempting to avoid hitting the walls or the other car, make clean turns at the corners, and run at full speed along the straightaways. The cars will continue to move in the direction last given.

4. The race is won by the first car to complete 9 laps. The lap count for each car is displayed as shown in Fig. 2.

Speedway Hints

- Try using two hands; one hand for the up-down keys (2 and 8) and one hand for the left-right keys (4 and 6).
- When necessary use your car to block your opponent and prevent his car from passing.
- Before racing for the first time, run the car around for a few practice laps. With experience, you'll be able to zip around the track, attaining full speed on the straightaways, and make good corner turns, avoiding those collisions against the wall that slow you down.

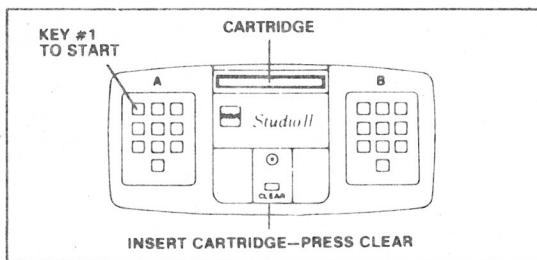


Figure 1

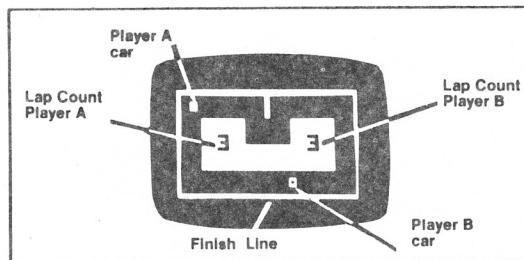


Figure 2 TYPICAL SPEEDWAY DISPLAY.  
EACH CAR HAS COMPLETED 3 LAPS.  
PLAYER A's CAR IS LEADING.

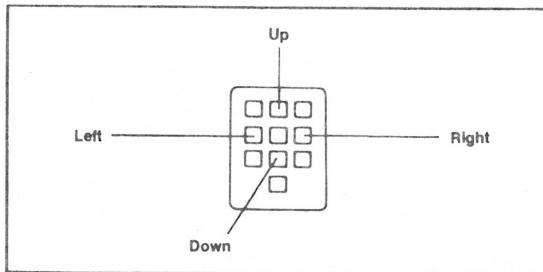


Figure 3 DIRECTION CONTROLS

### TAG

Studio II Tag is a fun-filled, two-player chase game that all members of the family will enjoy.

The Studio II keyboards provide 4-way control so each player can maneuver his tag "spot". The players alternately chase each other, with 10 points scored for each tag.

The players must pay close attention, because if no tag is made after about 10 seconds (and after each tag) the player who is "it" changes, and the chaser becomes the runner. Only the chaser can score.

You can fool your opponent by running off one side of the screen and appearing on the opposite side. The computer won't let you stop and hide though - you must keep moving.

The winner in Tag is the player who is ahead at the end of two minutes - or the first to reach 300 points.

### How to Play

Insert cartridge in the Studio II console.

Press CLEAR key.

Press Key 2 on Keyboard A.

The two tag spots will appear on the screen, as shown in Figure 2.

- Player using keyboard A controls the spot shaped like this 
- Player using keyboard B controls the spot shaped like this 
- Both players use keys 2 (up) and 8 (down), and 4 (left) and 6 (right) to move the spots. These keys are marked with directional arrows on the keyboard.
- One spot will have a black marker in the center, indicating it is the chaser. The spot without the marker is the runner. The spot will change after each tag, or after about 10 seconds if no tag is made.
- The chaser (spot with black mark) must chase the other spot, or runner, trying to tag the other spot.
- The runner (spot without black mark) must run away from the other spot, trying to avoid being tagged.
- After each tag, the screen will clear, the scores for both players will be displayed, and the spots will return to their original positions. The chaser will become the runner.
- The game is over after two minutes, or when one player gets 300 points.

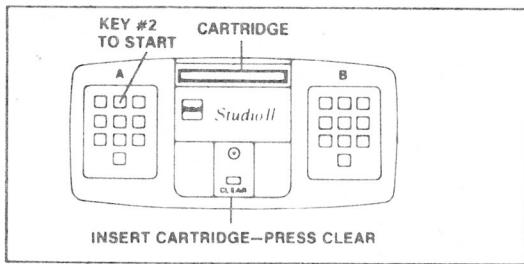


Figure 1

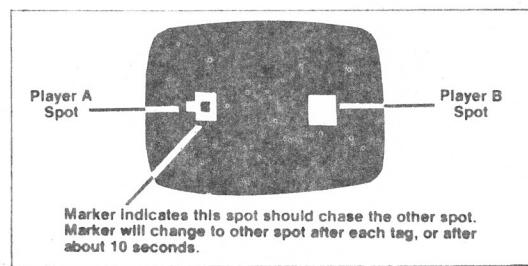


Figure 2

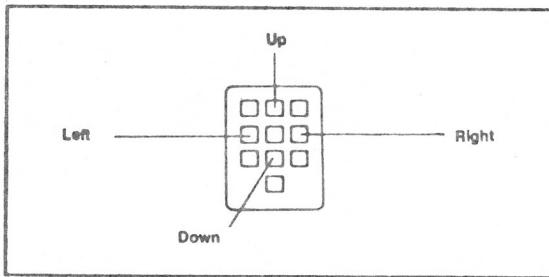


Figure 3 DIRECTION CONTROLS

## 5. TENNIS/SQUASH

### TENNIS (2 Players)

Studio II Tennis is an exciting, competitive game for two persons. The players determine the degree of difficulty by selecting small, medium or large racquet sizes, and slow, normal or fast ball speed. The smaller the racquet and the faster the ball, the more difficult the game will be. Players of higher ability can be handicapped for a more even game by using a smaller racquet than the opponent.

The feature that adds challenge and excitement to the game is "English" which can be put on the ball. If the ball is hit as the racquet is moving, it will curve rather than follow a straight trajectory, making it much more difficult for the other player to hit a return shot.

In Studio II Tennis, the ball is still in play when bounced off the sidelines.

### How to Play

1. Insert the cartridge into the Studio II Console.  
Press the CLEAR key.  
Press Key 2 on Keyboard A.
2. One player uses Keyboard A and the other player uses Keyboard B. Player A first selects a racquet size on his keyboard by pressing either Key 4 - small, Key 5 - medium, or Key 6 - large. Then, player B selects his racquet size on Keyboard B in the same manner.
3. Select ball speed and start game by pressing Key 7, 8, or 9 on Keyboard A. Use Key 7 for slow ball speed, Key 8 for normal ball speed, or Key 9 for fast ball speed.
4. Players control their racquets with keys 2 and 8 on their keyboard. Key 2 moves the racquet up and Key 8 moves the racquet down. Continue pressing the key to keep the racquet moving in the desired direction.

### Scoring

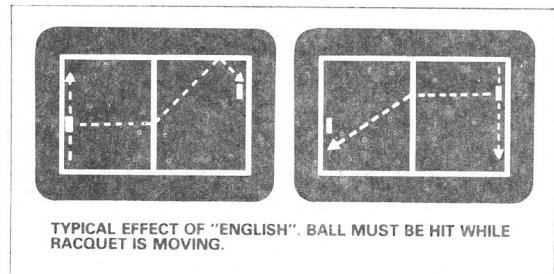
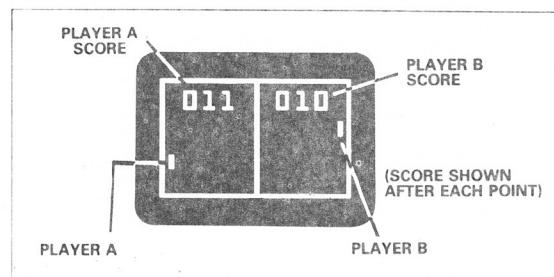
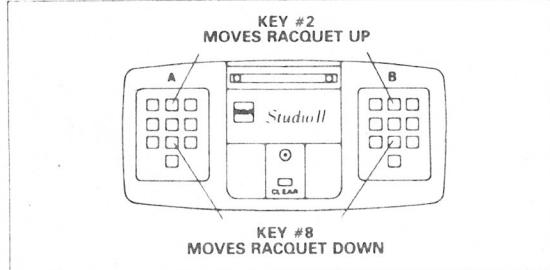
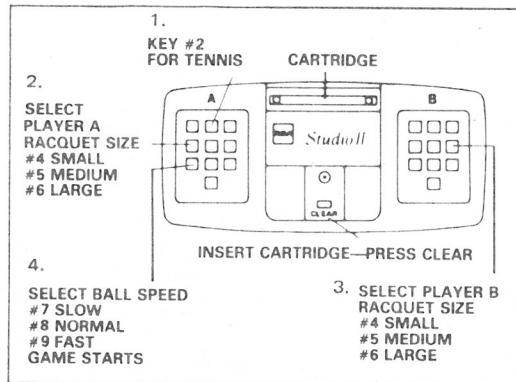
In Studio II Tennis, each player scores one point each time his opponent fails to return the ball. The score is kept automatically and will be displayed each time a point is scored. Following a point, the ball will be served from the end where the point was scored. The winner is the first player to score 21 points or more and leads the opponent by at least two points.

If neither player leads by two points when the score of 21 is reached, the game will continue until one player scores two more points than his opponent, or until a score of 200 is reached.

Racquet movement will hesitate briefly as  
point is scored.

Tennis Hints

- Move your racquet as soon as possible to where you think the ball will be. As in a real tennis or squash game, it takes a certain amount of time to move from one side of the court to the other. You must anticipate the ball's path to get in position in time to make the return shot.
- After you hit the ball, immediately return the racquet to the center of the screen so that you'll be ready to move in either direction to make the next shot.
- With experience, you will be able to put "English" on the ball by hitting it with a moving racquet. The ball will curve in the direction the racquet is moving.
- By pressing Key 0 on either Keyboard after a point is scored, you can temporarily stop the match for a "time out" between serves. Resume play by again pressing the same Key 0 used to stop the game.



### SQUASH (1 Player)

Studio II Squash is a fast-moving, exciting game for one player. As in a real squash game, the ball is played on the rebound off the opposite wall or either sideline. In a way, it's a tougher game than Tennis because there is no opponent to miss the ball - it always bounces back and it's up to you to hit it.

As in Studio II Tennis, you can select small, medium, or large racquet size, or slow, normal or fast ball speed. Also, the ball will have "English" and curve if you hit it while the racquet is moving.

#### How to Play

1. Insert the cartridge into the Studio II console.  
Press CLEAR key.  
Press Key 1 on Keyboard A.
2. Select racquet size on Keyboard B by pressing either Key 4 - small, Key 5 - medium, or Key 6 - large.
3. Select ball speed and start game by pressing Key 7, 8, or 9 on Keyboard A. Use Key 7 for slow ball, Key 8 for normal ball speed, and Key 9 for fast ball speed. The first ball will be served from the left side of the court.
4. Player uses Keyboard B. Key 2 moves the racquet up, Key 8 moves the racquet down.

#### Scoring

In Studio II Squash, there are actually two scores, the score displayed at the top left indicates the number of shots missed, while the score at the top right indicates the number of completed volleys. The game lasts until 21 shots are missed, or 200 volleys are made. The challenge is to return as many shots as you can before the 21 shots are missed.

Each time the ball is missed, the score will be displayed, then the ball will be served from the right side of the court.

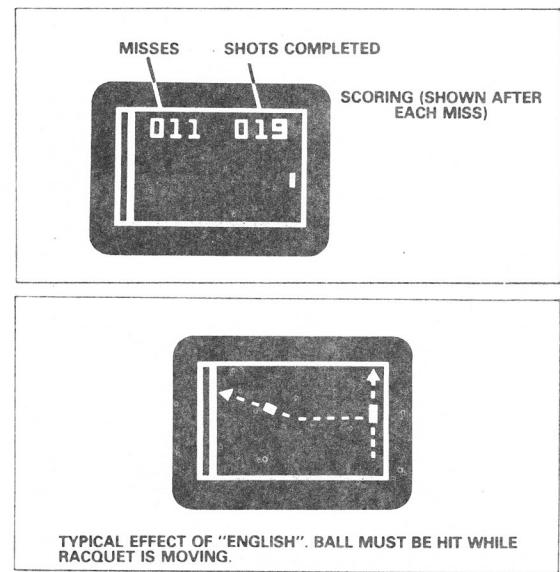
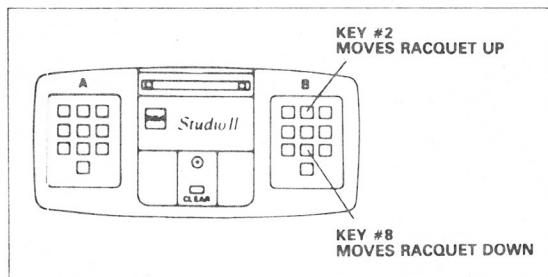
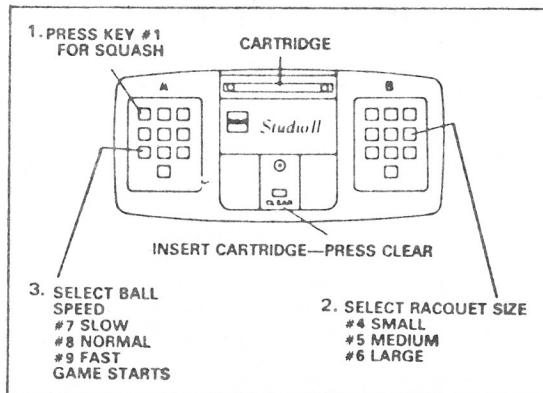
Racquet movement will hesitate briefly as point is scored.

NOTE: If you reach the top score of 200, the game is over. The court will disappear and a random pattern will be seen. Press the CLEAR button to clear the screen.

#### Squash Hints

- Move your racquet as soon as possible to where you think the ball will be. As in a real tennis or squash game, it takes a certain amount of time to move from one side of the court to the other. You must anticipate the ball's path to get in position in time to make the return shot.

- After you hit the ball, immediately return the racquet to the center of the screen so that you'll be ready to move in either direction to make the next shot.
- With experience, you will be able to put "English" on the ball by hitting it with a moving racquet. The ball will curve in the direction the racquet is moving.
- By pressing Key 0 on either Keyboard after a point is scored, you can temporarily stop the match for a "time out" between serves. Resume play by again pressing the same Key 0 used to stop the game.



## 6. BASEBALL

Studio II Baseball is a competitive, action-packed game for two players. While one player is at bat, the other player pitches and controls the fielders. The pitcher can throw a fast ball, inside and outside curve or a change up.

The computer scoreboard continuously shows both player scores; indicates player at bat and inning number; and displays balls, strikes, and outs. A display is also provided to indicate type of hit (single, double, triple or home run - plus foul balls, walks and outs).

As in regulation baseball, the player ahead after 9 innings wins the game. In the event of a tie, extra innings can be played.

It will take a little practice to get the knack of hitting consistently, becoming an effective pitcher, and moving the fielders properly to catch fly balls. Read the following instructions and Baseball Hints, then - PLAY BALL!

### How to Play

1. Insert BASEBALL cartridge in the Studio II console.

Press CLEAR key.

Press key "O" on Keyboard A.

2. The ball field and computer scoreboard will appear on the TV screen. The third line of the scoreboard will be "A01", indicating player A (player using Keyboard A) is at bat, and it's the first inning.

3. The pitcher (Player using Keyboard B at the top of each inning) delivers the pitch by pressing Key 2, 5, or 8 on his keyboard, as follows:

Straight pitch - Key 5

Inside curve - Key 2

Outside curve - Key 8

Change up (slow ball) - use any of the above keys, but hold key down about  $\frac{1}{4}$  second before releasing.  
(See Fig. 2)

NOTE: You can't see the difference between a straight ball and a curve, but the computer is programmed to make it more difficult to get a good hit on a curve, especially on a change up curve. If the batter doesn't swing, the curve is more likely to be called a "ball", while a straight pitch will more often be called a strike.

4. The batter swings the bat by pressing key 5. A ball that is hit can be a foul, single, double, triple, or home run, depending upon where the ball goes as shown in Figure 3. The type of hit, plus walks, fouls and outs will be displayed in the lower left corner of the screen.

The computer calls balls and strikes and automatically displays the count on the scoreboard.

5. After the ball is hit, the defense player can move the fielders up or down and try to catch the ball. Key 2 moves the fielders up; Key 8 moves the fielders down. (See Figure 4)

To catch the ball the fielders must be moved after the ball is hit. If key 2 or 8 is not pressed at all, the ball will go through for a hit. To make the catch the thicker side areas of the "glove" must contact the ball, as shown in Figure 5.

Not all balls the fielder reaches can be caught - some will get through. These are fly balls over the fielder's head.

NOTE: Some balls hit in the "single" area (see Figure 3) cannot be caught, since they are out of the fielder's reach.

6. A runner is shown as a dark square on the base. You will see these runners move from one base to another after the batter gets a hit. The scoreboard will automatically increase the score as a runner reaches home plate.

A single or a walk will advance the base runners one base, and a double will advance them 2 bases. Of course, a triple or home run will score all runners. A walk has the same effect as a single - all runners will move up one base, and a runner at third will score.

After 3 outs, the screen becomes white, then returns to a normal display, indicating the half-inning is over. Player A becomes the pitcher (using keys 2, 5, or 8 on his keyboard) and the player using Keyboard B becomes the batter (using key 5 on his keyboard). Each player uses the same keyboard throughout the game - the keyboards automatically change control function after the bottom and top of each inning.

The player with the highest score after 9 innings wins the game. In case of a tie, extra innings can be played - up to 99 innings, or until one player gets 99 runs.

PLAY BALL!

#### Baseball Hints

- Don't forget to vary the speed of your pitches. Pressing key 2, 5 or 8 quickly delivers a fastball, while holding the key down just a fraction of a second will deliver a change up (slow ball).
- It is harder to get a good hit on an inside curve pitch (Key 2) or outside curve (Key 8) -but if the batter doesn't swing, the curve is also more likely to be called a ball.
- Catching a fly ball can be tricky, but with practice you can get pretty good at it. Remember, the fielders cannot make a catch unless moved from the original position. Be ready to move the fielders up or down (using Keys 2 and 8) as soon as the ball is hit.

NOTE: The fielders cannot be moved until the ball is hit.

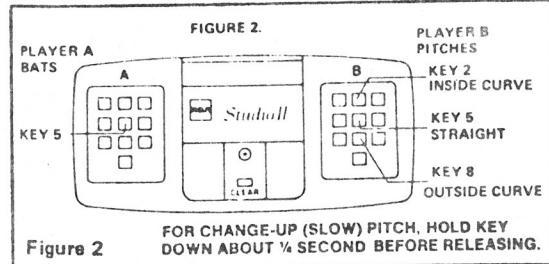
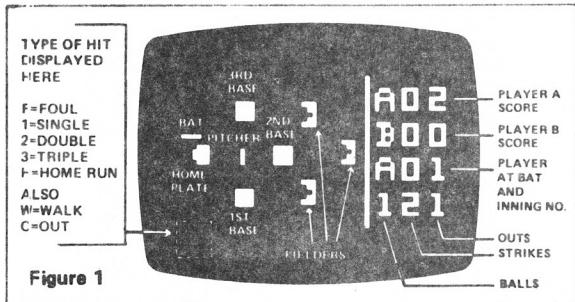


ILLUSTRATION SHOWS CONTROLS FOR TOP OF EACH INNING.  
KEYBOARDS CHANGE FUNCTION FOR BOTTOM OF EACH INNING SO  
THAT PLAYER ON KEYBOARD "A" PITCHES AND PLAYER ON KEYBOARD  
"B" BATS.

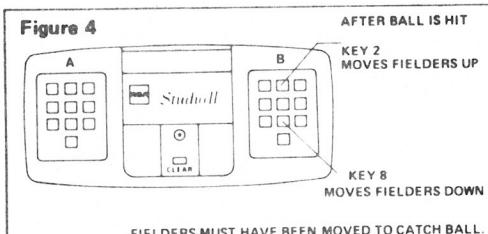
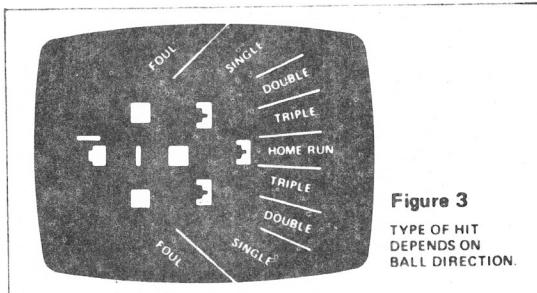
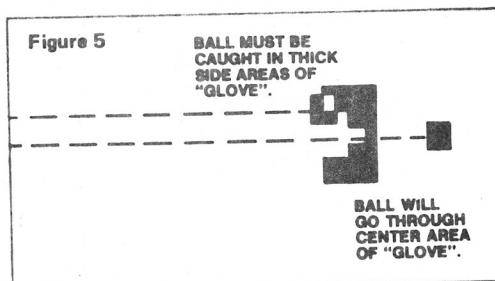
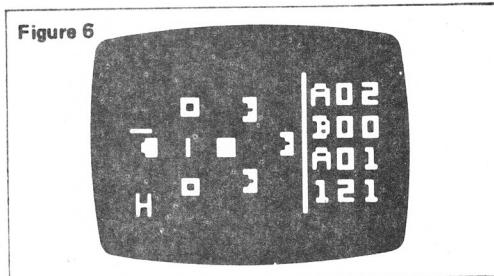


ILLUSTRATION SHOWS FIELDER CONTROL FOR TOP OF EACH INNING.  
KEYBOARDS CHANGE FUNCTION FOR BOTTOM OF EACH INNING SO  
THAT PLAYER ON KEYBOARD "A" USES KEY 2 AND 8 TO MOVE  
FIELDERS.



FIELDERS MUST TOUCH THE BALL ALONG THE SIDES OF THE "GLOVE".  
THE BALL WILL GO THROUGH THE CENTER AREA OF THE "GLOVE".  
ALSO, FIELDER MUST HAVE BEEN MOVED AFTER BALL IS HIT.



TYPICAL BASEBALL DISPLAY. IT'S THE TOP OF THE FIRST INNING  
AND PLAYER "A" IS LEADING 2-0. THERE IS 1 OUT. WITH A 1 BALL  
AND 2 STRIKE COUNT. THE BATTER HAS JUST HIT A HOME RUN.  
THE RUNNER ON THIRD IS ABOUT TO SCORE, AND THE BATTER  
HAS REACHED 1ST BASE.

7. BLACKJACK

How to Play Blackjack

1. Insert the cartridge into the Studio II console.  
Press CLEAR key.
2. For 1-player game, press Key 1 on Keyboard A.  
For 2-player game, press Key 2 on Keyboard A.  
Game is played using both keyboards for 2-player game, and  
Keyboard B for single player game.
3. The "200" representing the stakes will appear at the bottom  
corners of the TV screen as shown in Figure 2. The stake will  
appear only on the right side in the single-player game.
4. The word "CUT" will also appear on the screen. Whenever "CUT"  
appears at various times throughout the game, the dealer has  
shuffled the cards and is asking the player to cut. Cut cards  
by pressing Key 0.
5. After the cut is made, the word "BET" will appear. Each player enters  
a bet of from \$1 to \$10 by pressing the appropriate key, 1 through 9  
for \$1 through \$9 or by pressing key "0" for a \$10 bet (see Fig. 4).  
The amount of the bet will be displayed next to the stakes as shown  
in Figure 4. The stakes will be reduced by the amount of the bet.
6. After bets are entered, two cards will be dealt to each player and  
to the dealer - with the dealer's second card face down.
7. Following the deal, the word "HIT" will appear on the screen. The  
bet display will flicker to indicate player's turn, with player B  
going first. Note: If a player draws a natural (ace and 10-point  
card), the player automatically wins and the turn will go to the  
next player or the dealer.

The player has three choices:

Hit - Press Key 1 for each hit. Player may be dealt up to 5 additional  
cards.

Double - To double down, press Key 2. The amount of bet will be doubled,  
and player will be hit with just one more card. Turn will pass to  
next player or to dealer.

Stand - Press Key 0. Turn will pass to next player or to dealer.

NOTE: If the card you draw puts your point total over 21, you "bust"  
and lose your bet.

8. After players have completed their turns the dealer will show the face-down card, and play out the hand (unless players have busted, and the dealer has already won). The dealer will draw additional cards as necessary, but will stand on any card count of 17 or higher, with one exception; the dealer will draw on a "soft" 17, where an ace is used as 11 points in the hand.
9. If you win, a "W" appears in place of your bet, and you will be paid off by an amount equal to your bet. If you win with a natural Blackjack, you receive an amount twice your bet.

If your card-count is the same as the dealer's, you tie, and get back your bet. A "T" will appear in place of your bet.

If you bust, or have a lower card count than the dealer, you lose your bet.

For example, if a player has \$200, bets \$10 and wins, his payoff will be \$10, so his stake will end up being \$210. However if the hand is won with a natural 21, the payoff is \$20, and the stake would increase to \$220.

10. After the hand is completed, the word "BET" will again appear on the screen. Players place their bet and a new hand will be dealt.

Play can continue until players lose their stakes, or break the bank by increasing stakes to \$999.00.

11. Two 52-card decks are used. At the start of the game, and whenever the number of cards remaining in the double deck is down to 21 or less, the dealer automatically shuffles the cards and asks for a cut. When the word "CUT" appears on the screen, either player can cut by pressing the "0" key on his keyboard.

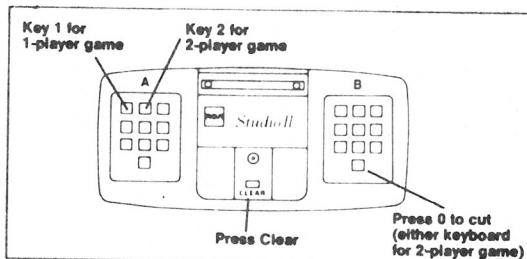


Figure 1

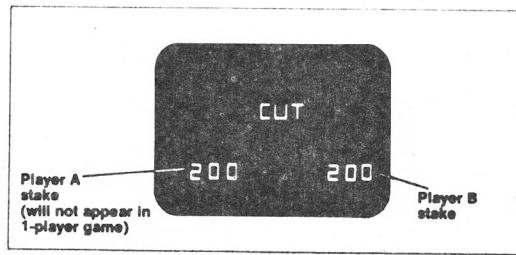


Figure 2.

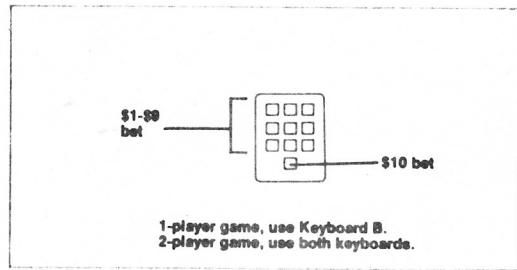


Figure 3.

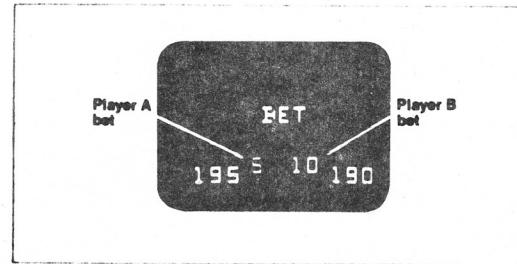


Figure 4

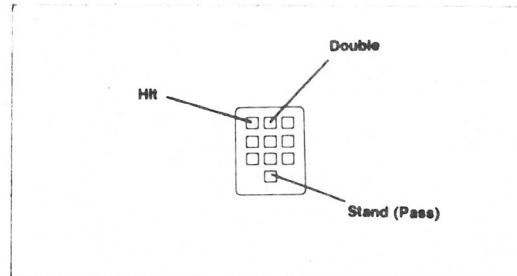


Figure 5

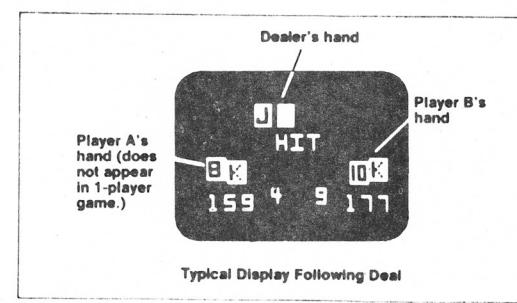


Figure 6

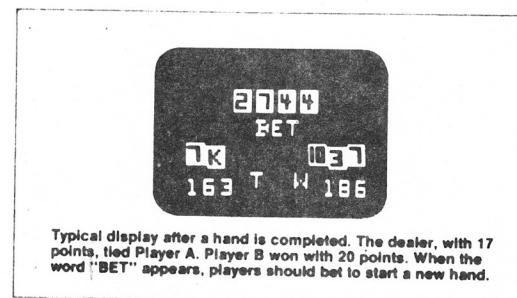


Figure 7

8. GUNFIGHTER/MOONSHIP BATTLE

GUNFIGHTER

Gunfighter is an action-packed western shoot-out game for one or two players.

As a single-player game, you battle against a gunfighter controlled by the computer. As a two-player game you and your opponent shoot it out, each controlling your own gunfighter.

You can move your gunfighter up and down to dodge the opponent's bullets. A cactus on the screen gives some protection, but you must come out from behind the cactus to fire at your opponent.

You can fire as many bullets as you wish, but the only ones that count are those that hit the opposing gunfighter. The game is over after two minutes, with the winner being the gunfighter scoring the most hits. Continuous on-screen scoring is provided.

How to Play

1. Insert cartridge into the Studio II console. Press CLEAR key.
2. For single-player game, press Key 1 on Keyboard A. For 2-player game, press Key 2 on Keyboard A.

Both keyboards are used for the 2-player game, and Keyboard B only is used for the single-player game.

3. The gunfighter can be moved up by pressing Key 2, and moved down by pressing Key 8.

Bullets are fired by pressing Key 5. If you press the key quickly and release it, one fast bullet is fired. If you hold Key 5 down, two bullets in sequence are fired, but they travel slower.

4. In the single-player game, the computer controls the gunfighter on the left of the screen. In the 2-player game, the player using Keyboard A controls the gunfighter on the left, and the player using Keyboard B controls the gunfighter on the right.

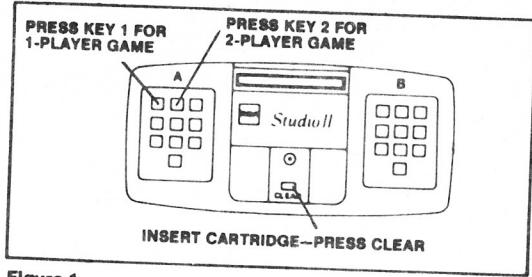


Figure 1

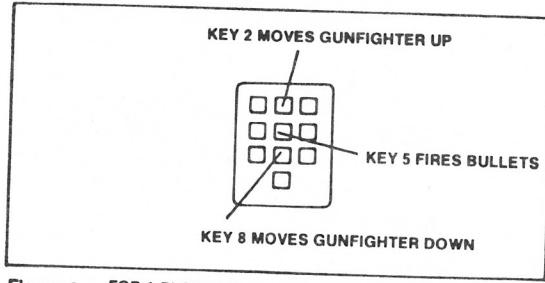
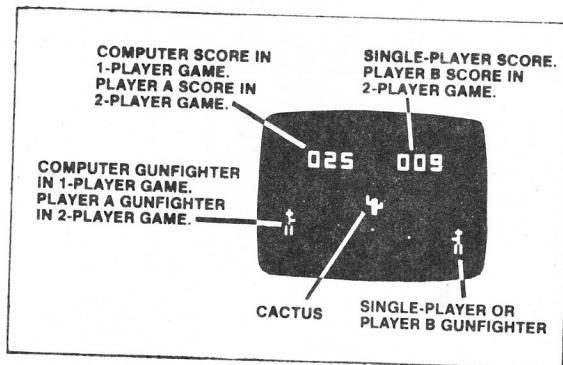


Figure 2 FOR 1-PLAYER GAME, USE KEYBOARD B ONLY.  
FOR 2-PLAYER GAME, USE BOTH KEYBOARDS.



### MOONSHIP BATTLE

Studio II Moonship Battle is an exciting space-age game for two players. Two Moonship vehicles are engaged in a celestial battle for survival. To win requires strategy, skill, and the ability to anticipate your opponent's tactics.

Each Moonship starts with 100 units of energy. The ships lose energy as they are moved, when firing a missile, when hit by an enemy missile, or by inadvertently colliding with the opposing Moonship. The object is to defeat the enemy Moonship by forcing it to be the first to deplete its energy reserves.

Accurate missile firing is not easy. A missile can only be fired in the direction the Moonship last moved. The game lasts until one Moonship has no more energy.

#### How to Play

1. Insert the cartridge into the Studio II console.

Press the CLEAR key.

Press Key 3 on Keyboard A.

2. The two moonships will appear on the screen. The player using Keyboard A controls the Moonship that looks like this 

The player using Keyboard B controls the Moonship that looks like this 

3. Each player moves his Moonship horizontally, vertically, or at angles using the keys on his keyboard as shown in Figure 3.

Arrows indicating Moonship direction are also marked on the keyboards.

4. Players fire rockets using Key 5 on their keyboard.

Important: Rocket will always fire in the direction your Moonship last travelled. You must maneuver your Moonship so that it last moved, or is moving, toward the enemy ship.

5. Energy consumption:

Action	Energy units used
Moving Moonship-----	1 unit for each 10 positions*
Firing Rocket-----	1 unit
Receiving Rocket Hit-----	5 units
Collision-----	5 units (only ship causing collision loses energy)

\*The Moonship moves one position each time the direction key is pressed. The ship will continue to move if the key is held down.

6. Game lasts until one Moonship loses all its energy, and is thus defeated. Energy levels are continuously displayed on the screen.

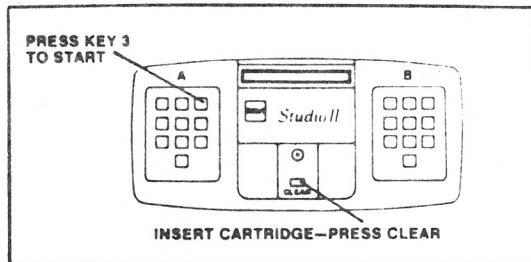


Figure 1

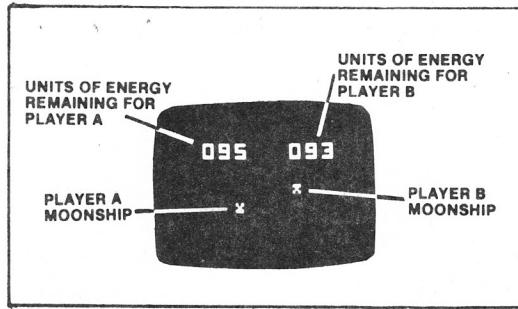


Figure 2

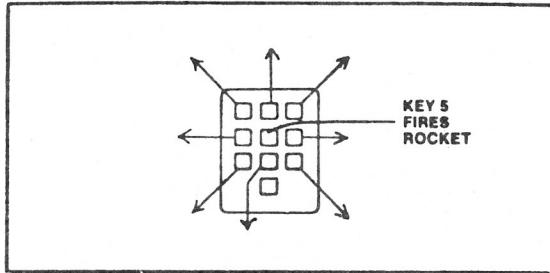


FIGURE 3. KEYBOARD MOONSHIP CONTROL



COLOR GAME CARTRIDGES

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1. STUDIO III RESIDENT GAMES

DOODLE (one-player)

DOODLE transforms your television into a musical electronic blackboard. You can draw pictures, and words in color, at the same time playing musical tones, or play music by itself.

HOW TO PLAY

1. Press "clear" key. Press key 1 on Keyboard A. A white dot will appear in the lower left corner of the television screen.
2. Start moving the dot by pressing any of keys 1, 2, 3, 4 and 6, 7, 8, 9 on Keyboard B. Trace will move in direction shown by small arrows next to each key. (Key 2 up; key 6, right, etc.)

If you hold the key down, the trace will continue in the selected direction.

3. Press key 5 on Keyboard B, and you're ready to write.
4. Erasing is easy. Just press key 0 on Keyboard B then move marker back over the trace. After key 0 is pressed, you can also move spot anywhere you wish on the screen without leaving a mark.

Press key 5 to resume doodling.

NOTE: If spot or trace moves off doodle area, it will reappear on the opposite side.

5. You set the color of the area surrounding a dot by pressing keys 3 through 9 and 0 on the A Keyboard. These keys also generate sounds.

<u>Key</u>	<u>Color</u>	<u>Tone/Note</u>
3	Red	C (middle)
4	Blue	D
5	Violet	E
6	Green	F
7	Yellow	G
8	Aqua	A
9	White	B
0	Black	C

Tones are heard as long as the key is down (not exceeding two seconds).

6. You can form patterns over your doodle by pressing key 2 on the A Keyboard. Proceed as in the PATTERN instructions.

## PATTERNS

This game allows you to design and create millions of interesting and attractive patterns in color with sound effects.

### HOW TO PLAY

1. Press "clear" key. Press key 2 on Keyboard A.
2. Form a pattern design using the direction key on the B Keyboard (key 2 up, key 6 right, etc.) (as in DOODLE).
3. You change the color of the area surrounding the dot by pressing keys 3 through 9 and 0 on the A Keyboard. These keys record color and sound in computer memory for playback when the pattern repeats. Color changes and sound accompany a pattern being drawn.

<u>Key</u>	<u>Color</u>	<u>Tone/Note</u>
3	Red	C (middle)
4	Blue	D
5	Violet	E
6	Green	F
7	Yellow	G
8	Aqua	A
9	White	B
0	Black	C

4. How long you hold down a color key determines the tone duration. However, this time changes if successive tones are entered one after another.
5. Up to 128 key entries may be stored in memory. A color key counts as three entries.
6. Key 5 on the B Keyboard is a do-nothing key used for time delay.
7. If you make more than 128 key entries the computer will start to repeat the pattern. However, if the last key you pressed was 5 on the B Keyboard, use key 0 to start the pattern sequence.
8. Press key 0 on Keyboard B and watch the computer form the pattern by repeating your design over and over.

To "freeze" pattern. The patterns can be stopped at any time by pressing key 5 on Keyboard B. Start pattern again by pressing key 0.

## BOWLING

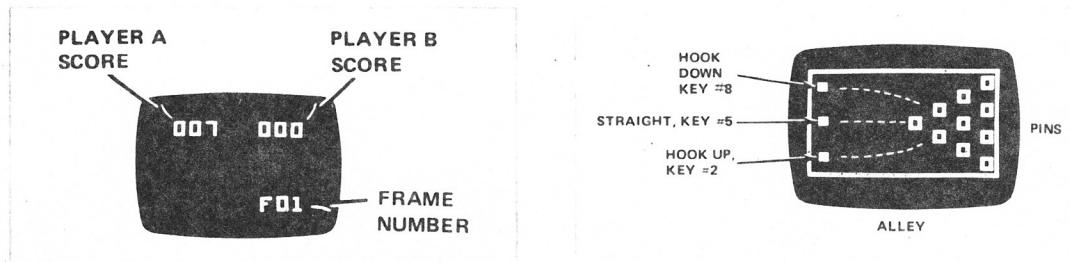
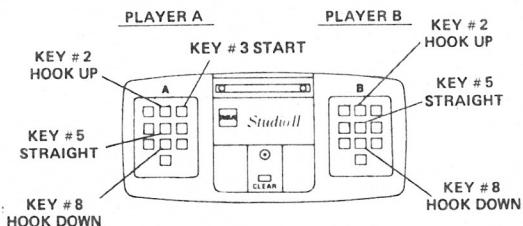
STUDIO III computer bowling provides hours of challenging fun. You can make spares, strikes (and misses) just like in real bowling.

### HOW TO PLAY

1. Press "clear" key. Press key 3 on Keyboard A. Players' score and frame number will appear briefly on Player A's side of the screen. The bowling alley with "ball" moving up and down at left will appear on the screen.
2. Player on Keyboard A goes first and gets two tries (if player bowls a strike, there is no second try). Ball is released by pressing either key 2 (hook upward), 5 (straight) or 8 (hook downward).
3. Player A's score appears, and frame number is shown on Player B's side of the screen.
4. Second player now bowls on Keyboard B.
5. After ten frames are played, player's total scores are displayed, and word "END" appears.

### NOTE:

- Ball continues to move up and down until a 2, 5 or 8 key is pressed on the player's keyboard.
- The word "MISS" will appear if no pins are hit. If you bowl a spare, you score 15 points, and "SP-15" appears on the screen. If you bowl a strike, you score 20 points, and "ST-20" appears on the screen.  
200 is a perfect game score.



## BLACKJACK

BLACKJACK (Twenty-One) is an entertaining and challenging game for one or two players.

### HOW TO PLAY

1. Press "clear" key.
2. For 1-player game, press key 4 on Keyboard A.  
For 2-player game, press key 5 on Keyboard A.  
  
Game is played using both keyboards for 2-player game, and Keyboard B for single player game.
3. The "200" representing the stakes will appear at the bottom corners of the TV screen as shown in Figure 2. The stake will appear only on the right side in the single-player game.
4. The word "CUT" will also appear on the screen. Whenever "CUT" appears at various times throughout the game, the dealer has shuffled the cards and is asking the player to cut. Cut cards by pressing key 0.
5. After the cut is made, the word "BET" will appear. Each player enters a bet of from \$1 to \$99 by pressing two successive keys 0 through 9. For example, to bet \$5, press 0 followed by 5. The amount of the bet will be displayed next to the stakes as shown in Figure 4. The stakes will be reduced by the amount of the bet.
6. After bets are entered, two cards will be dealt to each player and to the dealer - with the dealer's second card face down.
7. Following the deal, the word "HIT" will appear on the screen. The bet display will flicker to indicate player's turn, with player B going first.  
NOTE: If a player draws a natural (ace and 10-point card), the player automatically wins and the turn will go to the next player or the dealer. The player has three choices:

Hit -- Press Key 1 for each hit. Player may be dealt up to 5 additional cards.

Double -- To double down, press Key 2. The amount of bet will be doubled, and player will be hit with just one more card. Turn will pass to next player or to dealer.  
NOTE: When you double down and your total bet equals, or exceeds 100, the hundred digit (1) will not be displayed. Your stakes will be reduced by the actual total bet.

Stand -- Press Key 0. Turn will pass to next player or to dealer.  
NOTE: If the card you draw puts your point total over 21, you "bust" and lose your bet.

8. After players have completed their turns the dealer will show the face-down card, and play out the hand (unless players have busted, and the dealer has already won). The dealer will draw additional cards as necessary, but will stand on any card count of 17 or higher, with one exception; the dealer will draw on a "soft" 17, where an ace is used as 11 points in the hand.
9. If you win, a "W" appears in place of your bet, and you will be paid off by an amount equal to your bet. If you win with a natural Blackjack, you receive an amount twice your bet.

If your card-count is the same as the dealer's, you tie, and get back your bet. A "T" will appear in place of your bet.

If you bust, or have a lower card count than the dealer, you lose your bet.

For example, if a player has \$200, bets \$10 and wins; his payoff will be \$10, so his stake will end up being \$210. However, if the hand is won with a natural 21, the payoff is \$20, and the stake would increase to \$220.

10. After the hand is completed, the word "BET" will again appear on the screen. Players place their bet and a new hand will be dealt.

Play can continue until players lose their stakes, or break the bank by increasing their stakes above \$999.

11. Two 52-card decks are used. At the start of the game, and whenever the number of cards remaining in the double deck is down to 21 or less, the dealer automatically shuffles the cards and asks for a cut. When the word "CUT" appears on the screen, either player can cut by pressing the "0" key on his keyboard.

#### RULES

STUDIO III Blackjack (Blackjack is also known as "Twenty-One") is quite similar to "Las Vegas" versions of the game. One or two persons play against the dealer, which is actually the STUDIO III computer.

The object is for each player to obtain a card hand that will beat the dealer. To do this, the player attempts to get a card count that totals 21, or as close to 21 as possible without "busting" (totaling more than 21). If a player busts, he loses his bet even if the dealer also eventually busts. To win a hand the player's card point count must be higher than the dealer's, or the dealer must have busted after the player has held. Face cards (jacks, queens, kings) are valued at 10 points. Aces can be 1 or 11 points, whichever value provides the best hand. All other cards are worth their actual value; e.g. 2, 3, 4, etc. up to 10.

An ace and any 10-point card totals 21, and is called a natural, or "Blackjack". If a player is dealt a natural 21, he is automatic winner, unless the dealer also draws a natural, which results in a tie.

#### BETTING

The players are given an imaginary stake of "\$200" at the beginning of the game. Before a hand is dealt, each player must place his bet, which can be from \$1 to \$99. If the player wins the hand, he is paid an amount equal to his bet (1 to 1). If the player wins with a Blackjack (2-card natural 21), the payoff is two times his bet (2 to 1).

A player loses his bet if he 'busts' (goes over 21), or has a lower card count than the dealer. When a player has the same card count as the dealer, it is a tie, and the player retains his bet.

#### THE DEAL

At the start of each hand, players are dealt two cards face up, and the dealer is dealt two cards, with the second card face down.

#### HITTING

After the deal is complete, each player in turn determines whether he wants additional cards in an attempt to raise his card count as close to 21 as possible. A player can draw up to five additional cards, for a total of seven cards.

#### DOUBLING

A player can "double down" following the deal of the first two cards. The amount of the bet will be doubled and the player will be hit with only one additional card.

### DEALERS PLAY

After both players have completed their turn, the computer will show the dealer's face-down or "hole" card (if at least one player is still in the game). The computer will then play out the dealer's hand. The dealer will draw a card with a card count of 16 or less, and stand on 17 or higher. There is one exception; the dealer will draw on a "soft" 17, where an ace is used as 11 points in the hand. When the dealer's hand is completed, the computer will determine which hands have won, lost, or tied; calculate payoffs and losses, and adjust the player's stakes accordingly.

### END OF GAME

The game is over when either player is able to increase his stakes to \$999, which breaks the bank, or when both players have lost all of their money.

### STRATEGY

The dealer will continue to draw cards until the card count is 17 or over (except for a "soft" 17, where an ace is used as 11 points). The dealer will always stand on a card count of a "hard" 17 or higher, and will always draw a card on a 16 or less.

The players, however, can choose to stand or draw additional cards regardless of their point count. Of course, if the card count is over 21, they bust and lose their bet.

Generally, most experienced players will stand if they have a 17 or higher. But they may also stand on a count as low as 14 or 15, depending on what card the dealer is showing (and their own intuition). If the dealer has an ace or a 10 card, it is often best to be more aggressive and make every effort to get closer to 21. The reasoning is that the odds favor the dealer getting a good hand, and the player will lose anyway unless he has a good hand also.

Conversely, if the dealer is showing a low card, most likely he will have to draw several cards and could very well bust. In this case, the player has a good chance to win with a 14, 15 or 16 count and should not take a chance on busting by recklessly taking too many hits.

A player can double down after his two cards are dealt, regardless of his card point count. Keep in mind however, that only one additional card is dealt - and the bet is doubled so there is twice as much to lose. Thus a player usually doubles down only with a card count of 10 or 11, so that chances are good that the addition of one more card will bring the count close to 21 without too much worry about busting.

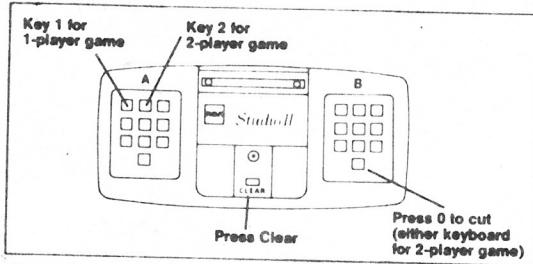


Figure 1

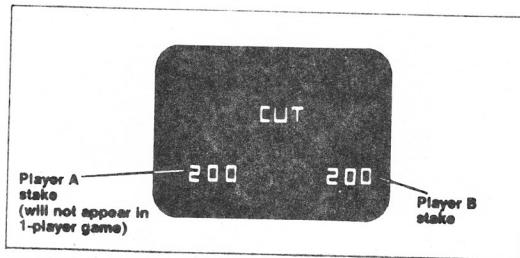


Figure 2.

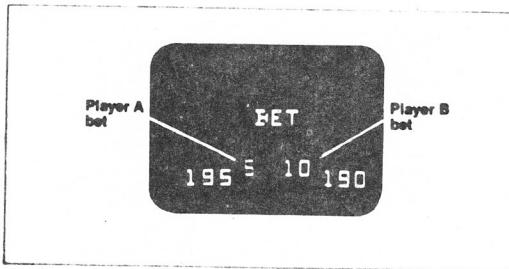


Figure 4

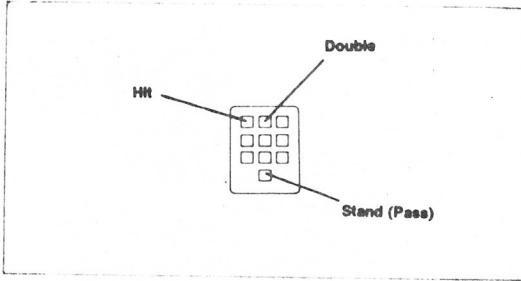


Figure 5

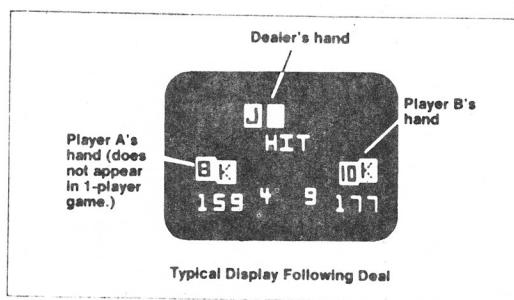


Figure 6

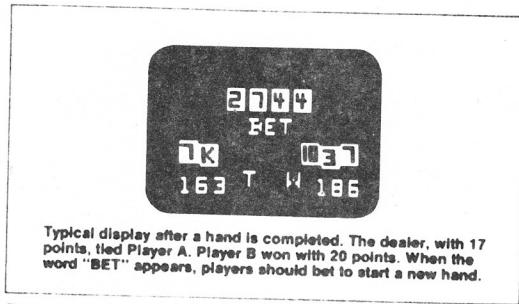


Figure 7

## 2. MATH FUN

### MATH FUN

STUDIO III MATH FUN is a challenging, educational game for one or two players.

At the start of each game, players select response speed (amount of time allowed to answer), level of difficulty, and type of problem; addition, subtraction, multiplication or division. If preferred, a "combination" can be selected where the type of problem and level of difficulty will vary.

The first three levels of difficulty are arithmetic problems with larger numbers for each higher level. The 4th level presents the problems in an elementary form of algebra.

A sequence of 10 problems will be displayed on the screen. The numbers used in the problems are randomly selected by the computer so the players have no way to know beforehand what the problem will be. As each problem is displayed, the first player to enter the correct answer receives from 1 to 10 points, depending on how fast the answer was entered. Answers entered within 1-1/2 seconds are scored a full 10 points.

If neither player enters the correct answer within the allotted time, the computer will display the answer, then proceed to the next problem.

After displaying 10 problems, the game is over, and the total scores and number of correct answers for each player will be shown.

As a two player game, each player attempts to outscore his opponent. As a single player game, the individual tries to accumulate as many points as possible, always attempting to improve his score.

### HOW TO PLAY

NOTE: For 2-player game, use both keyboards; for 1-player game, use either keyboard.

1. Insert MATH FUN cartridge in the STUDIO III console.  
Press "clear" button.
2. Select answer speed:  
Slow (approx. 20 sec), press key 1 on Keyboard A. An "S" will appear on the screen.  
Fast (approx. 10 sec), press key 2 on Keyboard A. An "F" will appear on the screen.
3. Select the type of problems as shown in Figure 2. The symbol for the type of problem selected will be shown on the screen.

NOTE: If the combination is selected, the game starts immediately.

Type of Problems	Press key on Keyboard A	Symbol Display
Addition	1	+
Subtraction	2	-
Multiplication	3	x
Division	4	÷
Combination	5	Game will start

4. Select the level of difficulty by pressing key 1 (easiest) 2, 3, or 4 (most difficult) on Keyboard A. The game starts when level of difficulty key is pressed.

NOTE: If the combination problems were selected, disregard this step since all levels of difficulty will be used.

5. When a problem appears on the TV screen, each player attempts to enter the correct answer on his/her keyboard as quickly as possible. Only the first player to enter the correct answer scores. The score will range from 1 to 10 points depending on how fast the answer is entered.

If a player enters an incorrect answer, his keyboard becomes inoperative and he loses his turn for that problem.

If neither player enters the correct answer within the allotted time, the correct answer will be displayed automatically.

6. After 10 problems, the game is over, and the winner is the player with the highest total score. The computer will also display the total number of correct answers entered by each player.
7. If you wish to replay the same type of game, just press key 0 on Keyboard A (Do not press "clear"). In this way it will not be necessary to repeat selection of speed, problem type, and level of difficulty.

NOTE: If you wish to start over or change the game selection before a 10-problem game has been completed, press "clear", then wait 3-4 seconds before selecting the new game. This allows the computer timing circuits to re-set.

GAME SET-UP EXAMPLES

- To play a game at slow speed, selecting addition problems at easiest level of difficulty, press key 1 on Keyboard A three times.
- To play a game at fast speed, selecting division problems at 3rd level of difficulty, press keys 2, 4, and 3 in sequence on Keyboard A.
- To play a game at fast speed and with a combination of problems, press key 2, then key 5 on Keyboard A.

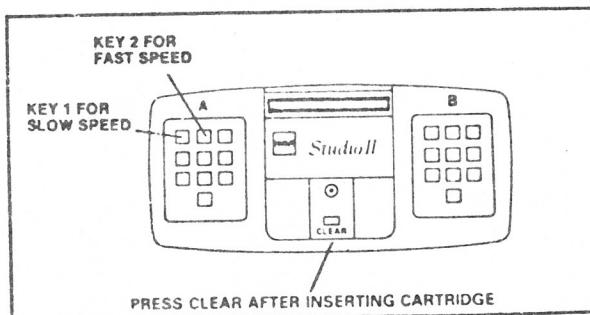


FIG. 1 SELECT SPEED

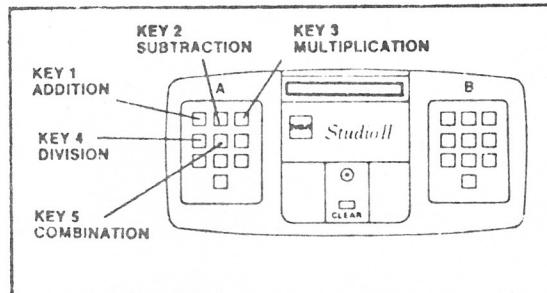


FIG. 2 SELECT PROBLEM TYPE

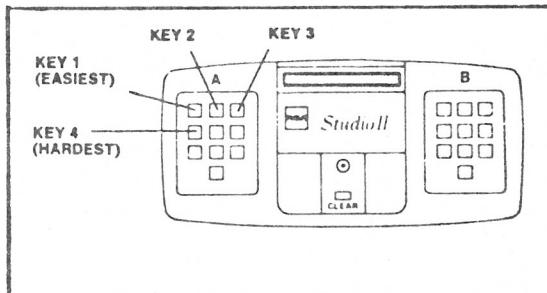


FIG. 3 SELECT DIFFICULTY LEVEL (DOES NOT APPLY FOR  
COMBINATION PROBLEMS)

## Typical Screen Displays

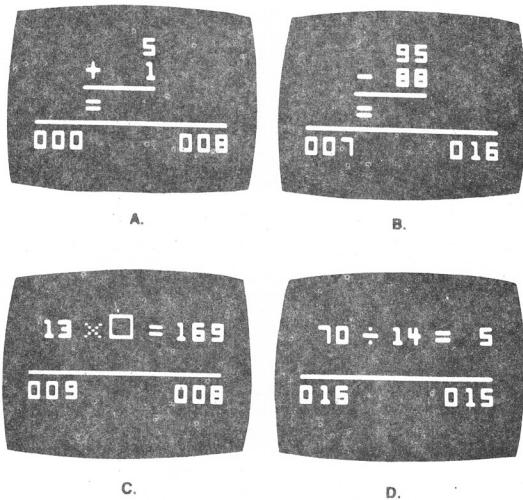


FIG. 4

TYPICAL PROBLEMS FOR ADDITION (A), SUBTRACTION (B), MULTIPLICATION (C) AND DIVISION (D). CORRECT ANSWER HAS BEEN ENTERED IN DIVISION PROBLEM.

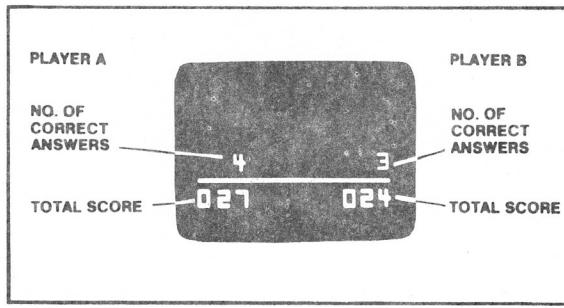


FIG. 5  
TYPICAL FINAL SCORE. PLAYER A HAS WON, 27 TO 24.

**Remember:** The score is based not only on number of correct answers, but also on how fast the answers were entered.

### 3. BIORHYTHM

#### BIORHYTHM

All living things are affected to some extent by various biological cycles. The theory of Biorhythm states that there are three predominant cycles that can influence human behavior:

- Physical cycle, 23 days. Affects physical strength, health, energy, vigor, stamina, etc.
- Emotional cycle, 28 days. Affects moods, feelings, sentiments, etc.
- Intellectual cycle, 33 days. Affects intelligence, attentiveness, concentration, judgement, etc.

In theory, all three cycles start at the day of birth and continue on throughout your lifetime.

Each cycle consists of one positive and one negative period. A person's physical, emotional or intellectual state is enhanced during the positive, or "up", portion of the cycle. The negative, or "down" periods should not necessarily be considered as bad, however, they do indicate a quiet, subdued time when an individual may not be at peak performance.

Of more importance are the so-called "critical" days when the cycle crosses over from positive to negative, or vice versa. A critical day indicates a time of potential instability. For example, on a critical day in the emotional cycle, an otherwise easy-going, carefree person may become rather argumentative, or edgy. On a critical day in the physical cycle, a person may tire more easily and be prone to physical discomfort. And on a critical day in the intellectual cycle, the attention span may be short, and a person may not be as alert as usual.

There are several books commercially available that provide a great deal of information on the subject of Biorhythm, including detailed interpretation and analysis of the cycles.

The Biorhythm cartridge simultaneously displays physical, emotional and intellectual biorhythm charts for any 32-day period, starting with whatever beginning date you select. As long as you know the birth date, you can display the Biorhythm charts for people in the past, back to the year 1, and in the future to the year 9999 - a span of almost 10,000 years.

NOTE: Although the date of birth is the standard reference point used in Biorhythm, experience may indicate a certain individual's Biorhythm cycles are more accurate if adjusted to a day or so before or after their birthday. For some, it may be necessary to use an entirely different reference date. If the Biorhythm cycles do not seem to coincide with actual

events, it may be helpful to chart one's emotions, accomplishments, and behavior for one or two months and compare them to the Biorhythm cycles based on the date of birth. Through experimentation, it may be possible to determine a date other than the birth date that will provide appropriate Biorhythm cycles.

USING THE BIORHYTHM CARTRIDGE

1. Insert the cartridge into the STUDIO III Console. Press "clear" key.
2. Press key 0 on Keyboard A.
3. Enter birth date on Keyboard B, using 2-digit month, followed by 2-digit day, then 4-digit year. For example,

<u>Birthday</u>	<u>Enter</u>
Feb. 6, 1956	02 06 1956
Jul. 12, 1931	07 12 1931
Nov. 3, 1898	11 03 1898

4. Enter start date on Keyboard B. Again, using 2-digit month, followed by 2-digit day, then 4-digit year.

The start date can be today's date, providing a 32 day chart with today as first day. Some people may find convenient start dates to be the first day of the week or month. Any date in the past or future (from year 1 to 9999) can be entered. Whatever date you enter as a start date will represent the first day on the 32-day Biorhythm display.

5. Tones will sound as the computer is determining the Biorhythm chart. The longer the time period entered, the longer the unit will take to display the charts. As an example, a time span of 75 years will take about one minute.
6. The charts will be displayed similar to Figure 3. Of course, the curves shown are for the dates entered.

The markers between the graphs represent one week (7 day) intervals. The left marker represents the first day, or start date. The second mark is one week later, the third mark is two weeks after the start date, etc. For example, if the start date is a Tuesday, the other markers will represent Tuesdays of the following weeks.

If you have any doubt about the location of a certain day in the Biorhythm display, you may want to form a new display using the day in question as the start date. This will position that day at the left side of the display.

NOTE: To enter a new Biorhythm display, simply press key 0 on Keyboard A, then enter new birth dates and start dates on Keyboard B.

IMPORTANT

Biorhythm is not a science; it is a theory proposed by several European psychiatrists at the turn of the century based on their statistical studies. Biorhythm does not predict the future, but simply provides a technique some people believe is useful in helping to plan their activities.

The program will display the Biorhythm cycles based on the dates entered. Any interpretation of the cycles is the sole responsibility of the user. RCA Corporation has no opinion as to the validity of the Biorhythm theory and is not responsible for any action or failure to act by anyone based on use of information displayed by this cartridge.

INTERPRETATION

	<u>Physical</u>	<u>Emotional</u>	<u>Intellectual</u>
Positive Period (Up)	strong, vigorous	good moods, cooperative	good judgement, sharp mentally
Negative Period (Down)	tire easily, less stamina	low enthusiasm, feelings subdued	low attentiveness and concentration
Critical Days (crossover)	susceptible to injury or illness, low endurance	emotionally unstable, upset easily	poor memory, prone to mistakes

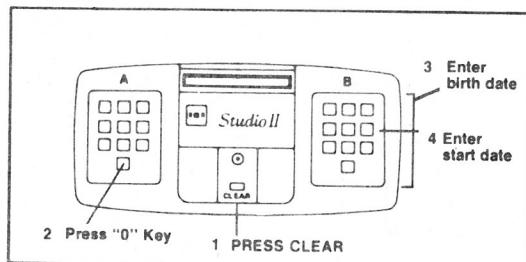


Fig. 1.

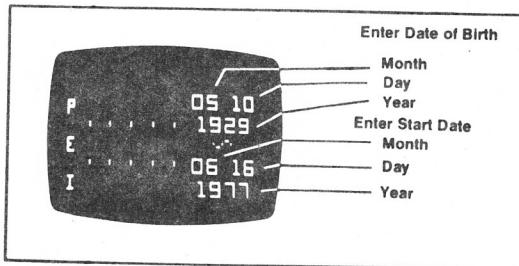


Figure 2

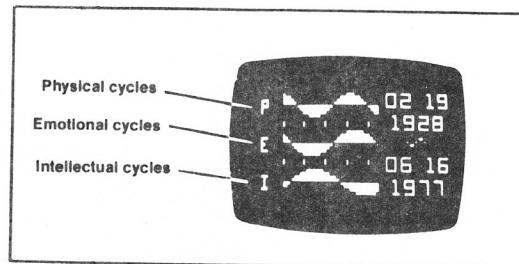


Figure 3. Typical Biorhythm Display

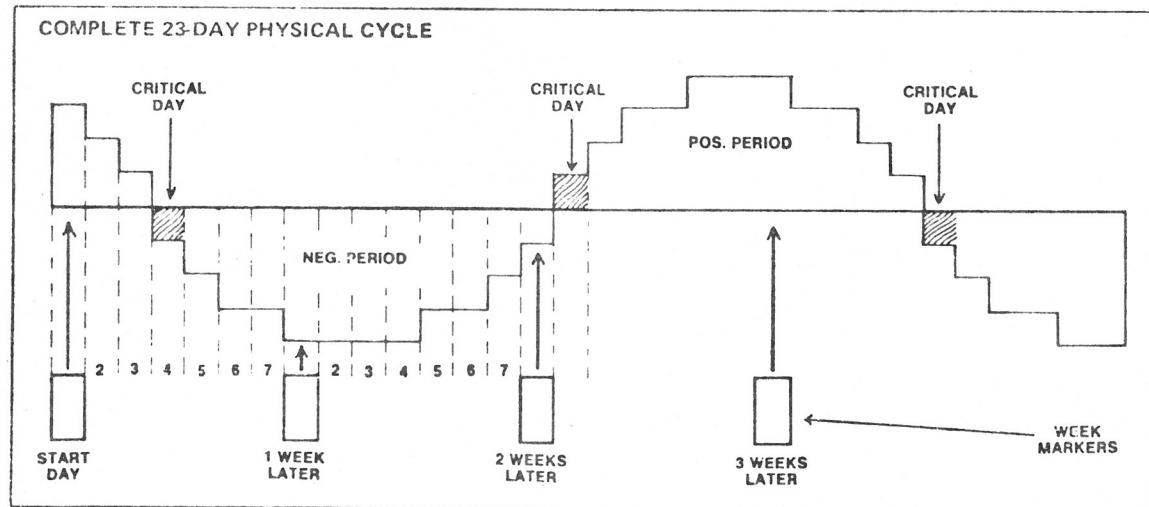


Figure 4. Typical Biorhythm Display, showing day and week identification. This display shows a 23 day Physical cycle. Emotional cycles have 28 days, and Intellectual cycles have 33 days.

#### 4. PINBALL

The PINBALL game simulates the action of real pinball machines. The object of the game is to keep your ball in play and score as many points as you can by ball contact with point bumpers. The point value of bumpers changes randomly when hit. Points range from 2 to 9. A score greater than 999 stops the game.

PINBALL can be played by one or two persons. Players take turns scoring points and control flippers on their own keyboard throughout the game. A player can change ball direction with a special key. However, overuse of this feature will result in a "TILT".

#### HOW TO PLAY PINBALL

1. Plug the PINBALL cartridge into the STUDIO III computer.
2. Press "clear" button.
3. Select the one-player game with key 1 on the "A" Keyboard.  
Select the two-player game with key 2 on the "A" Keyboard.
4. You use Keyboard "B" in the one-player game. In the two-player game, players alternate turns. Players get five balls. The number of balls remaining is shown at the right or left of the player's score. Your turn to put a ball in play is shown by a flashing digit (balls remaining) on your side of the TV screen.
5. To put a ball in play, press key 1 on your keyboard.
6. On your keyboard, press key 4 to control the left flipper and key 6 to control the right flipper.
7. You can press key 0 to reverse the direction of the ball. This feature is handy for saving a ball (outside the flipper range) that will go out of bounds. This feature over-simulates physically pushing on a PINBALL game cabinet. Pressing key 0 causes the ball to move at high speed. While the ball travels at high speed, key 0 has no effect.
8. If you overuse key 0, you will cause a "TILT" and the game will stop. If the two-player option was selected and the other player has balls left, press key 1 on the opposite keyboard to put a new ball in play.
9. The game is over when either player scores more than 999 points, when both players have "TILT", or when both use all their balls.

## 5. BINGO

The BINGO Cartridge automatically calls and verifies BINGO numbers. The computer selects numbers randomly and displays the last three numbers drawn. After a player calls "BINGO", the computer will check the player's numbers against a list stored in its memory. The computer adds the numbers checked to give the player a score for that round of play.

There are two modes for drawing numbers. Using the manual mode, the operator must press a key to obtain a new number. Using the automatic mode, the computer draws numbers every twelve seconds until halted by the operator. Using a third mode, verify, the operator enters numbers on the keyboard for the computer to check against the list of numbers called.

### HOW TO PLAY BINGO

1. Plug the BINGO cartridge into the STUDIO III computer.
2. Press "clear" to start a new game (draw).
3. You use Keyboard "A" to select the calling options. Key 1 starts calling numbers in the manual mode. Press key 1 for every new number. New numbers appear at the bottom of the display and are rolled upward.
4. Key 2 starts calling the numbers in automatic mode. New numbers appear every twelve seconds until all numbers are called or the operator presses key 0 to stop or key 1 to enter the manual mode. When stopped you can resume calls with either key 1 or 2.
5. Key 3 starts the verify mode. Using the "B" Keyboard, enter two digits for each number making up a winning BINGO card. (Note: press 01 for B-1, 02 for B-2, 75 for 0-75, etc.) If the number was called, "OK" will show, if it was not called, "NO" will show. If all five numbers are OK, press key 0 on the "A" Keyboard to display the score for the numbers entered. The score will be displayed followed by "PT" (point total). At the same time the "BINGO" tune will play. You do not have to enter any number for "FREE". If one of the numbers verified was not called, you can resume calling numbers as in Step 3 or 4. You may also press key 3 to restart verify if you make a mistake entering a number.
6. Key 4 plays the "BINGO" tune.

## 6. CONCENTRATION/MATCH

In the game of CONCENTRATION you try to match hidden patterns under eighteen squares. There are nine pairs of different patterns hidden. Each group of three by three squares corresponds to the A and B keyboards (keys 1-9). By pressing a single key you can select a particular square to reveal a pattern.

You then press another key for the square that you think hides the matching pattern. If you are correct you get a point and another chance to match. If you are mistaken you lose your turn.

The game ends when one player has 25 points.

### HOW TO PLAY

1. Press "clear" button.
2. On either the A or B Keyboard, press a key 0 through 9 to select the time patterns will be shown:

Key 0 does not show patterns before the game starts  
Key 1 shows patterns for a short time  
Key 9 shows patterns for a long time
3. The combined keys, 1 through 9 on both keyboards, correspond to the 18 squares on the screen.
4. Matching a pattern gives you one point and allows you to continue your turn. A mismatch causes you to lose your turn.
5. Scores are shown in the left corner for player A and the right corner for player B. The letters A or B on the screen show whose turn it is.
6. After all patterns are found on the screen, they will disappear from the screen and a new arrangement of the patterns will be generated. The turn goes to the other player and the game continues.
7. The game is over when one player has 25 points.

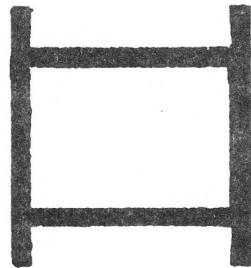
## 7. STAR WARS

This game, based on the movie STAR WARS, provides a display showing the viewscreen of a combat spaceship. In the center of the screen is the view-finder for automatic weapon fire. Your objective is to position the smaller enemy spaceship entirely in the viewfinder and score a hit.

Of course, you may be pursued by your opponent and then your objective is to steer off the screen. When you do move off the screen you begin to chase your opponent. If the enemy is able to escape from the display, he becomes the next chaser (reversing the player role).

### HOW TO PLAY

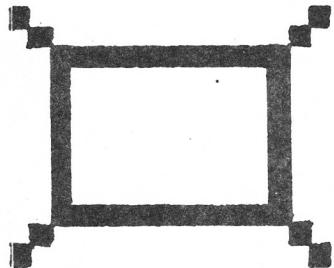
1. Insert STAR WARS cartridge in the STUDIO III console.  
Press "clear" button.
2. Select the number of players. Press key 1 for one player, key 2 for two players, or key 3 for the advanced one-player game. In this last game, your opponent - the computer - is so skillful that having once escaped it automatically scores, and you remain the chaser. In the one-player games you use the A Keyboard.
3. The question "SPEED 1 2 3?" will appear on the screen next. You press key 1 for slow, key 2 for medium, or key 3 for high speed action. In the one-player games you use the "A" Keyboard for your selection. In the two-player games you may use either keyboard for speed selection. The keyboard you select determines who starts chasing.
4. The viewfinder and the spaceships of the players A and B have a different shape and color:



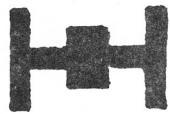
Viewfinder B  
(yellow)



Spaceship A  
(red)



Viewfinder A  
(red)



Spaceship B  
(yellow)

5. Each player uses the direction keys 2, 4, 6, 8 on his respective keyboard to steer his spaceship. If your spaceship is being chased (you are the smaller ship), key 2 moves your spaceship up, key 8 down, key 4 left and key 6 right. If your spaceship is the pursuer (your ship is the viewfinder), key 2 moves the enemy spaceship down, key 8 up, key 4 right and key 6 left.
6. The game ends when one player has destroyed nine spaceships. Scores will be shown each time a spaceship is hit or when a spaceship moves off the screen.

HINTS

You should start with the two-player game first to get a feel for the action and spaceship movement even if you're playing by yourself. Then play the one-player game at slow speed to increase your skill.



STUDIO II/III Game Tape Layout

Side A - STUDIO II Games (black & white only)

<u>Counter</u>	<u>Game Description</u>	<u>Starting Address</u>	<u>No. of Pages</u>	<u>Last Byte</u>
	Space War	0000	6	00
	Fun with Numbers	0000	6	FF
	Computer Quiz	0000	6	09
	Speedway/Tag	0000	6	C0
	Tennis/Squash	0000	6	C0
	Baseball	0000	8	E0
	Blackjack	0000	8	03
	Gunfighter/Moonship Battle	0000	8	80

Side B - STUDIO III Games (color)

<u>Counter</u>	<u>Game Description</u>	<u>Starting Address</u>	<u>No. of Pages</u>	<u>Last Byte</u>
	Resident games part 1	0000	8	00
	Resident games part 2	0800	8	D4
	Math Fun/Quiz	0000	8	03
	Biorhythm	0000	8	02
	Pinball	0000	8	00
	Bingo	0000	6	00
	Concentration/Match	0000	6	44
	Star Wars	0000	8	C8

Note: All games include the interpreter program.

Use Panasonic Recorder RQ-413S (counter model)

Recorder settings: Volume 9

Tone 9

Additional Note:

There are two copies of each group of games on a tape side.