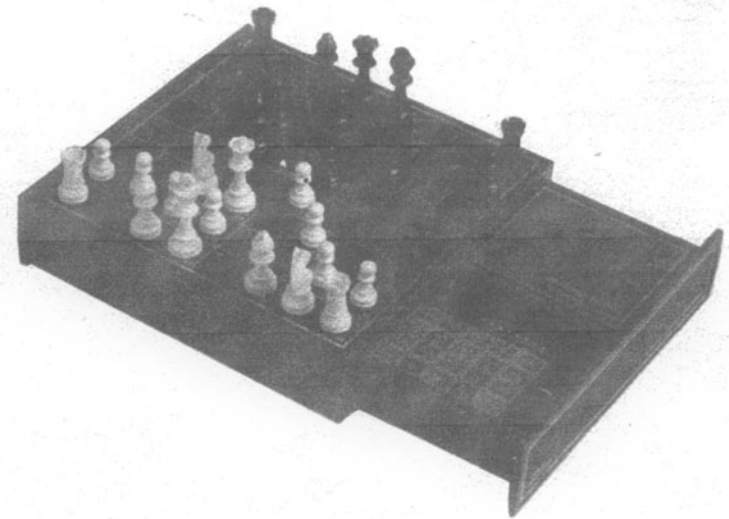


APPLIED
CONCEPTS INC Presents

Morphy Edition master chess



OPERATION MANUAL

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I. YOUR NEW GAME CARTRIDGE

Good News! Your new game cartridge reflects the latest state of the art enhancements to high-level strategy game play. Your **MORPHY EDITION** of Master Chess is the most recent of a long list of world famous chess programs developed by Applied Concepts, Inc. This **MORPHY EDITION** is one of the strongest chess programs commercially available today; and, when played in conjunction with its companion cartridges — Gruenfeld Edition of opening book moves and Capablanca Edition of end-game strategies — on the Great Game Machine's contiguous play function, it is absolutely unmatched in strength of play and strategic excellence!

This game cartridge can be played on either Applied Concepts' Modular Game System computer or Great Game Machine computer.

The Master Series of Machintelligence Games

Applied Concepts, Inc. has long had a commitment to continue updating the level of play of its artificial intelligent games. This commitment has never been more evident than in this Master Series. Our programmers have researched the great masters of chess, checkers, reversi, kriegspiel and blackjack, and incorporated into our new games the techniques and strategies employed by these Masters.

About Paul Morphy*

Paul Morphy (1837-1884) was America's first chess champion. Born in New Orleans, he learned the game of chess at 8 years old. In 1857 he was tantamount to the first U.S. Chess Champion, and a year later went to Europe. He beat everyone he played, but never was successful in engaging Howard Staunton, the British champion who called himself "the best in the world," to any kind of a match. Staunton's refusal to give Morphy a match resulted in Morphy giving up chess and returning to New Orleans, and an early grave. Chess greats of today still immortalize Paul Morphy's style of fast development and quick exploitation of an opponent's weakness. He has been called the most accurate chess player who ever lived, and chess experts delight in replaying most of his famous games.

Even today when a player makes a beautiful chess combination — be it Timbuctu or Kiev — more than likely it is called "a combination a la Morphy".

* Information on Paul Morphy gathered from George Koltanowski's *CHESSNIC-DOTES*, 1978 Chess Enterprises Inc. Baltimore, Md.

II. THE GAME OF CHESS

The History Of Chess

In the fifth century A.D., a game called "chaturanga" made its appearance in historical records in northwestern India. "Chaturanga" as it was played then is easily recognizable, with few differences, as our modern chess. The game spread west into Persia, and from thence along the ancient trade routes to the shores of the Mediterranean, reaching Europe by about 1000 A.D. The Norman Conquest brought chess with it into England; the Spanish soldiers and French explorers introduced it first into the New World of the Americas. By the 17th century chess had developed the exact form we enjoy today, although slight rule variations have been added, and fashions in strategy continue to change from decade to decade.

The Game

Chess is the classic game of maneuver and control. It is played on an 8x8 board between two players, each with initial armies of 16 pieces set up as shown (Figure 1):

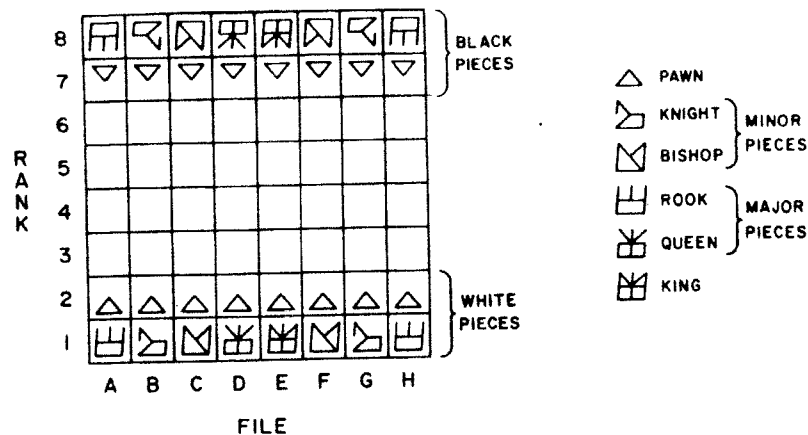


FIGURE 1

The players take turns, starting with White, each moving one piece per turn with the goal of capturing the enemy king. Only one piece can occupy a square at a time, and an enemy piece may be captured by occupying its square and removing it from the game.

The eight columns or files of the board are lettered A-H and eight rows or ranks are numbered 1-8 as shown. Each square is identified by its file and rank; thus the Black King is initially on square E8.

The Pieces

There are six kinds of pieces as shown, each with its own pattern of movement:

The *Pawn*, represented by an arrowhead, can advance along its file in the direction of its arrowhead one square per turn onto an unoccupied square, as shown by the solid arrow in Figure 2. It is, however, able to capture an enemy piece diagonally ahead of it, as shown by the dotted arrows, and is the only chess piece to move and capture differently. The pawn is the foot soldier of chess, needing support from the other pieces to advance safely, but vital in holding territory. See also Double Advance, En Passant, and Queening below.

The *Knight*, represented by a horse, moves obliquely, 2 squares laterally and 1 to either side, as shown in Figure 2. It does not travel directly over any other squares and therefore cannot be blocked, making the Knight ideal for behind-the-lines raids. It is worth about three pawns.

The *Bishop*, represented by a miter, moves diagonally any number of empty squares as shown in Figure 2. It may capture an enemy encountered on the diagonal, but cannot continue beyond an occupied square. A Bishop can never encounter its brother since they are confined to squares of opposite color, but it is a nimble piece, able to cross the board in a single move. It is worth about three pawns.

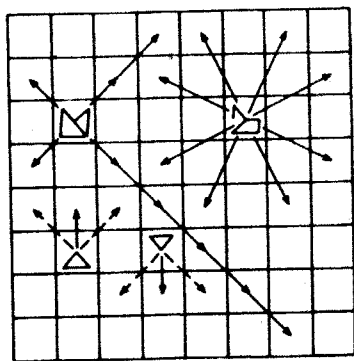


FIGURE 2

The *Rook*, represented by a castle, moves laterally any number of empty squares as shown in Figure 3. It may capture any enemy encountered, but cannot continue beyond an occupied square. Although too valuable and confined to risk in the opening game, it is a powerful piece, able to force checkmate of a lone enemy king. It is worth about five pawns. See Castling below.

The *Queen*, represented by a diadem, moves diagonally or laterally any number of empty squares as shown in Figure 3. It combines the moves of Bishop and Rook and is the most powerful piece by far, but must be used carefully since its uncompensated loss is generally fatal. It is worth about nine pawns.

The *King*, represented by a crown, moves one square in any direction as shown in Figure 3. It is vulnerable to attack if exposed, but must nonetheless be ready to play an active role once the major pieces have been captured. It is of course invaluable; any other piece must be sacrificed if necessary to save the King. See Castling below.

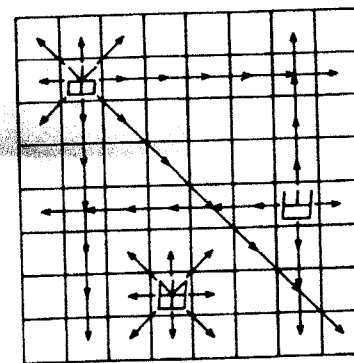


FIGURE 3

If a player moves so that he could capture the enemy king with his next move, the king is said to be in *check*, and it is customary to warn the opponent of this. It is illegal for a player to expose his own king to check, or to leave it in check when it can be saved. If it cannot be saved, the check is *checkmate*, and the game is then ended before the king is actually captured. A game is considered a draw if neither player can proceed to checkmate. A player must move when it is his turn, but if every move would expose his king to capture and thus be illegal, the game is considered a *stalemate* or draw; achieving this may be the strategem of last resort for a losing side.

Special Moves

In the seventeenth century, the following special moves were added to the game of chess:

Double Advance and En Passant. For faster development, a pawn may advance two squares, provided they are unoccupied, from its initial position. However, this is not intended as a move to bypass an enemy pawn that would have been able to capture had a single advance been made. In such a situation (Figure 4), the double advance is permitted, but the opponent has the *en passant* option, for his next turn only, of returning the pawn to a single advance and capturing it there.

Queening. If a pawn successfully reaches the opposite edge of the board, it is *promoted* to any other piece, except a duplicate king. The choice is usually a queen, and this dramatic increase of power makes the advance and *queening* of a pawn the critical feature of the end of many games.

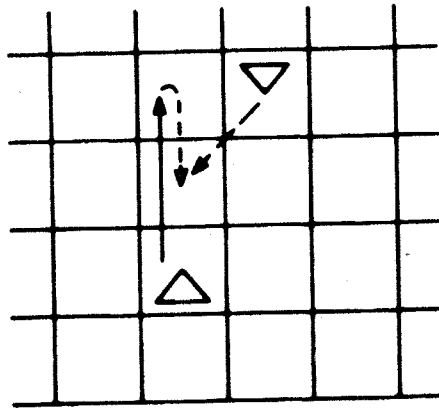


FIGURE 4

Castling safeguards the king while centralizing the rook. If a previously unmoved rook can move next to the previously unmoved king and be unattacked there, the player may place the king on the other side of the rook (Figure 5). Castling out of check is not permitted.

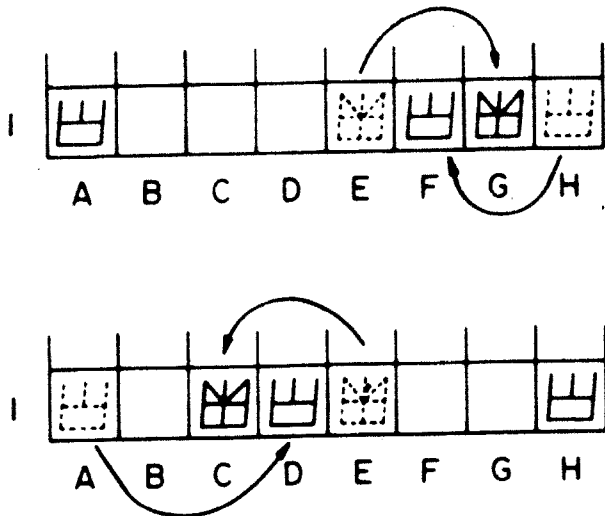


FIGURE 5

III. HOW YOUR GAME CARTRIDGE WORKS

Game Cartridge Concept

As discussed earlier, this game cartridge must be played on a separately purchased Applied Concepts' Game Computer.

This **MORPHY EDITION** Cartridge comes packaged with magnetic chess pieces, operation manual and keyboard overlay.

Game Cartridges are inserted as shown in Figure 6. To remove pull the cartridge to the left and then lift out. Insure that ON/OFF switch is either in OFF or MEMORY position before inserting or removing this cartridge.

Keyboard overlays are inserted as shown in Figure 6. Remove the overlay by slipping a fingernail under the overlay next to either the top or bottom half and bowing the overlay outward.

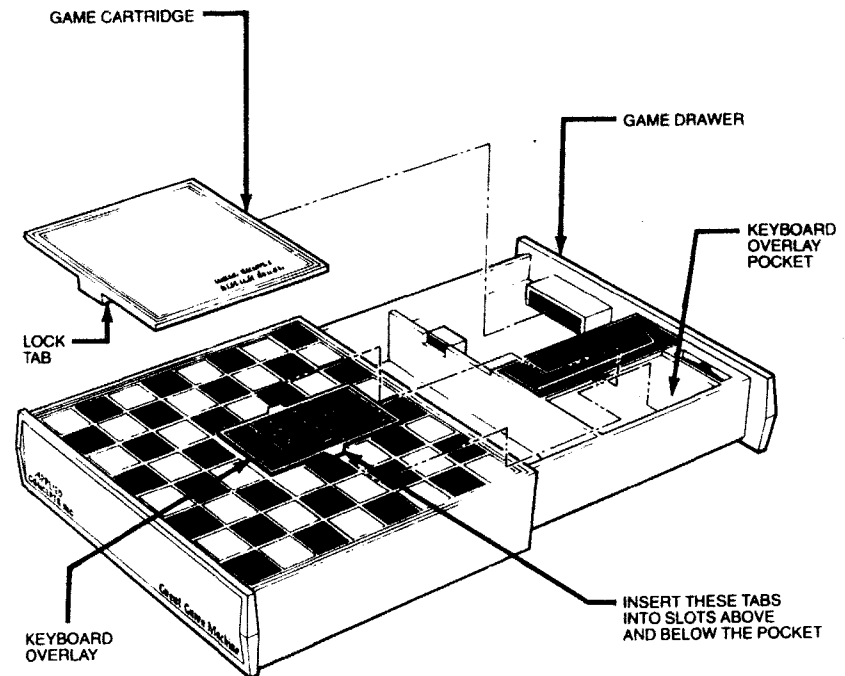


FIGURE 6

This cartridge concept makes it possible for you to build a library of strategy games at a minimum of cost. In addition, this concept allows you to continue updating this library with the very latest program developments as they come available.

Important Do's and Don'ts

DO read the manual for the Game computer upon which you will play this game cartridge. The features set out in the operation manual for your game computer will give you valuable information as to how best to get the maximum from this game cartridge.

DO follow all the recommendations set out in the game computer operation manual and this manual.

DON'T attempt to insert and remove this cartridge with the ON/OFF switch in the ON position!

DON'T close the game drawer on your game computer with the power ON! Overheating may result and severely damage this game cartridge.

DON'T mishandle this cartridge. The programs that it contains are highly sensitive and can be damaged if dropped or placed in wet or extremely hot conditions.

IV. PLAYING A GAME WITH MORPHY

1. Plug in the unit. Slide the unit open. Set up the chess board.
2. Move the ON/OFF switch to the ON position. You will note on the feedback/move indicator that the computer will display "MOVE?". Be sure not to slide the switch past the center ON position.

MORPHY will then show:

		-					
--	--	---	--	--	--	--	--

The 1 is the move number. The hyphen shows the side to move.

WHITE TO MOVE

-

BLACK TO MOVE

-

Since MORPHY plays Black, he is waiting for you to enter a move. To make MORPHY play White, press [B/W].

3. Each square on the chessboard is identified by a pair of coordinates:

FILE LETTER (A-H)
RANK NUMBER (1-8)

Each move on the chessboard is identified by a pair of squares:

FROM SQUARE
TO SQUARE

This cartridge's keyboard has keys identified with both letters and numbers. These keys give MORPHY the file-rank coordinates for your moves. Six of these keys are also identified with MORPHY's special chess piece symbols. The piece symbols are used to modify MORPHY's internal chessboard (see Modifying the board in the Special Features Section).

Make your move on the chessboard. To key it in, enter the coordinates of the "from" square and then the "to" square, using the multi-purpose keys.

Example: After advancing your king pawn two squares, press these four keys:

[E] [2] [E] [4]

E	2	-	E	4			1
---	---	---	---	---	--	--	---

4. Check that the display shows your move correctly. If there is an error, clear the entry using [CE] and start over.
5. When the display is correct, enter the move using [ENTER].

MORPHY will beep his approval. He may then respond instantly or he may begin computing. MORPHY will flash numbers on the feedback/move indicator while he is computing, then beep and show his response.

Example:

E	7	-	E	5			2
---	---	---	---	---	--	--	---

Note that **MORPHY** will not always make the same response. The 2 indicates that we are now ready for the second move for each side.

6. Move **MORPHY**'s piece, and enter your next move as in step 3. It is not necessary to press [CE] to clear **MORPHY**'s move from the feedback/move indicator. **MORPHY** will automatically clear it when you start to enter your move.

MORPHY will show CK, MT or ST in place of the move number when he checks, mates or stalemates you. If you make an illegal move, **MORPHY** will refuse to enter it. After displaying ILLEGAL MOVE, he will re-display the move coordinates for you, so you can note why it is illegal. Simply re-enter your move as in Step 3.

If you checkmate **MORPHY**, he will beep several times. And display CONGRATULATIONS. If you stalemate **MORPHY**, he will also beep several times and display STALEMATE.

To enter a new game after checkmate or stalemate, press [ENTER].

Entering Special Moves

Queening. **MORPHY** automatically turns a pawn into a queen when it reaches its far rank. You can override this if you wish; see Underpromotions in the Special Features section.

En Passant. Enter the move of your capturing pawn. **MORPHY** will automatically remove his captured pawn.

Castling. Enter the move for the king only; **MORPHY** will automatically move the appropriate rook. **MORPHY** tells you in a similar fashion when he has decided to castle.

Sample Game

The following shows the start of a game with **MORPHY**. **MORPHY** is designed to vary his play so he will not always respond with these moves.

Operation	Display	Description
Power On	[][][][][][][][][]	After "MOVE"
[E][2][E][4]	[E]2[E]4[][][]	Player advances King Pawn
[ENTER]	[G]8[F]6[][][]	Morphy develops King Knight
[E][4][E][5]	[E]4[E]5[][][]	Player advances Pawn threatening Knight

[ENTER]	[F]6[D]5[][][]	Morphy advances Knight
[B][1][C][3]	[B]1[C]3[][][]	Player develops Queen knight
[ENTER]	[E]7[E]6[][][]	Morphy develops King Pawn
[C][3][D][5]	[C]3[D]5[][][]	Player captures King Knight
[ENTER]	[E]6[D]5[][][]	Morphy captures Queen Knight
[D][1][F][3]	[D]1[F]3[][][]	Player develops Queen
[ENTER]	[C]7[C]6[][][]	Morphy develops Queen Bishop Pawn
[D][2][D][4]	[D]2[D]4[][][]	Player develops Queen Pawn
[ENTER]	[D]7[D]6[][][]	Morphy develops Queen Pawn
[C][1][F][4]	[C]1[F]4[][][]	Player develops Queen Bishop
[ENTER]	[D]6[E]5[][][]	Morphy's Queen Pawn captures Player's King Pawn thereby threatening Player's Queen Bishop

[F][4][E][5]

F4 E5 B

Player's Queen
Bishop captures pawn

[ENTER]

F7 F6 9

Morphy advances pawn
to threaten Bishop

[E][5][F][4]

E5 F4 9

Player retreats
Queen Bishop

[ENTER]

F8 B4 CK

Morphy advances
King Bishop
Check

V. SPECIAL FEATURES

Contiguous Play Option

The **MORPHY** Edition of Master Chess is a cartridge that allows contiguous play with other Applied Concepts' cartridges. **MORPHY**, although a complete chess game, can be played in conjunction with the Gruenfeld Edition of Master Chess opening book moves and the Capablanca Edition of Master Chess end-game strategies.

This is how it works. If you have been playing Gruenfeld opening book, an indicator has informed you that it is time to move to a mid-game cartridge. You put the ON/OFF switch of your game computer to the MEMORY position; remove Gruenfeld and insert **MORPHY**. Immediately **MORPHY** moves to his strong mid-game program when you return the ON/OFF switch back to ON.

When **MORPHY** has completed mid-game play, he will so advise you with a dot on the extreme right-hand side of the feedback/move indicator. The dot will appear just to the right and bottom of the move number, as shown below.

C2-E4 1. ← End Game Indicator

At this point, you may either continue playing, utilizing **MORPHY**'s end-game, or move to the Capablanca Edition of end-game strategies. To do this, first depress the RANK key to stop **MORPHY**'s internal computing, move the ON/OFF switch to MEMORY, remove **MORPHY** and insert Capablanca. When you move the ON/OFF switch back to ON, you can complete your contiguous play with a fine end-game match.

CAUTION: When moving the ON/OFF switch from MEMORY back to ON insure that you do not move past the ON to the OFF position. In that event, you have lost all previous moves from your computer.

Audio ON/OFF

This cartridge is equipped with a feature that allows you to turn off the audio responses should you desire. Just depress [AUDIO] key to stop the sound. Depress it again and the sound will return. The audio function is always ON at the start of any new game.

Opening Book

For your enjoyment, an opening book of master moves has been included in this **MORPHY** cartridge, and he can select randomly from a repertoire of over 50 different opening lines. Some lines are played often, others seldom enough to surprise.

The opening book is designed to afford your maximum variety in the style and character of the opening and the whole game.

NOTE: As discussed above, **MORPHY** has the capability of playing in conjunction with a companion cartridge, the Gruenfeld Edition of opening book moves. Gruenfeld offers a much more expanded selection of opening lines, and, if it is used in concert with **MORPHY**, **MORPHY** will abandon his openings and move to mid-game. (See Contiguous Play Option).

.Best

The .Best key allows you to choose between two modes of play for **MORPHY**. When you press [.BEST], **MORPHY** displays a small dot to the right of the hyphen. In this mode, **MORPHY** will always play the single move that he considers best. No variety will be included in his play. When this feature is not in effect, no dot is displayed. In normal mode **MORPHY** will not always make the same response to any given move. Instead he selects a move from a number of moves which he considers to be best.

Restore

The Restore key allows you to take back moves during the game. Each time [RESTORE] is pressed, both **MORPHY**'s last move and your last move will be unmoved. **MORPHY** signals that he has taken back the moves with a two tone Beep-Beep. Up to three pairs of moves may be taken back at a time. After the three, **MORPHY** does nothing when [RESTORE] is pressed.

The Restore key allows you to take back blunders without having to change the internal gameboard. Although technically this is cheating, it can be very instructive. The Restore feature is especially valuable for studying chess problems, since different moves can be tried easily.

Modifying the board erases **MORPHY**'s memory of all previous moves. Therefore the Restore key will not function immediately after modifying the board.

Level

MORPHY has several levels of play designed to challenge players of various strengths and/or patience. To set the desired level press [LEVEL]. If you have not changed level since power-on, **MORPHY** will display on the feedback/move indicator:

LEVEL 1

To change the level press any one of [0]-[8]. The new level number will be displayed in place of the "1". Now press [ENTER].

MORPHY's level of play may be changed whenever it is your move in the game. While **MORPHY** is thinking, you may display the current level, but not change it. (Press [ENTER] to return to normal display.)

The Levels and their meanings are as follows:

Level	Description
0	A special beginner's level or used for speed chess. MORPHY finds any mate in one at this level.
1 <i>10-15 SEC</i>	At power-on MORPHY is set to Level 1. A fast paced game. Playing strength is about USCF 1000.
2 <i>20-40 SEC</i>	The whole game should last about 1 hour (if you move at MORPHY 's pace). Playing strength is about USCF 1200.
3 <i>45-90 SEC</i>	MORPHY can solve any mate in two problem at this level. Playing strength is about 1400.
4 <i>2-4 MIN</i>	MORPHY should have no trouble making 40 moves in 90 minutes at this level.
5 <i>20-40 MIN</i>	MORPHY can solve any mate in three problem at Level 5. For the patient player, MORPHY provides solid chess approaching the 1800 level.
6 <i>2-4 HRS</i>	At level 6 playing MORPHY is more like postal chess. A single game could last up to a month. At this level MORPHY can find some mate in four problems.
7	Tournament Level designed to play 30 moves per hour.
8	Tournament Level designed to play 40 moves every two hours (120 minutes).

Changing Sides

You may change sides with **MORPHY** at any time during a game. Just press [B/W] when it is your turn to move. **MORPHY** will immediately begin thinking with colors reversed. If you wish to play Black from the start of the game, press [B/W] instead of an initial move.

Hint

You can use **MORPHY** as a Chess Tutor, to see what he would do in your place. When it is your turn to move, press [HALT/HINT]. **MORPHY** will suggest a move on the feedback/move indicator. To play the suggested move, press [ENTER]. The Hint feature is only available on level 1-8, but not when **MORPHY** is playing from his opening book. No hint is available immediately after modifying the board.

Halt

While **MORPHY** is thinking he flashes the best move he has found so far. You can halt **MORPHY**'s thinking and force him to make that move by pressing [HALT/HINT]. The Halt feature is useful if you have set **MORPHY** on a high level and are now tired of waiting for his move, or if you discover that you have just made an error.

Thinking on the Opponent's Time

If you have **MORPHY** set to Level 1-8, **MORPHY** will continue thinking while you are deciding on a move. **MORPHY** assumes that you will make the move suggested in the Hint and begins at once to compute his reply. This may result in **MORPHY** responding instantly if you make the Hint move. Use of [RANK] stops **MORPHY**'s thinking on your time for that move only.

Timer

MORPHY is equipped with an automatic timer. The Timer keeps track of the amount of time the player or **MORPHY** has spent on the current move and the total time each has taken so far in the game.

If it is your turn to move, pressing [TIME] will show you how much time you have taken for this move.

For example the feedback/move indicator will display:



This display would indicate that you have been considering this move for 3 minutes and 5 seconds.

The timer continues to count time while it is being displayed.

To find out the total time you have used in the game so far, press [TIME] and hold it down.

For Example:

You have used 1 hour, 28 minutes, and 44 seconds so far in the game.

To find out how much time **MORPHY** has used, press [B/W].

When **MORPHY** is thinking, pressing [TIME] gives **MORPHY**'s time. Your time can be displayed by pressing [B/W]. In any case the position of the hyphen shows who's time is being displayed.

WHITE'S
TIME



BLACK'S
TIME



Recalling the Board

MORPHY is constantly altering his internal board as you play, so that he always knows where all the remaining pieces are. You may recall **MORPHY**'s internal board for display at any time by using the [RANK] key. This steps through the board from rank 1 to rank 8, showing the rank number while the key is held down, and the pieces in position on the rank when released. The symbols used are described in Section II. The display returns to showing rank 1 following display of rank 8. To return to showing the moves press [ENTER].

Note that **MORPHY** uses his internal board to make trial moves, when he is thinking. You can watch **MORPHY** move the pieces by pressing (RANK) when it is his turn.

Modifying the Board

When it is your turn to move, any piece can be added to or removed from the board as follows:

1. Step up to its rank using the [RANK] key. Clear the rank if necessary using the [CE] key.
2. Step across to its square using the [—] key. The [—] starts with file A and advances one square when pressed. After reaching the right-most square, the hyphen returns to the left.
3. Change the color of the piece located at the hyphen by using the [B/W] key if necessary; note the hyphen will form the base of the new piece. The [B/W] will invert the hyphen, displaying it while pressed, and may be used to find the hyphen without advancing it.
4. Create the new piece using the []-[] keys. The [0] key erases the piece on a square. The hyphen is then advanced to the next square automatically.
5. Return to step 1 or 2 for further modifications. When finished, return to playing mode by pressing [ENTER]. IF THE LAST PIECE YOU ENTERED WAS WHITE, **MORPHY** ASSUMES THAT IT'S WHITE'S TURN TO MOVE NEXT. IF THE LAST PIECE YOU ENTERED WAS BLACK, **MORPHY** ASSUMES THAT IT'S BLACK'S TURN TO MOVE. **MORPHY** SHOWS THE SIDE TO MOVE BY THE POSITION OF THE HYPHEN. (UP-BLACK, DOWN-WHITE).

This modifying procedure can be used to correct an inadvertent error on your part, to set up a particular chess problem, such as a mate in three problem, or to play out a variation on any game. For example, to set up for the mate in three problem below, follow this sequence:

SPECIAL NOTE: **MORPHY** does not employ his best end game strategies until after the end game indicator is on. If you want to set up an end game problem to practice against **MORPHY**, make sure this indicator is on. (See End Game Indicator.) The quickest way to accomplish this is to set **MORPHY** on level 0 and repeatedly press [B/W] until the indicator lights. Then set up your end game practice problem.

White to Mate in 3:

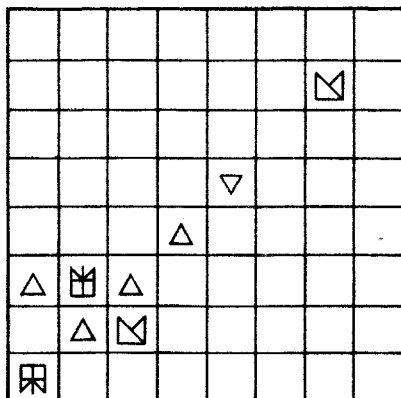
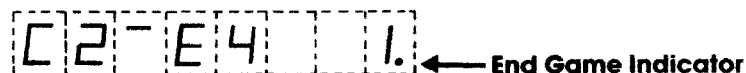


FIGURE 7

1. Switch **MORPHY** on by moving the ON/OFF switch to the center position. Be careful not to go past the center.
2. Press [RANK] to display the pieces set up on rank 1. Since you need to remove all of the displayed pieces, press [CE] to clear the entire rank. Then press the [B/W] key to move the hyphen to the top of the left most digit, thereby preparing to create a black chess piece. Then press the [BK] key to create a black king on A1.
3. Press [RANK] to advance to the second rank then [CE] to clear the rank. Press the hyphen key [—] to advance to the second left most digit. Press the [B/W] key to move the hyphen to the bottom of the digit to create white chess pieces. Press [△] and [BK] to create a white pawn at B2 and a white bishop at C2.
4. Press [RANK] to advance to the third rank. Then press [△], [BK] and [△] to create a white pawn at A3, white king at B3 and a white pawn at C3.
5. Press [RANK] to advance to the fourth rank. Then move the hyphen to the D file by repeatedly pressing the [—] key 3 times. Then press the [△] key to create a white pawn at D4.
6. Press [RANK] to advance to the fifth rank. Press the [—] key 4 times to move the hyphen to the E file. Press the [B/W] key followed by the [△] key to create a black pawn at the E5 square.
7. Press [RANK] twice to advance to the seventh rank. Press [CE] to clear the rank. Press [—] 6 times to move to the G file. Press [B/W] then [BK] to create a white bishop at the G7 position.

8. Press [RANK] to advance to the eighth rank. Press [CE] to clear the rank.
9. Press [RANK] to step through the eight ranks to insure that the computer is properly set up.
10. Press [ENTER] to move out of the rank mode.
11. Set the computer to [LEVEL] [6], then press [ENTER] again.

To see the solution, press [B/W] to allow **MORPHY** to make white's move. The computer should respond with MATE IN THREE, and display —



Press [HINT] for Black's response then [ENTER] to make it. After following this procedure three times, **MORPHY** will reply with the mating move.

Underpromotion

MORPHY automatically promotes a pawn to queen when it reaches the eighth rank. If you want to promote a pawn to a lesser piece than a queen, you may perform your move by modifying the board. Remove your pawn on the seventh rank and create the promoted piece on the eighth rank.

Memory

This feature has a dual purpose. The first is to allow contiguous play of game cartridges. As you are finishing play of one cartridge and want to continue play on another, you first stop the computer's thinking by depressing the (RANK) key, slide the ON/OFF switch to the memory position, remove the first cartridge, insert the second, and then move the ON/OFF switch back to ON.

NOTE: Contiguous play is offered on this **MORPHY** cartridge. However, it is not offered with all of Applied Concepts' game cartridges.

The Memory position feature also allows you to interrupt a game in progress for continuation at a later time. Again, just press the RANK key, slide the ON/OFF switch to the MEMORY position until you are ready to continue the game. Then slide the ON/OFF switch back to ON and you will be ready to pick up play with **MORPHY** where you left off.

CAUTION: Power MUST be maintained to the game computer at all times during the MEMORY position function. Otherwise this feature will not work. If the unit does not have the optional battery pack, then the power adapter/charger must be plugged in.

IMPORTANT NOTE: Press the [RANK] key before using this MEMORY feature. This will stop **MORPHY** from thinking on your time and insures that the board will be set up correctly when you resume play. FAILURE TO PRESS [RANK] WILL RESULT IN AN INCORRECT BOARD POSITION WHEN THE GAME IS RESUMED.

Playing From a Position

You may use the modifying technique to set up an arbitrary position, entering the pieces rank by rank as above. Set the hyphen for your side prior to leaving RANK mode. Key in a move, and press [ENTER].

Watching MORPHY Compute

While **MORPHY** is analyzing the board, you can see the moves he is contemplating flashing in the display. He will select the best move he has reached when his response time has elapsed. Press [RANK] while he is thinking, and you can watch him moving the pieces while he is scanning for his best move. If he reaches a decision while you are still holding [RANK] he will automatically override the rank control and display his move.

Illegal Moves

If **MORPHY** appears to make an illegal move, you and he have probably read a move differently. During play, be sure to wait for **MORPHY** to display his responses before you move his pieces; do not try to anticipate him, even on the most obvious capture moves. **MORPHY** may not have chosen an obvious move, and second-guessing may cause problems later in the game.

The feedback/move indicator is designed to be viewed from directly in front of it. If you look at the display from an angle, it is possible to misread a board position and move a piece incorrectly. This will result in ILLEGAL MOVE displayed at a valid later move, because the computer has the pieces at one position and you have them at another.

When illegal move confusion occurs, use the [RANK] key to view **MORPHY**'s board and restore it to the position before the error occurred. Be sure to leave the hyphen on the correct side before leaving RANK mode. Key in your move if it is your turn, and press [ENTER] or if it is **MORPHY**'s turn, just press [B/W].

If **MORPHY** rejects your move as illegal, again be sure you and he do not disagree on the position. Remember **MORPHY** will not allow you to move your king into check or leave him there. Also, **MORPHY** will not allow you to move his pieces, so be sure the hyphen is set for your side of the board. Of course, if you really have no legal moves, **MORPHY** has stalemated you and the game is a draw.

End-Game Indicator

In conjunction with the Contiguous Play Option, **MORPHY** has a method of telling you when he has finished mid-game play and is entering his end-game. This is so that if you have the companion cartridge, Capablanca Edition of Master Chess end-game strategies, you now know it is time to utilize it. The end-game indicator is evident as a dot immediately to the right of the move number on the feedback/move indicator.

You now have the option of continuing play with **MORPHY**'s end-game, or installing Capablanca. To play Capablanca, you must depress the [RANK] key to stop **MORPHY**'s further computation, move ON/OFF switch to MEMORY position, remove **MORPHY** and insert Capablanca. Move ON/OFF switch back to ON and pick up your end-game play.

Factory Service

If **MORPHY** does not perform as described and you are following the instructions, try using a different electrical outlet.

Play verification may be made by letting **MORPHY** play against himself repeatedly by pressing [B/W]. Verify that he makes legal moves for both sides. If a problem is still noted, record the events and moves leading to the problem and contact the factory by mail or phone.

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