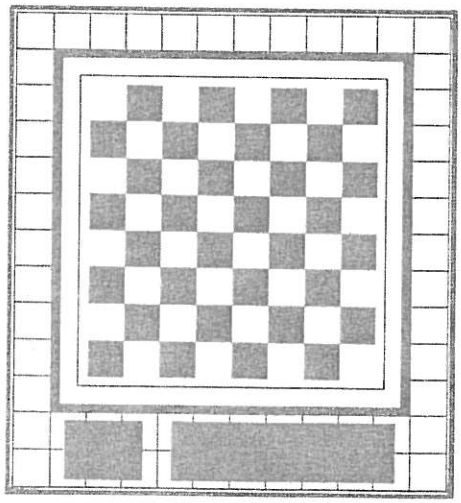
HANIMEX

# COMPUTA CHESS

## HCG1900

# User Manual



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## 1. INTRODUCTION

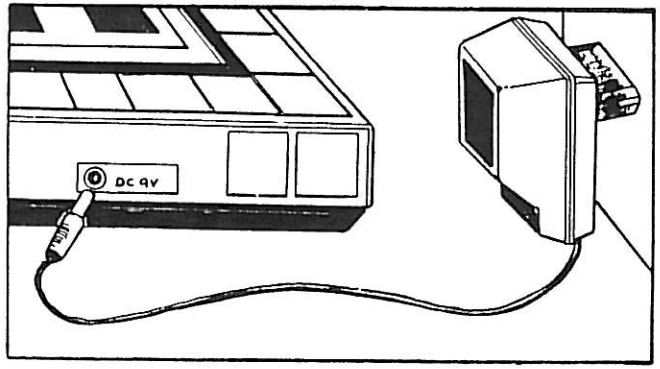
Your **HCG 1900** is a chess computer in the true world championship class. Developed from the program which won a clear victory in the second European Microcomputer Chess Championship, it has since undergone major modifications which have greatly enhanced its ability. Whether you play it under regular tournament conditions or challenge it to a 'blitz' game, you will find it a formidable opponent.

The **HCG 1900** is not only distinguished by its playing strength, it's also extremely easy to use. You simply move your piece on the board as if you were playing a human opponent, and the computer automatically senses which move you have made. Sections 2 – 4 of this manual are all you need to read in order to get a game started. However, once you've gained some familiarity with the machine, you should carefully read the rest of the manual, to find out about all the interesting features with which the **HCG 1900** is equipped.

## 2. POWER SUPPLY

The **HCG 1900** comes along with an AC adaptor. To connect up the power, first, turn off the game, connect the adaptor line cord to the power jack located at the rear side of the game, then plug the adaptor into an AC wall outlet.

The **ON/OFF** switch is on the left hand edge. The computer is off when the switch has been slid towards you.






## 3. BEFORE STARTING A GAME

Set up the pieces in the starting position, and switch on the power. The machine gives a double 'beep', and eight red lights ( on the control panel ) briefly flash. After that, the light labelled **WHITE** remains on. Play can now begin.

**If any pieces aren't properly centred on their squares, the lights on these squares will shine and the machine will beep only once.** (If a large number of pieces are displaced, the lights will flash on and off.) As soon as you've adjusted the pieces, the lights on the squares go out, and the second beep tells you the computer is ready for play.

Normally, the computer expects White to be playing 'up the board' (with the control keys at White's right). If Black is going to play 'up', you must next press the key labelled **BLACK.**

Before making a move, you may adjust the computer's level of playing strength if you like. See Section 7.

If you are playing Black, start the game by pressing the **MOVE** key. The computer then indicates White's first move as described below. To play White, go straight to Section 4.

## 4. MAKING MOVES

Move your piece just as you would on an ordinary chessboard. When you pick it up, the light on the square it was occupying comes on. When you place it on its new square, the light on this square comes on too for a moment – then you hear a beep, and the lights on the board go out. The computer has now registered your move.

In the opening stage of the game, the computer, like a human opponent, may reply to your move immediately. On the other hand, if it needs time to think, the light labelled **WHITE** or **BLACK** (whichever colour it's playing) repeatedly 'blinks'. Then a beep tells you it is ready with its move.

The computer shows you which piece it wants to move by flashing the light on the square that this piece occupies –

while, on the square where the piece is going, the light shines continuously. Move the piece as indicated (as soon as you pick it up, the light on the departure square starts flashing more slowly). When the move is completed, the machine beeps again and the lights on the board go out. It is now your turn; until you move, the **WHITE** or **BLACK** light (the colour that you are playing) continuously shines.

**If you've made a move and the computer doesn't appear to register it, pick up the piece and put it down again centred on its new square.**

## 5. SPECIAL MOVES

**Captures.** Proceed as you would when using an ordinary chess set. The captured piece may be removed before or after the capturing piece is picked up. When the computer makes a capture, it shows the move of its piece in the usual way. captured pieces may be placed in the drawer that pulls out on the right-hand side.

**Pawn captures 'en passant'.** These are handled like any other capture. If you don't remove your opponent's captured pawn without delay, the 'error' buzz (see Section 8) reminds you to do so. When you carry out the capture with one of the computer's pawns, the square occupied by your own pawn is illuminated until vacated.

**Castling.** To castle, move the king first, then the rook. If the computer wants to castle, it indicates the king's move; when this is carried out, the old and new squares for the rook are illuminated until the move is completed.

**Promotion of pawns.** If you advance a pawn to its promotion square, four 'piece' lights ( ♕ ♖ ♗ ♘ ) will blink in unison. To tell the computer which piece you want, press the key next to the appropriate symbol. Then the pawn can be replaced on the board by the piece (if available).

When the computer promotes a pawn, it always makes it a queen.

**Check.** Whenever one of the players is in check, the **KING(♔)** light shines until the next move is made.



## 6. RESULT OF THE GAME

**Checkmate.** If either player is checkmated, the **KING** light comes on together with all the lights on the 'A'-file (the column of squares on the extreme left of the chessboard).

**Stalemate.** If a player is stalemated, the 4 lights in the bottom half of the 'A'-file come on.

**3-fold repetition.** If the same position occurs 3 times (with the same side to move), the computer announces a draw by switching on the 4 lights in the top half of the 'A'-file.

**50-move rule.** If no pawn is moved and no piece captured during 50 consecutive moves (made by one player and answered by his opponent), the computer announces a draw in the same way as in the case of 3-fold repetition.

A new game can be started at any time. Set up the pieces, press the key marked **NEW GAME,** and return Section 3. (Press **BLACK** if required, then make your first move or press the **MOVE** key.)

Note that whenever you have switched off the power, the computer assumes that a new game is starting when you switch on again.

## 7. LEVELS OF PLAYING STRENGTH

There are various levels of skill at which the **HCG 1900** may be instructed to play. Obviously, it plays more strongly the more thinking time it has for its moves. The following table gives the approximate average time taken for a move on Levels 1 – 9:

| Level | Time |
|---|---|
| 1 | 1 second |
| 2 | 6 seconds |
| 3 | 15 seconds |
| 4 | 30 seconds |
| 5 | 45 seconds |
| 6 | 1 minute |

| Level | Time |
|---|---|
| 7 | 1 minute 45 seconds |
| 8 | 2 minutes 45 seconds |
| 9 | 3 minutes 30 seconds |

On **Level 10**, the computer automatically adapts its rate of play to match that of its opponent. It measures your average thinking time over a series of moves, then speeds up or slows down as appropriate.

When computing a move on **Level 11**, **HCG 1900** recognizes no time limit, and will normally keep on thinking until you actually instruct it to play – which you do by pressing **MOVE.** If you fail to do this, the computer will not make a move unless:

(a) it has a 'theoretical' move available (see below);
(b) it finds a forced mate;
(c) it runs out of memory for its analysis;
or (d) there is only one move it can legally make.

**Level 12** is used when you want the computer to solve a chess problem. See Section 16.

The level on which the computer is currently playing may be checked any time when it is your move. Press the **LEVEL** key. If one red light now comes on at the bottom of the 'H'-file (the column of squares on the extreme right), the computer is on Level 1. If 2 lights in this file come on, it's on Level 2 – and so on, up to Level 8. Level 9 is indicated by a single light at the bottom of the 'G'-file (second column from the right); 2 lights in this file indicate Level 10 – and so on, up to 12. When you first switch on, the computer is set for Level 2.

Once the level is displayed, you can change it, if you want, by pressing the **LEVEL** key again. A momentary key-press takes you one level higher. If you press the key repeatedly or hold it down, the level keeps changing – up to 12, then, back to 1, 2 . . . and so on. When the level that you want is displayed, carry on with the game. The lights stop indicating the level as soon as you move a piece or press another key



(except **SOUND**). The level remains the same until you change it again – you may do so as often as you like in the course of a game.

**Note.** (a) The times in the table above are only averages. On any level, the computer's rate of play can vary a good deal with the complexity of the position.

(b) When it's your turn to move, the computer still keeps thinking; so if it correctly predicts your next move, it may reply immediately, irrespective of the level.

(c) The computer possesses 'theoretical' knowledge of many standard opening variations, so the first few moves of a game are always likely to be played fast. In a position where it has several theoretical moves available, it chooses between them at random.

(d) The **MOVE** key may be used on any level, during the computer's thinking time, if you want the next move to be played immediately. The computer then plays the move indicated as best by its analysis up to that point.

## 8. ILLEGAL MOVES

If you make an illegal move, the computer emits its 'error' signal (a dull buzz), and the squares vacated and occupied by your piece remain illuminated. Complete a legal move with this piece, or replace it on its original square and reconsider.

The computer will likewise refuse to register your move if any other piece on the board has become displaced. The lights show you which squares are vacant when the computer thinks they should be occupied, or vice versa.

## 9. CHANGING SIDES

If you press the **MOVE** key when it's your turn, the **HCG 1900** will compute a move for the side you have been playing,

and will expect you to take over the other side.

You can change sides like this as often as you like. If you press **MOVE** every time a move has been carried out, the computer will be playing an entire game against itself.

## 10. PLAYING BOTH SIDES

It's possible for you to play a continuous sequence of moves for both White and Black; this means that you can (for example) make a game begin with any opening variation of your choice. Press the key marked **SET UP.** Then press **MOVE.** The light next to the **SET UP** key now starts blinking, to show that you may enter moves for both sides.

When you arrive at the position from which you want the computer to start playing, re-press the **MOVE** key. The **SET UP** light goes out, and the game can proceed in the normal manner.

## 11. TAKING BACK MOVES

If the computer has registered your move and you then decide to take it back, this is easily done. Wait for the computer to announce its reply (or press **MOVE** to make it do so at once). Then press the **TAKE BACK** key. The lights on the board go out. Now press **TAKE BACK** once more, and the lights will indicate your last move (in reverse). Retract this move, and when the lights go out again you are free to make another one in place of it.

If you want, you can retract a series of moves by both sides. Simply repeat the procedure of pressing the key and then moving the piece back as indicated by the lights. Don't forget to replace any piece that was captured. Usually you will be able to go back like this as far as you like. However, if the game has lasted longer than 40 moves, only about the last 8 moves (for either side) can be retracted. Notice that taking back an odd number of 'half-moves' has the effect of changing sides.

Even when the computer has indicated the result of a game as



in Section 6, you may still retract one or more moves and carry on playing.

## 12. REPLAYING MOVES

The **FORWARD** key has the opposite effect to the **TAKE BACK** key; it enables you to replay any move or moves that you have just retracted.

Suppose that after playing 30 moves of a game, you want to go back and look at a position that arose 5 moves earlier. Take back the last 5 moves as described in Section 11. Then, when you've finished examining the position, press the **FORWARD** key. The lights will now indicate the last move that you took back. Replay this move, then press **FORWARD** again to enable you to replay the next move . . . . In this way you can return to the position you had reached in the game, and resume play from there. Moves can be retracted and replayed as many times as you like.

If you give the **FORWARD** key another press after arriving back at move 30, the computer may indicate the move which it was expecting you to play next. If you don't want to make this move, you can cancel it with the **TAKE BACK** key and play something else.

Another time, you may want to play through **all** the moves made in the game so far. You can do this whether or not the game is finished, provided it has not lasted more than 40 moves. Press **NEW GAME** (followed by **BLACK** if Black is playing 'up'), set up the starting position, and press **FORWARD** . . . . Each move can now be replayed with the **FORWARD** key, in the manner we have described.

After each move replayed, you have the option of carrying on playing from the position on the board. Simply make a move in the usual way (i.e. without pressing **FORWARD** first), or press **MOVE** to make the computer move. Note, however, that if you do this after replaying (say) 20 moves of a 30-move game, you erase the computer's memory of moves 21-30 as previously played.

## 13. HINT

If you press the **HINT** key when it's your turn to move, the computer will suggest a move for you to play, by flashing the lights on two squares. (You aren't, of course, compelled to follow the advice.)

If you press **HINT** while the computer is thinking, the flashing lights show you what move it assesses as best at the current stage of its analysis.

When you lift a piece off its square or press another key (except **SOUND**), the 'hint' move ceases to be displayed.

## 14. CHECKING THE POSITION

In case of confusion (if, say, pieces get knocked off the board), you can make the computer show you where every piece should be, according to its memory. This can be done at any time except when **HCG 1900** is computing or announcing a move, or while you are 'setting up' a position (see Section 15).

For example, suppose it is White's move and you want to check the positions of the pawns. Press the ♙ key. The light next to this key comes on, and so does the light on every square where a white pawn should be, Or, if White has no pawns left, you will hear the 'error' buzz.

Next, press the **BLACK** key. Now the positions of the **black** pawns are shown, by lights flashing on and off.

This display is cancelled as soon as you press another key (except **SOUND**) or pick up a piece.

In a similar way, all other pieces can be checked by means of the corresponding keys. If it is Black's turn to move, the black pieces will always be demonstrated first and you will need to use the **WHITE** key to check the white pieces. When you've checked as many pieces as you want, carry on with the game.



## 15. SETTING UP A POSITION

It is possible to construct a special position on the board, with the pieces on any squares where you want them, and to tell the computer to play on from there. You will do this if you want the computer to solve a chess problem.

For this purpose, begin by pressing the **SET UP** key. The light next to this key then comes on. As long as this light is shining, you have the following possibilities: —

(a) You may remove any or all of the pieces from the board. When you pick a piece up, the light on the square comes on, then goes out again with a beep a moment later. The piece has now been erased from the position in the computer's memory.

(b) You may insert pieces on the board on any squares where you want them. In order to insert (for example) a white bishop, first press the **WHITE** and ♗ keys, to tell the computer the colour and type of your piece, then place it on the desired square.

When you press a 'colour' or 'piece' key, the corresponding light comes on. As long as the 'White' light is on, the computer assumes that all pieces entered are white ones; with the 'bishop' light on, any piece placed on the board is assumed to be a bishop. In order to enter (for example) a number of black pawns, press the **BLACK** and ♙ keys first.

When the position is ready, make sure the computer knows which side is to move. If the **WHITE** light is on, the computer assumes that White will move next unless you tell it otherwise. Press the **BLACK** (or **WHITE**) key if appropriate.

Then conclude by pressing **SET UP**. The light next to this key goes out, and play may proceed. (Press **MOVE** or make a move yourself.)

**Note.** (a) **Illegal positions.** If you've set up a position that could not legally arise in a game (if a pawn is on the back rank, for instance, or Black's king is in check when White is to move), then when you

conclude by pressing **SET UP** all the lights in the 'A'-file will flash on and off. Play cannot proceed from this position, though if you want you may check the placing of the pieces as in Section 14. Press **SET UP** again and alter the position to make it legal.

(b) **Castling.** There can be no castling with a king or rook which has been entered on the board in the way described above. If you want to construct a position in which White (say) may castle king's side, you can do so as follows. Put the white king and king's rook on their starting squares and remove other pieces from the board. Press **NEW GAME**, then press **SET UP**. Now enter the other pieces on the desired squares, while leaving the king and rook alone.

(c) **'En passant' captures.** After you've set up a position, the next move cannot be a capture **en passant.** To construct a position where such a capture is possible, set up the immediately preceding position then make the move which permits the capture.

(d) **Taking back moves.** When you play on after setting up a position, you will not subsequently be able to take back a sequence of more than 16 'half-moves'. However, if in the course of a game you press **SET UP** and then re-press the same key without having altered the position, the computer's memory of the preceding moves is unaffected and they may be taken back and replayed as usual.

## 16. CHESS PROBLEMS

Most chess problems require the solver to find a way to force checkmate within a certain maximum number of moves, against any defence. **HCG 1900** can solve problems for



mate in anything up to 4 moves.

Set up the position as in Section 15. Select Level 12. Then press **MOVE.**

The computer will now keep thinking until it finds a way to force mate, or discovers that this is impossible within 4 moves, or runs out of memory. (If it fails to find a mate, it will simply play the move it considers best; also, if there is only one legal move available, the computer will make it immediately.)

When the computer makes its move, you can make one for the defending side, and the computer will work out the next move of the solution. After that, you may wish to take back the last move by the computer and yourself, and play an alternative defensive move, to see how the computer answers it.

**Note.** **HCG 1900** cannot solve a problem that requires an 'under-promotion' (promotion of pawn to rook, bishop or knight).

## 17. SOUND

Press the **SOUND** key if you prefer the computer to operate without its audio signals. The sounds can be switched on again by re-pressing the same key.

## INTERNATIONAL LIMITED WARRANTY
### MODEL H C G 1900

This product is warranted to be free from defects in workmanship and materials for a period of 6 months from the date of purchase. If repairs are necessary during this period, because of any such defects, then at our option the product will be either repaired or replaced free of charge with an equivalent product. SATISFACTORY PROOF OF THE PURCHASE DATE MUST BE FURNISHED AT THE TIME OF NOTIFICATION OF THE DEFECT FOR ANY CLAIM UNDER WARRANTY TO BE ENFORCEABLE.

This warranty will become invalid if the product has been subjected to modifications, abuse, improper treatment and/or if any defect is caused by repairs made by any unauthorised person. There are no warranties express or implied except for those which are stipulated herein and those which are implied and cannot be excluded in law provided that in those countries and states where it is possible to limit the implied warranties of merchantability and of fitness for a particular purpose to the duration of this warranty they shall be regarded as being so limited.

This warranty does not cover batteries, damaged caused by batteries, film, damage to film, lamps, flashlamps or flashbulbs, where applicable. FURTHERMORE, INCIDENTAL AND CONSEQUENTIAL DAMAGES OF ALL KINDS WHATSOEVER ARE EXCLUDED IF AND TO THE EXTENT TO WHICH IT IS POSSIBLE TO DO SO IN LAW.

Returns must not contain batteries, should be properly packaged, and prepaid to your nearest Hanimex branch or alternatively through your dealer.

This warranty gives you specific legal rights and you may have additional rights and remedies which either cannot be excluded or limited in law or which have not been excluded or limited by the terms of this warranty and which may vary from state to state and from country to country as, for instance, some states in the United States of America do not allow exclusion or limitation of incidental or consequential damages and in France this warranty cannot preclude the operation of article 1641 and other articles of the French Civil in relation to latent defects.

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