CONTENTS

IMPORTANT

PLEASE READ THIS CAREFULLY BEFORE USING YOUR CONCHESS CHESS COMPUTER.

1. Ensure that the power supply unit is properly connected both the chess computer and an AC power supply.

2. Ensure that the power supply rating matches the AC supply (240V or 115V).

3. The power supply unit supplied with your chess computer has been specifically designed for its power requirements. No other unit should be used.

4. Ensure that the computer cartridge is properly inserted into its slot underneath the unit, and is secured by the grooves at both ends.

5. Ensure that the chess pieces are correctly positioned and placed in the centre of their squares. If a piece is not correctly placed in the centre of its square the light on that square and the light at the symbol $\left[\dagger\right]$ will continue to light until the piece is properly placed.

6. The chess pieces supplied with your CONCHESS are fitted with magnets. The chess computer will not operate with pieces without magnets. If you lose or damage a chess piece, replacements may be obtained from your local retailer or distributor at small charge.

1 INTRODUCTION

We are delighted that you have chosen a CON-CHESS chess computer, and wish you many hours of pleasure from this game of Kings.

CONCHESS is an internationally developed product, combining playing strength, many exciting features, ease of operation, and adaptability for future developments.

All CONCHESS models have two cartridge spaces so that additional special programs which are currently under development may be used by merely plugging them in.

All the cartridges for all models are interchangeable which means that any new programs will fit in any CONCHESS model.

Before starting to use your CONCHESS, we advise you to read this instruction manual thoroughly, and to take special regard of the important notice overleaf.

2.1 SETTING UP FOR PLAY/OPERATION

Your CONCHESS is ready for play when the power pack has been connected up to power (a wall socket) and into the unit.

The power supply is connected to the chessboard through the side moulding into the din socket. The cartridge may be plugged into either socket underneath the unit. (Ensure that the cartridge is plugged in completely and is correctly located and secured in the grooves at BOTH ends).

2.2 EXECUTING MOVES

Pieces are moved in the traditional manner as on a normal chess board. The computer automatically recognises the player's moves and confirms these visually by illumination and by audible tones. The computer indicates it's own move by illuminating the 'from' square light. After you lift the piece, it will indicate the 'to' square by illuminating that light, which goes out when the piece is put correctly on the 'to' square.

NOTE: Do not slide pieces across the playing surface as the computer will accept the first legal square that the piece traverses.

Capturing Moves: Pieces captured must be removed from the board first.

Castling: The King must be moved first.

Pawn Promotion: When a pawn arrives at the promotion rank, the light at ⬆️ will illuminate, as will the lights at 👑 🏰 and 🐴 ♝. Remove the pawn from the board, place the selected promotion piece on the board and press the button at 👑 🏰 or 🐴 ♝ to tell the computer what you have chosen. A tone will confirm the promotion.

When the computer brings a pawn to the promotion rank it indicates its piece selection by a light at its chosen piece symbol. Having placed the selected piece, you confirm it to the computer by pressing the button at the piece symbol, the light goes out, and play is continued.

2.3 EN PASSANT PLAY

CONCHESS is programmed to play and capture pieces by the En-Passant rule, and will recognise En-Passant capture by the player.

The computer indicates EP capture by a constant light on the attacking pawn square, and a flashing light on the captured pawn square. The captured piece is removed first and the attacking pawn then moved to its new square, indicated by a flashing light. Play can then continue.

When you want to capture by EP, just remove the captured pawn, and then move the attacking pawn to its new square.

The En-Passant Rule

When a pawn (white) is played from the 2nd row to the 4th row, eg. **C2 – C4** a black pawn on the fourth row at either **B4** or **D4** is permitted to capture the white pawn, as though it had only moved to **C3**, and the black pawn moves to **C3** – see diagram below.

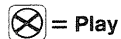**En-Passant capture is only allowed immediately after the white pawn has moved.**

This rule naturally also applies to moves from Row 7 to Row 5.
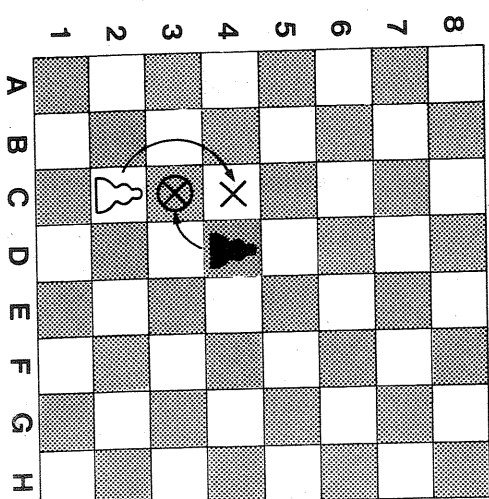
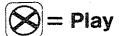## 2.4 COMPUTER INFORMATION TO PLAYER
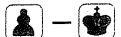
Black to Play

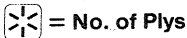⊗ = Play

☀ = Thinking

White to Play

⊗ = Play

☀ = Thinking

Check/Mate/Stalemate

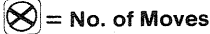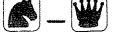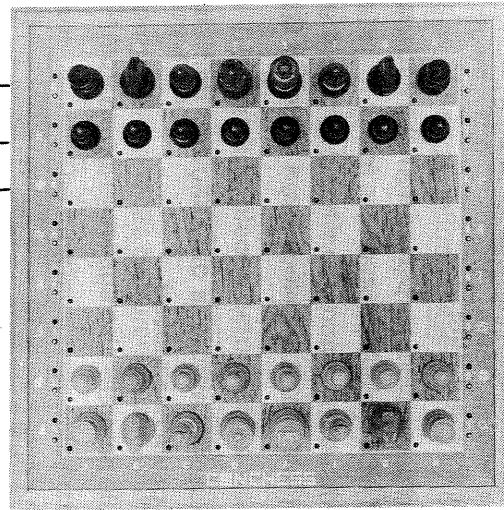♟ — ♚ Depth of Search

☀ = No. of Plys

⊗ = No. of Moves

♞ — ♛ Pawn Promotion Indication

☀ Time Limit Warning

⊗ Time Limit Expired

Pawn Promotion

Piece out of Position or not Correctly Placed

☀ Illegal Move

End of Game

☀ = Flashing

⊗ = Constant

2.5 PLAYER'S OPERATING FUNCTIONS

Select Colour ■ = Black

To Play: □ = White

Practice Levels ↕ 1 — 5 ☀

Tournament Levels ↕ 1 — 5 ⊗

Position Analysis ↕ 6 ☀

Mate Search ↕ 6 ⊗

Position Verification ■ Black

♟ — ♚ □ White

Confirmation of Pawn Promotion

♞ — ♛
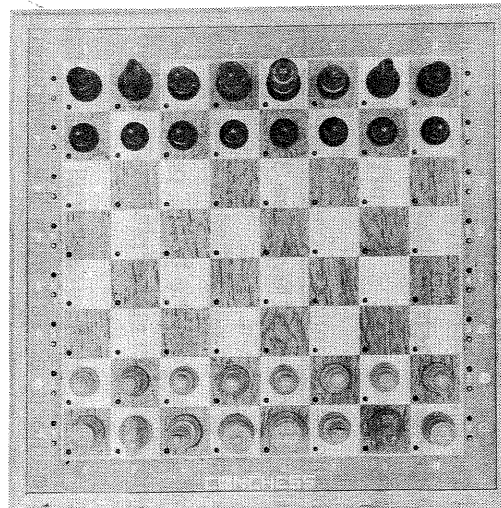
Press to Continue Play After Time Limit has Expired

(a) Level of Play Selection /Confirmation
(b) Retrace Moves after Pressing ┼

Add/Eliminate Pieces (see 5 and 6)

(a) Referee Function (see 8.3)
(b) Verification of Legal Moves (see 4.4)

Move/Countermove Indication/Proposal and Depth of Search (see 7.3 and 7.4)

Alternative Move Selection (see 4.8)

Stop Computer Thinking (see 4.2)
End of Level of Play Entry

Before ● to Clear Memory for New Play Level Selection

Stop Moves and Depth of Search Display Press after ┼ to Program Special

Play Levels (see 5.1)

☀ = Flashing

⊗ = Constant

2.6 THE AUDIBLE TONE

Every legal move will be confirmed by a short audible tone. There is no tone for illegal moves and the move will not be accepted. When the computer has finished its decision making, it will announce its move by an audible tone. If a game is finished by checkmate or stalemate, it is announced by a series of audible tones.

2.7 SETTING UP THE CHESS PIECES

After you have connected your chess computer up to power, and before you place the pieces on the board, the light at ▢ (7) will illuminate.

When you start to place the pieces on the board to begin a game, all the lights on Rows 1, 2, 7 and 8 will light up, and once all the pieces are placed correctly on these rows, all the lights will go out except for ▢.

The computer automatically chooses Practice Level 2. If you wish to play at a different level, see 3 and 4.

If, at the end of a game, you wish to play another game, first remove all pieces from the board, press ◯ ⬤ , the light at ▢ will illuminate, and set up the pieces as above.

Once ◯ ⬤ has been pressed all knowledge of the previous game is erased from the computer's memory, and Practice Level 2 is automatically selected.

3 TOURNAMENT CHESS

With CONCHESS you can challenge your playing strength under tournament conditions. You may play either black or white, and choose from 5 levels of tournament play. CONCHESS plays according to the international rules of chess and will comply with the time limits chosen.

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3.1 TOURNAMENT LEVELS

5 levels of tournament play are offered. In each level there are different time/move parameters, which apply to both colours. The higher the level selected, the longer the allowed average time per move. Therefore, at the higher levels CONCHESS will have a greater depth of search in terms of the number of moves or plys forward it analyses. The computer will average its time for moves and use its analysis time without going over the limit allowed.

CONCHESS continues to analyse its own position during its opponents thinking time, and uses this time to consider possible opponent moves and its own counter-moves.

To select your tournament level, key in as shown on the table below:

SELECTION TABLE FOR TOURNAMENT LEVELS

Tournament Level	Move/Time Limits	Entry	Average Response Time Per Move
T1	60 moves/ 5 mins.		5 secs.
T2	40 moves/ 30 mins.		45 secs.
T3	30 moves/ 60 mins.		2 mins.
T4	40 moves/120 mins.		3 mins.
T5	40 moves/150 mins.		3 mins. 45 secs.

The computer will confirm your level selection by a constant light at the level piece symbol. After pressing ⬛STOP this light and the light at ⬍ will go out.

During a tournament game you CANNOT change into another tournament level, but a change into a practice level is possible at any time.

7

3.2 TO START PLAY

The computer assumes that white plays first. If you play white, the game starts with the execution of your first move. If you want the computer to play white – press button ▢.

The computer will respond to first moves out of its opening moves memory and in doing so will save thinking time, but if you play a move which is not memorised or if the counter-move is not memorised, the computer will start thinking about its next move.

When it is the computer's turn to play, it may respond quickly, or take some time to decide on its move. While the computer is thinking, the light at ▢ or ■ will continue to flash, and when it has decided on its move, that light will go constant, the light on the 'from' square will go on, and an audible tone will be heard.

3.3 END OF GAME

If a game is finished by stalemate, it will indicate it by lights at 🔘 and ▢ or ■, and a series of audible tones.

End of a game by checkmate will be indicated by lights at 🔘 and 🤚 together with a series of audible tones.

3.4 TIME CONTROL

CONCHESS will play the required number of moves within the time limit set by the selected tournament level. The player must also play within the time limit. The computer will warn the player of over-use of time in making a move by a flashing light at 🔘.

If the player does not make the required number of moves within the time limit, the computer will award the game to CONCHESS and stop play with constant lights at 🔘 and 🔘.

Play may be continued by pressing 🔘. The previously selected playing level will still apply, but there will no longer be any time control (the game is officially over!).

4 CHESS PRACTICE AND TRAINING

4.1 PRACTICE LEVELS

The computer has 5 practice levels available. Contrary to tournament play, there is no time limit and therefore no time control. Depending on which practice level is selected, the computer's depth of search is limited, as shown in the table below.

In practice levels CONCHESS will analyse all possible moves up to the limits of the depth of search permitted at that level and play its best move.

To select your required practice level, key in as shown on the table below:

Selection Table for Practice Levels

Practice Level	Depth of Search	Entry	Average Response Time
P1	1 ply	↔ ♟ STOP	5 secs.
P2	2 plys	↔ ♞ STOP	15 secs.
P3	3 plys	↔ ♝ STOP	60 secs.
P4	4 plys	↔ ♜ STOP	5 mins.
P5	5 plys	↔ ♛ STOP	30 mins.

The computer will confirm your level selection by flashing the light at the level piece symbol. This is stopped by pressing 🔘. You may verify which level you are in by pressing ↑ and then pressing 🔘 to stop the light flashing.

NOTE: You can change practice level at any time during practice play. This is done by keying in the level entry sequence above when it is your turn to move.

TO INTERRUPT AND STOP THE COMPUTER DECISION ANALYSIS

By pressing 🛑 you can stop the decision analysis of the computer. The computer will then play the best move it has explored up to that time. If there is no acceptable move analysed by the computer at that time, it will simply ignore your entry, and make its decision in time. **This cannot be done in tournament level play.**

4.3 MOVE PROPOSAL AND COUNTER-MOVE-MOVE INDICATION

When it is your turn to play, CONCHESS will show its proposal/expectation of your next move if you press ❓ . Your expected move and its counter-move will be shown by alternately flashing lights on the 'from' and 'to' squares for one piece of each colour.

You may accept a proposed move by making it, or you may ignore it and make another move.

While showing these moves and counter-moves, the computer also indicates its depth of search and its thinking process (see 7.3 and 7.4).

While the computer is playing opening moves or counter-moves from its memory, it may not give move proposals.

This function is stopped by pressing ⬜ .

4.4 VERIFICATION OF LEGAL MOVES

If you are unsure of all possible legal moves for any piece, CONCHESS will help you.

By pressing ♟ when it is your turn to move and lifting the appropriate piece, the computer will show all legal moves for that piece in the current playing position by flashing the 'to' squares lights and lighting the 'from' square.

Pressing ⬜ will stop this indication.

4.5 TAKING BACK MOVES

CONCHESS memorises all moves of a game or any problem solving or analysis exercise carried out on it.

After making a CONCHESS move, the computer will retrace all moves of a game or exercise back to the start, or to any desired position, or to where a change of move occurred.

Press ⊕ and the move to be retraced will be shown by flashing lights on the 'from' and 'to' squares. As each re-trace is made the next will be shown. When no further re-trace moves are possible, ⬤ will flash.

When captured pieces are to be replaced the computer will flash the lights at the appropriate piece symbol and colour on the left hand side of the board.

To reverse a promoted piece into a pawn, the computer flashes the pawn symbol light and having completed the reversal, you confirm it by pressing ♟ .

The re-trace mode can be stopped **only after re-tracing a player's move** by pressing 🛑 . You can then continue the game. The colour to play will be indicated, or you can change colours as described in 4.7.

NOTE: Do not attempt to start a re-trace while the computer is thinking.

4.6 TRACE FORWARD OF RE-TRACED MOVES

All re-traced moves can be played forward until the last computer move or to the end of the game.

When a trace-back is completed to any desired point, the computer will replay forward to last position by pressing ⊡.

During replay, you play the moves as indicated by flashing lights on the 'from' square to the 'to' square. In pawn promotion, you must press the symbol which is lit to confirm the promotion after you have exchanged the pawn.

If you want to see an entire game replayed from the start press ⊡, place pieces in the start position, then press ⊡ and replay will commence.

The programme indicates end of trace forward by lighting ⊙.

The trace forward mode is terminated at any time by pressing ⬛.

4.7 CHANGING OF COLOURS DURING A GAME

CONCHESS is programmed to be able to change colour during a game. To do this wait until after a CONCHESS move and then press ☐ or ⬛. CONCHESS will then play its new colour. This feature is very useful in problem solving (5) and when using CONCHESS as a learning aid.

If you have decided to change colour, and also want to change a previous computer move, you first change colour and then take back moves as described in 4.5. CONCHESS automatically plays its new colour.

Change of colour is not possible in tournament level play.

4.8 ALTERNATIVE MOVE QUERY

If, on the computer's move, you want to check whether it has alternative moves with a similar strategic value, you do not execute the move indicated, but lift the indicated piece and replace it on its 'from' square, then press ⬘ and the computer may show an alternative move. If a different move is not given, no move of similar value was available.

5 PROBLEM SOLVING

CONCHESS is programmed to analyse, consider and offer its strategy solutions to chess problems.

Any required position or problem may be presented to it.

The computer will only allow legal positions. You may not put a pawn on Row 1; have 2 Kings of the same colour; more pieces of the same colour than is possible by pawn promotion; more than 16 pieces of the same colour, or more than eight pawns.

5.1 ENTERING A PROBLEM

(a) Press ⊙ ⊙ ⊕ ⊙ to clear the board to accept a problem position set-up.

(b) Place the pieces of both colours in the required positions.

(c) To key in the pieces of each colour, press colour– either ☐ or ⬛ then press the appropriate piece symbol ♞ ♜ ♝ ♛ ♚ ♟ or ♞ ♜ ♝, lift each piece of that kind and colour and replace it on its square, and when replaced, the light on that square should be on.

Select kind and colour of next piece and repeat the procedure.

Continue until all the pieces of both colours are keyed in.

(d) Press ⬛ to end entry of problem position.

(e) Verify piece positions as described in 7.1.

(f) Select playing level T1–T5 or P1–P5 as described in 3.1 or 4.1.

(g) Press ☐ or ⬛ to select CONCHESS playing colour.

6 CHANGE OF POSITION

The programme has the facility to allow you to change the position, kind or colour of one or more pieces. Obviously, the computer will accept only legal positions as stated in 5.

6.1 TO ADD PIECES

After pressing ⊞ you may add one or more pieces as described in Section 5 (Problem Solving). By pressing 🔲 you terminate this function.

6.2 TO ELIMINATE PIECES

After pressing ⊞ take one or more pieces away. Press 🔲 to terminate. This may be used for handicap games.

6.3 TO CHANGE LOCATION OF PIECES

If you want to change the location of a piece, you may do it as described in 6.1 and 6.2.

The previous location must be eliminated and the new location must be keyed in.

Press 🔲 to terminate this mode.

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
7 OTHER ADDITIONAL FEATURES

7.1 POSITION VERIFICATION

You may verify all piece positions at any time during play – at the start of a game, after taking back moves, after setting up a problem, and particularly if a number of pieces have been disturbed from their positions or knocked off the board.

By pressing each of the symbol keys 🨞 🨠 🨡 🨢 🨣 🨤 in turn, the white pieces are indicated by a constant light on the piece square and black by a flashing light.

Position may be verified at any time during play, even when the computer is thinking.

If a number of pieces have been disturbed from their positions, the lights at ⊞ and on the squares from which pieces are missing will flash. First put any pieces on each of the squares until all lights go out, then press the symbol keys to establish correct piece positions.

Press ◯ to end this function.

7.2 CORRECTION OF ILLEGAL MOVES

CONCHESS will only accept moves permitted by the rules of chess. Illegal moves will not be accepted, and will be indicated and rejected, so that no further play is possible until it is corrected.

An illegal move is indicated by flashing lights at 🨞 and the 'from' square of the wrongly moved piece, and a constant light on the 'to' square. No audible tone is sounded.

By returning the piece to its 'from' square the illegal move is corrected and play may be continued.

You may verify all legal moves for that piece as described in 4.4.

7.3 INDICATION OF THE THINKING PROCESS

While the computer is considering a move, you may see what it is thinking.

By pressing [?] once, (light flashing at [?]) alternating flashing lights on piece squares will show the move the computer considers best at that time, and the expected counter-move.

By pressing [?] twice, (light constant at [?]) flashing lights on the piece squares will show all the moves and counter-moves the computer is examining at that time.

This function is stopped by pressing [O].

7.4 INDICATION OF DEPTH OF SEARCH

By pressing [?] once or twice, you are shown what the computer is thinking. At the same time, it also shows how far ahead it is thinking in numbers of plys or moves. This is shown by constant or flashing lights on the left hand side of the board as follows:

VISUAL SIGNAL		DEPTH OF SEARCH	
	Blinking	Constant	
♟	1 ply	1 move	
♞	3 plys	2 moves	
♝	5 plys	3 moves	
♜	7 plys	4 moves	
♛	9 plys	5 moves	

7.5 CONCHESS AS YOUR TEACHER – PLAYING AGAINST ITSELF

In this mode, CONCHESS is your teacher. By watching how it plays each colour, you can learn attack and defence play and strategy.

You can also learn game development by using set-up positions, and allowing the computer to play.

First select the level of practice at which you want the computer to play (4.1).

Press [ ] and the computer will play white's opening move, then press [■] and the computer will play black. Continue pressing [ ] and [■] alternately for each move.

Naturally, you as a player can play any colour yourself once the last computer move is executed. You make your desired move and the computer will play the other colour.

While you, the player, are considering your move, the computer is using this time to evaluate its position, and to evaluate counter-moves to your possible moves.

If the computer plays against itself, it does not have the time to think during opponents time, so then you can see the computer's actual calculation time.

8 SPECIAL LEVELS

In addition to the tournament and practice levels described above, CONCHESS has three special function levels:

- position analysis
- checkmate search
- referee/monitor

8.1 POSITION ANALYSIS

The position analysis function is selected by pressing ⬚. Because there is no time limit in this mode, it is particularly appropriate for correspondence chess, mate position analysis and studies of problems.

After setting up a position and selecting this mode, the computer will start its analysis by pressing ⬚ or ⬛ for whichever colour is to play. The computer will calculate as long as is required to find a mate procedure. You can stop the computer analysing, and take its best move by pressing 🛑.

Depth of search and thinking process can be seen by pressing ❓.

8.2 MATE SEARCH

CONCHESS is capable of finding a mate in up to 5 moves.

The mate search function is selected by pressing ↕ ♟ 🛑.

Piece positions are keyed in as described in 5.

In this mode, the computer concentrates purely on achievement of mate for its colour, and no time limit applies. The computer will search and calculate for as long as necessary, once a solution is possible, and in doing so will memorise all moves and counter-moves possible, so its response to a counter-move will be quick.

Counter-moves may be played by the player, or by the computer, in which case, the playing level must be changed

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out of 'Mate' level for each counter-move, and back to 'Mate' level for each computer move.

As usual, depth of search and 'thinking' process can be seen by pressing ❓.

8.3 REFEREE FUNCTION

If the board is switched on, two players may play each other, and CONCHESS will monitor, referee and memorise the game. Illegal moves will not be permitted, and will be indicated as described in 7.2.

This function is selected by pressing ↕ ♖ 🛑. CONCHESS will propose moves for either colour by pressing ❓.

At any time during the game, CONCHESS can take either colour and continue playing it by pressing ⬚ or ⬛.

At the end of the game, or at any point during the game, you may stop play and the computer will replay the whole game for you. This is done by pressing ↕ ↑ ↕ replacing all pieces in the start position, then press ↕ ↑ ↕ and replay will commence (see 4.6).

9 MATE DEMONSTRATION

To test and demonstrate the function of CONCHESS the computer has been programmed to accept the following move combination at practice levels P-1 and P-2, resulting in a win for white.

Player		Computer	
White		Black	
E2	E4	E7	E5
G1	F3	B8	C6
F1	C4	D7	D6
E1	G1	C8	G4
C2	C3	G8	F6
D1	B3	G4	F3
C4	F7	E8	E7
B3	E6	Mate!	

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C O N C H E S S

THE CONTEMPORARY RANGE OF
CHESS COMPUTERS

WORLD CHAMPION CARTRIDGES

OPERATING GUIDE

GLASGOW PLUS VERSION (PLYMATE)

A.   INSTALLATION

   1.   Add-on World Champion Cartridge (A1) 2mhz ROM

        Firstly, the original cartridge (AØ) should be returned to
        Contemporary Chess Computers for a small modification. This
        is essential in order to disconnect the old program. The new
        Add-on cartridge cannot be used until this has been done.

        The Add-on cartridge works in conjunction with the modified
        program cartridge (AØ) and should be fitted into the second
        free slot underneath the board. The two cartridges will then
        work together in tandem and are ready for immediate use in the
        normal way.

   2.   Replacement World Champion Cartridges (A2)
        (2, 4 or 6mhz EPROM versions)

        In each case the existing cartridge (AØ) should be removed and
        the new cartridge (A2) installed in its place. The cartridge
        is then ready for immediate use in the normal way. Similarly,
        the AØ cartridge may continue to be used by removing the A2
        cartridge and installing the AØ.

   3.   All cartridges in your CONCHESS chess computer should be
        supported in place by the small foam packs as supplied.
        (Further packs may be obtained from Contemporary Chess Computers
        for 50p to cover postage).

B.   INSTRUCTION BOOK ADDITIONS

   The new World Champion program contains the following enhancements.

   1.   Practice Levels
        P1 as was is now beginners level (searches to 2-ply)
        P2 as was is now blitz level - 60moves/5 minutes or 5 secs/move
        P3 as was is now tournament level - 60 moves/10 minutes or 10 secs/move
        P4 as was is now tournament level - 60 moves/20 minutes or 20 secs/move
        P5 as was is now tournament level - 60 moves/30 minutes or 30 secs/move

        Ply search times are always variable according to the complexity
        of the position at the time. The timings in the instruction
        book give an approximate idea however.

B. (continued)

2. <u>Tournament Level Options</u>

These have been made more flexible and now all the options that were available at practice levels are also available at tournament levels

    eg: › take back moves
            terminate thinking
            change sides
            change levels etc.

The use of any of these facilities (excepting terminate thinking) will reset the CONCHESS internal timer to start of game, as also will use of alternative move, position set up and exit from referee mode.

T1 as was is now tournament level - 30 moves/30 minutes or 1 min/move
T2 as was is now tournament level - 30 moves/60 minutes or 2 min/move
T3 as was is now tournament level - 40 moves/2 hours or 3 min/move
T4 as was is now tournament level - 40 moves/2½ hours or 3½ min/move
T5 as was is now tournament level - 24 moves/4 hours or 10 min/move

3. <u>End of Game Displays</u>

End of game is indicated by use of the STOP light as before but with the following modifications:-

    steady light for win/loss (by mate or loss on time)

    blinking light for a draw in conjunction with additional blinking lights as follows:-

        Pawn   (1) - for stalemate
        Knight   (2) - for 'non mating material'
                          (eg. K + B / N vs K)
        Bishop   (3) - for threefold repetition
        Queen   (5) - for 50 moves rule

4. <u>Opening Library</u>

This is identical in content to the combination of the existing cartridge (AØ) plus Library Cartridge (LØ). One enhancement is that a Library position is recognised even when set up by the problem of position setting routines (via function $\boxed{+}$ - see instruction book 5.1).

5. <u>Hint Button(?)</u>

The ability to see what the computer is thinking is only available when the computer has come out of its library and started to think.

6. <u>Mate Search</u>

a) <u>Set-up</u>. CONCHESS will now find mate in up to 12 moves. As an additional development it is now possible to inform the computer in advance as to how many moves anticipated, eg. four for mate in four. This is done by setting up mate search level as per instruction manual but prior to pressing the STOP button place a piece temporarily on one square and then remove it (the light on the square will remain lit) as follows:-

B. 6(a) continued

                    A1 = Mate in 1 .... A8 = Mate in 8
                    B1 = Mate in 9 .... B4 = Mate in 12

Obviously if you do not know how many moves exactly are
required it is still possible to follow the mate search
routine' exactly as outlined in the instruction manual.

b) Announcement of mate. CONCHESS will now announce mate
up to twelve moves ahead as follows:-

i)   The normal checkmate signals will be given and the
     first move of the solution will be indicated on the
     board.

plus

ii) The lights on the left hand side of the board will
     also indicate the impending mate for up to mate in
     ten as follows:-

     Light 1 blinking   =   Mate in 1
     Light 1 steady   =   Mate in 2
     ....
     Light 5 blinking   =   Mate in 9
     Light 5 steady   =   Mate in 10

c) Failure to find mate. If CONCHESS should not find mate
in the number of moves requested it will bleep twice and
flash the number one button on the right. The user may
then reset to a new number of moves by pressing first
the number 7 button on the right and then activating the
appropriate square (A1-B4) followed by the STOP button.
CONCHESS will then automatically start searching a
solution in the new number of moves.

d) Alternative solutions (or cooks) . The alternative move
button may be used to detect any alternative solutions in
the same number of moves as that already found. CONCHESS
can find up to a maximum of seven alternative solutions.
If the user requests more and if there are more than
seven then CONCHESS repeats the seventh solution. If there
are no more CONCHESS will announce this via two bleeps as
previously explained.

7. Bugs

All computer programs, ranging from those in use on the Sinclair
Spectrum through to the most advanced IBM operating system have
bugs, such is the state of the art. To wait for a totally bug
free program could take many years which would make little
commercial sense and deprive the public of the availability of
advanced products now.

Rather than pretend that there are no bugs in the new CONCHESS
program we felt it more constructive to list those we know
about. These will be corrected in future versions of the pro-
gram but we believe none of them to be dramatically serious.

B.7. (continued)

a) On rare occasions when CONCHESS is winning and the opponent
    has no pieces other than pawns and also CONCHESS is definitely
    in a position to queen two or more pawns itself then CONCHESS
    will sometimes underpromote the first of those pawns, usually
    to a bishop. This may be corrected by the use of the position
    setting function.

b) On a few occasions the hint button will only show one rather
    than both the moves it is examining. Usually this happens
    when the 'missing' move is forced eg. after a check there is
    only one move available.

    Very occasionally, also, the hint button will show a grossly
    unsound move, which is in fact one it has already discarded,
    but it will in fact not actually play this move.

c) Occasionally, on setting up the game in the start position,
    having pressed buttons o.(1) and ●.(8) on the right, the end
    of game pips will sound. The user should press o.(1) and ●.(8)
    again to overcome this.
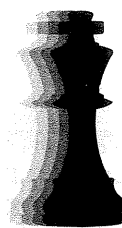
CONCHESS LIBRARY CARTRIDGE

USER GUIDE

1. GENERAL

The CONCHESS Library Cartridge, "LO", fits into any CONCHESS board together with the standard chess program cartridge ("AO"). Both cartridges should be placed in the slots in the bottom of the board before connecting power. Never remove any cartridge without first disconnecting power. Cartridges may be placed in either slot.

The LO Cartridge contains a completely new opening library and a program for randomly selecting moves from the library. When LO is used, the old opening library within the AO cartridge is automatically "disconnected".

2. FEATURES

RANDOM SELECTION. The most important new feature provided by the LO cartridge is that the computer will now select by random from a great variety of alternative library moves. There are often alternative moves for the computer not only in the first or second move, but also considerably later in the opening line. The first alternative (as defined in the library) is selected more often than the second alternative, which in turn is played more frequently than the third one etc. In other words the more popular (or arguably better) lines are chosen more often but not to the exclusion of the less frequently used lines. A very varied and interesting game is provided as a result.

LARGER OPENING BOOK. The new LO library is much larger than the old opening (AO) book. It contains about 3,000 opening moves. The opening lines are selected mainly from popular opening literature. Thus most of the openings commonly played by humans are now known and played by the computer. This will no doubt provide the maximum fun for the owner! In addition, a few special openings have been carefully developed and tested to suit the computer's style of play.

../..

2. (continued)

GOOD AND BAD MOVES. In the LO library, each move is defined as "STRONG", "OK", or "WEAK". The computer will never select a WEAK move. Furthermore, it will always prefer a STRONG move, if any, to an OK move. When a WEAK move is played by the opponent, however, the computer will recognise it and know what to play.

TRANSPOSITIONS. A delightful feature is the complete handling of transpositions. Thus, if an opening position is reached by any other sequence of moves than the one defined in the library, it will still be recognised by the library system, and a library move will be selected. Also the book contains moves for the computer to sometimes transpose into another opening, challenging the opponent (human or computer!), to recognise the transposition.

DICE FUNTION. The "dice" or alternative move function really comes into its own and may now be used by the player to vary library moves chosen.

3. OPENING LINES

Ruy Lopez	Centre Counter
Four Knight's Game	Nimzowitsch Defence
Two Knight's Defence	Pirc Defence
Giuoco Piano	Queen's Gambit
Scotch Game	Nimzowitsch-Indian Defence
Ponziani's Opening	Queen's Indian Defence
Petrov's Defence	Bogolyubov Defence
Philidor's Defence	Gruenfeld Defence
King's Gambit	King's Indian Defence
Vienna Game	Old Indian Defence
Bishop's Opening	Modern Benoni Defence
Centre Game	Dutch Defence
Sicilian Defence	Franco-Indian
Caro-Kann Defence	English Opening
French Defence	Reti Opening
Alekhin's Defence	Dunst Opening

These openings will be played by the computer. In addition, quite a few openings are known by the computer when played by the opponent.

4. OTHER POINTS

The mate search function is more efficient if only the AO cartridge is loaded. There is no change in efficiency for any other function when LO is used.