NOVAG®
SUPER EXPERT
INSTRUCTIONS
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I Playing the SUPER EXPERT

For those who wish a quick game without having to use all the special functions of the SUPER EXPERT, please follow the instructions below:

Insert adaptor plug into the socket marked "8.5 V" and switch ON the SUPER EXPERT.

Step 1 Press New Game

2 Set up all the chess pieces on the chessboard (make sure that the pieces sit on the centre of each square) in the starting position. If any of the pieces are not placed properly you will see on the LCD the name of the piece that is misplaced and the location that it should stand on. Please centralize the piece indicated. When all the pieces are in their respective positions you will see on the LCD the move number 1 and you may now begin to play.

3 Press Set Level

4 Lift up the piece on the square al (White Rook) and put it down, this will set the SUPER EXPERT's playing skill to the lowest of the regular levels. If this is still too strong for you please refer to the section on setting levels to select a training level.

5 Press Go to leave the level setting mode.

You may now begin to play the White side against the SUPER EXPERT. Play as natural as you like, slide a piece or pick it up and put it down on the square that you wish it to go to. During the game when there are captures please remove the captured pieces first.

When the SUPER EXPERT is ready to move it will beep and two squares will be lit, the FROM and the TO squares. Please make this move for the SUPER EXPERT as if making a move for yourself. Remember to remove the captured piece if the SUPER EXPERT makes a capture.

Promotions / Underpromotions

SUPER EXPERT promotes The LCD will show the piece that the SUPER EXPERT wishes to promote to and the square where this promotion takes place. Please exchange this piece with the pawn and put it onto the lit TO square.

When you promote The LCD will show [ pro piece ? ] and you will have to press one of the four possible piece keys to indicate your choice. Please exchange your pawn with the piece that you have selected.

NOTE: If you wish to play the Black side, press New Game then set up the pieces so that the Black pieces are in front of you and the White pieces are on the opposite side of the board. When the SUPER EXPERT is ready to start i.e. LCD showing [ 01 .... .... ] press the Change Color key then Go and the SUPER EXPERT will make a move for White but playing from the top of the board.
II The Basics

a. MAKING MOVES
Making a move on the SUPER EXPERT is simplicity itself, just lift the piece that you wish to move and place it on the centre of the square that wish to play it to, of course illegal moves are not accepted and the SUPER EXPERT will beep 3 times and will also flash the error message on the LCD.

When the SUPER EXPERT has made its move, the FROM and the TO squares will be lit and you must complete this move for the SUPER EXPERT as if making this move for yourself.

b. COMPUTING
When the SUPER EXPERT is computing a move it will flash an "**" on the left of the LCD.

c. CAPTURING MOVES
When capturing please remove the captured piece first then move your piece to occupy that square. Please do the same when making a capture for the SUPER EXPERT.

d. ILLEGAL MOVES
The SUPER EXPERT will indicate all errors by making 3 beeps and flash an error message on the LCD. For errors that need your attention the LCD will show the piece and the square, please correct the error as indicated. However, most errors will not need any assistance from you.

e. CASTLING
According to the rules of chess you must first move the King then the Rook to complete this move. However, the SUPER EXPERT will still accept the move if you pick up both pieces at once but you will have to put them down on their respective positions for the move to be complete.

f. EN PASSANT PAWN CAPTURE
If you or the SUPER EXPERT makes an en passant capture (please refer to chess literature if you do not understand this chess rule) you must remember to remove the captured pawn as indicated by the SUPER EXPERT.

g. PROMOTION / UNDERPROMOTION
If one of your pawns reaches the 8th rank the SUPER EXPERT will show this message on the LCD [ pro piece ? ] please press the appropriate piece key to enter your choice of promotion.

h. STALEMATE / DRAW
A stalemate draw is announced on the LCD with the appropriate message;

- [ stale mate ] no legal moves therefore draw
- [ draw 3rd ] position repeated 3 times
- [ draw 50 ] 50 moves made without capture

i. CHECK and CHECKMATE
Check announcements are made with the + sign on the right side of the LCD. Checkmate will be indicated on the LCD with [ checkmate ].
II The Basics (continued)

j. EARLY MATE ANNOUNCEMENTS

The SUPER EXPERT will always announce mate if it sees it and will show the number of moves to mate on the LCD for example [ mate in 2 ]

k. RESIGNS

The SUPER EXPERT will recognize positions where it is lost or seriously behind in material and will resign the game showing [ resign ] on the LCD. You may reject this resignation and play on but please note that the SUPER EXPERT will only resign once per game.

When you are about to checkmate the SUPER EXPERT it will not resign and spoil your moment of glory.
III Control Panel

1. New Game

This will reset the board to the starting position and the SUPER EXPERT immediately verifies the board indicating on the LCD where the pieces should be standing and where there should not be any piece standing. However, you do not need to follow the sequence indicated but may freely place all the pieces on their respective squares until the LCD shows [ 01 .... .... ] which means that all the pieces are now in their starting position and you are now ready to play.

2. Go

This key is used in conjunction with many of the SUPER EXPERT's special functions and normally acts as an exit key.

Main uses:

i. Make the SUPER EXPERT compute for the color to move

ii. Exits from Verify

   Setup
   Set Level
   Print Board or List

iii. Starts the Solve Mate search

iv. Starts autoplay if selected

3. Set Level

The SUPER EXPERT has 65 selectable levels and they are divided into groups to suit every type of player:

15 tournament levels - strictly keeping to the time control and will not exceed the time allowed

1 user select level - you may select any time control that you wish to play with and may select different controls for White and Black

8 sudden death levels - clocks count down and whichever side that does not complete the game within the time allowed is considered lost and the SUPER EXPERT will indicate on the LCD [ overstep ]

16 fixed time levels - every move must be made within the time allowed for every move e.g. 2 seconds a move means that you will not be allowed to use more than 2 seconds per move

5 novice levels - the SUPER EXPERT will restrict its search so that it will deliberately play weaker to accommodate the beginner

19 fixed depth levels - for really deep analysis and the SUPER EXPERT will search the number of moves as selected by you up to 19 half moves deep

1 infinite level - will force the SUPER EXPERT to compute on and on until a mate is found or if there is only one move in the position or if you press GO to terminate the search
There are two ways to select a level:

a. by pressing the Set Level key as many times as necessary until the
   LCD shows the desired level.

b. by putting a piece onto the square which correspond to the level
   that you wish to set (LCD will show the level number) or by
   lifting the piece which is already standing on that square and
   putting it down again. (see page 6)

Please refer to the charts on pages 6 & 7 for the particulars of all the levels.

Level 16 - User set level
This level is for you to set whatever time control that you wish for
White and may even select a different one for the Black side.

Key sequence: Set Level -> (select level 16) -> Time_control ->
   -> (use <- or --> keys to change number of moves) ->
   -> Yes -> (use <- or --> keys to change time in minutes) ->
   -> Yes

To alter the settings in level setting 16 press <- to decrease the
number that is flashing or --> to increase that number.

E.g. To set a time control of 30 moves in 1 hour

[ m 00 ] Press --> three times to change the 0 to a 3 then
   press Yes

[ m 30 ] Press Yes to accept the flashing 0 without change

[ t 00:00 ] Press Yes to accept the first flashing 0

[ t 00:00 ] Press --> once to change the second flashing 0 to a 1
   then press Yes

[ t 01:00 ] Press Yes to accept the third flashing 0

[ t 01:00 ] Press Yes to accept the fourth flashing 0

After following the above sequence you will have set the time control
for 30 moves in 1 hour.

3.1 Infinite

This level is for analysis only and the SUPER EXPERT will compute
continuously without stopping to play a move unless the conditions
below are met:

(i) a mating combination is found, the SUPER EXPERT will play
    this move and announce mate on the LCD
(ii) there is only move possible in the position

Key sequence: Set Level -> Infinite -> Go
### Numbering System for the Selection of Playing Level on the Chessboard

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<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
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The **SUPER EXPERT** has 65 selectable levels and they are divided into groups to suit every type of player:

- **15 tournament levels** - strictly keeping to the time control and will not exceed the time allowed.
- **1 user select level** - you may select any time control that you wish to play with and may select different controls for White and Black.
- **8 sudden death levels** - clocks count down and whichever side that does not complete the game within the time allowed is considered lost and the **SUPER EXPERT** will indicate on the LCD.
  - [overstep ]
- **16 fixed time levels** - every move must be made within the time allowed for every move e.g. 2 seconds a move means that you will not be allowed to use more than 2 seconds per move.
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<th>Level</th>
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*) Preset time/moves combination can be changed at any time

**) The first figure is depth search and the second is mate announcement
III Control panel  (continued)

4. VERIFY

Key sequence: Verify \(\rightarrow\) (select color) \(\rightarrow\) any piece key \(\rightarrow\) (adjust misplaced piece, if any) \(\rightarrow\) Go

To check if the position on the board is exactly the same as that held in the SUPER EXPERT's memory, press the Verify key once. If any piece is misplaced or if a square which contains a piece is in fact empty the SUPER EXPERT will immediately indicate the action required to clear up this error. If the square should be vacant the LCD will just show the name of the square e.g. \[ \text{ver } _d4 \]. However, if a square is empty but should contain say the White knight then the LCD would show \[ \text{ver } N_{f3} \] which will require you to put a White knight on the square \(f3\).

To check the location of all the White pawns press the key with the Pawn symbol besides it but first making sure that the color indicated on the LCD is correct (if verifying for White side the LCD should show this symbol "\_\_\_\_\_\_\_"). Likewise do the same for all the pieces for both colors to check if the whole position matches that in the SUPER EXPERT's memory.

5. SETTING UP A SPECIAL POSITION

Key sequence: Verify/Setup \(\rightarrow\) Verify/Setup \(\rightarrow\) (Clear Board) \(\rightarrow\) set up special position \(\rightarrow\) Go

After the second press of the Verify/Setup key you will be in the Setup mode and you may now clear the board of all the pieces by pressing the Clear Board key. However, if the current position is only slightly different from the one that you wish to set up there is an easier method to do so, please refer to third example below.

Notation: To show White Pawn on \(d4\) LCD \[ \text{set } P_{d4} \]

To show Black Knight on \(f6\) LCD \[ \text{set } N_{f6} \]

E.g. To place a White King on the board
(i) make sure that the LCD is showing "\_\_\_\_\_\_
(ii) press the key that has the symbol of the King beside it
(iii) place the White King on the centre of any square that you wish

E.g. To place a number of Black Pawns on the board
(i) make sure that the LCD is showing the top dash (see notation)
(ii) press the key that has the symbol of the Pawn beside it
(iii) place any number of Black pawns on the board, ensuring that they each sit directly on the centre of their respective squares

E.g. To move a piece from one square to another
(i) pick up the piece that you wish to move
(ii) put it down onto any square that you wish, making sure that it sits exactly on the centre of that square

Any legal position may be set up using the above procedure. The SUPER EXPERT does not permit the setting up of illegal positions or where there are more than the number of pieces prescribed for a normal game of chess. For example 9 pawns of the same color, 5 bishops of the same color and all similar cases will not be permitted.
III Control panel  (continued)

6. Change Color

This key has three functions:

(i) When in Verify or Setup modes this changes the color for the entry or verification of the board position.
(ii) When pressed before the start of a new game (after pressing New Game) this will reverse the board with White playing down the board, therefore please put the White pieces on the top of the board and the Black pieces in front of you.
(iii) When pressed at any time during a game (except when the SUPER EXPERT is computing) you will be asked to confirm if you wish to change sides? [ chn color ? ]. You will have to press the Yes key to confirm that you wish to do so otherwise press the No key to continue your game. Warning: This will erase all the moves in the game history if you accept the change.

7. Clear Board

This key has three functions:

(i) When in Setup mode this will clear the entire board
(ii) When in the Pro-Op mode this will delete your special book
(iii) When pressed at all other times this will act as a clear entry key

8. Trace Forward

Key sequences:

Restore game Set Level -> Start of Game -> Yes/No
Final position Set Level -> End of Game -> Yes/No
See move list Press -> to scroll forward till end of game
Press < - to scroll backward till beginning of game
Trace Forward Trace Forward -> lift up piece indicated on LCD ->
-> place it onto the lit TO square ->
-> (if capture, remove captured piece)

To use this key it is best to first restore the game to the starting position. If you started the game from a special set up position then the Restore game key sequence will return you to that special position.
III Control panel (continued)

9. Hint

Pressing this key:

On your move - this will show up to 8 half moves ahead the best variation that the SUPER EXPERT computed the move previously. This will usually be quite a good variation and you may use this as your guide. Press this key until the entire variation is displayed.

While computing - the SUPER EXPERT will always display the best variation that it has found so far and this will constantly change according to the circumstances. Press this key until the entire variation is displayed.

Note: The FROM and the TO squares will flash alternately while in the Hint mode to show the best move found so far.

10. Player/Player

When this mode is entered (2 beeps) the SUPER EXPERT takes no part in the game unless instructed by Go. A chess game between two parties could then be played or a chess game entered for processing by a personal computer (see 26 INTERFACE). All moves are checked for legality and the SUPER EXPERT may be called upon to compute for the side to move. This mode may be selected at any time except while the SUPER EXPERT is computing.

11. Solve Mate

Key sequence:

Mate problems Solve Mate -> (number of moves to mate) -> Go

Alternative solutions *After mate solution is found -> Next Best ->

-> Take back move as indicated

Before selecting this function please set up your problem position. Then press Solve Mate, the LCD will show the current number of moves to mate and you may press the Solve Mate key until the LCD shows the correct number then press Go to begin the mate search. You may also select the number by placing a piece on the square corresponding to the number that you wish to select e.g. to select 6 put the piece on a6, b6 etc.

If you suspect that the mate problem has an alternative solution you may use the key sequence described above.

12. Sound

The switches off the sounds that the SUPER EXPERT makes when indicating moves or errors. Therefore you must pay careful attention to the LCD when this is OFF. However, the SUPER EXPERT always beeps when it has computed a move to request you to complete this move for it and this cannot be switched OFF. Pressing the New Game key automatically sets Sound ON.
III Control panel  (continued)

13. Best Move / Random

Selecting this mode will force the SUPER EXPERT to randomly choose between 2 or more moves which are almost equal in their evaluation. Games of great variety may be played using this mode.

14. Take Back

Key sequence: Take Back -> lift piece on square indicated ->
-> place piece on next lit square ->
-> (replace any piece captured if any as indicated by the message on the LCD)

If you made a mistake and wish to retract your move you may press the Take Back key and follow the above sequence. There is no limit to the number of moves that you may retract but you must remember to replace the captured pieces, castling etc. whenever indicated by the SUPER EXPERT on the LCD.

15. Flip display - Info

Key sequences:

See information Set Level -> Info -> Go

Fixed window on Flip Display ->
one display mode -> (and press again until display correct)

If the INFO mode is selected, you will be able to observe how the SUPER EXPERT compute a move with the evaluation changing as it goes deeper into a position. The LCD will display various information retaining each display for a short while before going to the next and cycling through until the best move has been found.

Order of display for INFO mode:
  i. Time for both sides
  ii. Move list
  iii. Accumulated time for side to move and time used for this move so far
  iv. Best move and evaluation
  v. Depth reached in half moves and iteration count
  vi. Number of nodes, variations searched

To fix a certain display so that it will always show on the LCD press the Flip Display key until the information you want is on the LCD. The SUPER EXPERT will then use this at all times until you select another display or if you press New Game.
16. STORE GAME - RESTORE GAME

16.1 Store Game

Key sequence: Set Level -> Store Game -> Yes ->
-> (select game number) -> Yes

To store a game into one of the 10 game numbers provided by the
SUPER EXPERT press Set Level and then the key marked Store Game and
the LCD will then show:

[ store game ? ] You must now press Yes if you wish to store
the current game.
[ game # 0 * ] This means that game number 0 may now be used to
store your current game but since the asterisk
(*) appears on the right side it means that
there is already a game stored in this game
number. You may overwrite this or skip to the
next number by using the -> or <- keys. To
clear the game that is already stored in a game
number, store a new game position into that
number and it will be erased.
Press Yes when you have selected a game number
to store your game or No if you wish to exit
without saving a game.

Note: You may save long games into any game number but this will
then leave less room for the other games. If some games
stored are too long the remainder of the game numbers will
not be available for further storage.

16.2 Restore Game

Key sequence: Set Level -> Restore Game -> Yes ->
-> (select game number) -> Yes

To restore any of the games stored in the 10 locations reserved for
this use press Set Level and then the key marked Restore Game and
the LCD will then show:

[ restore ? ] Press Yes to continue
[ game # 0 ] Use the -> and <- keys to select a game number
to restore. When ready press the Yes key and
wait for a few seconds while the SUPER EXPERT
restores that game. When the SUPER EXPERT is
ready it will immediately verify the board
position and will show any discrepancy on the
LCD. Please adjust or replace the pieces as
indicated.
III Control panel  (continued)

17. Analyze Games

Key sequence: Set Level -> Analyze Games -> (set skill level) ->
-> Go

You may make the SUPER EXPERT compute a reply for all the games stored in
the 10 memory locations at any level that you wish. If you set a high
level you will have to wait a long time before it completes the
computation for all the stored games. Do NOT set the SUPER EXPERT at a
level that takes too long or where the depth fixed is too deep (more than
10 half moves) or at the INFINITE level. Note that the SUPER EXPERT will
only analyze the locations that contain games and will ignore the empty
ones.

Note: If you wish to see the moves that were computed for all the 10
game numbers you will have to restore each game number in turn and
press Flip display to see the evaluation of the move played by the
SUPER EXPERT.

18. Review

Key sequence: Set Level -> Review -> (select which color to review) ->
-> Yes -> (wait while game is restored) ->
-> (review game with the SUPER EXPERT)

Prompts: [ review white ] Go through the current game and analyse all
the White moves to see if better moves
should have been played and compare these
moves with those actually played

[ review black ] Go through the current game and analyse all
the Black moves to see if better moves
should have been played and compare these
moves with those actually played

[ review both ] Guide you through the entire game analysing
for both sides pointing out where better
moves could have been played by both sides

This feature acts a tutorial into a game of chess where the SUPER EXPERT
guides you through the current game in memory and to point out where
tactics exist but which were not played. It is well known that in any
game of chess the human players tend to miss out on simple tactics always
looking out for strategical play or other positional factors which require
less analysis. This lazy approach often loses out to a computer whose
main preoccupation is with the tactical devices that exist in any position.

19. Gambit Book

Key sequence: Set Level -> Gambit Book -> Go

This narrows down the choice that the SUPER EXPERT have in deciding which
opening to play. This will force the SUPER EXPERT to always select the
gambit associated with any opening that you wish to play against it.
However, if no gambits exist for your selected opening line against it
then it will exit the opening book and will play logically from then on.
III Control panel (continued)

20. AutoPlay

Key sequence: Set Level -> AutoPlay -> (select level) -> Go

This will make the SUPER EXPERT play against itself at the level that you have selected until the game is decided by mate or draw. The moves will be indicated over the board by the flashing of the FROM and the TO squares being repeated three times for your convenience, so that you may be able to follow the game in progress. You may terminate this at any time by pressing Go.

21. Next Best

Key sequence: Set Level -> Next best -> (take back move as indicated)

This feature is for you to check if another good move is playable instead of the one just played. After you have taken back the last move indicated the SUPER EXPERT will immediately begin computing the next best move that is available in the position. If such a move is found it will be played but no other move is nearly equal in evaluation the SUPER EXPERT will play the same move again.

22. Tournament Book

Key sequence: Set Level -> Tournament Book -> Go

This narrows down the choice that the SUPER EXPERT have in deciding which opening to play. This will force the SUPER EXPERT to always select the best variation associated with any opening that you wish to play against it.

23. Time Control

Key sequence: Set Level -> Time Control -> (select level) -> Go

This special mode will allow you to view all the 64 levels with their respective time controls instead of just a level number.
Control panel (continued)

24. NOVAG CHESS PRINTER (optional)

24.1 Print Board
This will print out the current position

24.2 Print Moves
The pair of White and Black moves will be printed immediately after the Black move is played and after every 10 moves the accumulated time used so far for both sides will also be printed

24.3 Print List
The entire move list will be printed

24.4 Acc. Time
To activate this mode use the key sequence:
Set Level -> Acc. Time -> Go

The SUPER EXPERT will print each pair of moves along with the accumulated time used so far for both sides immediately after the Black move is completed

24.5 Print Evaluations
Each pair of moves will be printed along with the evaluations that the SUPER EXPERT gives for both sides

Key sequence: Set Level -> Print Evaluations -> Go

24.6 Print Book
This will print out the entire PRO-OP book

25. PRO-OP - programmable opening book

Key sequence: Pro-Op -> (select function)

Notation:
[P ] indicates that you are in the USE mode
[E ] the entry mode where your moves will be entered into the memory reserved for the Pro-Op book
[B ] Both books are selected i.e. Pro-Op plus the SUPER EXPERT's 32,000 half moves book

25.1 Delete PRO-OP book
This has to be done before you start entering any of your own openings.

Key sequence: Set Level -> Delete Pro-Op -> Yes/No

[P clear pro ? ] press Yes if you wish to clear the Pro-Op book but if entering for the first time you must clear the Pro-Op
25. PRO-OP - programmable opening book (continued)

25.2 Entering your openings into the Pro-Op book
If you do not see a "E" on the left of the LCD press the Pro-Op key
until you see this message:

[ pro enter ? ]

When in this mode any move that you make on the board will be
entered into Pro-Op book therefore be careful with what you do once
you are in this mode. The SUPER EXPERT will not compute unless you
press Go.

To enter an opening line

e.g. 1.e2e4 d7d6 2.b1c3 g8f6 3.d2d4

Key sequence: New Game -> play through the above line ->
-> New Game

25.3 a. To enter an opening line plus 1 variation

e.g. 1.e2e4 d7d6 2.b1c3 g8f6 3.d2d4 g7g6 4.gf3
1.e2e4 d7d6 2.b1c3 e7e5 3.gf3

Key sequences:

Step 1 New Game -> play through the main line ->

Step 2 Take Back -> take back 4.gf3 ->
-> Take Back -> take back 3...g7g6 ->
-> Take Back -> take back 3.d2d4 ->
-> Take Back -> take back 2...g8f6 ->
-> play 2....e7e5 3.gf3 on the board

b. To delete an opening line from the Pro-Op book

e.g. 1.e2e4 d7d6 2.b1c3 g8f6 3.d2d4 g7g6 4.gf3
make sure that this line exist and has been entered
correctly and that you are in the Entry mode [ E ]

Key sequence: Delete Pro-Op -> [ delete line ? ] ->
-> Yes/No

Warning: If there are any more moves after 4.gf3 it will also
be deleted even though you did not play it through to
the end of the opening line. Also, if there are
subvariations after 4.gf3 they will also be deleted
therefore you must exercise great caution when
deleting lines with just the first few moves. To be
sure of deleting the opening line that you want play
it right to the end before deleting it.
III Control panel

25. PRO-OP - programmable opening book (continued)

25.4 Priority

To make the SUPER EXPERT select a preferred line more often you may before entering this opening variation press the Priority key.

Key sequence: New Game -> Priority -> enter opening variation

or if you wish to give priority to a subvariation

Enter main line -> Take Back (to beginning of subvariation) ->
-> Priority -> enter subvariation

25.5 Pro-Op Book / Both Books

You may play in the Pro-Op mode using only your own book but you may also select the SUPER EXPERT’s book to supplement your book. To select this option, you must first be in the Pro-Op Use mode.

Key sequence: Pro-Op -> (select USE mode)

Set Level -> Pro-Op Book / Both Books ->
-> (make your selection) -> Go

If this option is selected the LCD will show [ B ]
26. Interface with the IBM personal computers

This section is only for those who have an IBM PC XT AT or compatible computers and also have a communications port designated COM1 with a 25 pin connector.

Key sequence: Set Level -> Interface -> Yes/No (see below for options)

Options: (press Yes to activate and No to skip to the next option)

[ save game ? ] press Yes if the SUPER EXPERT is connected to the personal computer and the current game will be sent from the SUPER EXPERT to the personal computer.

[ load game ? ] press Yes if the personal computer is ready to send a game position to the SUPER EXPERT.

[ auto anal ? ] press Yes to take a game position from the personal computer and compute for the side to move and when a reply is ready, the SUPER EXPERT will then transmit the best variation back to the personal computer.

[ game anal ? ] press Yes and the SUPER EXPERT will send the current game parameters to the personal computer and thereafter every move played on the SUPER EXPERT will be sent to update the graphic chess board on the personal computer.

[ save pro-op ? ] press Yes and the SUPER EXPERT will send the entire Pro-Op book to the personal computer.

[ load pro-op ? ] press Yes and the SUPER EXPERT will start taking the specially formatted Pro-Op book from the personal computer.

[ 9600 baud ] press yes to select 9600 baud and No to select 1200 baud.

Messages during transmission

[ trans err ] Transfer of data failed

[ trans ] Transfer of data normal or data received without error

Note: For more information read the instruction file included in the diskette which contains the Interface software for the personal computer.
IV. APPENDIX

A. NOVAC® CHESS PRINTER

The NOVAC® CHESS PRINTER is separately available from your dealer. The program to drive the printer is included in the EXPERT and no other hard or software is required. The cable connector is packed with the wooden chess pieces.

Use ONLY thermal printing paper—Olivetti specification No. 292933 or one that is compatible.

Installing the paper roll;

(i) Release paper lever ①
(ii) Trim paper roll to a clean edge
(iii) Insert paper edge into slot ②
(iv) Push until paper comes right through the top
(v) Lock paper lever ③
(vi) Place paper roll in holder ③, and turn till tight

Printer is now ready, please insert smaller end of the printer cable into the hole at the left of the chessboard. This will only go in one way to avoid any mistakes. The larger end should then be inserted into the slot at the side of the printer with the marking TOP facing upwards.

Conventions used in the printout

<table>
<thead>
<tr>
<th>WHITE</th>
<th>BLACK</th>
<th>Headings</th>
</tr>
</thead>
<tbody>
<tr>
<td>00:00:00</td>
<td></td>
<td>Accumulated time in hrs, mins and secs.</td>
</tr>
<tr>
<td>0-0, 0-0</td>
<td></td>
<td>Castling Kingside or Queenside</td>
</tr>
<tr>
<td>X</td>
<td></td>
<td>Capture</td>
</tr>
<tr>
<td>EP</td>
<td></td>
<td>En passant pawn capture</td>
</tr>
<tr>
<td>Q, B, N, or R</td>
<td></td>
<td>Pawn promotion/underpromotion</td>
</tr>
<tr>
<td>+</td>
<td></td>
<td>Check</td>
</tr>
<tr>
<td>STALEMATE</td>
<td></td>
<td>Stalemate draw</td>
</tr>
<tr>
<td>½ DRAW ½</td>
<td></td>
<td>Draw</td>
</tr>
<tr>
<td>- INSUF MATERIAL</td>
<td></td>
<td>Draw due to insufficient material*</td>
</tr>
<tr>
<td>- 3RD REPETITION</td>
<td></td>
<td>Draw by 3rd repetition rule*</td>
</tr>
<tr>
<td>- 50 MOVE LIMIT</td>
<td></td>
<td>Draw by 50 moves rule*</td>
</tr>
<tr>
<td>1 RESIGN</td>
<td></td>
<td>The EXPERT resigns</td>
</tr>
<tr>
<td>CHECKMATE</td>
<td></td>
<td>Checkmate - end of the game</td>
</tr>
</tbody>
</table>

* As stated by the World Chess Federation, FIDE.
B. Trouble shooting list

All NOVAG® computers are extensively tested before leaving the factory to ensure trouble free performance. However, if you encounter any problems during play, please check the following list first before calling your dealer or sending it in for repair.

(i) **Your computer does not work**
   Check if the adaptor plug sits properly in the socket, as tight as possible with minimal movement. If this is loose it may interrupt the power supply to the SUPER EXPERT.
   Check that the small adaptor plug that connects to the SUPER EXPERT is fully inserted.
   Check the operating voltage of your adaptor to see if it matches your local power supply.
   Check if your power supply fluctuates by more than 10% as this may cause irregular performance

(ii) **All LEDs light up and the computer is completely blocked**
   Disconnect the power supply.
   Turn the SUPER EXPERT over and you will find a hole marked RESET with a switch in it. Slide this switch in the opposite direction and hold for at least 5 seconds. Release your fingers and the switch will return to its normal position automatically. This will reset the internal memory of the SUPER EXPERT and all games stored and the Pro-Op will be erased.

(iii) **One of the LEDs does not light up**
   Use this key sequence: Verify -> Verify/Setup -> Clear Board ->
   -> (press any piece key) -> test all squares ->
   -> New Game

   Take any chess piece and put it once on every square one after the other. When you put down the chess piece the LED of that square should light up and if any of the squares does not light up you should send your set to your dealer for replacement of the faulty LED.

(iv) **One square does not register a move**
   Use this key sequence: Set Level -> test all squares -> New Game

   Take a chess piece and put it on every square one after the other. You should hear 2 beeps and the LCD should show the level number of the square that you have activated. If any of the square has no response then the reed switch that controls the square may be faulty. But first check this square using a stronger magnet and if this succeeds in activating the square then the fault lies in the chess piece magnets which is not strong enough. Please see your dealer for the replacement of the chess piece.

C. Care of the NOVAG® SUPER EXPERT

Dirt and dust can be removed with a soft cloth. Do NOT use any chemical solvents or water on the set. Damage caused by their use invalidates the warranty.
The **SUPER EXPERT** has just been switched on and is doing a thorough check of the entire system. You may press **New Game** to bypass.

You are requested to put a Black bishop on the square c8.

The **SUPER EXPERT** is ready to play and you may make the first move for White.

The **SUPER EXPERT** has just played 1.e2e4 and is waiting for your move for Black.

The first move of this game is displayed.

Clock display showing that White has used up 1 hr. 15 min. and Black 1 hr. 4 min.

The 14th move is displayed and on the last move Black gives check.

Display shows that White has used up 1 hr. 48 min. for all his moves so far and for this move he has used 36 secs.

The move b1c3 is in the opening book of the **SUPER EXPERT**.

The **SUPER EXPERT** has searched this position to a depth of 4 half moves and there are still 7 iterations remaining.

The node count of this computation.

Display showing the White side is set for level 2.

Time control mode has been selected and the level number is replaced by the detail description of level 1 (for White).

As above but now for level 17 (White).

As above but now for level 36.
Novice level selected for White, this will make the SUPER EXPERT play weaker.

Level selected is 57 SUPER EXPERT will compute this move to the depth of 12 half moves but this will take a long long time.

The user set level is selected please refer to the description of this function under the section on the Control Panel.

You may now change the number of moves to be made for level 16 (user set) by using the <-, ->, Yes and No keys.

You may now change the time control for the level 16 (user set) by using the <-, ->, Yes and No keys.

The Interface option is selected and you may press Yes to save the current game to a personal computer.

Please see section III 26 Interface

Please see section III 26 Interface

Please see section III 26 Interface

Please see section III 26 Interface

Please see section III 26 Interface

Message to indicate that data transfer to the personal computer is in progress

Gambit book has been selected

You have selected the infinite level.
error
review white?
review black?
review both?
autoplay on
restore game?0
restore
referee on
mate in 2
no mate 2
info on
tour book on
verify
verify $e1
setup 1_d2

You have press some key that is not the appropriate response for the action that is expected by the SUPER EXPERT.

You have selected the Review option and if you wish the SUPER EXPERT to analyze for the White side, press Yes.

As above but now for the Black side

As above but now for both sides.

You have just selected the AutoPlay option where the SUPER EXPERT will play against itself. Press Go to start the game.

You have selected the Restore Game option press yes to continue No to exit.

A game is being restored, please wait.

Referee mode (Player/Player) is activated

You are in the Solve Mate option and it is now set to solve a mate-in-2 problem.

The SUPER EXPERT cannot find a solution for the mate-in-2 problem

The INFO mode is selected

The Tournament Book will be used to play the openings which means that the SUPER EXPERT will select the strongest lines.

You are in the VERIFY mode.

The White King should be standing on the square e1

You are in the Setup mode and a White pawn has now been placed on the square d2.
<table>
<thead>
<tr>
<th>sound off</th>
<th>Sound has been switched OFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>random on</td>
<td>Random mode is ON</td>
</tr>
<tr>
<td>Ppro op use</td>
<td>You are now in the PRO-OP mode and you may play a game using only the openings that you have programmed.</td>
</tr>
<tr>
<td>Epro enter</td>
<td>You are using the Entry option of the PRO-OP mode and any openings that you play over the board will be saved.</td>
</tr>
<tr>
<td>pro op off</td>
<td>PRO-OP mode has just been switched OFF</td>
</tr>
<tr>
<td>chn color?</td>
<td>Do you want to change sides? Press Yes to change and No to exit.</td>
</tr>
<tr>
<td>search games?</td>
<td>You have selected the Analyze Games option and if you press Yes the SUPER EXPERT will compute a move for all the games stored.</td>
</tr>
<tr>
<td>print on</td>
<td>You have selected the Print Moves mode</td>
</tr>
<tr>
<td>print eval on</td>
<td>You have selected the Print Evaluations mode.</td>
</tr>
<tr>
<td>accum time on</td>
<td>You have selected the Acc. Time mode</td>
</tr>
<tr>
<td>pro piece?</td>
<td>The SUPER EXPERT requires you to press a piece key to select the piece that you wish to promote to.</td>
</tr>
<tr>
<td>stale mate</td>
<td>A stalemate draw as been declared</td>
</tr>
<tr>
<td>draw 3rd</td>
<td>Draw because of a three times repetition of the position</td>
</tr>
<tr>
<td>draw 50</td>
<td>Draw because of the 50 moves rule</td>
</tr>
<tr>
<td>game #1</td>
<td>Number 1 of the 10 game storage locations available.</td>
</tr>
</tbody>
</table>
E. Technical data
Operating voltage
Current consumption
Memory back-up voltage
Read-only-memory
Random access memory
System clock speed
Liquid crystal display

Adaptor

8.5 V AC (through AC to AC adaptor)
800 mA maximum
2.4 V DC
96 KByte EPROM 32k x 3
8 KByte
5 MHz (standard)
16 character - dot matrix

NOVAC® ADAPTOR Art No.8220
Rating & Voltage : 8.5 V 800 mA

All data subject to change without notice

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NOVAC® Industries Ltd.
10/F Hennessy Centre
West Wing
500 Hennessy Road
Causeway Bay
Hong Kong.
7. SOUND ON OR OFF
Whilst the computer is thinking press "Sound" and the message sound on or sound off will appear momentarily. The display will then revert to previous. This is useful if you wish to use the scroll functions or hint functions without annoying other people in the room.

8. INFO ON OR OFF
In INFO mode the computer will flip through each of the six information screens for a short period whilst thinking. The new 'B' program will now allow you to switch INFO on or off whilst it is thinking.

Press "Set Level" - "Info" - "Go"
More information on INFO can be found on page 11, section 15 of the manual.

9. AUTOPLAY
Follow the procedure in SECTION 20. If "Autoplay" was previously selected this procedure will cause "Autoplay" to be switched on. The message autoplay on and autoplay off will be displayed as appropriate. Repeated pressings of "Autoplay" before pressing "Go" will cause this message to alternate. If the Computer completes its move search whilst you are following this procedure it will wait until you press "Go" and then announce its move.

This procedure is useful because it enables the computer to complete its current move whilst in Autoplay and then stop instead of having to interrupt it and alternatively, if you are playing against the computer and need to break off, you can switch the computer into "Autoplay" and have it continue the game in your absence. You may use the scrolling features to review the game or indeed switch "Autoplay" off and take over the game or the computer, as desired.

10. VERBose MODE
Only for interface. 2 beeps on/1 beep off. When on, information during the search is sent to the interface each time a search iteration is finished and also when a new principle variation is found.

NEW FEATURES AVAILABLE IN YOUR "B" MODEL
SUPER FORTE / SUPER EXPERT

1. The degree of selective search can be chosen by the user.

2. User Settable "Speed Chess" timings are allowed.

3. Verify whilst thinking is allowed.

4. Display of level and degree of selectivity whilst thinking is allowed.

5. Scrolling backwards and forwards through the game whilst computer is thinking without changing computer memory is allowed.

6. "Start of Game" and "End of Game" keys may be used to control scrolling.

7. "Sound" may be switched on or off whilst the computer is thinking.

8. "Info" may be switched on or off while the computer is thinking.

9. "Autoplay" may be switched on or off whilst the computer is thinking.

10. There is a "Verbose" mode for use with the IBM Interface which sends principal variation up-dates to the RS232 Port.

THESE FEATURES MAY BE ACCESSED AS FOLLOWS:

1. SELECTIVITY DEGREE
To choose the degree of selectivity see SECTION 3: Set Level. When you press the "Set Level" key the display will read level nn sel m where nn is the current level selected between 1 and 64 and m is the current select setting between 0 and 7. To change the level proceed as paragraphs (a) and (b). To change the select setting use the "--" key and the number m will increase for each depression until it reaches 7 and then reset to 0 etc.

"Select 1" means that on the last ply of the given search the computer will only look at moves which are forcing or better than what has been found so far. This means that when the display shows the computer is doing a 6 ply search, for example, then ALL of the moves of the first 5 plies are searched, but only some of the 6th ply moves are looked at. Naturally captures and checks are then examined deeper.
"Select 2" means that on the last 2 plies of the given search the computer will only look at moves which are forcing or better than what has been found so far.

"Select 3" means the computer will operate it's selective search on the last 3 plies of the given search depth.

"Select 4", the last 4 plies, etc.

"Select 0" means the computer will look at all moves up to the given ply depth. When set for "Select 0" the computer will not overlook any combination which falls within its current search depth.

Recommended choices are "Select 3" for time controls of less than 3 minutes per move and "Select 4" for the time controls of 3 minutes or more per move.

Solve Mate always uses "Select 0" to make sure no mate is overlooked.

Select level may also be used for "Infinite" time control. Probably the best settings are "Select 3" and "Select 4".

If you are using level 16 the "-->" key has a different meaning (see SECTION 3). It is necessary to change, momentarily, to a level other than 16 to change the level of selectivity and then change back to level 16 once the level of selectivity has been chosen. This will not alter the time controls which you have programmed for level 16 and the select level may be chosen before or after the level has been chosen.

The Degree of selectivity may be set independently for Black and White. Press "Set Level" then choose the level and Select level for white as explained above. Then press "Change Colour" - you will notice the dash at the bottom of the screen, the first character on the display, which indicates "White", will move to the top of the screen, which indicates "Black". You can then set the level and Select level for black. Then press "Go".

The computer will always assume you wish to have the same level for black and white unless you tell it otherwise.

2. USER SETTABLE SPEED CHESS
See SECTION 3: Set Level procedure for setting time controls with level 16. If m is set to 00 the computer will interpret this to mean all the moves of the game within the time set for parameter t. After setting m and t use of the "Flip Display/Time Control" key will give game in hh; mm where hh; mm are the hours and minutes that you have instructed the computer to complete the game in.

3. VERIFY WHILST THINKING
Press "Verify" whilst the computer is thinking and then follow instructions in SECTION 4. If the computer finds a move whilst you are verifying it will wait until you press "Go" at the end of the verification sequence and then announce its move. You may not access Set-Up mode whilst the computer is thinking. Pressing the "Verify" key more than once whilst the computer is thinking will result in an error message and you will be left in Verify mode (as distinct from the procedure described in SECTION 5).

4. DISPLAYING LEVEL AND SELECTIVITY DEGREE
See SECTION 3. Whilst the computer is thinking pressing the "Level" key will give the display level nn sel m where nn is the current level number for White and m is the select level for White. Pressing the "Change Colour" key will give the same information for Black. Pressing the "Flip Display/Time Control" key will give the actual time control, fixed depth of search or novice level for the side being displayed. To exit the display level press "Go".

If the computer is ready to make a move whilst you are displaying level it will wait until you are finished then it will announce its move when you press "Go" to exit display level.

You may not change level whilst the computer is thinking. Pressing "Level" when you are in display level will result in a brief display of error and then the display will return to displaying the level.

5. SCROLLING
When it is your turn or whilst the computer is thinking use of the "-->", and "<--" keys will cause the display to show the moves of the game 2 ply at a time in the usual format. You may go back through the game by using the "<--" key and forward from the apparent move number to the current move by using the "-->" key. This operation does not affect the internal memory of the computer or the board. If this procedure is followed whilst the computer is thinking it will be interrupted immediately the computer has prepared its move.

To exit scrolling mode whilst the computer is not thinking either make your move or use any of the other permitted keys. To exit scrolling mode whilst the computer is thinking and prior to its announcing a move, as mentioned above, press any or the other keys permitted whilst thinking, as desired.

6. START OF GAME & END OF GAME
Pressing the "Start of Game" or "End of Game" keys will not affect the memory but it will reset the scrolling process correspondingly to the beginning of the game or the current move.
NEW FEATURES AVAILABLE IN YOUR "C" MODEL
SUPER FORTE / SUPER EXPERT

1. The degree of selective search can be chosen by the user.
2. User Settable 'Speed Chess' timings are allowed.
3. Verify whilst thinking is allowed.
4. Display of level and degree of selectivity whilst thinking is allowed.
5. Scrolling backwards and forwards through the game whilst computer is thinking without changing computer memory is allowed.
6. "Start of Game" and "End of Game" keys may be used to control scrolling.
7. "Sound" may be switched on or off whilst the computer is thinking.
8. "Info" may be switched on or off while the computer is thinking.
9. "Autoplay" may be switched on or off whilst the computer is thinking.
10. There is a "Verbose" mode for use with the IBM Interface which sends principal variation up-dates to the RS232 Port.

THESE FEATURES MAY BE ACCESSED AS FOLLOWS:

1. SELECTIVITY DEGREE
   To choose the degree of selectivity see SECTION 3: Set Level. When you press the 'Set Level' key the display will read level nn sel m where nn is the current level selected between 1 and 64 and m is the current select setting between 0 and 7. To change the level proceed as paragraphs (a) and (b). To change the select setting use the "->" key and the number m will increase for each depression until it reaches 7 and then reset to 0 etc.

   "Select 1" means that on the last ply of the given search the computer will only look at moves which are forcing or better than what has been found so far. This means that when the display shows the computer is doing a 6 ply search, for example, then ALL of the moves of the first 5 plys are searched, but only some of the 6th ply moves are looked at. Naturally captures and checks are then examined deeper.

   "Select 2" means that on the last 2 plys of the given search the computer will only look at moves which are forcing or better than what has been found so far.

   "Select 3" means the computer will operate it's selective search on the last 3 plys of the given search depth.

   "Select 4", the last 4 plys, etc.

   "Select 0" means the computer will look at all moves up to the given ply depth. When set for "Select 0" the computer will not overlook any combination which falls within its current search depth.

Solve Mate always uses "Select 0" to make sure no mate is overlooked.

Select level may also be used for "Infinite" time control. Probably the best setting is "Select 4".
If you are using level 16 the "..." key has a different meaning (see SECTION 3). It is necessary to change, momentarily, to a level other than 16 to change the level of selectivity and then change back to level 16 once the level of selectivity has been chosen. This will not alter the time controls which you have programed for level 16 and the select level may be chosen before or after the level has been chosen.

The default selective setting is "5".

The Degree of selectivity may be set independently for Black and White. Press "Set Level" then choose the level and Select level for white as explained above. Then press 'Change Colour' - you will notice the dash at the bottom of the screen, the first character on the display, which indicates 'White', will move to the top of the screen, which indicates 'Black'. You can then set the level and Select level for black. Then press 'Go'.

The computer will always assume you wish to have the same level for Black and White unless you tell it otherwise.

2. USER SETTABLE SPEED CHESS
See SECTION 3: Set Level procedure for setting time controls with level 16. If m is set to 00 the computer will interpret this to mean all the moves of the game within the time set for parameter t. After setting m and t use of the 'Flip Display/Time Control' key will give game in hh:mm where hh:mm are the hours and minutes that you have instructed the computer to complete the game in.

3. VERIFY WHILST THINKING
Press 'Verify' whilst the computer is thinking and then follow instructions in SECTION 4. If the computer finds a move whilst you are verifying it will wait until you press 'Go' at the end of the verification sequence and then announce its move. You may not access Set-Up mode whilst the computer is thinking. Pressing the 'Verify' key more than once whilst the computer is thinking will result in an error message and you will be left in Verify mode (as distinct from the procedure described in SECTION 5).

4. DISPLAYING LEVEL AND SELECTIVITY DEGREE
See SECTION 3: Whilst the computer is thinking pressing the 'Level' key will give the display level and select level for White and select level for White. Pressing the 'Change Colour' key will give the same information for Black. Pressing the 'Flip Display/Time Control' key will give the actual time control, fixed depth of search or novice level for the side being displayed. To exit the display level press 'Go' or the computer will go back to original display automatically after a few seconds.

You may not change level whilst the computer is thinking. Pressing 'Level' when you are in display level will result in a brief display of error and then the display will return to displaying the level.

5. SCROLLING
When it is your turn or whilst the computer is thinking use of the "..." and "..." keys will cause the display to show the moves of the game 2 ply at a time in the usual format. You may go back through the game by using the "..." key and forward from the apparent move number to the current move by using the "..." key. This operation does not affect the internal memory of the computer or the board. If this procedure is followed whilst the computer is thinking it will be interrupted immediately the computer has prepared its move.

To exit scrolling mode whilst the computer is not thinking either make your move or use any of the other permitted keys. To exit scrolling mode whilst the computer is thinking and prior to it's announcing a move, as mentioned above, press any or the other keys permitted whilst thinking, as desired.

6. START OF GAME & END OF GAME
Pressing the 'Start of Game' or 'End of Game' keys will not affect the memory but it will reset the scrolling process correspondingly to the beginning of the game or the current move.

SOUND ON OR OFF
Whilst the computer is thinking press 'Sound' and the message sound on or sound off will appear momentarily. The display will then revert to previous. This is useful if you wish to use the scroll functions or hint functions without annoying other people in the room.

8. INFO ON OR OFF
In INFO mode the computer will flip through each of the six information screens for a short period whilst thinking. The new "C" program will now allow you to switch INFO on or off whilst it is thinking.

Press 'Set Level' - 'Info' - 'Go'
More information on INFO can be found on page 11, section 15 of the manual.

9. AUTOPLAY
Follow the procedure in SECTION 20. If "AutoPlay" was previously selected this procedure will cause 'AutoPlay' to be switched on. The message autoPlay on and autoPlay off will be displayed as appropriate. Repeated pressings of 'AutoPlay' before pressing 'Go' will cause this message to alternate. If the Computer completes its move search whilst you are following this procedure it will wait until you press 'Go' and then announce its move.

This procedure is useful because it enables the computer to complete its current move whilst in AutoPlay and then stop instead of having to interrupt it and alternatively, if you are playing against the computer and need to break off, you can switch the computer into "AutoPlay" and have it continue the game in your absence. You may use the scrolling features to review the game or indeed switch 'AutoPlay' off and take over the game or the computer, as desired.

* Demo on: non-stop autoplay,
The description of the function keys is listed under the marked reference numbers.