

**NOVAG<sup>®</sup>**

**CONSTELLATION**

**FORTE**

**INSTRUCTIONS**

## CONTENTS

Section	I	Playing the FORTE
	II	The Basics
	III	Control Panel
	IV	General Notes
	V	Appendix
	A.	NOVAG CHESS PRINTER
	B.	Trouble shooting list
	C.	NOVAG CHESS CLOCK
	D.	Care of the NOVAG CONSTELLATION FORTE
	E.	Technical data

## TYPOGRAPHICAL CONVENTIONS USED IN THIS MANUAL

LCD	Liquid crystal display located on the top right panel of the FORTE. You will see useful comments from the FORTE on the progress of the game or you can request any type of information even while the FORTE is computing.
-->	This leads to the next operation in the sequence.
( operation )	This means that the operation enclosed in the box is optional and may be bypassed.
(ON/OFF)	Function is turned on/off when procedure is repeated.
LED/LEDs	Light emitting diode - rectangular lamps at the left side (8), bottom row (8) and in the control panel (2).
coordinates	The 64 squares are assigned names from a1 to h8 which is the internationally accepted standard.
Lit square	Each of the 64 squares on the chessboard has coordinates assigned to it. A square is indicated by lighting up one of the row LEDs (left side) and one of the row column LEDs (bottom).
[ .comments. ]	The square brackets enclose the comment that you should see on the LCD display of the FORTE.

## SECTION I Playing the FORTE

For those who wish a quick game without having to read the entire manual, please follow the instructions laid out below;

- Step 1 Switch on the computer - wait while it does its self test LCD will show [ 0123456789 ] then [ LED Test ] then [ 01 - - - - . - - - - ].
- Step 2 When the White LED begins to flash it means that the FORTE is ready to play. Press NEW GAME.
- Step 3 Set up the chess pieces in their respective starting positions.
- Step 4 Press SET LEVEL and the LCD will show the current level selected. To change this press on the SET LEVEL key repeatedly until the LCD shows the level that you wish to play.
- Step 5 Press GO to exit the level setting mode.

You may now play the White side against the FORTE. To make a move say e2-e4 press the square e2 (push gently on the chess piece, applying downward pressure) and LED 2 and LED E will be lit to confirm the FROM part of your move. Place the chess piece from e2 to square e4 and press down gently. If this move is accepted (i.e. legal) the FORTE will begin to compute its counter move. Press Flip Display and your move will be displayed on the LCD together with the FORTE's reply when it is ready. This move list will scroll right and at any time you may see the number of moves already made. Whenever the FORTE has completed its computing it will display the move on the LCD and lights up the coordinates of that move. Please make this move for the FORTE by pressing on the squares indicated. When a capture is made please remove the captured piece from the board. When the FORTE is computing it will flash the "M" on the left side of the display.

### Promotions/Underpromotions

- FORTE promotes When you execute this move for the FORTE it will show on the LCD the piece that it wishes to promote to and the destination square coordinates. For example, white pawn on h7 promotes to Queen on the h8 square. When you press h7 the LCD shows [ q\_h8 ].
- When you promote The FORTE will request you to press one of the piece keys to enter your selection [ pro piece ? ]. Press the piece key gently.

## SECTION II THE BASICS

- a. **MAKING MOVES** Making a move on the FORTE is very simple, just press gently on the square that you wish to move from, the LCD will show the name of the FROM square and the coordinates will be lit. Lift up the piece and put it down on the square that you wish it to go to and press gently and the completed move will be displayed. The FORTE will then begin computing.

When the FORTE is ready for a move, the FROM coordinates will be lit and you must press slightly the piece on this square. The FORTE will then light up the TO square to complete its move. Please press as indicated to execute the FORTE's move.

Note : To be able to watch the FORTE update the move list you will have to flip the display to the move scroll mode (see 13).

- b. **COMPUTING** Computing is indicated by the flashing of the "M" on the left side of the LCD.

- c. CAPTURING MOVES** When capturing please remove the captured piece from the board. If the FORTE indicates a move onto a square which is occupied by your piece it intends to capture that piece, please remove your piece from the board to complete the move for the FORTE.
- d. ILLEGAL MOVES** The FORTE will indicate all illegal or impossible moves by flashing [ error ] on the LCD and will then beep 3 times. Most errors will be self correcting but some errors will need your assistance. The FORTE will show via the LCD and the LEDs all the actions that you will need to perform so that any such error will be corrected.
- e. CASTLING** According to the rules you must first move your King and then the Rook. The FORTE expects you to press on all the proper squares (all indicated) before you can complete a castling move. Please do the same when executing a castling move for the FORTE.
- f. EN PASSANT PAWN CAPTURE** If you or the FORTE make an en passant capture please remember to remove the captured pawn and press gently on that square. Please refer to chess literature if you do not understand this chess term.
- g. PROMOTION/ UNDERPROMOTION** If one of your pawns reaches the 8th rank the FORTE will request on the LCD that you select the piece that you wish to promote to. Please press the appropriate piece key. When the FORTE promotes one of its pawns it will show on the LCD the piece that it wishes to promote to and the destination square of the move. In this case simply complete the move normally but if you missed this display you may use VERIFY to find out which piece should be standing on the promotion square.
- h. STALEMATE DRAW** A stalemate is announced on the LCD [STALE MATE]. The FORTE claims a draw by displaying on the LCD the appropriate comment pertaining to the type of draw that it is claiming. This will be in accordance with the rules laid down by FIDE ( World Chess Federation) and they are:
- (i) Insufficient mating material
  - (ii) 3-fold repetition of the position
  - (iii) 50 move rule
- i. CHECK and CHECKMATE** Check is indicated by a dash [-] on the left most side of the LCD and you will not be allowed to leave your King in check. Checkmate is displayed on the LCD.
- j. EARLY MATE ANNOUNCEMENTS** The FORTE always announces mate when it sees it and will light up the number of LEDs on the left side corresponding to the number of moves to the final mate. The LCD will also show the number of moves to mate.
- k. RESIGNS** Whenever the FORTE finds itself in a hopelessly lost position it will offer to resign the game by displaying the [ resign ] message but you may still continue the game. Note however that the FORTE will only resign once.

The FORTE will not offer to resign if it is in a shallow mating trap so that it does not spoil your moment of glory.

Note : The LCD always shows the White side as an underline and a top dash for the Black side.

Examples:

White's accumulated time  
time used for this move



000000\_0000




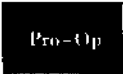
Black playing on level 12

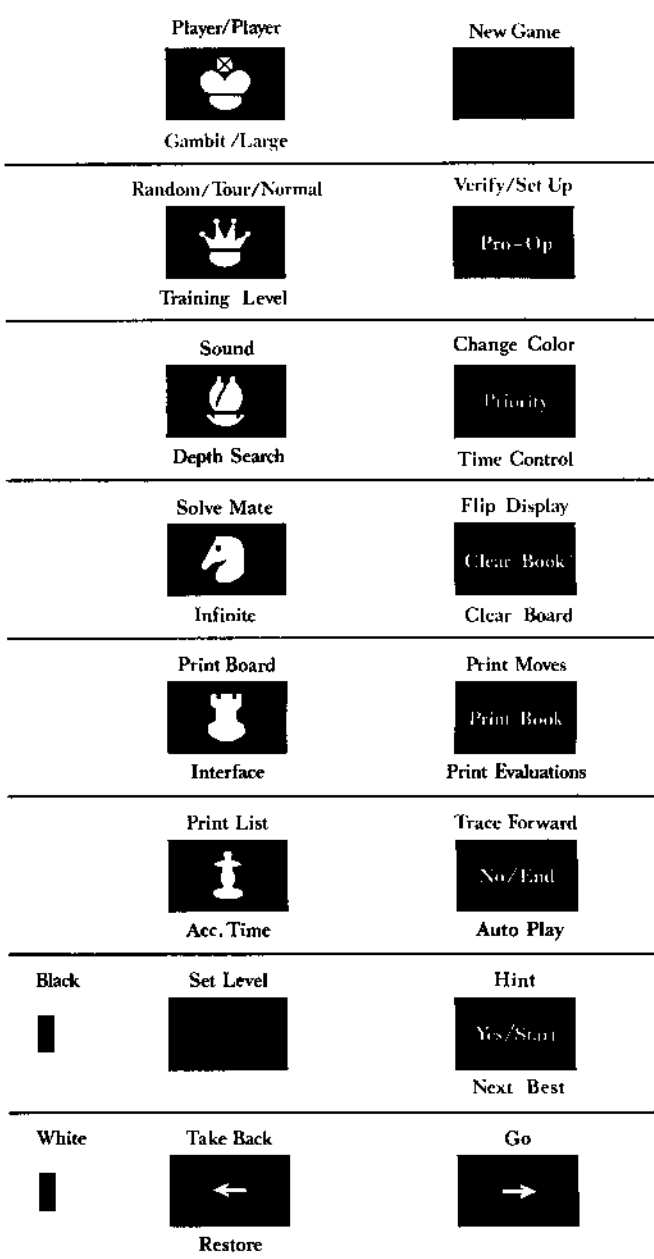


LEVEL 12

# SECTION III CONTROL PANEL

## CONTROL PANEL DIAGRAM

1.	New Game		
2.	Go		
3.	Player/Player		
4.	Random/Tour/Normal	Gambit /Large	
5.	Sound	Random/Tour/Normal	Verify/Set Up
6.	Solve Mate		
7.	SET LEVEL	Training Level	
7.1	Gambit Book		
7.2	Training Level		
7.3	Depth Search		
7.4	Infinite		
7.5	Interface		
7.6	Autoplay		
7.7	Next Best		
7.8	Restore		
8.	Take Back		
9.	Verify		
10.	Set Up		
10.1	Set Up		
10.2	Change Color		
10.3	Clear Board		
11.	PRINT FUNCTIONS		
11.1	Print Board		
11.2	Print Moves		
11.3	Print List		
11.4	Print Evaluations		
11.5	Acc. Time		
12.	Time Control		
13.	Flip Display		
14.	Trace Forward		
15.	Hint		



## 1. New Game

This will reset the board to the starting position and you must put all the pieces back on their respective starting positions.

Note: Any training level previously set will be cancelled and you will have to re-select a training level. If Sound has been turned OFF it will be reset to its normal status of being ON.

## 2. GO

This key is used in conjunction with the many functions of the FORTE and normally acts as an exit key.

Main uses :

- (i) makes the FORTE compute for the color to move
- (ii) exits from  
    VERIFY  
    SETUP  
    SET LEVEL  
    PRINT BOARD or LIST
- (iii) starts AUTOPLAY mode
- (iv) starts SOLVE MATE search
- (v) starts communication programs with external computer
- (vi) acts as increment key for the User Set time control

## 3. Player/Player                    ON - 2 beeps   OFF - 1 beep

When this mode is entered the FORTE takes no part in the game unless instructed to do so by GO. A chess game can then be played with the FORTE checking all the moves for legality. This game may then be transferred to a personal computer (IBM or compatible) for archiving and recalled for future reference or analysis by the FORTE. You may select this mode only on your move.

## 4. Random/Tour/Normal

The key offers 3 settings of play and you may select any of them by pressing this key until the required mode appears on the LCD. This function does NOT require an exit keypress.

Play settings and their meanings:

- (i) Random            The FORTE will select from moves that have nearly the same evaluations randomly. Games of great variety may be played using this mode. In cases where there is only one move which is a lot better than all others the FORTE will then only play this move.
- (ii) Tour             The strongest possible moves will be played by the FORTE hence repetition of games where only one line of play is best will be regularly seen. This is the Tournament mode for the FORTE.
- (iii) Normal         The FORTE will attempt to use its big opening book for greater variety of play and will not discriminate against any unsound gambits or opening lines and all possible opening variations will be played.

## 5. Sound                            OFF - 2 beeps   ON - 1 beep

This switches off the sounds that the FORTE makes to call attention to its moves or warning messages. Therefore if this is OFF you will have to pay special attention to the LCD for any important messages.

Note : New Game will always set sound back ON again.

## 6. Solve Mate

--> (number of moves to mate) --> Go

Before selecting this special function please use SET UP (see 10) to enter the position of the particular mate problem that you wish the FORTE to solve. Then select the least number of moves of the solution or any higher number by pressing on this key until the LCD shows the correct number. You may also select the number of moves by pressing any of the 64 squares (row 1 = 1 move .... row 8 = 8 moves). When you press GO the FORTE will begin searching for the shortest possible solution of your problem.

To make the FORTE find an alternate solution to your mate problem, if any exist, use the following procedure:

- (i) Wait until the FORTE returns with the first mate solution then execute this move.
- (ii) Press Solve Mate
- (iii) Press Next Best
- (iv) Take back move as indicated
- (v) FORTE will now check if another solution exists. If there is no second solution, an error message will be displayed.

Note: Do not use the sequence <Set Level> <Next Best> as this will just find any mate because of the special way the FORTE searches for the best move.

## 7. Set Level

The FORTE has 32 selectable levels plus 1 special User Set level which allows you to construct any combination of moves/time period that you wish thereby providing an infinite number of levels.

**\*\* NEW FEATURE \*\***

You may select different levels for White and Black

There are 2 ways to select the normal levels:

- (i) by pressing repeatedly on the Set Level key
- (ii) by pressing on the square, rows 1 to 8 for levels 1 to 8 (except column B)  
Column B, b1 to b8 is reserved for selecting levels 9 to 16.  
Level 16 is the User set Level (see below)

Any level may be selected by merely 1 keypress (see (ii) above).

Level	Time Control		Average response	Training/Analysis level	
	Moves	Time			
1	60	5.0 min.	5.0 sec.	1	half move
2	40	5.0 min.	7.5 sec.	2	half moves
3	60	30.0 min.	30.0 sec.	3	" "
4	30	30.0 min.	60.0 sec.	4	" "
5	30	60.0 min.	2.0 min.	5	" "
6	40	90.0 min.	2.25 min.	6	" "
7	40	2.0 hr.	3.0 min.	7	" "
8	40	2.5 hr.	3.75 min.	8	" "
9	60	3.0 min.	3.0 sec.	9	" "
10	40	10.0 min.	15.0 sec.	10	" "
11	40	30.0 min.	45.0 sec.	11	" "
12	40	60.0 min.	90.0 sec.	12	" "
13	40	100.0 min.	2.5 sec.	13	" "
14	45	2.5 hr.	3.3 min.	14	" "
15	40	12.0 hr.	18.0 min.	15	" "
16	40	10.0 min.	15.0 sec.	16	" "

(default setting for User Set Level)

**Note :** The training level equivalent to the regular level limits the search depth to the specific number of moves corresponding to the level number.

**Set Level** --> (select White level) --> Flip Display  
--> ( select Black level) --> Go

Different levels for White/Black - First select level for White side then press Flip Display and you may select another level for the Black side. Changing the level for the White side will reset the Black level to match the White side.

**Set Level** --> ( select level ) --> Time Control --> Go

This sequence will allow you to view the time control settings in the format moves/hrs. mins.

### **7.1 Set Level --> Gambit --> Go (ON/OFF)**

This selects the Gambit Book routine which forces the FORTE to play only gambit variations from its opening book. The LCD will display the selected status when the key is pressed.

### **7.2 Set Level --> Training Level --> (select level) --> Go (ON/OFF)**

This selects a Training Level which will deliberately weaken the FORTE so that even a beginner may win a game against it. Only levels 1 to 5 are practical for normal play as the higher levels will be too strong and will also take a long time when computing. Levels 6 to 16 are normally used for overnight analysis of endgame positions. (see 7.6 AutoPlay)

### **7.3 Set Level --> Depth Search --> Go (ON/OFF)**

When this mode is selected the LCD will provide a lot of interesting information on the progress of a game.

Depth Search will rotate all possible displays at 3 seconds intervals

Information in this order

- (i) move being considered , if still in opening book will show OPEN and if not then the evaluation of the position [ E2E4 00.00 ]
- (ii) Depth of search and iterations e.g. d03 31-32 means 3 plies deep searching now, 31-32 means completed 1 out of 32 iterations on the present position.
- (iii) Number of nodes completed so far (positions analysed)
- (iv) Total time consumed and time for this move.

### **7.4 Set Level --> Infinite --> Go (ON/OFF)**

This selects the infinite level in which the FORTE will analyse any position for as long as there are moves to compute or when one of the following occurs:

- (i) a forced move must be made e.g. check and no other alternatives are available.
- (ii) a mate is found, FORTE will then announce mate.
- (iii) move analysis buffer is full and no more computing will be possible after this (normally after 21 half moves have been completely analysed)

## 7.5 Interface

The FORTE can communicate with most personal computers that support the RS232 standards. Data can flow both ways and vital information may be obtained through a personal computer which would normally be impossible to show using just an LCD together with LEDs. Novag supplies as an OPTION the basic programs to take and send information together with a graphic chessboard that replays games on the monitor of the personal computer.

Features of communication software for the IBM PC or compatibles

- (i) Takes complete game from FORTE and archives it in an indexed library for replay on screen or re-calls it at a later date.
- (ii) Sends game position with move list to FORTE for analysis and returns results to PC. Positions may be stored in batch file and executed overnight or through long unattended periods.
- (iii) Captures game analysis in interactive mode, PC and FORTE remain linked during entire game.
- (iv) Creates programable opening book on the PC and replaces FORTE's pro-op book. Infinite number of books may be created and filed away for later transfer.
- (v) Takes programable opening book memory from FORTE for editing on the PC and returns updated version.

Function	Action
SAVE GAME	Transfers game history from FORTE to PC
LOAD GAME	Dumps move lists and game parameters to FORTE
AUTO ANAL	PC - FORTE link - interactive mode
GAME ANAL	FORTE updates PC with latest move information
PRO_SAVE	Transfers programable book to PC
PRO_LOAD	PC dumps new or edited version of book to FORTE
???? BAUD	Selects transmission speed 1200 or 9600 baud

Keys used in this mode are;

**No** This key cycles through all the above choices but be careful when answering the baud rate selection as a No will set the other baud rate.

**Yes** This key starts the communication program

**Note:** New Game will terminate this mode

## 7.6 Set Level --> AutoPlay --> Go (ON/OFF)

This immediately starts the FORTE playing against itself at the current level settings. All moves are executed automatically by the FORTE and you may keep track of the game by making the moves on the board according to the lit squares from time to time but you do NOT need to press any square at all. This feature is useful and educational and provides the best instructional aid to a beginner.

Deep overnight analysis can be obtained if the level is properly selected to enable the FORTE to use the maximum amount of time to find the best possible continuations in any chess position. The FORTE may play both sides at different levels if you set it before activating AutoPlay.

Go or New Game will terminate this function. Other keys have no effect except the Flip Display and the Hint keys.

## 7.7 Set Level --> Next Best

When this selection is made the FORTE will prompt you to take back the last move played and when you have completed the TakeBack it will begin computing the second best move that is possible in this position

which will not be too inferior to the best move.

Note: for mate problems with double solutions see 6. Solve Mate.

## 7.8 Set Level --> Restore

This restores the board position to the starting position but you will be prompted for confirmation before the FORTE will restore the position. Press Yes to confirm or No to abort this selection.

8. **Take Back --> Press on square indicator , lift up piece**  
--> Place piece and press on next square as directed  
--> (Replace piece captured if any, indicated on LCD in the format [ piece-color-square ] color is displayed as a bottom single line for White and top dash for Black. Press on square as directed)

If you made a weak move and wish to retract it you may use the above procedure to take back any number of moves to correct your mistake even right up to the start of the game. Please remember to replace any captured pieces whenever indicated by the FORTE.

## 9. Verify --> any piece key --> (adjust misplaced piece if any) --> Go

Press Verify once and the LCD will show [VEr] which confirms that you are now in the Verify mode. First make sure that the color LED is showing the correct color or else press Change Color to change this.

To Verify the position of any piece just press that piece key and the coordinates of its location will be lit. If you press this key again it will show the next location of another piece of the same type, if any other is presently on the board.

An alternative method is to press any square on the board and the FORTE will show on the LCD the type of piece and its color, if any piece is occupying that square but will beep and show an error message if that square is empty. The standard convention to show color on the LCD is used, to repeat - a single bottom line between the piece type and name of the square means White while the single top dash means Black.

## 10. SET UP

### 10.1 SETTING UP A NEW POSITION

Verify --> Verify/Set Up --> (Clear Board) --> set up new position --> Go

The second press of the Verify/Set Up key will put you into the Set Up mode and the LCD will show [SEt] and you may now begin to enter a new position into the FORTE's memory. If you wish to clear the board of all the pieces please press Clear Board.

Example : To place a White King on the board

- (i) make sure that the color LED shows the correct color
- (ii) press the key with the King symbol on it and the LCD will show [SEt K\_]
- (iii) place the White King on the square that you wish and press gently. The coordinates will be lit and will be shown on the LCD

Example : To place 5 Black pawns on the board

- (i) make sure that the color LED shows the correct color
- (ii) press the key with the Pawn symbol on it and the LCD will show [SEt p-]
- (iii) place the Black Pawns on the squares that you wish and press gently, on each of them. The coordinates will be lit and will be shown on the LCD

Any legal chess position may be set up using the above procedure. The FORTE does not permit illegal or impossible positions where there are more than the normally expected number of pieces say, 9 pawns of the same color, 3 bishops of the same color etc.

## 10.2 Change Color

This key has three functions:

- (i) When in the Verify or Set Up modes this key changes the color for the entry or verification of the board position.
- (ii) When pressed before the start of a game (after pressing New Game) this reverses the internal board, therefore please reset the pieces so that the white pieces play down the board - White pieces on rows 7 and 8 and Black pieces on rows 1 and 2.
- (iii) When pressed any time during a game (only on your move) this changes the color of the side to move without reversing the board.  
Warning : Since this action erases the history of all the past moves you will be prompted for a confirmation therefore please use the Yes and No keys to complete this function.

## 10.3 Clear Board

This key has three functions:

- (i) When in Set Up mode this clears the board of all the pieces.
- (ii) When in Set Level mode this key changes the color for the selection of a different level for the other color. (see 7)
- (iii) When pressed during the entry of a move this acts as a clear entry key.

## 11. PRINT FUNCTIONS FOR USE WITH THE NOVAG CHESS PRINTER

### 11.1 Print board

The present board position will be printed. This may be used to provide a copy of the board for future references.

### 11.2 Print Moves                      ON - 2 beeps    OFF - 1 beep

When this mode is activated the printer will print each pair of moves played. A summary of accumulated time will be printed every 10 moves.

### 11.3 Print List

The entire game score will be printed. You may print as often as you like.

### 11.4 Set Level --> Print Evaluations --> Go                      (ON/OFF)

The LCD will confirm your selection of this print mode. The Printer will print each pair of moves as they are played along with the evaluations that the FORTE makes on them ( for both sides ) . This printout will indicate who is ahead or behind and is calculated based on value of a pawn which is 1. 99 means mate-in-1, 97 mate-in-3 and a -15.00 position is hopelessly lost.

Note :                      If the Novag Chess Printer is not connected a error message is displayed.

### 11.5 Set Level --> Acc. Time --> Go

(ON/OFF)

The LCD will confirm your selection of this print mode. The Printer will print each pair of moves together with the cumulative time used so far.

### 12. Time Control

Set Level	-->	User Set level 16 (press square b8)	-->	Time Control
	-->	set number of moves	-->	set time period
	-->	(set moves/time control for Black)	-->	(select Black)
			-->	Go

Keys used in the Time Control setting mode:

-->	This increments the digit which is flashing
<--	This decrements the digit which is flashing
<b>Yes</b>	This accepts as correct the flashing digit and moves on to the next selectable digit on the right
<b>No</b>	This aborts the entry operation and skips to the next selection in the sequence

After following the initial sequence of **Set Level/Level 16/Time Control** you will be prompted for the number of moves. Use the above keys in any combination to enter any time control setting that you wish to have and then choose a different setting for Black if you wish (by pressing Flip Display and following the same procedure).

### 13. Flip Display

The LCD displays information on the status within the computer.

To see other displays press the FLIP DISPLAY key.

- (i) Main display - defaults always to dual time display White : Black
- (ii) Move list with scrolling function e.g.  
01.e2e4.e7e5            the first move  
e7e5.02.g1f3            the second move scrolls display right and so on
- (iii) Shows total time consumed by one side plus time taken for this move like this :  
0.00.00\_00.00 = hour.mins.secs. for White if segment is on top it means black
- (iv) Shows best move suggestion and if still in opening book will show the move followed by OPEN otherwise the evaluation
- (v) Depth now reached and the number of iterations completed (variations analysed).  
[ d05 31-32 ] means searching to 5 plies deep and completed 1 out of 32 iterations (variations).
- (vi) Shows the number of nodes (position) analysed up to a maximum of 100 million then counter will reset to zero and continues.
- (vii) Goes back to main dual time display (i)

**Note:** Any of the above displays may be selected and the FORTE will continuously update this display only. Press the Flip Display key until the desired display is shown and you may continue playing with this display always showing on the LCD.

- 14. Trace Forward --> Press on indicated square and lift up piece**  
**--> Place piece on TO square and press down gently**  
**--> (If capture, remove captured piece - no need to press again)**

This procedure is mainly used for the replaying of a game after Restore has been activated (see 7.8). This sequence may be repeated until there are no further moves to trace forward to i.e. the end of the previous game. An error message will be displayed at the end of replay.

## 15. HINT

This feature is extremely useful for those who are learning chess or are interested in seeing how the FORTE analyses every move. The principal variation being considered will be changed according to the search depth attained and if the Hint is left on you will be able to watch the FORTE update the principal variation from time to time.

HINT shows:

- on your move - two plies or more of suggested best move and reply in the expected variation
- when computing - as many plies forward as is presently attainable may be as many as 9 plies. Each successive press will bring on 2 more plies till the LCD returns to the last display mode.

Each successive keypress will show a further 2 plies of the principal variation until it is exhausted and you will be automatically returned to the last Flip Display screen that you were in. Sometimes the number of plies shown will be less than the search depth attained and the reason is that the FORTE has detected repetitions in the position and has cut off the remainder of the show moves since the best line is a repetition, also the evaluation of this position should be close to equality.

## 16. Programable Opening Book

The FORTE provides chess enthusiasts the opportunity to extend its already large opening book. The key marked PRO-OP enables you to enter the Programable Opening Book. Just press Set Level then PRO OP and you can choose from the following 6 functions.

- a. Clear Programable Book
- b. Enter openings
- c. Set priorities
- d. Delete lines in the Programable Book
- e. Select Large Book or Programable Book only
- f. Print out the entire Programable Book

Once in PRO OP mode repeated depression of the PRO OP button will cycle the display through the following 3 choices.

- |                      |   |
|----------------------|---|
| (i) [ pro op use ]   | Play mode using Programable Book          |
| (ii) [ pro enter ]   | Entry mode for new additions or deletions |
| (iii) [ pro op off ] | Switches off programable Book             |

The function of each is given within the 6 sections following:

### a. Clear Programable Book

- |              |   |
|--------------|---|
| (i) Press    | Set Level                                       |
| (ii) Press   | Pro-Op  |
| (iii) Select | [ pro enter ] - press Pro-Op until you see this |
| (iv) Press   | Clear Book - prompts you to press Yes or No key |

- (v) Press Yes or No key
- (vi) Press Go to activate entry mode or select [ pro op off ] by pressing the PRO OP key then GO to exit

**b. Enter opening variations into Programmable Book**

Example:

Line 1 1. e2-e4 b7-b5 2. d2-d4 c8-b7 3. f1-b5 b7-e4  
 Line 2 .....same as above..... 3. f2-f3 a7-a6  
 Line 3 1. d2-d4 h7-h6 2. c2-c4

- (i) Press Set Level
- (ii) Press Pro-Op
- (iii) Select [ pro enter ]
- (iv) Press Go - the LCD will always show "M" to indicate that you-are now in the Pro-Op entry mode
- (v) Press Start
- (vi) Make the moves of line 1 on the board (press lightly on the squares)
- (vii) After entering the last move of line 1 press Take-Back and take back the moves 3. f1-b5 b7-e4
- (viii) Make the following moves of line 2 from 3. f2-f3 a7-a6. Line 2 is now a sub-variation of line 1 and both lines share the same opening moves to move 2. ...c8-b7
- (ix) Press Start - as line 3 is totally different from the others
- (x) Enter the moves of line 3
- (xi) Press End - to get out of entry mode and the FORTE will put you automatically into the play mode

**c. To give Priority to an opening variation**

If you want the FORTE to give preference to any of your opening variations within the Programmable Book you will have to press Priority before you start entering that opening line or sub-variation. Therefore in the entry procedure (b.) you may press Priority before steps (vi) or (viii) or (ix).

**d. Delete any line within the Programmable Book**

Using the same example as in a. , procedure to delete line 2

Example:

Line 1 1. e2-e4 b7-b5 2. d2-d4 c8-b7 3. f1-b5 b7-e4  
 Line 2 .....same as above..... 3. f2-f3 a7-a6  
 Line 3 1. d2-d4 h7-h6 2. c2-c4

- (i) Press Set Level
- (ii) Press Pro-Op
- (iii) Select [ pro enter ]
- (iv) Press Go
- (v) Make the moves of line 2 up to and including 3. f2-f3 ( DO NOT make the last move 3. ....a7-a6 )
- (vi) Press Clear Book - LCD will show [ delete ? ]
- (vii) Press Yes - to delete this line or No key to abort. If you press Yes line 2 will be deleted. You may delete more lines or enter new lines since you are still in the entry mode
- (viii) Press End - to exit the entry mode

**e. Select Large Book or just play with your Programmable Book**

Large Book means the fixed Opening Book plus your Programmed Opening Book.

- |              |  |
|--------------|--|
| (i) Press    | Set Level  |
| (ii) Press   | Pro-Op   |
| (iii) Select | [ pro op use ]   |
| (iv) Press   | Large - select [ large open ] or [ pro open ] by<br>pressing this key until the LCD shows your selection |
| (v) Press    | Go - to exit to Pro-Op play mode   |

**Note:** You will not be allowed to select Gambit book while in Pro-Op mode therefore if you wish to use the Gambit book you will have to select it before entering Pro-Op mode. Large will then mean Gambit plus user programable book.

**f. Print out entire Programmable Book to verify your entries**

- |              |  |
|--------------|--|
| (i) Press    | Set Level  |
| (ii) Press   | Pro-Op   |
| (iii) Select | [ pro enter ]                                    |
| (iv) Press   | Print Book                                       |
| (v) Press    | Yes - to begin printing or No to abort selection |

If you want to use the Entry mode of the Pro-Op

- |            |                                |
|------------|--------------------------------|
| (vi) Press | Go - go into Pro-Op entry mode |
|------------|--------------------------------|

but if you wish to return to normal playing mode

- |             |                                       |
|-------------|---------------------------------------|
| (vi) Press  | Pro-Op - to select [ pro op off ]     |
| (vii) Press | Go - to return to normal playing mode |

**WARNING:**

If memory has been reset, you **MUST** clear the programable book see a. above, before attempting to create a new book.

**SECTION IV GENERAL NOTES**

- The FORTE provides a warning that you have overstepped the time control of the level you have selected. It does so by lighting up LEDs 1,3,5,7,b,d,f,h on the chessboard.
- Errors are indicated by an error message on the LCD together with 3 beeps. Most errors will not need your assistance but are self correcting. An example will be that you have tried to make an illegal move. The illegal TO coordinates will be lit while the FORTE makes 3 beeps but will be turned off so that you will not need to press on that illegal square to correct. Simply make a legal move by putting your piece on a legal TO square and press gently.
- Many of the operational problems are associated with a bad adaptor or power supply. To avoid this please use **ONLY** our specified adaptor Art. No. 8220 which is separately available from your dealer.  
**The use of another adaptor automatically invalidates the warranty.**
- When in Set Level mode you may select as many functions as you wish before exiting, except where the function must be effected immediately.
- The Hint function is very interesting as it is constantly updated by the FORTE. If you leave on the display the last 2 half moves of a variation you will see the update and if an entire line is abandoned then the display flips back to the start of the new principal variation.

- f. The FORTE has a long term memory to keep the settings of the level etc. and most important of all the programable book. However, if you have an IBM or compatible computer you will be able to purchase form NOVAG software which will allow you to create numerous books to transfer to the FORTE and in the unlikely event of a total memory loss you will still have a backup copy of the book on your PC's storage medium (floppies or hard disk).
- g. If you wish to totally reset the FORTE so as to entirely erase its random access memory thereby losing whatever settings or programable book, you may do so with a hardware switch. This is located on the bottom side of the FORTE and is clearly marked.
- h. The FORTE will beep 3 times when it makes 60 moves. (acoustic reminder)
- i. The opening book has over to 20,000 positions and is divided into sections so that games may be restricted to certain types of chess games (see 7.1 and 7.5)
- j. Print Moves has no effect when Print Evaluations and/or Acc. Time is/are selected.
- k. When the FORTE is switched ON it does a power up self test. However, if you wish you may abort this test by pressing New Game and the FORTE is immediately ready to play.
- i. Do not use training levels higher than 6 as this becomes too strong and time consuming. If you have reached this stage of play you should start playing on the regular levels. The large number of training levels is provided for use with AutoPlay for really deep analysis for long unattended periods and is specially useful for correspondence chess players to help prevent them despatching horrible one move blunders (which happens when there are more than 5 games going on at the same time). This AutoPlay feature may be fully automated if you have access to a personal computer and several positions may be queued for the FORTE to analyse.
- m. When the RAM (random access memory) of the FORTE is reset all previous settings and the Programable Book will be lost. When powering ON the FORTE will indicate that its memory has been reset by lighting up random LEDs and beeping several times to warn you that you have lost all that was in the RAM.

Refer to g. for procedure to reset RAM and section 16. for more details.

- Note:**
1. In the case of memory reset (memory lost), you **MUST** clear the Programable Book before attempting to recreate your lost book.
  2. After memory reset, you **MUST** pysicaly select a level. If not the FORTE will use the Infnilte level.

n. LCD messages and their explanations

E4 - E5 is the suggested move and the evaluation of this position after this move is -1.5 which means that after E4-E5 you are behind by one and a half pawns. -90.00 means mate-in-10 and -99.00 means mate-in-1. If the FORTE indicates that it is behind by 15 or more pawns [ -15.00 ] then it will soon resign as the game is hopelessly lost.

A rectangular LCD display with a black border. The text 'E4E5 -01.50' is shown in a simple, blocky font. 'E4E5' is on the left, followed by a space, and '-01.50' is on the right.

You are in Set Up mode and have just put a Black Queen on square e8.

A rectangular LCD display with a black border. The text 'SET Q-E8' is shown in a simple, blocky font. 'SET' is on the left, followed by a space, and 'Q-E8' is on the right.

You are in Verify mode and must either press the square e1 or the King piece key. It now shows White King on square e1.

A rectangular LCD display with a black border. The text 'VER K-E1' is shown in a simple, blocky font. 'VER' is on the left, followed by a space, and 'K-E1' is on the right.

Gambit book is now active and the FORTE will only select opening variations where there are gambits.

A rectangular LCD display with a black border. The text 'Gambit on' is shown in a simple, blocky font. 'Gambit' is on the left, followed by a space, and 'on' is on the right.

Training Level is now selected and you may select the level number by pressing any square a1 to a8 to select training levels 1 to 8 or for deeper analysis select from squares b1 to b8 for levels 9 to 16.

A rectangular LCD display with a black border. The text 'trG.L U on' is shown in a simple, blocky font. 'trG.L U' is on the left, followed by a space, and 'on' is on the right.

Depth search mode is activated and the display will cycle through the different types of information available on the computing process.

A rectangular LCD display with a black border. The text 'dEPScH on' is shown in a simple, blocky font. 'dEPScH' is on the left, followed by a space, and 'on' is on the right.

Infinite level is selected and the FORTE will not make a move but will compute for as long as there are moves to analyse. Please see section 17.4 Infinite Level.

A rectangular LCD display with a black border. The text 'infini on' is shown in a simple, blocky font. 'infini' is on the left, followed by a space, and 'on' is on the right.

This turns ON the printer to show all the moves along with the accumulated time taken for each move. If you do not have a printer attached then an [ error ] message will be flashed.

An LCD display showing the text "AC.TIME on" in a simple, blocky font.

The FORTE is waiting for you to enter the number of moves for the User Set time control. Please refer to section 12. Time Control for more details.

An LCD display showing a dash followed by the number "0" and "40", representing a time control setting.

Same as above but now prompting you for the time period that you wish to set in the format hours:minutes.


An LCD display showing a dash followed by the number "0" and "00.00", representing a time period setting in hours:minutes format.


Since the LCD can not display all letters of the alphabet properly please refer to the list below for reference to the various displays that you will see.


In Verify or Set Up mode

B -->  Bishop

G --> 

J --> 


K -->  King


M --> 

N -->  Knight

Q -->  Queen

R -->  Rook

T --> 

V --> 

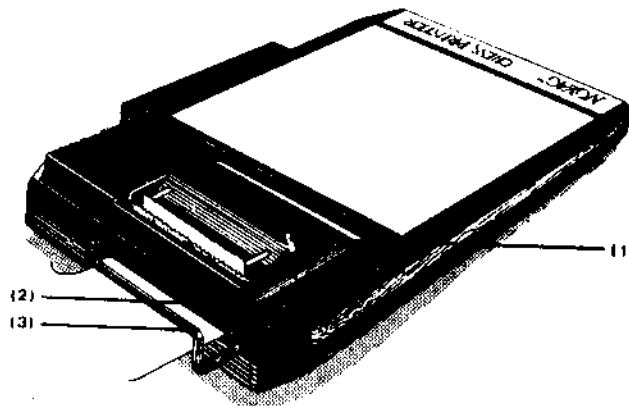
## SECTION V APPENDIX

### A. NOVAG<sup>®</sup> CHESS PRINTER

The NOVAG<sup>®</sup> CHESS PRINTER is separately available from your dealer. The program to drive the printer is included in the chess computer program and no other hard or software is required. The cable connector is packed with the chess computer.

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 [1]
- (vi) Place paper roll in holder [3], and turn till tight

The printer is now ready, please insert smaller end of printer cable into the hole at the left side of the chessboard. This will only go in one way to avoid any mistakes. The larger end should be inserted into the slot at the side of the printer with the marking TOP facing upwards. Please see section III, 11.1 to 11.5 for instructions.

Conventions used in the printout

WHITE	BLACK	Headings
00:00:00		Accumulated time in hrs, mins and secs.
0-0, 0-0-0		Castling Kingside or Queenside
X		Capture
EP		En passant pawn capture
Q,B,N, or R		Pawn promotion/underpromotion
+		Check
STALEMATE		Stalemate draw
1/2 DRAW 1/2		Draw
- INSUF MATERIAL		Draw due to insufficient material*
- 3RD REPETITION		Draw by 3rd repetition rule*
- 50 MOVE LIMIT		Draw by 50 moves rule*
I RESIGN		The FORTE resigns
CHECKMATE		Checkmate - end of the game

\* 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 problem 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 FORTE.

Check that the small adaptor plug that connects to FORTE 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 computer is completely blocked.

Disconnect the power supply. Turn the FORTE over and you will find a slide switch which is marked. Push this switch to the other side for 5 seconds and then push it back into its starting position. This will reset the internal memory and unlock the FORTE.

- (iii) FORTE makes funny sounds when powering ON and some LEDs are lit.

This happens when the RAM (random access memory) of the FORTE has been reset either through the procedure specified in SECTION IV paragraph g or if some other interruption to the system has occurred. If this happens all parameters stored will be lost and whatever was stored in the programable book will also be unrecoverable. Please refer to section 16. PRO-OP for the creation of another book.

- (iv) One of the row LEDs does not work

Press Verify/Set Up twice so that you are in the Set Up mode  
Press Clear Board  
Press Queen (piece key)  
Press TWICE on every square on the board to confirm if any one of your FORTE's LEDs is not working  
Press New Game to exit

If any of the LEDs does not light up when the corresponding square is pressed, please send your FORTE to your dealer for repair.

- (v) The LCD display shows broken segments and characters shown are fuzzy and difficult to see.

Switch off the FORTE. Reset the computer (see (ii) above). Power ON and re-try. Play another opening other than the last one that you were using before this happened. If the LCD still remains the same then send it to your dealer for repair.

## C. NOVAG® CHESS CLOCK

**WARNING:** Do not use with the FORTE. Signals from the FORTE will permanently DAMAGE the CHESS CLOCK.

**D. CARE OF THE NOVAG<sup>®</sup> CONSTELLATION FORTE**

Dirt or dust can be removed with a soft cloth. Do NOT use any chemical solvents or water on the set. Any damage caused by their use invalidates the warranty.

**E. TECHNICAL DATA**

Operating voltage	8.5 V AC (through AC to AC adaptor)
Current consumption	300 mA maximum
Memory back-up voltage	2.4 V DC
Read only memory	64 Kbytes ROM
Random access	4 Kbytes RAM

NOVAG<sup>®</sup>  
COPYRIGHT© 1986  
NOVAG INDUSTRIED Ltd.  
1103 Admiralty Centre  
Tower 1  
Hong Kong

All data subject to change without notice.