

FORCE 400

Stephen Walton

BAEN SOFTWARE



IBM PC AND TRS 80

FORCE 400™

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For the IBM Personal Computer
and the TRS-80 Models I, III, 4 and 4P

BAEN SOFTWARE

BACK UP YOUR DISK!

The only proper use for an original commercial distribution disk is making a copy of it. The only time it should be in a disk drive is while it is being copied.

How to Back Up your Disk:

1. Insert the FORCE 400 distribution diskette (the diskette that you bought) in the left-hand (A) drive.
 2. Insert a blank formatted diskette in the right-hand (B) drive. (If you have any questions about what is or how to make a blank formatted diskette, see your IBM DOS Manual.)
 3. Type the following lines, pressing the Return key (the bent-arrow key) after each line:
A: <Return>
COPY *.* B: <Return>
 4. PUT THE DISTRIBUTION DISK AWAY.
 5. Label the diskette in right-hand (B) drive FORCE 400. It is your working (i.e., playing) diskette. All further references in this manual to the FORCE 400 diskette apply to this diskette.
 6. If the working diskette should ever fail, take a new blank, formatted diskette and repeat steps 1 through 5.
- On to the game!

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INTRODUCTION TO FORCE 400 FOR THE IBM PC

FORCE 400 is a new game of pure strategy for two players, a game that is simpler than chess but richer than checkers. Its unique features include:

- A quantified, variable level of force for each man in the game that determines combat results (without randomization) and player options
- Two modes of movement for each man
- Transfer move for shifting force between men
- Abdication move
- Force renewal — recharge — provisions
- Limitless possibilities for strategic use of sacrifices, blocking and territorial control
- Optional automatic disk record of play
- Save and reload of unfinished games
- Selectable skill levels when the program plays

LOADING AND SETUP

FORCE 400 is provided as an executable disk file (FORCE.EXE) that requires a 64K IBM PC or closely-compatible system with 80-character display (any video adapter board works). From your disk operating system's command prompt, type FORCE

and press the Enter key. You should soon see a full-screen sign-on message. Press any key after you have read that message.

After its sign-on, the program asks you yes-or-no questions. If the program is to be your opponent, you are asked for a single digit for its level of skill (see "MISCELLANEOUS" below). Answering the questions does not require the Enter key. *Exception:* if you answer yes to the handicaps questions, you are then asked for numbers representing the number of men by which each side is to be handicapped; whenever the program requests a number (other than its skill level), you must end it with Enter.

You will be asked whether you want a disk file record of the game. This is a record of moves made, in a straightforward notation (see "GAME RECORD NOTATION" below); it has nothing to do with saving or reloading unfinished games. If you want a record, you must ask for it before beginning play.

CAUTION: DO NOT (ever!) put a game-record file on a write-protected disk; trying to do this can cause you to clobber the directory on the next disk you use in that drive. **DO NOT** type a letter for a disk drive you do not have; you may, however, specify a floppy-disk drive, a RAM drive or a hard-disk drive or volume.

When the questions all have been answered, the board is drawn and the first player's move begins.

BASICS OF PLAY

The two players are always named Black and White. White always goes first.

The board is a 10-by-10 grid, its squares designated by letter A-J and numeral 0-9. Each player (assuming no handicaps) starts with 20 men, each man with an initial force level of 10 units — for a total of 400 force units in the game at its start. Each man is shown in his owner's color and displays his current force level; the man also marked with a crown is that player's king.

The object of the game is to *take* the enemy's king.

When it is your turn, you may:

- move a man *or*
- transfer force units between men *or*
- change kings *or*
- resign the game *or*
- stop the game (to save it to disk).

Men have two ways of moving: The short move is like the king's move in chess — one square in

any direction, including diagonals — and costs nothing. The long move is like the queen's move in chess — any number of squares in any direction, vertically, horizontally or diagonally — and costs one force unit to make. No man can move over or through another, of either color. Dogleg moves are illegal.

Combat and capture: A man attacks an opposing man by moving to his square. If the attacking man makes a long move to get there, the one-unit force cost of that move is deducted before combat. The man with the greater force level wins (defender retaining possession of the square or attacker gaining it; the loser is removed permanently from the game), with the defending man winning when force levels are equal — *but* the winner's level of force is diminished by as many units as the loser had.

Recharge: A man receives additional force — 10 units in addition to his current level — whenever he moves to the top (0) or bottom (9) rank *if and only if* he has not been on either of those ranks for three turns. He must survive any combat on that rank before actually receiving the recharge.

Transfers: Units of force may be transferred from one man to another of the same color, provided the line between them is direct and unblocked (a short or long move of the sending man to the receiving man's square, if it were vacant, would be legal). Transferring force always involves a transmission loss — one unit out of every five, *unfavorably* rounded.

Abdications: In times of trouble, the kingship may be given to one better able to bear it. There must be a direct, unblocked line between old king and new, as for a force transfer. Abdication costs two force units to the *old* king; a king weaker than force level 2 *cannot* abdicate.

Note that some circumstances can leave a zero-force man on the board. He may still move (short move only), may receive force transfers or the kingship and may be eligible for recharge on reaching the top or bottom rank. Although a zero-force man can be taken without cost, he can prove very useful as an obstacle. In no case, however, can a man have a force level greater than 99.

Resignations: Either player may resign when it is that player's turn.

MOVE ENTRY

When it's your turn to move, here's what you do:

If you want to make a force transfer, move the kingship, resign the game or stop the game, you press the appropriate command letter — T, X, R or S — *first*.

S for Stop brings up its own menu of choices — see "SAVE AND LOAD" below. R for Resign calls for no further information but your confirmation of the resignation. Moving a man, T for Transfer or X for Abdication (we're already using A for the board) calls for you to select two squares. We'll call them the Source and the Destination.

There are two ways to select your Source and Destination squares:

1. Type each square's board position, letter first, then numeral, as in A8, I1, D5, and so forth. The selected square will then blink on the screen.
2. "Drive" to the square you want, using your cursor-motion keys like a mouse. As soon as you press any of these keys — up-arrow, down-arrow, left-arrow, right-arrow, "Home," "End," "PgUp," "PgDn" — you should see a square near the center of the board blinking on the screen. (If you do not, press "Num

Lock" *once*.) As you press cursor keys, the blinking square will change; if you attempt to move off the board, the system will beep. When you reach the square you want, press the Enter key. That square will keep blinking, even as you drive off to select your second square; when you reach your second desired square, press Enter again to indicate your selection. (This method of square selection takes longer to explain, but most people find it easier to use.)

Note that you can mix the two methods of selecting squares, typing in your Source square's coordinates and then driving to your Destination square, or vice versa.

If you are making a force transfer, you must now type in the number of force units to be sent from the Source square to the Destination square (remember that some are always lost in transit), followed by Enter.

If you are partway through input of a move and decide that it is not what you want, press the Esc key and you return to the prompt for a move of any type.

After you have given a legal move, you are asked to confirm it. Pressing N, X or Esc *cancels* your

input and returns you to the prompt for a move of any type. Pressing any other key (most conveniently Y, Enter or the spacebar) *confirms* your move and makes it effective on the board.

When the program is acting as your opponent, it requests a keystroke (any keystroke) between displaying the move it intends — both in file-and-rank notation and by blinking the squares involved — and actually applying that move to the board. The feature is provided only to make the program's moves clearly visible to you.

ERRORS

In general, the program knows what to expect and simply ignores bad input.

If you try to make a move that is illegal, the computer beeps, the reason for illegality is printed and you are prompted (after you press any key to indicate that you have read the message) for another move. If your proposed move is illegal for more than one reason, only one explanation appears.

MISCELLANEOUS

The program's skill levels: If you choose to have the program play the game against you, you are asked to specify the degree of skill with which it will play the game. At present, skill levels may be in a range from zero to six. Here's what those levels mean:

0 — The program will make the first legal move it can find, and usually moves very quickly. It generally will *not* exploit blunders (moves that should lead to immediate defeat) that you make, and it will very probably make blunders of its own. This level can be useful when you are first learning your way around in the game. It is *not* sporting to use once you know what you're doing.

1 — The program will avoid making blunders, and will ruthlessly punish any that *you* make. It cannot completely avoid making blunders — none of the levels can, since in some situations all possible moves are blunders — but it does *try* to find a reasonably safe move. This is the lowest level that can tell when the program's king is in danger and will mount a defense if one is possible. Its responses are nearly as fast as those of level zero.

2 — Besides doing everything level one can do, only better, this level will *also* actively attack

you. It takes a noticeable few seconds to nearly a minute to decide on its move.

3-6 — These levels are like level two, but progressively stronger. Also slower.

If you consistently find the program too easy to beat at levels that respond quickly enough to suit you, try handicapping yourself — and note that the handicap can produce qualitative as well as quantitative changes in the game. Your most challenging opponent, ultimately, may be another human FORCE 400 player.

The messages printed by the program as it contemplates its move — especially when its king is under attack — will tell you something about the way it thinks.

SAVE AND LOAD

Loading: Reloading an unfinished game is one of your options at setup time. When you select this option, you are asked what disk drive the game is on; respond with a letter, or Enter for the current or logged-in drive.

CAUTION: DO NOT (ever!) attempt to load a game from a write-protected disk; the FORCE

400 program often creates, then erases dummy files when searching for a saved game, and trying to do this with a write-protected disk can cause you to clobber the directory on the next disk you use in that drive. **DO NOT** type a letter for a disk drive you do not have; you may, however, specify a floppy-disk drive, a RAM drive or a hard-disk drive or volume.

The program always saves games with filenames of the form FORCEn.GAM, where **n** stands for some number from 1 to 999. Then loading a saved game, you may provide the number, or you can let the program search through the FORCEn.GAM files on the specified drive. In that case, it will show you the game header for each such file found and ask if that is the one you want.

Successfully reloading a saved game bypasses the rest of the setup dialogue. If the program is playing, it plays at the same skill level that was originally specified.

Saving: Only unfinished games can be saved. You can save an incomplete game whenever it is a human player's turn (which is to say that when the program is playing, you must let it complete its turn before you can save the game). To save a game, you first use S for Stop from your move-input op-

tions. You then get a special menu, whose choices are:

S— Save the unfinished game in its present state
as a disk file

R— Resume the interrupted game

E— End the game

When you use S for Save, the program will ask you for a disk drive to use; type a letter, or press Enter for the current or logged-in drive.

CAUTION: DO NOT (ever!) attempt to save a game to a write-protected disk; trying to do this can cause you to clobber the directory on the next disk you use in that drive. **DO NOT** type a letter for a disk drive you do not have; you may, however, specify a floppy-disk drive, a RAM drive or a hard-disk drive or volume.

The program will select the exact filename in the **FORCEn.GAM** series that will be used to save your game. *You* get to type in a one-line header for the file that will, presumably, help you recognize the game in question when you later want to reload it.

Once the save has been accomplished, you get the special interrupted-game menu back again, and you can use R for Resume to play out the game or E for End to abandon it (for now).

Game-record files: If you have asked for a game record to be kept as a disk file, and you save and then abandon your game, the record will end at that point, and cannot be resumed. In other words, reloaded games can neither pick up game records where they left off nor start new game records of their own. If you want the whole thing for posterity, play it out in one session. If, however, you are keeping a game record, and you save your unfinished game and immediately R for Resume it, your game-record file will continue.

GAME-RECORD NOTATION

The following is a real game record:

Example

10-04-1984 01:26:26

White: (Human)

Black: Program

	White	Black
1.	M C8-C1	M F1-G2
2.	M C9-C1	M H1-H4
3.	T J8-C1 10	M B0-C1
4.	M G8-G5	M A1-B0
5.	M B8-C9	M I1-H1
6.	T A9-A8 10	M J1-J7

7.	M A8-A0	M H4-C4
8.	M C9-C4	M E1-G3
9.	M D8-C9	M G3-F3
10.	M C1-C0	M G0-C4
11.	M C4-G0	M D0-C1
12.	M E8-E1	M D1-D0
13.	M E1-D1	M D0-D1
14.	M G5-G3	M G2-H2
15.	M G3-D0	T B0-C0 20
16.	M A0-B0	M B1-A0
17.	M C9-C1	M F0-C3
18.	M C1-C0	M C0-A2
19.	M D0-B2	M H2-B2
20.	M F9-A4	T A0-A2 16
21.	M B0-A0	M A2-H9

Black wins.

The first line in the game record is the header provided by the (human) player at setup time. The second line is the date and time as known to the disk operating system when the record file was created. The next two lines show who was playing what sides; here an anonymous human played White against the program's Black. If any handicaps had been in effect, they would have been noted in the next two lines.

The way moves are kept in the record is a pretty direct adaptation of European-style chess notation: the pseudo-algebraic "coordinates" of the Source

square and the Destination square are given. But because FORCE 400 "moves" may not mean moving a man, the type of move is also noted — M for moving a man, T for transfer of force and (had it appeared in the example game) S for an abdication. When a transfer is made, as in White's 3 or Black's 20, the number of units involved is recorded.

A resignation, when it occurs, is recorded as such. The opponent is then as much the winner as if he/she/it had taken the resigner's king. If a game is stopped and not resumed, the game record notes that event.

Note: Game-record files are simple ASCII files and can be printed out by whatever means you prefer. You can play through the example game, or any game you make a record of, by setting up for two human players (i.e., tell the program it's not playing this game) and then following your hardcopy script.

INTRODUCTION TO FORCE 400 FOR THE TRS-80

Requires TRSDOS or closely compatible disk operating system. For Models 4 and 4P, Model III TRSDOS is required.

FORCE 400 is a new game of pure strategy for two players, a game that is simpler than chess but richer than checkers. Its unique features include:

- A quantified, variable level of force for each man in the game that determines combat results (without randomization) and player options.
- Two modes of movement for each man
- Transfer move for shifting force between men
- Abdication move
- Force renewal — recharge — provisions
- Limitless possibilities for strategic use of sacrifices, blocking and territorial control
- Optional automatic printer record of play

LOADING AND SETUP

FORCE 400 is provided as a machine-language command file (FORCE400/CMD) that requires a 16K, disk-equipped TRS-80 Model I or Model III.

Model I loading:

FORCE 400 is ready to run, as issued, on the TRS-80 Model I. Place the FORCE 400 issue diskette in any disk drive and type:

FORCE400 < Enter >

Alternatively, you can type:

FORCE400:d < Enter >

where **d** is the drive number for the disk drive in which you have placed the FORCE 400 disk.

Model III conversion and loading:

As issued, FORCE 400 cannot be immediately executed on the TRS-80 Model III, but must first be converted. This process requires a minimum of two disk drives. If you are using a disk operating system other than TRSDOS, please consult your manual for that operating system for details of the equivalent conversion process. We will assume TRSDOS in what follows.

Make a BACKUP of your TRSDOS master diskette and place it in drive 0. Place your FORCE 400 issue diskette in drive 1. Type:

CONVERT < Enter >

You'll be asked to identify your source drive, which is 1, and your destination drive, which is 0. Conversion will then proceed, and the filename FORCE 400/CMD will be displayed. When you return to the DOS-ready prompt, type:

FORCE400 < Enter >

Models 4 and 4P conversion and loading:

Because TRSDOS for the Model 4 and 4P does NOT include a Model I file-conversion utility, you must either use a Model III system to perform the conversion, or run Model III TRSDOS on your Model 4. In either case, follow the conversion script given above for the Model III. The result in either case is a command file that you run by typing:

FORCE400 < Enter >

Setup — all systems:

You should soon see the message:

STAND BY FOR F O R C E 4 0 0

and a copyright notice at the top of your screen; the program completes loading by itself and produces a full-screen sign-on message. Press any key after you have read that message.

After its sign-on, the program asks you yes-or-no questions. Answering them does not require the Enter key. Exception: if you answer yes to the handicaps question, you are then asked for numbers representing the number of men by which each

side is to be handicapped; to enter a single-digit number, you must either use a leading zero or press Enter after the first digit.

You will be asked whether you want a lineprinter record of the game — DO NOT answer yes unless you have a printer and it is on line.

When the questions all have been answered, the board is drawn and the first player's move begins.

BASICS OF PLAY

The two players are always named Black and White. White always goes first.

The board is a 10-by-10 grid, its squares designated by letter A-J and numeral 0-9. Each player (assuming no handicaps) starts with 20 men, each man with an initial force level of 10 units — for a total of 400 force units in the game at its start. Each man displays his owner's initial (W for White or B for Black) and his current force level; the man also marked with an asterisk (*) is that player's king.

The object of the game is to take the enemy's king.

When it is your turn, you may:

- move a man or

- transfer force units between men *or*
- change kings *or*
- resign the game.

Men have two ways of moving: The short move is like the king's move in chess — one square in any direction, including diagonals — and costs nothing. The long move is like the queen's move in chess — any number of squares in any direction, vertically, horizontally or diagonally — and costs one force unit to make. No man can move over or through another, of either color. Dogleg moves are illegal.

Combat and capture: A man attacks an opposing man by moving to his square. If the attacking man makes a long move to get there, the one-unit force cost of that move is deducted before combat. The man with the greater force level wins (defender retaining possession of the square or attacker gaining it; the loser is removed permanently from the game), with the defending man winning when force levels are equal — *but* the winner's level of force is diminished by as many units as the loser had.

Recharge: A man receives additional force — 10 units in addition to his current level — whenever he moves to the top (0) or bottom (9) rank *if and only if* he has not been on either of those ranks for three

turns. He must survive any combat on that rank before actually receiving the recharge.

Transfers: Units of force may be transferred from one man to another of the same color, provided the line between them is direct and unblocked (a short or long move of the sending man to the receiving man's square, if it were vacant, would be legal). Transferring force always involves a transmission loss — one unit out of every five, *unfavorably* rounded.

Abdications: In times of trouble, the kingship may be given to one better able to bear it. There must be a direct, unblocked line between old king and new, as for a force transfer. Abdication costs two force units to the *old* king; a king weaker than force level 2 *cannot* abdicate.

Note that some circumstances can leave a zero-force man on the board. He may still move (short move only), may receive force transfers or the kingship and may be eligible for recharge on reaching the top or bottom rank. Although a zero-force man can be taken without cost, he can prove very useful as an obstacle. In no case, however, can a man have a force level greater than 99.

Resignations: Either player may resign when it is that player's turn.

MOVE ENTRY

When it's your turn to move, here's what you do:

If you want to make a force transfer, move the kingship, or resign the game, you press the appropriate command letter — T, X or R, respectively, — *first*.

In the case of a resignation, no further input is required, except your confirmation of that decision. Moving a man, T for Transfer or X for Abdication (we're already using A for the board) calls for you to select two squares, conveniently termed the Source Square and the Destination Square.

To select your Source Square and Destination Square — Source Square first — type the square's board position as letter and numeral, as in A8, I1, D5, and so forth.

If you are making a force transfer, you must also type in the number of force units to be sent from the Source Square to the Destination Square. (Remember that some are always lost in transit.)

After you have entered a legal move, you are asked to confirm it. Pressing any key other than N, X or CLEAR — it may be convenient to use Y, Enter or

the spacebar — *confirms* your move and makes it effective on the board.

ERRORS

In general, the program knows what to expect and simply ignores bad input. Remember, though, that the number-input routine (used for transfer moves and for handicap set-up) expects two digits, and thus requires for a single-digit number either a leading zero or an Enter after the first digit.

If you try to make a move that is illegal, the reason for its illegality is printed and you are prompted (after you press any key to indicate that you have read the message) for another move. If your proposed move is illegal for more than one reason, only one explanation will appear.

If you are partway through input of a move and decide that it is not what you want, press the CLEAR key and you return to the prompt for a move of any type.

After you have given a legal move, you are asked to confirm it. Pressing N, X or CLEAR *cancels* your input and returns you to the prompt for a move of any type. Pressing any other key (most conve-

niently Y, Enter or the spacebar) *confirms* your move and makes it effective on the board.

When the program is acting as your opponent, it requests a keystroke (any keystroke) between displaying the move it intends in file-and-rank notation and actually applying that move to the board. The feature is provided only to make the program's moves more clearly visible to you.

MISCELLANEOUS

FORCE 400 is a new game, one which no one can (yet) claim to play at master levels. The program when acting as your opponent, can handle rudimentary situations very well; it will never make a blunder (defined as a move that leads immediately to defeat) if it can find an alternative move within a reasonable time. Your *own* blunders are, of course, punished ruthlessly.

If you consistently find the program too easy to beat, try handicapping yourself — and note that the handicap can produce qualitative as well as quantitative changes in the game. Your most challenging opponent, ultimately, may be another human FORCE 400 player.

The messages printed by the program as it contemplates its move — especially when its king is under attack — will tell you something about the way it thinks.

GAME-RECORD NOTATION

The following is a real game record:

	White	Black
1.	MC8-C1	M F1-G2
2.	MC9-C1	M H1-H4
3.	TJ8-C1 10	M B0-C1
4.	MG8-G5	M A1-B0
5.	MB8-C9	M I1-H1
6.	TA9-A8 10	M J1-J7
7.	MA8-A0	M H4-C4
8.	MC9-C4	M E1-G3
9.	MD8-C9	M G3-F3
10.	MC1-C0	M G0-C4
11.	MC4-G0	M D0-C1
12.	ME8-E1	M D1-D0
13.	ME1-D1	M D0-D1
14.	MG5-G3	M G2-H2
15.	MG3-D0	T B0-C0 20
16.	MA0-B0	M B1-A0
17.	MC9-C1	M F0-C3
18.	MC1-C0	M C0-A2

19. M D0-B2

20. M F9-A4

21. M B0-A0

M H2-B2

T A0-A2 16

M A2-H9

Black wins.

The way moves are kept in the record is a pretty direct adaptation of European-style chess notation: the pseudo-algebraic "coordinates" of the Source square and the Destination square are given. But because FORCE 400 "moves" may not mean moving a man, the type of move is also noted — M for moving a man, T for transfer of force and (had it appeared in the example game) S for an abdication. When a transfer is made, as in White's 3 or Black's 20, the number of units involved is recorded.

A resignation, when it occurs, is recorded as such. The opponent is then as much the winner as if he/she/it had taken the resigner's king.

You can play through the example game above, or any game you make a printer record of, by setting up for two human players (i.e., tell the program it's not playing this game) and then following your hardcopy script.

PRODUCT IMPROVEMENT

Both the author and the publisher want to make FORCE 400 as entertaining and stimulating as possible. Therefore, we offer a *modest* honorarium, in cash or in software at our option, for each

reproducible bug reported, if it can be corrected and the correction is included in a subsequent version.

suggested program enhancement, if it is feasible and is included in a subsequent version. (Please don't waste your time suggesting features already implemented in versions of FORCE 400 for other microcomputer systems.)

As always, the publisher's judgment is final, and, in case of ties, earliest postmark wins.

Thanks for trying FORCE 400. We hope you enjoy it. And always remember: unauthorized reproduction of copyrighted software means you'll be reincarnated as a tapeworm in the belly of a sea slug that will die a horrible death as a result of ferrous-oxide pollution caused by bankrupt software publishers dumping unfairly unsold product wherever they can get rid of it. (If the preceding reminds you of an Egyptian pharaoh's curse against grave-rob-

bers, just remember that the incentive for software development lies in software developers receiving a fair return for their efforts, and please act accordingly.)