Instructions

Mephisto ®

Modul Rebell 5,0

List of Contents:

Your MEPHISTO Modul Rebell 5,0 is a top quality product "Made in Germany". The use of the most modern electronic components combined with advanced production technology have produced a chess-computer, which offers an optimal price-to-performance ratio. Our programmers have also produced an excellent chess program. The MEPHISTO Modul Rebell 5,0 is both strong and simple to operate. We at MEPHISTO wish you success and many hours of fun with your new chess partner.

Note:

Those players who are already experienced with chess-computers or own other MEPHISTO products:

We have printed the key-in procedures under the titles of each chapter to enable these to be used as a shortened instruction manual.

I. Basic Instructions for use

A.1. Use of the unit

If you wish to run your unit on the mains power supply, you should first plug the mains adapter into the wall socket and then connect it to the chess-computer. Then switch the unit on. If you intend to use the chess-computer separately from the mains, you must check that either batteries or accumulators are in the unit and are loaded.

A.2. Getting started

RES **RES**

Set up the chessmen in the starting position first (models Modular/Exclusive/München) and then press both **RES** keys. Your MEPHISTO is ready to play.

A.3. Setting the playing level

LEV + **A1** ..... **E0** + **CL**

After pressing the **RES** keys your unit is automatically set to playing level C1.

If you wish to set another playing level, other than that which is automatically set, then first press the **LEV** key. LE I is then displayed in the LCD (display) of the computer. By pressing the keys **A1** to **E0** you can select another playing level. If e. g. you press the **D4** key, then LE 4 is shown in the display. By pressing the **ENT** key, the new playing level is set and PLAY is shown in the display.

The following table shows you the average reply times which correspond to the different playing levels of your chess-computer:

Level	Meaning	Average Reply Time
LE 0	Beginner	1...3 seconds
LE 1	Playing level 1	5 seconds
LE 2	Playing level 2	10...15 seconds
LE 3	Playing level 3	20...30 seconds
LE 4	Blitz chess 1	1 minute
LE 5	Blitz chess 2	2 minutes
LE 6	Tournament level	40 moves in 2 hours
LE 7	Analysis level 1	6 minutes
LE 8	Analysis level 2	approx. 12 minutes
LE 9	Corresp. chess	unlimited

The reply times for moves listed above are averages and can be exceeded in individual cases.

A.4. Entering Moves

Regardless of the type of basic unit in which your Modul Rebell 5,0 is inserted, the method of entering moves is always the same:

MEPHISTO Modular/Exclusive/München:

With these models simply lift the chessman which you want to move and place it again on its new location. The display then switches to the chess-clock mode showing you that the move has been accepted by your chess-computer. The display flashes approx. once per second.

As soon as the computer has found a replying move it will sound a beep and the LED's (lights in each square) of two squares will be lit up. MEPHISTO is telling you which move it wishes to make. As a double check the computer's move is also shown in the display (e. g. E7E5). Again, simply lift the selected chessman and place it on its new square.

Note:

At the beginning of a game the computer plays from its pre-programmed opening book. This means, that the computer will not calculate replying moves but will make its moves very quickly regardless of the playing level which is set.

When taking a chessman, first remove the chessman which has been captured from the board and then replace it by the capturing piece.

When castling it is important to move the king first. After you have done so, the computer will show you the necessary move to be made by the rook.

Capturing by "en passant". First make the move of the pawn as shown by the computer. Then remove the captured pawn, which is also indicated by the computer.

If you try to make an illegal move, e. g. knight from B1 to B3, then **Err I** will be shown in the display (error). To set things right again, simply place the incorrect chessman back on its original square and make a legal move. MEPHISTO will automatically recognize that you have corrected the move.

Pawn Promotion. If one of your pawns reaches the opposite side of the board, then **Pr _** is shown in the display. To promote the pawn simply press the key which shows the input by pressing **ENT** . MEPHISTO will then know which new chessman is on this square. If one of the computer's pawn reaches the opposite side of the board, then it will tell you by showing three dots in the display (e. g. e.7.e.8) that it wishes you to press the following keys:

INFO + **A1** + **B0** . Then the symbol for the new chessman which MEPHISTO wishes to have, is shown in the display. An explanation of the chessmen symbols is listed in chapter D.1. "Checking a position".

MEPHISTO Mobil:

With this chess-computer you have to enter the moves via the keyboard. To enter a move, first press the key for the letter and then the number of the square from which your chessman is to move away, e. g. if you wish to start by playing E2 E4, then you should key in the following sequence:

[♟E5] + [♞B2] + [♟E5] + [♜D4]

Then look at the display again to check that you have not made a mistake and simply press [ENT] to confirm the move. If you have made a mistake in keying-in, then you can cancel the entry by pressing [CL] . After you have confirmed the correct move, the display will again switch to the clock-mode. As soon as the computer has found a replying move, it sounds a beep and the move is displayed in the LCD.

When the computer makes a capturing move it will show the coordinates from the starting and the target square only. The captured pieces are practically removed by the computer.

When castling you only need to enter the king's move (e. g. E1 G1). The computer will recognize this and automatically set your castle (rook) on the correct square.

When capturing by "en passant", you only have to enter the capturing pieces move. The captured piece is automatically removed by the computer. If you try to make an illegal move, then the computer will show <u>Err 1</u> in the display. Press the [CL] key and enter the correct move.

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A.5. Possible Comments

Sometimes when the computer makes a move, it will show three dots between the letters and numbers in the display (e. g. A.7.A.8). This means that MEPHISTO wants to tell you something.

To find out what MEPHISTO is saying, press the [INFO] + [A.I] keys, which gives you a position evaluation. If you then press the [⇨] key, MEPHISTO will then give you the special information.

Possible comments:
<u>SCH</u> Check
<u>MAT</u> Check-mate
<u>PATT</u> Stale-mate
<u>rE50</u> Draw due to 50-moves-rule
<u>rE 3</u> Draw due to 3-fold-repetition
<u>n 2</u> Warning of checkmate, e. g. mate-in-2
<u>Pr d</u> Pawn promotion, e. g. queen
<u>EP</u> en-passant capture
<u>rESG</u> MEPHISTO wants to give up
<u>THEO</u>MEPHISTO is still in its opening book (this comment can be called up by the previously mentioned key sequence, but is not indicated by the three dots in the display)

A.1. Starting a new game

[RES]   [RES]

Should MEPHISTO have checkmated you, or even better, should you have checkmated MEPHISTO and you wish to start a new game, then simply press both [RES] keys.

Don't forget that the playing level is then automatically set to level 1 and the game just ended is erased from memory.

You now have all the necessary information to play your first game against your new electronic chess partner. If however you want to use all of the possibilities which your chess-computer offers you during the game, then it is a good idea to read the following chapters.

II. Operation and information during a game

B.1. Position evaluation

INFO + **♟A1** + **CL**

MEPHISTO is able to give you a position evaluation during a game. You can call up this information by first pressing **INFO** and then **♟A1**. The evaluation is shown in pawn units. A negative sign before the number means that MEPHISTO sees itself in a losing position. If, for example, after you have pressed **INFO** and **♟A1**, the number -1.50 is shown in the display, then MEPHISTO sees itself in a losing position by 1.5 pawn units. After you have called up the position evaluation, you can return to the play-mode by pressing **CL**.

B.2. Analysis depth and move counter

INFO + **♟C3** + **➡0** + **➡0** + **CL**

It is possible to check how far MEPHISTO has analysed the present position and which move it is presently considering. This sequence is also started by pressing the **INFO** key. Next press **♟C3** and a

number, e. g. 04.21 is shown in the display. The number to the left of the dot shows you how many plys (half moves) MEPHISTO has already analysed. In our example: 4. The number to the right of the dot shows which move MEPHISTO is analysing at this step. In our example the 21st move.

If you now want to know which move is the 21st move in the internal register of the computer then press **➡0** and MEPHISTO will show you this move.

If you would like to know how many moves have been played in the game so far, then press the **➡0** key again and MEPHISTO will show you this. By pressing the **⬅n9** key, you can return again to the analysis step. Return from the analysis step and move counter modes to the play-mode by pressing **CL**.

B.3. Move suggestions and mainline

INFO + **➡0** + **CL**

When it is your turn to move and you would like to know how the chess-computer imagines how the game might continue, then press the keys **INFO** + **➡0** in order to page forward. You can also use the first move shown to you of the mainline as a suggestion for your next move.

You can, of course, also return to the present position (page backwards) by pressing **⬅n9**. Leave this mode by pressing **CL** again.

If four dashes should appear in the display, then this can be caused by one of the following reasons:

a) You are still in the opening book. By pressing ![icon] you can check to see if this is right as the display will then show <u>THEO</u>.

b) The computer is busy with a particular move in the mainline and will give you the information as soon as it has calculated this move.

B.4. Taking back moves

![MEM] + ![arrow] + ![CL]

Let us assume that you would like to take back one or several moves during the game. To do this, first press the ![MEM] key, which brings <u>nEnO</u> into the display. Using the ![arrow] key, you can now take back as many moves as you like even up until the start of the game. If you take back one or a number of moves too many, you can simply page forwards again.

Modular, Exclusive, München: When taking back moves you may notice that one of the LED's on a square may continue to blink. This means that a captured piece stood on this square. The LED will be switched off again when you have replaced the captured piece. This note does not apply to the MEPHISTO Mobil-LCD units.

When you have reached a position in the game from which you would like to continue to play, press ![CL] and the display will show <u>PLAY</u> telling you that your MEPHISTO is ready to play again.

B.5. Interrupting the computer's analysis

![ENT]

If you think that the computer is taking too long to find a move then you can always interrupt it by pressing ![ENT]. It will then play the best move found up until this moment.

B.6. Entering move sequences

![MEM] + input of move sequence + ![CL]

When you press the ![MEM] key, then <u>nEnO</u> will be shown in the display. Whether you are at the beginning of a game or in the middle of one, MEPHISTO is now ready to accept moves or move sequences without calculating its own moves. When you have entered the moves and reached a position from which you would like to continue to play (e. g. after a particular opening line) then press ![CL] which brings <u>PLAY</u> into the display. If it is then your move, then make your move. If it is the computer's move, then press ![ENT].

B.7. The computer as a referee

![MEM]

If your MEPHISTO is a Modular/Exclusive/München then if you press·the ![MEM] key, the computer will act as a referee between two human players playing on the chessboard. It will then check that the moves entered by each side are legal ones. If an illegal move is made, then MEPHISTO willl show <u>Err 1</u> in the display. The illegal move must then be taken back and by pressing ![CL] you can continue with the game. If it is your partner's move, but he does not want to continue the game, then by pressing ![CL] and ![ENT] the computer will willingly take over his side.

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B.8. Replaying the game

MEM + ENT + ⇨ + CL

Having reached the end of the game and if you want to replay it, then instead of pressing both RES keys, press MEM + ENT . The display then shows STA.

Using the ⇨ key you can then page through the moves of the game. You can also replay the game and start again from any position in this game by pressing CL and making your next move.

III. The four-time chess-clock

INFO + ♟B2 + ⇨, ⇨,....+ CL

C.1. Analysis time of the present move

You will have already noticed that each time you have made a move the clock for MEPHISTO will have started to run. When it is your move you will see that your clock is running in the display. If, when it is your move, you let your clock run and switch into the information mode by pressing INFO and then ♟B2 then MEPHISTO will show you the time it needed for its last move. Page forward to see your clock again and the time for your present move (in minutes and seconds).

C.2. Total analysis time

By pressing the ⇨ keys again, SUn is shown in the display, which tells you that the computer is switching to show you the total analysis time. By pressing the key again, the total analysis time in

hours and minutes from MEPHISTO is shown in the display. This is the total time for the calculation of the computer's move. Press the ⇨ key again to see your own total time. By using the ⇨ key you can page through all of the four times recorded in the clock. When the computer is analysing a move, the time displayed is flashed to show you that the chess-computer is analysing.

To lead the chess-clock mode either press CL or simply make a move so that MEPHISTO will start automatically with a calculation of a replying move.

IV. Entering an altering position

D.1. Checking a position

POS + POS + POS ....+ CL

When you press the POS key, then POS will be shown in the display. If you continue to press the POS key, then the display will show you the symbol for a chessman and its location. This means that you can check the position on the board. The type of LCD used means that we have to have certain symbols for certain chessmen. The following table tells you which symbol stands for which chessman:

♭	= king	d	= queen
⌐	= rook	L	= bishop
5	= knight	b	= pawn

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The black chessmen are distinguished from the White ones by a minus sign (-) in front of the symbol. When the position of the last piece on the board has been shown then POS is shown in the display to tell you that the check is complete. Press ☐ (causing **PLAY** to be shown in the display) and then you can continue with the game. If, however, you wish to leave the position check mode and return to the play mode then you must press the ☐ key twice.

D.2. Entering a position

a) Clearing the board

   POS + ENT + ENT

   In order to enter a chess problem, e. g. mate-in-x problems, you must first clear the board. Do this by first pressing POS (POS then appears in the display), then press the ENT key, and the computer will ask whether you really want to clear the whole board. CL ? then appears in the display.

   By pressing the ENT key again you confirm your decision and clear the board. To varify this ⌐ _ _ is then shown in the display for the white king.

b) Entering a position

   We must again distinguish between the different types of MEPHISTO in which your Modul Rebell 5,0 is built. This is best done by examining the following chess problem.
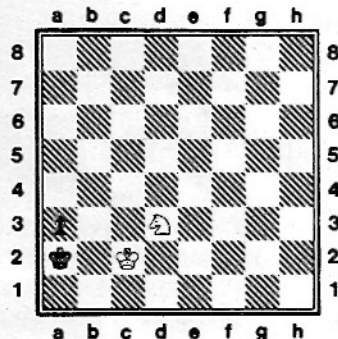
Checkmate in 3 moves by Otto Demler.

MEPHISTO Modular/Exclusive/München:

First ignore the computer and set up the desired position on the sensor chessboard. Having places all the pieces on their correct squares, press POS and then ENT which causes the following display to be shown CL ?. By pressing ENT you confirm that you wish to erase the starting position stored in the computer's memory.

The symbol for White's king ⌐ _ _ is shown in the display after you have erased the board. Next simply lift White's king from its square on C2 (LED lights). Then place it on the square again (LED is switched off).

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The display then automatically switches to the next symbol (there can not be more than one king) to show **D _ _**. In our case we do not need a queen, therefore, we simply press the 🔲ENT key. Furthermore a white rook is not needed, so we press the 🔲ENT key again and repeat this for the bishop. We have then reached the knights and can see this by the respective symbol in the display. Next lift the white knight on B3 and place it on the square again. The knight's symbol remains in the display. As we do not need another knight, we simply press the 🔲ENT key.

There are no pawns in our chess problem, so simply press the ⬜ key until the first piece for Black is asked for in the display (this is shown by the minus sign before the symbol). You now know how to continue to enter the position:

> lift Black's king on A2 and replace
> press 🔲ENT – no black queen
> press 🔲ENT – no black rook
> press 🔲ENT – no black bishop
> press 🔲ENT – no black knights
> lift black pawn on A3 and replace
> press 🔲ENT – no further black pawns

After you have pressed 🔲ENT for the last time, ME-PHISTO will show **POS** in the display and remind you to run a position check of the position just entered to be on the safe side. Do the computer a favour and press the 🔲POS key repeatedly to check via the display and the LED's on the board whether you have done everything correctly. When **POS**

appears in the display again, you can press 🔲CL to start with the solution to the problem. By pressing 🔲ENT you start to tell MEPHISTO to search for a solution. We recommend that you use the problem level PR to solve chess problems and search for solutions (see E.3.).

MEPHISTO Mobil-LCD:

After clearing the board as explained in the previous chapter, you have to tell the computer, which colour and which type of pieces are to be entered onto which coordinates. This information is entered via the keyboard. In our case the input is as follows:

🔲POS + 🔲ENT	🔲ENT	Clear the board
🔲C3 + 🔲B2 +	🔲ENT	Coordinates and input of White's king
	🔲ENT	no white queen
	🔲ENT	no white rook
	🔲ENT	no white bishop
🔲D4 + 🔲C3 +	🔲ENT	Coordinate and input of White's knight
	🔲ENT	no further knights
	🔲ENT	no white pawn
🔲A1	🔲B2	🔲ENT	Coordinates and input of Black's king
	🔲ENT	no black queen
	🔲ENT	no black rook
	🔲ENT	no black bishop
	🔲ENT	no black knight
🔲A1	🔲C3	🔲ENT	Coordinates and input of Black's pawn
	🔲ENT	no further pawns
	🔲CL	end of input sequence

Having entered the position we recommend again that you check the position via the **POS** key (see D.1.).

c) Choice of colour

POS + **⇄** or **⇄** + **ENT**

After a position has been entered, it is normally White's move. If, however, for some reason you wish Black to play after the position has been entered (i. e. when PLAY is shown in the display) then key in the following sequence

POS
⇄ (Black to move)
ENT (Confirmation)
CL

D.3. Altering a position

POS + colour, chessman and coordinates + **ENT** + **CL**

a) Entering additional chessman

MEPHISTO offers you the possibility to introduce one or several new chessmen into the game without any great difficulty.

Let us use our chess problem from chapter D.2. again. If a black bishop were to be on square G.5 then the entire problem would be quite different. To alter the position, first press the **POS** key. The sequence is as follows:

POS Switch to input mode
⇄ Black chessman
♝ Bishop symbol

G7 **E5** Coordinates of the square where the chessman should be
ENT Confirmation
CL Return to the play mode

You can, of course, run a position check by pressing **POS** between the last two steps.

When altering a position on the board, it is not possible to bend the rules of chess. MEPHISTO will for example not allow you to have more than one king for each colour.

b) Erasing Chessmen

POS + input of colour and coordinates + **ENT** + **CL**

To erase or remove a chessman from the game, you basically do the same as you would to enter or introduce one. The difference is that you place a blank chessman (**▪** key) on the respective square. Returning to the previous chess problem to remove the black bishop on G5 we key in the following sequence:

POS Switch to input mode
⇄ A black chessman is to be erased
▪ Enter blank chessman
G7 + **E5** Coordinates of the square where the chessman is to be erased (blank placed)
ENT Confirmation
CL Return to play mode

If you don't believe us then run a position check as explained in chapter D.1.

By entering blank chessmen ([HB] key) you can write over any chessman of your choice apart from the kings.

V. Special features

MEPHISTO offers you a variety of special features, which can be selected via the [LEV] key. It is important here to make sure that MEPHISTO is in its preparation phase, i. e. when it is your turn to move.

E.1. Automatic play

You can make MEPHISTO play a game against itself automatically without moving the chessman. The owners of a MEPHISTO Modular/Exclusive/ München must however first remove all the pieces from the board. Then press both [RES] keys simultaneously and enter the position from which the automatic play should start (assuming it is not already the basic starting position of the game) as explained in chapter D.2. for the MEPHISTO Mobil-LCD. MEPHISTO Modular/Exclusive/ München: If you leave the chessmen on the board, then your computer will calculate the move and then only continue with the next move once you have moved the first chessman.

To switch on the special feature "automatic play" enter the following sequence:

Key		Display	Meaning
2x	[LEV]	AU _ _	special function automatic play
	[ENT]	AU	switch on automatic play
	[CL]	move time of calculated move	start of automatic play

You can interrupt the automatic play mode at any time by pressing [ENT]. MEPHISTO will then leave the analysis phase, play the best move found until this moment and will assume the side of the present move. Which side you now have to play for depends on when you pressed [ENT].

E.2. Chess instructor

This feature is primarily thought for beginners. With this feature MEPHISTO is not supposed to slaughter its opponents, but is programmed to show the learner when he has made a poor move. The chess instructor feature is activated as follows:

Key		Display	Meaning
3x	[LEV]	LE _ _	special feature chess instructor
	[ENT]	LE	activate chess instructor
	[CL]	PLAY	return to play-mode

Assuming you have activated the chess instructor and you make a poor move during the game, then after a short analysis time MEPHISTO will do the following: First it will beep, then it will display four question marks in the display to show that it

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thinks the move is a bad one. MEPHISTO then leaves its own analysis and lets you have a closer look at your own move. MEPHISTO will also help you in analysing the move.

Key	Display	Meaning
INFO	replying move	shows the next move which would punish you for your own weak move
⇄	move sequence (mainline)	if stored, then a move sesquence can be displayed which would be the result of your weak move
G7	move suggestion	if MEPHISTO has enough analysis time then it will make a suggestion for a better move for you
CL		cancels your move
ENT	replying move	you insist on your first move. MEPHISTO will make its replying move.

Naturally, the chess instructor can only warn you of bad mistakes (loss of a piece, overlooked checkmate situation). In addition MEPHISTO must have had at least a short analysis time. If the analysis time of the computer is too short, then a better move suggestion will not be shown.

E.3. Checkmate search (problem solving levels)

This special feature can be used to find the solutions to checkmate problems. MEPHISTO searches for the shortest possible solution to a chess problem. Checkmates in 1 to 5 moves are normally found fairly quickly. Solutions which are longer (6 to 8 moves) can also be found, but it may take MEPHISTO a long time to find these (as with all chess-computers).

Before you activate the problem solving level you should first set up the chess problem (see chapter D.2.) on the board or if you own a MEPHISTO Mobil-LCD have keyed this in into your chess-computer.

Continue as following:

Key	Display	Meaning
4x LEV	Pr _ _	special function problem solving
ENT	Pr	activate problem solving level
CL	PLAY	return to playmode

You now have to tell MEPHISTO in how many moves it is supposed to solve the chess problem for the position which has been entered. In our example on page 10 we have a mate-in-3 problem. To enter this information press the LEV key again and then the key with the number of moves in which the solution is to be found (in our example C3). End the sequence by pressing CL .

MEPHISTO will begin to search for a solution the moment you press the **ENT** key. When MEPHISTO has found a solution to the problem with the correct number of moves (or less), it will show you the first move of the solution. It is now your job to play for Black. Carry out the first move and then play a move for Black. MEPHISTO will then make the next move of the solution which you should carry out or in the case of the Mobil-LCD you should key in your next move. This sequence is continued until the king is checkmated.

If there is no solution to the problem within the number of moves required, then **nO** will be shown in the display.

Alternative solutions:

(Only possible with units MEPHISTO Modular/Exclusive/München)

If you would like to know whether the chess problem entered also has an alternative solution, then wait until the computer has made its first move and then instead of entering the move on the board, press the **⇄** key. If an alternative solution is possible, the computer will calculate this too. If there is no alternative solution, then **nO** will be shown in the display.

E.4. Turning the board

It is possible that at some time you would like to play for Black against MEPHISTO. However, you may not wish to play from the top of the board to the bottom, but wish to have a display and keyboard in front of you. This is possible by turning the chessboard stored in computer's memory around as follows:

Key		Display	Meaning
5x	**LEV**	**bd _ _**	special feature turning the board
	ENT	**bd**	activate turning the board feature
	CL	**PLAY**	return to play mode

E.5. Move generator move randomizer

Normally MEPHISTO will play the strongest move it can find. This means, that in the same position the computer will always find the same move. If this seams somewhat monotonous to you, you can activate the random move generator. MEPHISTO will then select one of a series of equally strong moves without necessarily finding the strongest.

Key		Display	Meaning
6x	**LEV**	**bE**	special function move generator
	ENT	**bE _ _**	activate move generator
	CL	**PLAY**	return to play-mode

E.6. Opening book (theory openings)

MEPHISTO has an extensive opening book in its memory from which it plays the first moves of a game. It is possible to de-activate this opening

book and to see how MEPHISTO can play without this special program.

Key		Display	Meaning
7x	**LEV**	TH	special feature theory openings
	ENT	TH __ __	de-activate theory openings
	CL	PLAY	return to play mode

E.7. Sound generator

If the beep signals of your MEPHISTO bother you and you would like to play in complete silence, then you can switch off the sound generator with the following key sequence.

Key		Display	Meaning
8x	**LEV**	TO	Special feature sound generator
	ENT	TO __ __	de-activate sound generator
	CL	PLAY	return to play mode

VI. Technical data

Microprocessor:	6502
Program memory (ROM):	32 KByte
Game memory:	8 KByte
Program:	Mixture of Shannon-A and Shannon-B-Strategy
Playing levels:	9 playing levels + 1 problem solving level + 1 correspondence chess level
Chess-clock:	4-time chess-clock
Display:	four character LCD
Monitor of analysis:	mainline, position evaluation, analysis depth, number of moves
Take back of moves:	unlimited