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For REPAIR, please follow every instruction carefully in: chronosdealer.com/repair
Quick Start for Five-Minute Chess
1. Read below How to turn the clock on and off.
2. Turn the clock on with no play switches pressed. 5:00 will appear on the displays.
3. Press either play switch to start the clock.
4. Press the center button once to stop the clock and again to reset it.

Quick Start for Go Players
1. Read below How to turn the clock on and off.
2. Turn the clock on with the left play switch pressed. GO - C1, GO - J1 will appear on the displays.
3. Press the right play switch. 0:20:00 will appear on the displays. This is the starting time for Canadian byo-yomi mode one.
4. Press either play switch to start the clock.
5. Press the center button once to stop the clock and another four times to reset it.
6. When the main time runs down to zero you will hear two beeps and the displays will show 25 - 0:15. You must make the next twenty-five moves within fifteen minutes or you lose on time. If you make the time-control the display will reset to 25 - 0:15 for the next twenty-five moves.

How to Turn the Clock On and Off
To turn the clock on simply press the center button. See Getting Started - How to Select a Mode on page 5 for details on selecting a mode.

To turn the clock off, press and hold the center button, then press either black play switch five times. This procedure makes it difficult to "accidentally" turn the clock off.

NOTE: If no switch is pressed during a four hour period, the clock will automatically turn off.

Introduction
The CHRONOS Digital Game Clock may be used for timing chess, go, or shogi games. This manual shows how to access the different modes, how to change the initial starting times, how to start, stop, or reset the clock, how to change the user modes, and more. No sequence or combination of button presses can damage the clock, so you may freely experiment as you study the features of the clock. If you enter an incorrect sequence, or get confusing information on the displays, just turn off the clock and start again.

A Few CHRONOS Clock Features
- Twelve user-configured modes. Each easily accessed with one or two button presses.
- Over seventy modes. (The user can configure up to twelve modes for fast access.)

Getting Started - Select a Mode
TWO IMPORTANT DEFINITIONS:
LONG PRESS means to press the center button for MORE than one second. (You will hear two short beeps when you have pressed it long enough.)
SHORT PRESS means to press the center button for LESS than one second. (If you hear two short beeps you have pressed it too long.)

TO SELECT A MODE:
1. Hold down the black play switches listed in column one of the table below, then press the center red button to turn the clock on. This will select a group of modes as shown in column two. The initial display is in column three.

<table>
<thead>
<tr>
<th>Switches Pressed</th>
<th>Modes Selected</th>
<th>Initial Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>No switches</td>
<td>User modes 1 to 4</td>
<td>5:00</td>
</tr>
<tr>
<td>Left play switch</td>
<td>User modes 5 to 8</td>
<td>GO - C1, GO - J1</td>
</tr>
<tr>
<td>Right play switch</td>
<td>User modes 9 to 12</td>
<td>FD - 1, UP - 2</td>
</tr>
<tr>
<td>Both play switches</td>
<td>All modes</td>
<td>CH - F1, CH - F2</td>
</tr>
</tbody>
</table>

2. If you selected user modes 1 to 4, you will see 5:00 on the displays. This is five-minute chess, the factory programmed mode for user mode 1. Press the red button repeatedly to see the starting times for user modes 2, 3, and 4.

These pre-programmed modes are listed below, and a description of them is in the section Discussion of the Modes. It is assumed the user will modify these modes and times, and these factory settings are suggestions only. If you press the red button four times, you return to user mode 1.

<table>
<thead>
<tr>
<th>User mode</th>
<th>Time</th>
<th>Time</th>
<th>Time</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Time</td>
<td>5:00</td>
<td>40:00</td>
<td>2:00</td>
<td>4:30</td>
</tr>
<tr>
<td>Identifier</td>
<td>CH - F1</td>
<td>CH - P3</td>
<td>CH - P4</td>
<td>CH - BY1</td>
</tr>
</tbody>
</table>

3. If you selected user modes 5 to 8 or 9 to 12, you will see two mode identifiers, one on the left display and one on the right display of the clock. Press the center red button to see two more mode identifiers. Press the red button again to return to the first two modes.

With the mode identifiers on the display you may press either play switch to select a mode. The starting times for the mode will appear, and you are ready to play. If later you want another mode, short press the center button.
If you selected All modes, you may short press the center red button repeatedly to cycle through all the modes and mode identifiers of the clock. You may long press the red button to go backwards if you went past the mode you want. Press the left or right play switch to select a mode. The factory programmed starting time for that mode will appear. You may change this time and copy it to a user mode - see Set New Starting Times - Illustration on p 7 and How to Program the User Modes on p 11. Short press the center button three times to get back to the display of mode identifiers.

**How to Start, Stop, Set, and Reset the Clock**

| Start the clock | In all modes: Press either play switch. |
| Stop the clock | In all modes: Press the center button.  
(Press a play switch to start the clock again.) |
| Reset the clock | For modes with the quick reset feature (see feature E, p 18): 
Press the center button once to stop the clock. Press the center button again to reset it.  
In all other modes: Press the center button to stop the clock. 
Short press the center button four more times to reset the clock. (This makes it hard to accidentally reset the clock.) |
| Set new starting time | In all modes: Put the mode in the starting position or in the reset position. Long press the center button to enter set mode. Short press the center button until the digit you want to change is flashing. Press the play switch on either side until the number you want for that digit appears on the display. Short press the center button to change to the next digit. If you short press the center button enough times you will come back to the first digit.  
Long press the center button at any time to exit set mode. You are now ready to start the clock. |

The next section illustrates this procedure.

**For modes having feature F (see p 18)**

In addition to setting the starting times, you may also alter the time of a game in progress. Press the center button once to stop the clock. Long press the center button. The first digit will start to flash. Follow the procedure above. NOTE with this procedure you may only change the current display time, not any other time control.

**OPERATING SUMMARY**

If the clock is running:
- Press the center button to stop it.  
(Press either play switch to start the clock again.)

If the clock is stopped:
- Short press the center button to reset the clock.  
(Four times in some modes.)

If the clock has been reset:
- Short press the center button to change modes.  
(Four times if clock has been started.)
- Long press the center button to enter set mode.

If the clock is in set mode:
- Short press the center button to select the next digit.  
(Press either play switch to change the value of the digit selected.)
- Long press the center button to exit set mode.

**Set New Starting Times - Illustration**

These examples show how to change the times of a go mode and a chess mode. All other modes are changed in the same way.

1. Turn the clock on with both play switches pressed. This will select all modes of the clock. The display will show CH - F1 and CH - F2, mode identifiers for two chess modes. Short press the center button fourteen times until the display shows GO - J1, GO - J2. These are mode identifiers for two go modes. Press the right play switch. 1:30:00 will appear on the display. This is the initial starting time for the GO - J2 mode.

2. Long press the center button. The first digit will begin to flash. The clock is now in set mode. Press each play switch once. The 1s will change to 2s.

3. Short press the center button to change to the next digit. The 3s will begin to flash. Press each play switch three times to change the 3s to Os. 2:00:00 is now the new main time.

4. Short press the center button four more times. The byo-yomi time, 05 - 03, will appear on the display with the first digit flashing.

5. Short press the center button again and press each play switch eight times. The flashing 5s will change to 3s.

6. Short press the center button again and press each play switch once. The 9s will change to 1s. 03 - 1:30 is now the new byo-yomi time.

7. Short press the center button three more times. The display will show 0 - BEEP 1 - LED with the digits flashing. Press the left play switch to change the 0 to a 1. This means the 'beep-on-move' and the player-to-move light features are on.
8. Short press the center button again. The display will show 0 - BEEP AT END with the 0 flashing. Press the left play switch to change the 0 to a 1. This means the clock will beep if a player’s time runs out.

9. Short press the center button again. The display will show 1 - BEEP AT TC with the 1 flashing. Press the left play switch to change the 1 to a 0. This means the clock will not beep at the end of a time control.

10. Short press the center button again. The display will show 0 - HALT AT END with the 0 flashing. Press the left play switch to change the 0 to a 1. This means both clocks will stop if either side runs out of time. Then, since neither side can change, it will be clear which side ran out first and lost on time.

11. Short press the center button again. The display will show 3 - BYO BEEPS with the 3 flashing. Press the left play switch twice and change the 3 to a 5. This means that the clock will beep at each of the last five seconds of a byo-yomi period.

12. Short press the center button again. The display will show 1 - DBL BEEPS with the 1 flashing. You may set the byo-yomi beeps for single or double beeps. Choose 0 for single beep and 1 for double beeps. Single beeps would be suitable in a quiet tournament hall while double beeps are louder.

13. Short press the center button again. The display will show COPY to 0 with the 0 flashing. You could now save your new settings to one of the twelve user modes by changing the 0 to a number from 1 to 12. See the next two sections for more information about the user modes.

14. Long press the center button to stop setting the clock. 2:00:00 will appear on the display. You may now start the clock. The time you have just set will remain the new starting time for this mode until you alter it using the procedure above, change modes, or turn the clock off.

SECOND EXAMPLE:

1. Turn the clock on with both play switches pressed. This will select all modes of the clock. The display will show CH - F1 and CH - F2, mode identifiers for two chess modes. Short press the center button nine times until the display shows CH - P1, CH - P1A. These are mode identifiers for chess tournament modes with move counters. Press the left play switch. 40 - 2:00 will appear on the display. This is the initial starting time for the CH - P1 mode.

2. Long press the center button. The first digit will start to flash. The clock is now in set mode. Press each play switch once. The 4s will change to 5s.

3. Short press the center button to change to the next digit. The 0s will start to flash. Press the center button again. The 2s will begin to flash. Press each play switch nine times until the display shows flashing 1s.

4. Short press the center button again and the play switches three times. The 0s will change to 3s. You have set the first time-control for 50 moves in 1 1/2 hours.

5. Short press the center button two more times. The display will show 1:30:00 with the 0s for the tens digit flashing. You can now set the seconds for the starting time. (You might do this if you were setting the clock for the continuation of an adjourned game.)

6. Short press the center button two more times. 20 _ 1:00 will appear on the display. This is the second time control for this mode. Press each play switch once. The 2s will change to 3s. The second time-control is now set for 30 moves in 1 hour.

7. Short press the center button five more times. You can now set the seconds for the second time-control. You would do this, for example, if you were setting the second time-control for something like 01 - 0:01:30.

8. Short press the center button two more times. The display will show 0 - BEEP 1 - LED with the digits flashing. Press the left play switch to change the 0 to a 1. This means the "player-to-move lights" and the "beep-on-move" features are on.

9. Short press the center button again. The display will show 0 - BEEP AT END with the 0 flashing. Press the left play switch to change the 0 to a 1. This means the clock will beep if the time runs down to 0:00:00.

10. Short press the center button again. The display will show 0 - BEEP AT TC with the 0 flashing. Press the left play switch to change the 0 to a 1. This means the clock will beep at the end of each time control.

11. Short press the center button again. The display will show 0 - HALT AT END with the 0 flashing. Press the left play switch to change the 0 to a 1. This means both clocks will stop if either side runs out of time. Then, since neither side can change, it will be clear which side ran out first and lost on time.

12. Short press the center button again. The display will show COPY to 0 with the 0 flashing. You could now save your new settings to one of the twelve user modes by changing the 0 to a number from 1 to 12. See the next two sections for more information about the user modes.

13. Long press the center button to stop setting the clock. 50 - 1:30 will appear on the display. You may now start the clock. The time you have set will remain the starting time for this mode until you alter it using the procedure above, change modes, or turn the clock off.
### Summary of Programmable Options

One or more of the following options may be selected when the user sets new starting times.

<table>
<thead>
<tr>
<th>CLOCK DISPLAY</th>
<th>EXPLANATION OF OPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left Right</td>
<td></td>
</tr>
<tr>
<td>1 BEEP 1 LED</td>
<td>If BEEP is on the clock will beep each time a black play switch is pressed. This option should be turned off when playing in small tournament rooms, since other players might find the beeps distracting. During informal blitz play, however, this option should be on so a player does not have to look at his clock to be sure he has pressed it. If LED is on the LEDs will show who is on move when the clock is running. Turning this option off increases battery life by 50%.</td>
</tr>
<tr>
<td>0 BEEP AT END</td>
<td>The clock will make four long beeps when the time is out if this option is on.</td>
</tr>
<tr>
<td>0 BEEP AT TC</td>
<td>The clock will make two long beeps at the end of a time-control if this option is on.</td>
</tr>
<tr>
<td>0 HALT AT END</td>
<td>If this option is on, both clocks will stop if one clock goes over the time limit. Therefore it is not possible for both sides to overstep the time limit; and it will be clear which side ran out first and lost on time.</td>
</tr>
<tr>
<td>3 BYO BEEPS</td>
<td>The mode has byo-yomi with the option of byo-yomi beeps. If this option is selected, the clock will beep at each second, from one to nine seconds, just before the end of a byo-yomi period. The initial setting is three byo-yomi beeps. That is, the clock will beep at three, two, and one seconds before the end of a byo-yomi period.</td>
</tr>
<tr>
<td>0 DBL BEEPS</td>
<td>The byo-yomi beeps above may be double or single depending on this option. Since double beeps usually seem louder than single beeps, select this option for a louder sound.</td>
</tr>
<tr>
<td>COPY TO 0</td>
<td>Change the 0 to a number from 1 to 12 to save your settings and options to one of the 12 user modes. If the number is left a zero, nothing will be saved when the clock is turned off. NOTE: The settings of the user modes are NOT LOST if the batteries run down or are removed. They remain unchanged until the user saves new settings.</td>
</tr>
</tbody>
</table>

### How to Program the User Modes

Follow these steps to program a new user mode.

1. Select a mode and set it with the times and options of your choice (illustrated in Set New Starting Times, p. 7).
2. Move to the last option in set mode, which shows COPY to 0 on the display with the zero flashing, and change the zero to a number from one to twelve. (Press right switch to increment number or left switch to decrement.)
3. Long press the center button.

The mode you set will be copied to one of the twelve user modes. You may repeat this procedure as often as you like.

**Example:**

1. Turn the clock on with both play switches pressed. You will see CH - F1, CH - F2, mode identifiers for two chess modes.
2. Press the center button twenty-three times. You will see the mode identifier UP - 1 on the left.
3. Press the left play switch to select this mode. You will see 0:00:00 on the display.
4. Long press the center button to enter set mode. Set the starting time 4:00:00, and choose user mode 7 when you get the option COPY to 0 on the display.
5. Long press the center button to leave set mode, then turn the clock off.
6. Turn the clock on again with the left play switch pressed. Press the center button once. You will see the mode identifier UP - 1 on the left for your new user mode 7.
7. Now press the left play switch. The display will show 4:00:00, your new starting time. You are ready to play.

The initial user modes are shown below. These are suggestions only, and using the procedure above you should change them to the modes and times you most often use.

<table>
<thead>
<tr>
<th>1,2,3,4</th>
<th>5,6,7,8</th>
<th>9,10,11,12</th>
</tr>
</thead>
<tbody>
<tr>
<td>CH - F1</td>
<td>GO - J1</td>
<td>FD - 1</td>
</tr>
<tr>
<td>CH - P3</td>
<td>GO - C1</td>
<td>UP - 2</td>
</tr>
<tr>
<td>CH - P4</td>
<td>AD - 1</td>
<td>SHO - 4</td>
</tr>
<tr>
<td>CH - BY1</td>
<td>GO - A1</td>
<td>CH - P2</td>
</tr>
</tbody>
</table>
How to Program the Beeper Pitch

1. Turn the clock on with both play switches pressed. This will select all modes of the clock. The display will show CH - F1 and CH - F2.
2. Long press the center button. The display will show Pitch, Sr-Nr. Press the left play switch to select the beeper pitch. The display will show Pitch 1800.
3. Now long press the center button to set a new pitch. Press the right play switch to change value of the pitch. Short press the center red button to change to the next digit.
4. Press the left play switch to test the pitch. Long press the center red button when you have the pitch you want.
5. Experiment with settings between 2915 and 2945 to get the loudest beep. NOTE: the settings are relative and not the actual cycles per second of the sound produced. You may select values between 0000 and 2999.

How to Display the Serial Number

1. Turn the clock on with both play switches pressed. This will select all modes of the clock. The display will show CH - F1 and CH - F2.
2. Long press the center button. The display will show Pitch, Sr-Nr. Press the right play switch to select the serial number. Your clock’s anti-theft serial number will appear on the display. This number will help you to identify the clock if it gets lost.
3. Please record your serial number in the space below.

PLEASE DO THIS NOW.

Mode Descriptions and Identifiers

<table>
<thead>
<tr>
<th>Description</th>
<th>Identifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Five-minute chess</td>
<td>CH - F1, CH - F2</td>
</tr>
<tr>
<td>Chess - andante modes</td>
<td>CH - A1, CH - A2</td>
</tr>
<tr>
<td>Chess - byo-yomi modes</td>
<td>CH - BY1, CH - BY2</td>
</tr>
<tr>
<td>Chess - hour glass</td>
<td>CH - H1, CH - H2</td>
</tr>
<tr>
<td>Chess - progressive</td>
<td>CH - P1, CH - P1A</td>
</tr>
<tr>
<td>Go - Japanese byo-yomi</td>
<td>GO - J1, GO - J2</td>
</tr>
<tr>
<td>Go - andante byo-yomi</td>
<td>GO - A1, GO - A2</td>
</tr>
<tr>
<td>Go - progressive byo-y</td>
<td>GO - P1, GO - P2</td>
</tr>
<tr>
<td>Go - Canadian byo-y</td>
<td>GO - C1, GO - C2</td>
</tr>
<tr>
<td>Go - Ing byo-y</td>
<td>ING - 1, ING - 2</td>
</tr>
<tr>
<td>FIDE modes</td>
<td>FD - 1, FD - 2</td>
</tr>
<tr>
<td>Count down</td>
<td>DN - 1, DN - 2</td>
</tr>
<tr>
<td>Count up</td>
<td>UP - 1, UP - 2</td>
</tr>
<tr>
<td>Adagio modes</td>
<td>AD - 1, AD - 2</td>
</tr>
<tr>
<td>Sudden death modes</td>
<td>SD - 1, SD - 2</td>
</tr>
<tr>
<td>Andante modes</td>
<td>AN - 1, AN - 1A</td>
</tr>
<tr>
<td>Sudden death and delay</td>
<td>DL - SD1, DL - SD2</td>
</tr>
<tr>
<td>Delay and move counter</td>
<td>DL - C1, DL - C2</td>
</tr>
<tr>
<td>Count down and delay</td>
<td>DL - DN1, DL - DN2</td>
</tr>
<tr>
<td>Shogi modes</td>
<td>SHO - 1, SHO - 2</td>
</tr>
<tr>
<td>Shuffle chess</td>
<td>SHCH - 1, SHCH - 2</td>
</tr>
<tr>
<td>Beeper pitch, serial #</td>
<td>PITCH, SrNr</td>
</tr>
<tr>
<td>CH - F1</td>
<td>5:00</td>
</tr>
<tr>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td>CH - A7</td>
<td>5:1:00.00</td>
</tr>
<tr>
<td>CH - F2</td>
<td>5:0:30.00</td>
</tr>
<tr>
<td>CH - A8</td>
<td>5:0:30.00</td>
</tr>
<tr>
<td>CH - F3</td>
<td>5:1:00.00</td>
</tr>
<tr>
<td>CH - A9</td>
<td>5:1:00.00</td>
</tr>
<tr>
<td>CH - F4</td>
<td>5:0:30.00</td>
</tr>
<tr>
<td>CH - P1</td>
<td>5:0:30.00</td>
</tr>
<tr>
<td>CH - A1</td>
<td>5:1:00.00</td>
</tr>
<tr>
<td>CH - BY1</td>
<td>5:0:30.00</td>
</tr>
<tr>
<td>CH - A2</td>
<td>5:1:00.00</td>
</tr>
<tr>
<td>CH - BY2</td>
<td>5:0:30.00</td>
</tr>
<tr>
<td>CH - A3</td>
<td>5:1:00.00</td>
</tr>
<tr>
<td>CH - BY3</td>
<td>5:0:30.00</td>
</tr>
<tr>
<td>CH - P1</td>
<td>5:1:00.00</td>
</tr>
<tr>
<td>CH - A4</td>
<td>5:0:30.00</td>
</tr>
<tr>
<td>CH - BY4</td>
<td>5:1:00.00</td>
</tr>
<tr>
<td>CH - A5</td>
<td>5:0:30.00</td>
</tr>
<tr>
<td>CH - H1</td>
<td>5:1:00.00</td>
</tr>
<tr>
<td>CH - A6</td>
<td>5:0:30.00</td>
</tr>
<tr>
<td>CH - H2</td>
<td>5:1:00.00</td>
</tr>
<tr>
<td>CH - P1,1A</td>
<td>5:0:30.00</td>
</tr>
<tr>
<td>CH - P2,2A</td>
<td>5:1:00.00</td>
</tr>
<tr>
<td>CH - P3</td>
<td>5:0:30.00</td>
</tr>
<tr>
<td>CH - P4</td>
<td>5:1:00.00</td>
</tr>
<tr>
<td>CH - P5</td>
<td>5:0:30.00</td>
</tr>
<tr>
<td>CH - P6</td>
<td>5:1:00.00</td>
</tr>
<tr>
<td>CH - P7</td>
<td>5:0:30.00</td>
</tr>
<tr>
<td>CH - P8</td>
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# Features Summary

(Legend for A, B, C, D, E, F on page 18)

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<th>MODE</th>
<th>A</th>
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</table>
A. **BEEP-AT-END** Initial setting for the “beep-at-end” feature. If this option is selected, the clock will make four long beeps when the time on the clock runs out.

B. **BEEP-AT-TIME-CONTROL** Initial setting for the “beep-at-time-control” feature. If this option is selected, the clock will make two long beeps at the end of a time-control.

C. **BEEP-ON-MOVE** Initial setting for the “beep-on-move” feature. This feature should be turned off when playing in small tournament rooms, since other players might find the beeps distracting. During informal blitz play, however, this feature should be on so a player does not have to look at his clock to be sure he has pressed it.

D. **BYO-YOMI-BEEPS** The mode has byo-yomi with the option of byo-yomi beeps. If this option is selected, the clock will beep at each second, from one to nine seconds, just before the end of a byo-yomi period. The default setting is three byo-yomi beeps. That is, the clock will beep at three, two, and one seconds before the end of a byo-yomi period.

E. **QUICK-RESET** The mode will reset after just one press of the center button if the clock is stopped. This is the best arrangement for informal blitz games when the clock will be reset many times. Just press the center button once to stop the clock and again to reset it. Four presses are required to reset the clock for modes that are used in tournaments. This makes it difficult to accidentally reset the clock, even if, for some reason, you must stop the clock before the game is over.

F. **CHANGE-RUNNING-TIME** Occasionally an irregularity in the game will require you to change the time of the clock after the game has started. This feature makes it easy to do that. Just stop the clock, then long press the center button. Follow the procedure in *Setting New Starting Times* above.

---

**Go and Shogi Timing Explained**

The following description applies to professional go in Japan, Korea, Taiwan, and China.

Each player in a professional game is given a time limit for all his moves in the game. A typical time limit is six hours per player, although longer time limits such as nine hours per player are common in championship matches, and shorter times such as three hours per player are used in semifinal matches. A professional game may take two days to finish.

During the game a designated timekeeper keeps track of the time used by each player. When the timekeeper has determined that a player has used all but five minutes of his allotted time, *byo-yomi* (literally, *seconds counting*) begins. The timekeeper will count down aloud the last ten seconds of each minute remaining. (This is understandably nerve-racking to many players.) If the player makes his move before the end of the minute, no time at all is subtracted from his remaining time. That is, he gets the minute back. But each time the player uses more than a minute, his remaining time is reduced by one minute. After the fifth subtraction of one minute, the timekeeper declares the player the loser on time.

In other words, the player’s clock is adjusted up to the nearest minute after each move he makes, if his total time is under five minutes. A timekeeper warns the player when each minute is about to end by counting down aloud the last ten seconds.

A common time limit among professionals for “blitz” or “lightning go” is thirty minutes per player with thirty seconds byo-yomi at the end. A timekeeper counts down the last ten seconds.

Professional shogi games are similar to professional go games with byo-yomi and a timekeeper. The time limit for a championship shogi game is typically nine hours per player. No time is subtracted from your main time if you move in less than a minute. That is, your time remaining is adjusted up to the nearest minute. In other words, shogi timing is like go byo-yomi timing except that it lasts for the whole game. The CHRONOS simulates these timing methods in the GO-J1 and GO-J2 go modes and SHO-1, SHO-2, and SHO-3 shogi modes. See the relevant sections in Discussion of the Modes p 20 below for more details on these modes.

Shogi players should also consider the adagio mode AD-1, which has shogi style warning beeps.

The clock also includes go modes with other byo-yomi timing methods. See the sections on go in Discussion of the Modes p 20 below for more information.
Discussion of the Modes - General

- There are three kinds of delay modes - andante, adagio, and delay. They all feature a time delay or grace period at each move before the main time starts to run.
  - The andante modes show the delay time counting down on the display.
  - The adagio modes add the delay time to the current time when a player moves.
  - The delay modes show the delay time counting down with alternating or flashing dashes.

- Modes with a move counter have a dash on the display if the time is given in hours: minutes, and a double dash if the time is given in minutes: seconds. Of course, the clock will show minutes: seconds only if the time is less than ten minutes. A flashing dash on the display means the time is given in hours: minutes and the clock is running.

- Many chess and go modes can be used in either game.

- Shogi-style warning beeps are an option in adagio mode AD-1.

- It is easier to learn about a new mode if you practice using it with low value settings first. For example:
  1. Set the five-minute mode (CH-F1) to 0:02, then press a play switch. Note the flashing zeros and dashes when the clock runs down to zero.
  2. Set the countdown mode (DN-1) with main time 0:00:10 and second time-control 0:00:05. Press a play switch and watch the time-control indicators appear as each time-control runs down to zero.
  3. Set the andante mode (CH-A1) to 5:00:10. Press each play switch several times to see how the delay timer works, then let the clock run down to zero. You will hear three short beeps at the end if the "beep-at-end" feature is on.

Discussion of the Modes

FIVE MINUTE CHESS I

Description: Standard five-minute chess. The clock stops when it reaches 0:00.

Intended use: Casual five-minute chess.

Pros: Easy to reset. Press the red button once to stop the clock and again to reset it.

Cons: Not appropriate for tournament play since the clock could be reset by "accidentally" pressing the red button twice if there was a need to stop it before the end of the game. Also, the time of the clock cannot be changed once the clock has been started, so an extra ten seconds or minute cannot be added to the time if that became necessary.

FIVE MINUTE CHESS II

Description: Standard five-minute chess. The clock stops when it reaches 0:00.

Intended use: Tournament five-minute chess.

Pros: It is difficult to "accidentally" reset the clock. You must press the red button four more times after stopping the clock to reset it. Also, the time of the clock cannot be changed during a game, if that becomes necessary.

Cons: The clock is harder to reset so it is less convenient for casual five-minute chess than CH-F1.

FIVE MINUTE CHESS III

Description: Standard five-minute chess with the time shown in tenths of a second.

Intended use: Casual five-minute chess.

Pros: You can see the time in tenths of a second.

Cons: Few players can make use of this information since it is difficult to move and press the clock in less than a second.
FIVE MINUTE CHESS IV (CH - F4)

Description: Standard five-minute chess. The clock stops when it reaches 0:00.

Intended use: Casual five-minute chess, but you may set the clock for longer starting times such as fifteen or twenty minutes.

Pros: Four digits are used so you may play with longer starting times such as 15:00 or 20:00. It is easy to reset the clock.

Cons: Not appropriate for tournament chess for the same reasons as CH - F1.

CHESS - ANDANTE MODE I (CH - A1)

Description: There is a delay at each move before the main time starts to run. A player loses no main time if he moves in less than the delay time. The main time and delay time remaining are always displayed. The delay time may be from zero to nine seconds.

Intended use: Tournament chess with one time-control and a time delay at each move.

Pros: The delay time is always displayed.

Cons: The maximum delay time is 9 seconds and the maximum main time is 99:59.

CHESS - ANDANTE MODE II (CH - A2)

Description: There is a delay at each move before the main time starts to run. A player loses no main time if he moves in less than the delay time. The main time and delay time remaining are always displayed. The delay time may be from zero to nine seconds. This mode has two time-controls.

Intended use: Tournament chess with two time-controls and a time delay at each move.

Pros: The delay time is always displayed.

Cons: The maximum delay time is 9 seconds and the maximum main time is 99:59 for each time-control.

CHESS - ANDANTE MODE III (CH - A3)

Description: There is a delay at each move before the main time starts to run. A player loses no main time if he moves in less than the delay time. The main time and delay time remaining are always displayed. The delay time may be from zero to nine seconds. This mode has three time-controls.

Intended use: Tournament chess with three time-controls and a time delay at each move.

Pros: The delay time is always displayed. The delay time may be different for each time-control. You could have a setting of 60 minutes with 0 delay for the first time-control and 5 minutes with a delay of 5 seconds for the second time-control, etc.

Cons: The maximum delay time is 9 seconds and the maximum main time is 99:59 for each time-control.

CHESS - ANDANTE MODE IV (CH - A4)

Description: There is a delay at each move before the main time starts to run. A player loses no main time if he moves in less than the delay time. The main time and delay time remaining are always displayed. The delay time may be from zero to nine seconds. This mode has four time-controls.

Intended use: Tournament chess with four time-controls and a time delay at each move.

Pros: The delay time is always displayed. The delay time may be different for each time-control. You could have a setting of 60 minutes with 0 delay for the first time-control and 5 minutes with a delay of 5 seconds for the second time-control, etc.

Cons: The maximum delay time is 9 seconds and the maximum main time is 99:59 for each time-control.

CHESS - ANDANTE MODE V (CH - A5)

Description: There is a delay at each move before the main time starts to run. A player loses no main time if he moves in less than the delay time. The main time and delay time remaining are always displayed. The delay time may be from zero to nine seconds. This mode has five time-controls.

Intended use: Tournament chess with five time-controls and a time delay at each move.

Pros: The delay time is always displayed. The delay time may be different for each time-control. You could have a setting of 60 minutes with 0 delay for the first time-control and 5 minutes with a delay of 5 seconds for the second time-control, etc.

Cons: The maximum delay time is 9 seconds and the maximum main time is 99:59 for each time-control.
**CHESS - ANDANTE MODE VI**  
*CH - A6*

**Description:** There is a delay at each move before the main time starts to run. A player loses no main time if he moves in less than the delay time. The main time and delay time remaining are always displayed. The delay time may be from zero to nine seconds. This mode has six time-controls.

**Intended use:** Tournament chess with six time-controls and a time delay at each move.

**Pros:** The delay time is always displayed. The delay time may be different for each time-control. You could have a setting of 60 minutes with 0 delay for the first time-control and 5 minutes with a delay of 5 seconds for the second time-control, etc.

**Cons:** The maximum delay time is 9 seconds and the maximum main time is 99:59 for each time-control.

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**CHESS - ANDANTE MODE VII**  
*CH - A7*

**Description:** There is a delay at each move before the main time starts to run. A player loses no main time if he moves in less than the delay time. The delay time remaining is always displayed and may be from zero to nine seconds. This mode has two time-controls.

**Intended use:** Tournament chess with two time-controls and a time delay at each move.

**Pros:** The maximum main time is 9:59:59. The delay time is always displayed. The delay time may be different for each time-control. You could have a setting of two hours with 0 delay for the first time-control and 5 minutes with a delay of 5 seconds for the second time-control.

**Cons:** The maximum delay time is 9 seconds.

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**CHESS - ANDANTE MODE VIII**  
*CH - A8*

**Description:** There is a delay at each move before the main time starts to run. A player loses no main time if he moves in less than the delay time. The delay time remaining is always displayed and may be from zero to nine seconds. This mode has three time-controls.

**Intended use:** Tournament chess with three time-controls and a time delay at each move.

**Pros:** The maximum main time is 9:59:59. The delay time is always displayed. The delay time may be different for each time-control.

**Cons:** The maximum delay time is 9 seconds.

---

**CHESS BYO-YOMI MODE I**  
*CH - BY1*

**Description:** Modified go timing. If a player moves when his main time has gone below the byo-yomi time, the clock will set his main time back up to the byo-yomi time. For example: If the byo-yomi time is 0:10 and he moves with just two seconds left, his time will be set back up to 0:10. A player's clock will not run out if he can move in the byo-yomi when his main time gets close to zero.

**Intended use:** Casual chess

**Pros:** No need to "bang" the clock near the end of the game since you always have at least the byo-yomi time for your next move.

**Cons:** Maximum main time is 9:59.

---

**CHESS BYO-YOMI MODE II**  
*CH - BY2*

**Description:** Same as CH - BY1 above. Maximum main time is 9:59:59.

**Intended use:** Tournament chess with sudden death style timing and one time-control.

**Pros:** This timing method may be the best way to avoid the problem of "clock banging" at the end of a game or time-control. Other methods, including adding time or having a time delay at each move, lose the flavor and "psychology" of traditional chess timing. In this method there is no change whatever in the traditional method until a player's time goes below the byo-yomi time, say, for example, 15 seconds. When that happens the player is guaranteed the byo-yomi time (15 seconds), for each of his remaining moves in the game or time-control. Because of its simplicity and similarity to traditional chess timing, this method is appropriate for sudden death timing.

**Cons:** None
CHESS BYO-YOMI MODE III  
**Description:** Same as CH - BY2 above but with two time-controls. The maximum time in each time-control is 9:59:59. The byo-yomi times for each time-control can be set for different values, including zero.

**Intended use:** Tournament Chess with sudden death style timing and two time-controls.

**Pros:** Same as CH - BY2 above.

**Cons:** None.

CHESS BYO-YOMI MODE IV  
**Description:** Same as CH - BY2 above but with four time-controls. The fourth time-control repeats indefinitely. The maximum time in each time-control is 9:59:59. The byo-yomi times for each time-control can be set for different values, including zero.

**Intended use:** Serious Tournament or Sudden Death chess with three or more time-controls.

**Pros:** Same as CH - BY2 above. Also, you may play a game with an unlimited number of time-controls (with the first four being different).

**Cons:** None.

CHESS - HOUR GLASS I  
**Description:** One side increases as the other side decreases, just like the two ends of an hourglass or eggtimer. An hourglass was the first timing device used in chess. A player turned it over when he moved, and as the total time for one side decreased, the total time for the other increased, and by the same amount. The CHRONOS simulates this timing method in the hour-glass mode. That is, when it is your turn to move, your opponent's time increases while yours decreases, and by the same amount.

**Intended use:** Casual chess.

**Pros:** This method is good for playing a leisurely casual game while still retaining some timing constraints.

**Cons:** Since both clocks are always running (one up, one down) the display can be confusing.

CHESS - HOUR GLASS II  
**Description:** Same as CH - H1 above except that only one clock runs at a time. When you move, your opponent's clock is adjusted up by the time that you used for your last move, but until that time his clock appears stopped.

**Intended use:** Same as CH - H1 above.

**Pros:** Same as CH - H1 above. Also, the displays are easier to read since only one clock is running.

**Cons:** None.

CHESS PROGRESSIVE MODE I  
**Description:** This is standard chess tournament timing with unlimited repeating time-controls, also called progressive timing. A player must make forty moves in two hours, and if he does an hour is added to his remaining time for the next twenty moves etc. Since the clock has six digits it is not possible to show the move counter and the time in hours, minutes, and seconds at the same time. If the time is less than ten minutes, the clock will show a double dash followed by minutes: seconds, and otherwise the time will be given in hours: minutes. See the remark about modes with a move counter in the Discussion of the modes - General section above (p 20).

**Intended use:** Serious chess or shogi.

**Pros:** Number of moves made in the time-control is displayed.

**Cons:** Since only six digits can be display-ed, it is not possible to show hours, minutes, and seconds at the same time unless the time remaining is less than ten minutes.

CHESS PROGRESSIVE MODE II  
**Description:** This mode is like CH - P1 above except it has three time-controls. This mode could be used to shorten the average time per move in successive time-controls. For example, a setting of 40:1:30:00, 20:0:30:00, 10:0:10:00 would have 2 1/4 minutes average per move in the first, 1 1/2 minutes average per move in the second, and 1 minute average per move in the third, and succeeding, time-controls.

**Intended use:** Serious chess or shogi.

**Pros:** Same as CH - P1 above.

**Cons:** Same as CH - P1 above.
> **CHESS PROGRESSIVE MODE IA, IIA** (CH - P1A, 2A)

**Description:** These modes are just like CH - P1, P2 above. EXCEPT that the display of a running clock will show the time in hours, minutes, and seconds if the time is greater than 10 minutes - i.e. to make room for the full time, the move number will not be displayed. (Of course, the move number on the opponent's clock will still be displayed.)

**Intended use:** Serious chess or shogi.

**Pros:**
- You get to see the full time when your clock is running.
- (There is no reason to show the move number on both sides.)

**Cons:** Some players may find the changing displays distracting.

> **CHESS PROGRESSIVE MODE III** (CH - P3)

**Description:** This is the same as CH - P1 above except that the maximum time-control time is 9:59. The mode is designed for blitz play. A player has six minutes to make forty moves. If he does, a minute is added to his time for the next ten moves etc. Use this mode to get more practice playing endgames. The clock shows the number of moves made in each time-control and the time remaining for each side.

**Intended use:** Casual blitz chess.

**Pros:**
- This mode avoids running out of time early in the game so you can play more blitz chess endgames.
- Mode has quick reset feature - press the clock once to stop it, and again to reset it.

**Cons:** None.

> **CHESS PROGRESSIVE MODE IV** (CH - P4)

**Description:** This is the same as CH - P3 above but with the main time set for 2:00, the second time-control set for 0:12, and the main and second time-control number of moves set for 01. The move number is not displayed since it is always 01.

**Intended use:** Casual blitz chess

**Pros:**
- Easier to use than CH - P3 above in the special case that the move counters are set for 01

**Cons:**
- Maximum time is 9:59.

> **CHESS PROGRESSIVE MODE V** (CH - P5)

**Description:** This is the same as CH - P4 above, but the first time-control time can be as large as 9:59 so you can play longer games.

**Intended use:** Serious chess, go, or shogi.

**Pros:**
- This timing method avoids “clock banging” at the end of a game. It could be used for sudden death timing with one time-control.

**Cons:** None.

> **CHESS PROGRESSIVE MODE VI** (CH - P6)

**Description:** This is the same as CH - P5 above, but repeated twice. This method could be used for sudden death timing with two time controls. A dash appears in front of the time when the second time-control begins.

**Intended use:** Serious chess, go, or shogi.

**Pros:**
- Same as CH - P5

**Cons:** None.

> **CHESS PROGRESSIVE MODE VII** (CH - P7)

**Description:** This is the same as CH - P5 above, but repeated three times. This method could be used for sudden death timing with three time controls. Special symbols appear in front of the time when the second and third time-controls begin.

**Intended use:** Serious chess, go, or shogi.

**Pros:**
- This timing method avoids “clock banging” at the end of a game. It could be used for sudden death timing with three time-controls.

**Cons:** None.
CHESS PROGRESSIVE MODE VIII  (CH - P8)

Description: This is the same as CH - P5 above, but repeated four times. The fourth time-control repeats indefinitely. Special symbols appear in front of the time when the second, third, and fourth time-controls begin.

Intended use: Serious chess, go, or shogi.

Pros: This timing method avoids "clock banging" at the end of a game. It could be used for sudden death timing with four, or more, time-controls.

Cons: None.

GO - JAPANESE BYO-YOMI I  (GO - J1)

Description: When the main time runs out byo-yomi begins. Dashes will appear on the display to show that the player is in byo-yomi. After each move the player's time will be adjusted up to the nearest minute. He loses no time if he moves in less than a minute, but he loses a minute if he takes a minute or more to move. If the "beep-at-time-control" feature is on, the clock will beep:
1. when the main time ends and byo-yomi starts,
2. at ten seconds before the end of each byo-yomi period, and
3. at the end of each byo-yomi period.

If you select from one to nine byo-yomi beeps for the byo-yomi periods, the clock will beep at each second, from one to nine seconds, just before the end of each byo-yomi period. The default setting is three byo-yomi beeps. That is, the clock will beep at three, two, and one seconds before the end of the byo-yomi period. This mode simulates the professional go timing method described above (p. 18).

Intended use: Serious go.

Pros: Simulates professional go timing method.

Cons: None.

GO - JAPANESE BYO-YOMI II  (GO - J2)

Description: This mode is the same as GO - J1 above except that you have more variety for the byo-yomi parameters. For example, you could set the byo-yomi time for three thirty second periods. Then the total byo-yomi time is one minute and thirty seconds, and your time is adjusted up after each move to the nearest thirty seconds.

Intended use: Serious or casual go.

Pros: Simpler than standard byo-yomi.

Cons: None.
GO - PROGRESSIVE BYO-YOMI I (GO - P1)

Description: When your main time runs out the byo-yomi timing method switches to the progressive mode (CH - P1) described above. That is, you must make twenty-five moves in fifteen minutes, and if you do five minutes are added to your remaining time for the next ten moves etc.

Intended use: Serious or casual go.
Pros: Moves are automatically counted by the clock.
Cons: None.

GO - PROGRESSIVE BYO-YOMI II (GO - P2)

Description: The byo-yomi period in this mode is just like CH - P5 above.

Intended use: Serious or casual go.
Pros: Very simple byo-yomi method.
Cons: None.

GO - CANADIAN BYO-YOMI I (GO - C1)

Description: When your main time runs out in this mode you are required to make a specific number of moves within the secondary time limit. If you do, your clock is reset with the secondary time and again you must make the specific number of moves within the secondary time limit. This continues until the game is over. The secondary time remaining and the number of moves made are always displayed. This mode simulates what is called Canadian byo-yomi. When your primary time runs out in this byo-yomi method you are given a number of stones, say twenty, and required to play them within a specific time, say five minutes. If you do, your clock is reset to five minutes and you are given another twenty stones to play etc. This method is often used with mechanical clocks.

Intended use: Casual go or in tournaments that use Canadian byo-yomi.
Pros: Simpler than using a mechanical clock since the stones are automatically "counted" for you by the clock. The clock will flash "forfeit" if you overstep the time limit.
Cons: None.

GO - CANADIAN BYO-YOMI II (GO - C2)

Description: This is like Canadian byo-yomi I, GO - C1 above except that there is no main time. You are required to make twenty-five moves in fifteen minutes. If you do, you get another fifteen minutes for the next twenty-five moves etc. If the time is less than ten minutes, the clock will show an upper dash followed by minutes : seconds. Alternating dashes mean the time is in hours : minutes and the clock is running.

Intended use: Casual go.
Pros: Game is faster.
Cons: None.

GO - CANADIAN BYO-YOMI III (GO - C3)

Description: This is the same as GO - C1 above except that there are optional delay times, which may be different, before the main time and/or byo-yomi times start to count down.

Intended use: Same as GO - C1 above.
Pros: Same as GO - C1 above.
Cons: None.

GO - CANADIAN BYO-YOMI IV (GO - C4)

Description: This is like GO - C3 above, except the display will not flash "forfeit" if your clock runs down to 0:00, and the byo-yomi time is reset if you make the specified number of moves for the byo-yomi period. Therefore, to win on time against an opponent whose time has run out, this method requires that you call a time forfeit before your opponent makes the specified number of moves and resets his byo-yomi time.

Intended use: Same as GO - C1 above.
Pros: Same as GO - C1 above.
Cons: None.

GO - ING BYO-YOMI I (ING - 1)

Description: In this timing method you are required to complete your game within the main time. If you do not, you lose a specific number of points, say two, for each additional byo-yomi period you use. If you use three additional byo-yomi periods you lose the game on time. The theme of the mode is "time is money". The byo-yomi period is typically set for 1/6 main time.

Intended use: Tournaments which require ING byo-yomi.
Pros: The time used by a player can directly affect his score.
Cons: There is no tradition for changing a player's score based on the time he has used.
**GO - ING BYO-YOMI II** (ING - 2)

**Description:** Same as ING - 1 above, except that the byo-yomi time has an optional delay time of up to nine seconds. The delay time and byo-yomi time are always displayed.

**Intended use:** Same as ING - 1 above.

**Pros:** Same as ING - 1 above.

**Cons:** Same as ING - 1 above.

**FIDE MODE I, IA** (FD - 1) (FD - 1A)

**Description:** These are the same as CH - P1, P1A above but with the move counter for the second time-control set for 01. These modes are compatible with the FIDE rapid mode. Note: the clock will not display move numbers if the number of moves in the second time-control of CH - P1, P1A is 01 since, unless your time runs out, you make the time-control with every move.

**Intended use:** Casual or serious chess.

**Pros:** Easier to use than CH - P1,1A with move counter set for 01.

**Cons:** None.

**FIDE MODE II, IIA** (FD - 2) (FD - 2A)

**Description:** These are the same as CH - P2, P2A above but with the move counter for the second and third time-controls set for 01. These modes are compatible with the FIDE tournament mode. Note: the clock will not display move numbers if the number of moves in the second or third time-control of CH - P2, P2A is 01 since, unless your time runs out, you make the time-control with every move.

**Intended use:** Casual or serious chess.

**Pros:** Easier to use than CH - P2, P2A with move counters set for 01.

**Cons:** None.

**COUNT DOWN I** (DN - 1)

**Description:** The second time-control starts when the main time runs out. Special symbols in front of the time show when the second, third, and fourth time-controls have started.

Use this mode for standard timing such as forty-five moves in two hours with twenty-five moves per hour thereafter. Set the main time for 2:00:00 and the second time-control for 0:10:00.

Use this mode also for the "sudden-death overtime" timing method. (A typical example is forty moves in two hours and one hour for the rest of the game. Set the primary time for 2:00:00 and the secondary time for 1:00:00.)

**Intended use:** Tournament chess.

**Pros:** The time remaining in a time-control is displayed more clearly and accurately than in mechanical clocks.

**Cons:** None.

**COUNT DOWN II** (DN - 2)

**Description:** This method is like DN - 1 above except that there are four time-controls. The fourth time-control repeats indefinitely.

**Intended use:** Serious chess.

**Pros:** You can set progressively faster time-controls. For example, you could require 40 moves in 1 1/2 hours, then 20 in 30 minutes, then 20 in 15, then 20 in 10 to end of game.

**Cons:** None.

**COUNT UP I** (UP - 1)

**Description:** The clock counts up. You can use this mode for standard timing such as forty-five moves in two hours with twenty-five per hour thereafter. A player must make forty-five moves before his clock shows 2:00:00 and another twenty-five before it shows 3:00:00. You could also set the clock for starting times such as 4:00:00 or 4:30:00, to agree with the standard starting time of mechanical clocks. The clock can be set to beep on the hour - a useful feature if the time-controls end on the hour, which is usually the case when mechanical clocks are used.

**Intended use:** Tournament chess.

**Pros:** Simulates mechanical clocks.

**Cons:** None.
COUNT UP II (UP - 2)
Description: This is the same as UP - 1 above except there is a five second delay before the main time starts to count up. The display shows alternating dashes during the delay time. The clock can be set to beep on the hour - a useful feature if the time-controls end on the hour, which is usually the case when mechanical clocks are used.
Intended use: Tournament chess with a time delay.
Pros: Simulates mechanical clocks with the addition of a time delay.
Cons: None.

ADAGIO MODE I (AD - 1)
Description: After each move you make your time is adjusted up to either the time you had at the beginning of the move, or to your current time plus the delay time (15 seconds, for example), whichever is smaller. This is the adagio method of incorporating a time delay, and it seems to be the simplest and clearest way to add a time delay at each move. Of course, when your main time runs out you lose on time. This mode can be used to play slow games of chess, go, or shogi. (Shogi players please take special note of Notes 2 and 3 below.)
Notes:
1) When the clock is first started the delay time is automatically added to the initial main time, so that your delay time will start to count before your main time.
2) The clock will beep at 30, 20, and 10 seconds before the end if the "beep-at-time-control" option is selected.
3) Just like go modes GO - J1, 2, you can set up to nine byo-yomi beeps during the last ten seconds.
Intended use: Serious go, chess, and shogi.
Pros: An elegant timing method.
Cons: None.

ADAGIO MODE II (AD - 2)
Description: This is similar to AD - 1 above except the mode has two time-controls and you cannot set any beeps before the end of a time-control as in notes 2 and 3 above.
Intended use: Sudden death timing such as forty-five moves in one hour and the rest of the game in thirty minutes with a ten second delay at each move.
Pros: Each time-control can have different time delays (including zero).
Cons: None.

SUDDEN DEATH MODE I (SD - 1)
Description: The clock stops when the main time runs out. Use this mode for timing such as "game in sixty" or "game in two and a half". Set the clock for 1:00:00 or 2:30:00.
Intended use: Sudden death chess timing.
Pros: The time remaining is displayed more clearly and accurately than in mechanical clocks.
Cons: Mode has no provision for a time delay.

SUDDEN DEATH MODE II (SD - 2)
Description: In this mode, a player must make a certain number of moves, say forty, in the first time-control and the rest in the second. To claim a win on time during the first time-control a player must have an accurate record of the game. A player always loses on time if his second time-control time runs out.
Intended use: Sudden death chess with two time-controls.
Pros: The time remaining in a time-control is displayed more clearly and accurately than in mechanical clocks.
Cons: Mode has no provision for a time delay.
SUDDEN DEATH MODE III

Description: This is similar to SD - 2 above but with three time-controls. Each player must keep an accurate record of the game to claim a win on time during the first two time-controls.

Intended use: Sudden death chess with three time-controls

Pros: The time remaining in a time-control is displayed more clearly and accurately than in mechanical clocks.

Cons: Mode has no provision for a time delay.

SUDDEN DEATH MODE IV

Description: This is similar to SD - 2 above but with four time-controls. Each player must keep an accurate record of the game to claim a win on time during the first three time-controls.

Intended use: Sudden death chess with four time-controls

Pros: The time remaining in a time-control is displayed more clearly and accurately than in mechanical clocks.

Cons: Mode has no provision for a time delay.

ANDANTE MODE I

Description: There is a delay at each move before the main time starts to run. A player loses no main time if he moves in less than the delay time. The delay time remaining is always displayed.

Intended use: Serious chess, go, or shogi, especially sudden-death chess with one time-control and a time delay of 10 seconds or more.

Pros: The delay time is always displayed. The maximum main time is 9:59:59 and the maximum delay time is 99 seconds.

Cons: None

ANDANTE MODE IA

Description: This is like AN - 1 above except the maximum main time is 9:59.

Intended use: Blitz chess, go, or shogi.

Pros: The delay time remaining is always displayed. The maximum delay time is 99 seconds.

Cons: None

ANDANTE MODE II

Description: There is a delay at each move before the main time starts to run. A player loses no main time if he moves in less than the delay time. The delay time remaining is always displayed.

Intended use: Serious chess, go, or shogi, especially sudden-death chess with two time-controls and a time delay of 10 seconds or more.

Pros: The delay time is always displayed. The delay time may be from 0 to 99 seconds and may be different in each time-control. The maximum main time is 9:59:59.

Cons: None

SUDDEN DEATH AND DELAY I

Description: There is a delay at each move before the clock starts to count down. The colons flash during the delay time. The clock stops when the main time comes to 00:00.

Intended use: Sudden death chess with a time delay.

Pros: Mode has a time delay.

Cons: None

SUDDEN DEATH AND DELAY II

Description: There is a delay at each move before the clock starts to count down. The colons flash during the delay time. The clock stops when the second time-control time comes to 00:00. An upper dash before the time means you are in the second time-control.

Intended use: Sudden death chess with two time-controls.

Pros: The time delays can be set for different values, including zero, in each time-control.

Cons: None
SUDDEN DEATH AND DELAY III

Description: This is like DL - SD2 above except there are three time-controls. An upper dash before the time means you are in the second time-control and a lower dash that you are in the third time-control.

Intended use: Sudden death chess with three time-controls.

Pros: The time delays can be set for different values, including zero, in each time-control.

Cons: None.

SUDDEN DEATH AND DELAY IV

Description: This is like DL - SD3 above except there are four time-controls. Special symbols before the time show which time-control you are in.

First TC: No dash
Second TC: Upper dash
Third TC: Lower dash
Fourth TC: Double dash

Intended use: Sudden death chess with four time-controls.

Pros: The time delays can be set for different values, including zero, in each time-control.

Cons: None.

COUNT DOWN AND DELAY I

Description: This is like DL - SD2 above except that the second time-control repeats indefinitely. The colons flash during the time delay. This mode is also like DN - 1 above but with an added time delay at each move. The time delays may be different in the first two time-controls.

Intended use: Serious chess or shogi with a time delay.

Pros: There are an unlimited number of time-controls.

Cons: None.

COUNT DOWN AND DELAY II

Description: This is like DL - SD4 above except that the fourth time-control repeats indefinitely. The colons flash during the time delay. This mode is also like DN - 2 above but with an added time delay at each move. The time delays may be different in the first four time-controls.

Intended use: Serious chess or shogi with a time delay.

Pros: There are an unlimited number of time-controls.

Cons: None.

TWO TIME-CONTROLS WITH DELAY AND MOVE COUNTER

Description: This mode has two time-controls with the number of moves shown during the first time-control. There is an optional time delay at each move. A example setting is 40 moves in two hours with a time delay of 3 seconds followed by one hour with a time delay of 5 seconds. After 40 moves one hour is added to your time. Of course you lose on time if your clock ever runs down to zero.

Intended use: Sudden-death chess with two time-controls and a time delay.

Pros: The move number is displayed in the first time-control. There is an optional time delay.

Cons: Since there are only six display digits, it is not possible to show seconds in the first time-control until the time goes below ten minutes. Also, in most chess tournaments claiming a win on time requires an accurate scoresheet regardless of the number of moves the clock shows, so seeing the number of moves made may not be helpful.

THREE TIME-CONTROLS WITH DELAY AND MOVE COUNTER

Description: This is like DL - C1 above except that there are three time-controls. The number of moves is displayed during the first two time-controls.

Intended use: Sudden-death chess with three time-controls and a time delay.

Pros: The move number is displayed in the first two time-controls. There is an optional time delay.

Cons: Same as DL - C1 above.

TWO TIME-CONTROLS WITH DELAY AND MOVE COUNTER (A OPTION)

Description: This mode is like DL - C1 above except that the clock changes the display in the first time-control right after the time delay and shows the time in hours minutes and seconds. That is, the move number is not shown on the active side after the delay time. Of course, you can still see the move number on the opponent's clock.

Intended use: Sudden-death chess with two time-controls and a time delay.

Pros: The time is displayed in hours minutes and seconds after the time delay in the first time-control.

Cons: In most chess tournaments claiming a win on time requires an accurate scoresheet showing all the moves made regardless of the number of moves the clock shows, so seeing the number of moves made may not be helpful.
• TWO TIME-CONTROLS WITH DELAY AND MOVE COUNTER (DL-C1B)

Description: This is like DL-C1 above except that the move number is always displayed, even in the second time-control. This can be used in a tournament that has a rule such as "a game is automatically a draw after 150 moves".

Intended use: Sudden-death chess with two time-controls and a rule such as "a game is automatically a draw after 150 moves".

Pros: The move number is displayed at all times and there is an optional time delay.

Cons: The seconds are not shown until the time goes below ten minutes.

• THREE TIME-CONTROLS WITH DELAY AND MOVE COUNTER (DL-C2A)

Description: This mode is like DL-C1A above except that it has three time-controls.

Intended use: Sudden-death chess with three time-controls and a time delay.

Pros: The time is displayed in hours minutes and seconds after the time delay in the first two time-controls.

Cons: In most chess tournaments claiming a win on time requires an accurate scoresheet regardless of the number of moves the clock shows, so seeing the number of moves made may not be helpful.

• THREE TIME-CONTROLS WITH DELAY AND MOVE COUNTER (DL-C2B)

Description: This is like DL-C1B above except that there are three time controls. The number of moves is displayed at all times.

Intended use: Sudden-death chess with three time-controls and a rule such as "a game is automatically a draw after 150 moves".

Pros: The move number is displayed at all times and there is an optional time delay.

Cons: The seconds are not shown until the time goes below ten minutes.

• SHOGI MODE I (SHO-1)

Description: Your time is adjusted up to the nearest minute after each move.

Notes:
1. The clock will beep at 30, 20, and 10 seconds before the end of the last minute if the "beep-at-time-control" feature is on.
2. As in go modes GO-J1 and GO-J2, you can set up to nine byo-yomi beeps during the last ten seconds.

Intended use: Serious shogi.

Pros: Byo-yomi beeps at the end of the last minute.

Cons: None.

• SHOGI MODE II (SHO-2)

Description: This is just like GO-J2 mode above except there is no main time. The display flashes "forfeit" if you run out of time.

Intended use: Casual or serious shogi.

Pros: Byo-yomi beeps and time-control beeps.

Cons: None.

• SHOGI MODE III (SHO-3)

Description: This is similar to SHO-2 above except that the range of parameters is different and the number of byo-yomi periods remaining is always displayed. If the "beep-at-time-control" option is on the clock will issue a warning beep at the start of each of the last three byo-yomi periods. Byo-yomi beeps can be set for the last byo-yomi period.

Intended use: Casual or serious shogi.

Pros: Byo-yomi beeps.

Cons: None.
SHOGI MODE IV (SHO - 4)

Description: This is like CH - P1 except that the move counters count down. This mode could be used for go with a setting such as 00 - 1:00:00, 50 - 0:30:00, 25 - 0:15:00. That is, 100 moves must be made in an hour, then 30 minutes are added for the next 50, then 15 minutes are added for the next 25 etc. You could also set the second and third time-control move counters for 01 and have a mode just like FD - 2 except that the move counter counts down.

Intended use: Serious chess, go, or shogi.

Pros: Number of moves left in the time-control is always displayed (unless the move counter is set for 01).

Cons: Seconds are not visible until the time goes under ten minutes, or the move counter is set for 01. (Note: Since the move counter does not change if it is set for 01, it is not displayed.)

Shuffle Chess Position Generator

The clock includes a random position generator for shuffle chess.

NUMBER OF DIFFERENT POSITIONS:
There are \((8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2) / (2 \times 2 \times 2 \times 2) = 5040\) different starting positions if the first row of pieces are randomly placed. This includes left-right reflections and positions with bishops on squares of the same color. There are \((8 \times 4 \times 6 \times 5 \times 4 \times 3 \times 2) / (2 \times 2 \times 2) = 2880\) positions with the bishops on different colors. In either case exactly 1/3 of the positions (i.e. 5040/3 = 1680 or 2880/3 = 960) have the king placed between the rooks (a requirement in some versions of shuffle chess).

RESTRICTED SHUFFLE:
If the shuffle is restricted to the left and right sides of the standard starting position (that is, the four pieces on the left must remain there and the same for the four on the right), then the number of total number of positions is \((4 \times 3 \times 2 \times 4 \times 3 \times 2) = 576\) and the number of positions with bishops on different colors is \((4 \times 3 \times 2 \times 2 \times 3 \times 2) = 288\).

The purpose of the restricted shuffle is to reach positions in which the left and right sides always have one rook, knight, and bishop.

HOW THE CLOCK DOES IT:
The clock has seven independent counters that cycle through all possible positions in less than 1/100 of a second. When you are in the shuffle chess mode and you press the red switch the timers are read and a position is generated. Since it is impossible to predict where the timers will be when you press the switch, the position is truly random.

HOW TO GENERATE RANDOM POSITIONS WITH THE KING BETWEEN THE ROOKS:
Use the SHCH - 1 or SHCH - 2 shuffle chess modes to generate a random position or a random position with the bishops on different colors. If the king is between the rooks, you are done. If not, simply exchange the king with the nearest rook. All positions you get with this procedure are equally likely.

WHY PLAY SHUFFLE CHESS?
Changing the starting position makes all opening books and computer opening databases obsolete. It tends to level the playing field whether you are playing a strong human or a computer. It seems humans can connect opening systems with middlegame plans in a way that computers are not yet powerful enough to do.

It should be noted that very small changes in the starting position can have the desired effect. For example, reversing the positions of the black king and queen would alter all opening theory. (And only two pieces are changed.) Or starting the game with pawns on QR3. (Again, only two pieces, or more precisely, pawns, are changed.) Or reversing the position of the bishops and knights. (This changes 8 pieces but keeps symmetry.) Perhaps just reversing white's QR and GN (but not black's) would alter opening theory and also reduce the advantage of the first move. In any event it would be impossible to rely on databases or memorized variations in these games. People and computers would be forced to play the openings more by general principles and less by memory.
HOW TO GENERATE A RANDOM POSITION:
Turn the clock on with both play switches pressed, then long press the red switch. You will see Pitch, Sr - Nr on the display. Long press the red switch again. You will see SHCH - 1, SHCH - 2 on the displays. Press the left side (SHCH - 1) to generate all positions including positions with bishops on the same color, or the right side (SHCH - 2) to generate all positions with bishops on different colors. The initial display will show the pieces in the standard starting position. Short press the red switch to generate a random position. Long press the red switch to restrict the shuffle to the left and right sides separately. Short or long press the red switch repeatedly for more positions. Press either play switch to exit the mode.

You can use the randomly generated position for both sides, or, as in standard chess, do a left-right reflection for the black side.

THE PROBABILITY OF ROOKS, KNIGHTS, OR BISHOPS ON CONSECUTIVE SQUARES:
The probability of two rooks on consecutive squares when the pieces are completely shuffled (SHCH - 1), or shuffled with bishops on different colors (SHCH - 2), is exactly 1/4. The same is true for the knights. The same is true for the bishops if SHCH - 1 is used, but if the pieces are shuffled with SHCH - 2 that is, with bishops on different colors, the probability of consecutive bishops goes up to 7/16. These probabilities explain why consecutive rooks, and/or knights, and/or bishops occur so frequently in the randomly generated positions.

How to Change Batteries
Replace the batteries when the lights are dim or the displays malfunction. You need a Phillips and a slotted screwdriver to change the batteries. Turn the clock off, place it on a table, and remove the four screws holding the top on using the Phillips screwdriver. Carefully remove the top piece. Remove shipping tape on the batteries, if present. With the slotted screwdriver carefully remove the batteries from the battery holder. Replace the batteries with three long-life alkaline AA batteries. As is marked on the battery holder, be sure to place the flat or negative side of the batteries towards the springs. Replace the top and replace the screws holding the top on.

The batteries will last approximately 900 continuous hours if the “player-to-move” lights are turned off. Turning the lights on increases the power consumption. If the lights are always on, the batteries will last approximately 600 hours. When the clock is off it is actually in a low power mode and not really off. Therefore, even if the clock is not used, the batteries will run down after a year and a half and should be replaced.

Care of the Clock
The clock should be kept away from high temperatures since this will cause the displays to blacken. Do not leave the clock in direct sunlight for a long period of time. (Don’t leave the clock in the back seat of a car on a hot day.) If the displays do become black from accidental exposure to heat or sunlight, place the clock in a cooler area and the displays will return to normal after ten or fifteen minutes. Unless the heat was very intense, the displays will not be damaged.

Avoid cold temperatures also, since this causes condensation inside the case. If condensation does occur, allow the clock to warm up and dry out before turning it on.

Use only a clean damp cloth to clean the clock. Do not use any solvents on the clock or the displays.
Limited Warranty

DCI will repair or replace, without charge, any part of your clock which has a defect in material or workmanship during the first year after the date of purchase.

This warranty does not apply to conditions resulting from consumer damage, such as: misuse, abuse, accident, alteration, disassembly, or reverse installation of the batteries.

Without limiting the foregoing, damage from battery leakage, damage from dropping the clock, or damage to the LCD displays are presumed to have resulted from abuse or misuse.

No responsibility is assumed for any direct, incidental, or consequential damages resulting from the use, or inability to use, this product.

The consumer must keep a copy of his receipt, or of his canceled check, verifying the purchase date to validate this warranty.

For service under this warranty send to

Sam Kantimathi
sam@SamTimer.com
300 Salmon Falls Road
El Dorado Hills, CA 95762 USA
http://www.SamTimer.com

chronosdealer.com/repair