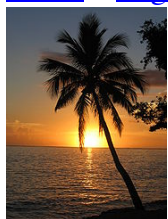


[Home](#) \* [Engines](#) \* **Sunsetter**



Sunset <sup>[4]</sup>

### Sunsetter,

an [open source chess engine](#) under the [GNU General Public License v2.0](#) <sup>[1]</sup> that plays [Bughouse](#) and [Crazyhouse](#) - a separate version also orthodox chess. Sunsetter is written by [Georg von Zimmermann](#) in [C++](#), recent versions co-authored by [Ben Dean-Kawamura](#) <sup>[2]</sup>, available at [GitHub](#), compliant to the [Chess Engine Communication Protocol](#) <sup>[3]</sup>.

## Table of Contents

[Description](#)

[Move Generation](#)

[Search](#)

[Evaluation](#)

[Forum Posts](#)

[2000 ...](#)

[2010 ...](#)

[External Links](#)

[References](#)

[What links here?](#)

## Description

<sup>[5]</sup>

## Move Generation

Sunsetter is a [bitboard](#) engine which uses [rotated bitboards](#) to calculate [sliding piece attacks](#) <sup>[6]</sup>. The [board structure](#) further keeps an [8x8 board](#), and Crazyhouse specific, a bitboard of promoted pawns, and [piece-lists](#) of each player's reserve (in hand), also keeping some [incremental updated attack tables](#). [Pseudo-legal moves](#) are generated in four [stages](#).

## Search

Sunsetter performs [NegaScout](#) with [transposition table](#) within its [iterative deepening](#) framework using a [zero aspiration window](#) to decide whether the forced re-search of the first move half-opens the [window](#) in plus or minus infinity direction <sup>[7]</sup>. [Null move pruning](#), [extended futility pruning](#), [razoring](#) and [fractional extensions](#) are used to shape the [tree](#), which has considerable larger [branching factor](#) in Crazyhouse. Sunsetter features [book learning](#) based on the final result, where [root moves receive a bonus](#) if persistent from advantageous positions in previously won games.

## Evaluation

Sunsetter's evaluation in [centipawn](#) resolution considers [material](#), material in hand, [board control](#), [development](#), and [king safety](#) <sup>[8]</sup>.

## Forum Posts

### 2000 ...

- [Sunsetter\(C\) source released](#) by [Georg von Zimmermann](#), [CCC](#), June 04, 2001
- [Very interesting crazyhouse position-to Georg Zimmermann \(sunsetter test\)](#) by Lieven Clarisse, [CCC](#), November 11, 2002
- [Sunsetter C10 Anomaly](#) by [Matthias Gemuh](#), [CCC](#), December 04, 2003

### 2010 ...

- [Reborn of sunsetter?](#) by velocidrom, [Winboard Forum](#), August 31, 2013
- [Sunsetter \(crazyhouse engine\) issue with ponder on, linux](#) by Robert Tournevisse, [CCC](#), December 09, 2013
- [Sunsetter 9 under Arena GUI](#) by Arnaud loh  ac, [CCC](#), May 17, 2017

## External Links

- [Sunsetter](#) from [SourceForge](#)
- [Sunsetter](#) - at [SourceForge.net](#)
- [GitHub](#) - [georgvonzimmermann/Sunsetter: A crazyhouse chess playing program](#)
- [Sunsetter](#) compiled by [Jim Ablett](#), hosted by [Kirill Kryukov](#)
- [Sunsetter 10.3 64-bit](#) in [CCRL 40/4](#)

## References

1. [^](#) [Sunsetter/COPYING at master · georgvonzimmermann/Sunsetter · GitHub](#)
2. [^](#) [Sunsetter/README.txt at master · georgvonzimmermann/Sunsetter · GitHub](#)
3. [^](#) [Sunsetter/interface.cpp at master · georgvonzimmermann/Sunsetter · GitHub](#)
4. [^](#) [Sunset](#) from [Fiji](#) over [Pacific ocean](#) with [coconut palm tree](#), [image](#) by Andrew Mandemaker, April 17, 2006, [CC BY-SA 2.5](#), [Wikimedia Commons](#)
5. [^](#) based on [GitHub - georgvonzimmermann/Sunsetter: A crazyhouse chess playing program](#)
6. [^](#) [Sunsetter/bitboard.cpp at master · georgvonzimmermann/Sunsetter · GitHub](#)
7. [^](#) [Sunsetter/search.cpp at master · georgvonzimmermann/Sunsetter · GitHub](#)
8. [^](#) [Sunsetter/evaluate.cpp at master · georgvonzimmermann/Sunsetter · GitHub](#)

## What links here?

Page	Date Edited
<a href="#">Crazyhouse</a>	Dec 27, 2017
<a href="#">Eigenmann Endgame Test</a>	Jun 1, 2017
<a href="#">Engines</a>	Mar 10, 2018
<a href="#">Georg von Zimmermann</a>	May 29, 2017
<a href="#">Sunsetter</a>	Jun 1, 2017

[Up one level](#)