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Mechanical Counters ^[3]

Counter, (Счетчик)

an [UCI](#) compliant chess engine by [Vadim Chizhov](#), initially written in [C#](#) to run under [Windows .Net](#), available since early 2007 ^[1].

Counter 0.8 played a strong [CCCCISC 2008](#) over the board. Counter was then ported to the [Go programming language](#) and released in May 2017 as [open source](#) at [GitHub](#), dubbed [CounterGo](#) ^[2].

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Descriptions

Counter C#

According to the *sdchess description*, Counter is based on [bitboards](#) using [Pradu Kannan's magic bitboard implementation](#) to [generate moves](#) ^[4], while the Counter 1.2 readme claims a hybrid [board representation](#) consisting of a [10x12 board](#) and bitboards for pawns ^[5]. Counter applies [PVS alpha-beta](#) with [transposition table](#), [null move-](#), [delta-](#), [futility-](#) and [extended futility pruning](#), [SEE](#), [LMR](#), [check-](#), [mate threat-](#), [passed pawn-](#) and [capture extensions](#), and [IID](#). The [evaluation](#) has improved over the time, specially the assessment of a [safe king](#) and [passed pawns](#), since version 0.8, [lazy evaluation](#) was removed.

CounterGo

CounterGo comes as didactic [open source engine](#) written in the [Go programming language](#) along with an intuitive source structure. As modern [bitboard](#) engine using a [dense board definition](#) ^[6], it applies [magic bitboards](#) to determine [sliding piece attacks](#). Inside its [iterative deepening](#) loop, CounterGo performs a [parallel search](#) conform to the [young brothers wait concept](#) ^[7] using Goroutines ^[8], with no (longer) [PVS](#) but pure [alpha-beta](#) with [transposition table](#) and [null move pruning](#). CounterGo extends [recaptures of pieces](#), [checks](#) and [pawns to the 7th rank](#) only in case of positive [SEE](#), while [move ordering](#) is enhanced by the [killer](#) and [history heuristics](#) along with [IID](#) and [SEE](#) ^[9].

Selected Games

[CCCCISC 2008](#), round 5, [Counter](#) - [SmarThink](#) ^[10]

```
[Event "CIS 2008"]
[Site "Moscow SDCHESS RGSU"]
[Date "2008.03.02"]
[Round "5"]
[White "Counter 0.8"]
[Black "SmarThink 1.1 r1119"]
[Result "1/2-1/2"]
```

```
1.d4 d5 2.c4 e6 3.Nf3 Nf6 4.Nc3 c5 5.cxd5 exd5 6.Bg5 Nc6 7.e3 c4 8.Bxf6
6 gxf6
9.Rc1 Be6 10.Be2 Qa5 11.O-O O-O-
O 12.Re1 Kb8 13.Qc2 f5 14.Qd2 Rg8 15.Bd1 Rc8
16.Ba4 Nb4 17.Bc2 Bd6 18.g3 Nxc2 19.Rxc2 f6 20.Nh4 Rcd8 21.Ng2 Bb4 22.
Nf4 Bf7
23.a3 Be7 24.f3 h5 25.Kf2 h4 26.Rg1 hxg3+ 27.hxg3 Rg5 28.Rh1 Rg7 29.Rh
3 Qc7
30.Rc1 Rg5 31.Nb5 Qd7 32.Qa5 a6 33.Nc3 Bg8 34.Rh8 Rc8 35.Rch1 Bd8 36.Q
```

a4 Qd6
37.R1h5 Bc7 38.Qc2 Qc6 39.R5h6 Qd6 40.Nh5 Rxh5 41.Rxh5 Qxg3+ 42.Kf1 f4
43.Rh3
Qg7 44.exf4 b5 45.f5 Qg5 46.R3h4 Bf7 47.R8h7 Bg8 48.Rg4 Qe3 49.Rh3 Re8
50.Rg7
a5 51.Qf2 Qd3+ 52.Kg2 b4 53.axb4 axb4 54.Rh8 bxc3 55.Rgxc8 Rxc8+ 56.Rx
g8+ Kb7
57.bxc3 Qxc3 58.Rg6 Qc1 59.Qe2 Qf4 60.Rg4 Qxf5 61.Qb2+ Kc6 62.Qa2 Kb5
63.Qb2+
Kc6 64.Qa2 Kb5 65.Qb2+ Kc6 1/2-1/2

Forum Posts

2007 ...

- [Counter 0.2 : 2098](#) by [Patrick Buchmann](#), [CCC](#), May 15, 2007
- [Counter 0.3 : 2201](#) by [Patrick Buchmann](#), [CCC](#), July 10, 2007
- [Counter 0.4 : 2182](#) by [Patrick Buchmann](#), [CCC](#), August 22, 2007
- [Counter 0.5 : 2280](#) by [Patrick Buchmann](#), [CCC](#), September 09, 2007
- [Counter 0.6 : 2292](#) by [Patrick Buchmann](#), [CCC](#), September 20, 2007
- [Counter 0.7 : 2344](#) by [Patrick Buchmann](#), [CCC](#), November 17, 2007
- [Counter 0.8 : 2291](#) by [Patrick Buchmann](#), [CCC](#), January 04, 2008
- [Counter 1.0 : 2383](#) by [Patrick Buchmann](#), [CCC](#), August 17, 2008
- [Counter 1.1 : 2327](#) by [Patrick Buchmann](#), [CCC](#), January 19, 2009

2010 ...

- [Counter 1.2 Updated](#) by [Swaminathan](#), [CCC](#), February 12, 2010
- [Counter 1.2 : 2336](#) by [Patrick Buchmann](#), [CCC](#), February 14, 2010
- [Counter 1.2 - CCRL 40/4 Results](#) by [Adam Hair](#), [CCC](#), August 08, 2010
- [New version of Counter \(in Go language\)](#) by [Günther Simon](#), [CCC](#), May 27, 2017
- [Counter 2.1.0 released](#) by [Tony Mokonen](#), [CCC](#), November 13, 2017

External Links

Chess Engine

- [GitHub - ChizhovVadim/CounterGo: Chess engine \(golang\)](#)
- [Counter by Вадим Чижов \(Vadim Chizhov\), Russia!](#) from [sdchess.ru](#)
- [Counter 1.2](#) in [CCRL 40/40](#)

Misc

- [counter - Wiktionary](#)

- [Counter from Wikipedia](#)
- [Counter \(disambiguation\) from Wikipedia](#)
- [Counterattack from Wikipedia](#)
- [Attack & Counterattack in Chess](#) compiled by [SamAtoms1980](#), [chessgames.com](#)
- [countermove - Wiktionary](#) » [Countermove Heuristic](#)
- [Counterpoint from Wikipedia](#)
- [Pat Metheny](#) - Electric Counterpoint III ([Steve Reich](#)), [YouTube](#) Video

References

1. [Counter 1.2 Updated](#) by [Swaminathan](#), [CCC](#), February 12, 2010
2. [New version of Counter \(in Go language\)](#) by [Günther Simon](#), [CCC](#), May 27, 2017
3. [Three mechanical counters](#) by [Arnold Reinhold](#), April 20, 2009, [CC BY-SA 3.0](#), [Wikimedia Commons](#), [Counter from Wikipedia](#)
4. [Counter by Вадим Чижов \(Vadim Chizhov\), Russia!](#) from [sdchess.ru](#)
5. [Counter_12 - readme.txt](#)
6. [CounterGo/types.go at master · ChizhovVadim/CounterGo · GitHub](#)
7. [CounterGo/searchutils.go at master · ChizhovVadim/CounterGo · GitHub](#)
8. [Effective Go - The Go Programming Language - Concurrency](#)
9. [CounterGo/searchservice.go at master · ChizhovVadim/CounterGo · GitHub](#)
10. [The The First championship of the CIS \(Первый официальный чемпионат СНГ\)](#) from [sdchess.ru](#)

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CCCCISC 2008	Jan 19, 2014
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Vadim Chizhov	Jan 19, 2014

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