Home * Engines * **Super Constellation**

Super Constellation [3]

**Super Constellation** (Nickname Super Connie), a dedicated chess computer with a 8-bit 6502 4Mhz CPU, 56 KB ROM and 4 KB RAM, manufactured and market in 1984 by Novag, running a program developed by primary author David Kittinger, supported by chess master Scott McDonald. It was the enhanced version of the Constellation and likely Novag's most successful computer, and famous for its entertaining, aggressive, speculative and "human like" playing style, often credited to its pre scan heuristics (PSH) [1].

Super Connie participated at the WMCCC 1983 in Budapest, and achieved the strong shared second to fourth place. During the Hong Kong human Blitz tournament March 1984, Super Constellation got 19/28 only playing Black, with 5 points versus International Masters in the 2355 to 2474 range, and was spontaneously called Blitz Monster, also competing at the WMCCC 1985 under that name [2] .

# Table of Contents

# Description

given by David Kittinger and Scott McDonald in Computer Chess Digest Annual 1984 [4] :
The Novag Constellation programs represent a significant evolutionary step in the development of microcomputer chess programs. The program represents the first commercial implementation of the attack map / offset map move generating strategy proposed by former World Chess Champion Mikhail Botvinnik and subsequently refined by myself for faster move generation as pieces come off the board.

A second departure from other commercial programs has been the simplification of the evaluation function as applied to the end nodes of the tree search. The programs instead rely heavily on specific chess knowledge which is concentrated into a special preprocessor which interfaces to the tree search primarily through the scores associated with specific ply-one moves. This ides of a ply-one move preprocessor was originally implemented in the program Tech by James Gillogly in the late 1960's. Although Tech only achieved a high 1400 rating running on a large computer, the strategy has certain appeal. First, chess tree searching has become very efficient, and second, the interaction problems associated with putting ever increasing amounts of chess knowledge in the tree become formidable. It has become apparent to that this rather simple approach might contain the structure of a master level microcomputer program.

The 1981 performance rating achieved at the 1983 U.S. Open by the Novag Super Constellation 32K program running on a 3MHz 6502 supports my decision. ...

The Super Constellation was an early version of the soon to be announced commercial product.

# Selected Games

## Mephisto

WMCCC 1983, round 4, Mephisto Y - Super Constellation [5]

```
[Event "WMCCC 1983"]
[Site "Budapest, Hungary"]
[Date "1983.10.16"]
[Round "4"]
[White "Mephisto Y"]
[Black "Super Constellation"]
[Result "0-1"]

1.e4 c5 2.Nf3 d6 3.Bc4 e5 4.O-
O Nf6 5.Ng5 d5 6.exd5 Bf5 7.Nc3 Bd6 8.Bb5+ Nbd7
9.d3 O-O 10.f4 exf4 11.Bxf4 Bxf4 12.Rxf4 Bg6 13.Nge4 Qb6 14.Nxf6+ Nxf6
 15.Rb1
a6 16.Bc4 Qd6 17.Qf3 b5 18.Bb3 Rad8 19.Re1 h6 20.a3 Nh5 21.Rh4 Qb6 22.
Qe3 Nf6
23.Ne4 Rfe8 24.Nxf6+ Qxf6 25.Qxe8+ Rxe8 26.Rxe8+ Kh7 27.Rh3 Qxb2 28.Rh
e3 a5
29.d6 Qa1+ 30.Kf2 Qf6+ 31.Rf3 Qd4+ 32.Kf1 c4 33.dxc4 bxc4 34.Ba4 Qxd6
35.h3 c3
36.Bb3 Qxa3 37.Ke1 Qc1+ 38.Kf2 Bxc2 39.Bxf7 Qd2+ 40.Kg1 Ba4 41.Bg8+ Kh
8 42.Rc8
Bd7 43.Rcf8 Qd4+ 44.Rf2 h5 45.Bb3+ Kh7 46.Bc2+ Kh6 47.Kf1 Qe3 48.Re2 B
b5 49.Rh8+
Kg5 50.h4+ Kxh4 0-1
```

## Elite

WMCCC 1983, round 6, Elite Auto Sensory - Super Constellation [6]

```
[Event "WMCCC 1983"]
[Site "Budapest, Hungary"]
[Date "1983.10.18"]
[Round "6"]
[White "Elite Auto Sensory"]
[Black "Super Constellation"]
```

```
[Result "1/2-1/2"]

1.e4 c5 2.Nf3 Nc6 3.Bb5 g6 4.O-
O Bg7 5.c3 a6 6.Bxc6 dxc6 7.d4 Nf6 8.Re1 cxd4
9.cxd4 Bg4 10.Nc3 O-
O 11.Be3 Ne8 12.e5 Qb6 13.Rb1 Nc7 14.d5 Qb4 15.dxc6 Rad8
16.Bd2 Ne6 17.Ne4 Qb6 18.h3 Bxf3 19.Qxf3 Qxc6 20.Ba5 Rd5 21.Bb4 Nd4 22
.Qc3 Bxe5
23.Bxe7 Ne2+ 24.Rxe2 Bxc3 25.Nxc3 Rc8 26.Nxd5 Qxd5 27.b3 Qd3 28.Ree1 Q
d2 29.a3
Kg7 30.Rbd1 Qb2 31.Rb1 Qa2 32.a4 Rc6 33.Bg5 Rc3 34.Be3 Rd3 35.Bb6 h6 3
6.a5 Rxb3
37.Rbd1 g5 38.Re7 Rb1 39.Rxb1 Qxb1+ 40.Kh2 h5 41.Rxb7 Qe4 42.Ra7 Qc4 4
3.Kg1 Kf6
44.Rc7 Qe2 45.Kh2 Qe4 46.Ra7 Qc4 47.Kg1 Ke6 48.Rc7 Qe4 49.Ra7 Qe1+ 50.
Kh2 Qe5+
51.Kg1 Qe2 52.Ra8 Kd6 53.Rd8+ Ke7 54.Rd5 f6 55.Be3 Ke6 56.Rd2 Qe1+ 57.
Kh2 Qa1
58.Bb6 Qe5+ 59.g3 Qe4 60.Rd8 Qb7 61.Rh8 Qf3 62.Be3 Kd6 63.Rb8 Ke5 64.R
b6 Qe2
65.Rb4 Qa2 66.Bb6 Qe2 67.Kg2 Ke6 68.Ba7 Qe5 69.Bb6 Qd5+ 70.Kh2 Qd3 71.
Kg2 Qd6
72.Rb2 Qd3 73.Rb4 Qd7 74.Rb2 Qd1 75.f3 Ke5 76.Bf2 g4 77.hxg4 hxg4 78.f
4+ Kf5
79.Bb6 Qf3+ 80.Kh2 Qf1 81.Rg2 Ke4 82.Bg1 Kd3 83.Bc5 Ke4 84.Bg1 Kf5 85.
Bb6 Kg6
86.Bd4 Kf5 87.Bb6 1/2-1/2
```

# See also

- Astronomy
- Constellation
- David Kittinger
- Novag

# Publications


- David Kittinger, Scott McDonald (**1984**). *Report from the U.S. Open*. Computer Chess Digest Annual 1984 pp. 15-33
- David E. Welsh (**1984**). *Super Constellation: It's Time for Skeptics to Take a Second Look at Chess Computers*. Chess Life November 1984
- Danny Kopec (**1985**). *Chess Computers - A critical descriptive Analysis of the currently available commercial Chess Computers*. Abacus Vol. 2 No. 4, Editor-shortened version as pdf, pdf » Elite

- Jens Bæk Nielsen (**1988**). *Warum S e2? - Experimente mit dem Super C*. Modul, 1988, part 1, part 2, part 3 (German), revised and translated from PLY 1/86

# Forum Posts

- Novag Super Constellation (very old chess computer) by John Coffey, CCC, September 18, 1998
- Resurrecting the Super Constellation by Steven Edwards, CCC, July 07, 2013
- Playing Super Constellation by Fernando Villegas, CCC, July 16, 2013

# External Links

- Super Constellation's ICGA Tournaments
- Novag Super Constellation from Adam's Computer Chess Pages, June 18, 2012
- Novag Super Constellation from Schachcomputer.info - Wiki (German)

# References


1. ^ PSH from Schachcomputer.info Wiki (German)
2. ^ Interview with Peter Auge (pdf), Erwerbsquelle: 10-1985, Zeitschrift Schachcomputer (Herausgeber Florian Piel) hosted by Hein Veldhuis (German)
3. ^ Novag Super Constellation from Schachcomputer.info - Wiki (German)
4. ^ David Kittinger and Scott McDonald (**1984**). *Report from the U.S. Open*. Computer Chess Digest Annual 1984 pp. 15-33
5. ^ Budapest 1983 - Chess - Round 4 - Game 4 (ICGA Tournaments)
6. ^ Budapest 1983 - Chess - Round 6 - Game 9 (ICGA Tournaments)


# What links here?

| Page | Date Edited |
|---|---|
| ACM 1985 | Jun 21, 2017 |
| Aubervilliers Rapid Open | Mar 25, 2017 |
| Blitz Monster | Jan 8, 2016 |
| Canadian Computer Chess Invitational Championship 1984 | Mar 2, 2013 |
| Constellation | Oct 2, 2016 |
| CXG Star Chess | Jun 23, 2017 |
| Danny Kopec | Oct 1, 2016 |
| David E. Welsh | Dec 25, 2017 |
| David Kittinger | Dec 27, 2017 |
| Dedicated Chess Computers | Feb 20, 2018 |
| Elite | Oct 1, 2016 |
| Engines | Mar 10, 2018 |
| Enterprise | Jun 23, 2017 |
| Jens Bæk Nielsen | Mar 3, 2015 |

| Page | Date Edited |
| --- | --- |
| Kasparov simul vs 32 micro Hamburg 1985 | Dec 22, 2017 |
| Modul | Dec 30, 2017 |
| MyChess | Dec 25, 2017 |
| Novag | Aug 19, 2015 |
| Novag Expert | Aug 3, 2013 |
| Novag Forte | Aug 3, 2013 |
| Novag X | Jan 7, 2016 |
| Oracle | Sep 4, 2016 |
| Peter Auge | Jul 13, 2017 |
| Piece-Square Tables | Mar 31, 2018 |
| Scott McDonald | Jan 7, 2016 |
| Sensory 9 | Jan 8, 2016 |
| Steven Edwards | Aug 26, 2017 |
| Super Constellation | Oct 1, 2016 |
| Supra | Jul 24, 2016 |
| Turbostar | Jan 8, 2016 |
| USOCCC 1985 | Sep 1, 2017 |
| WMCCC 1983 | Jun 5, 2017 |

Up one level