

RabbitQueen User Manual

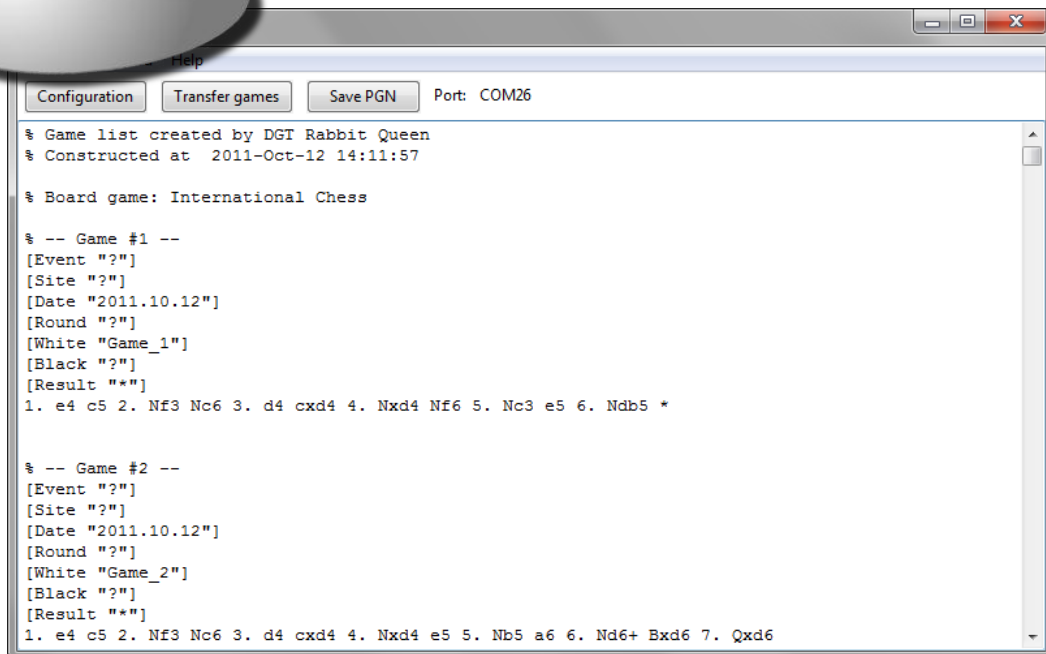
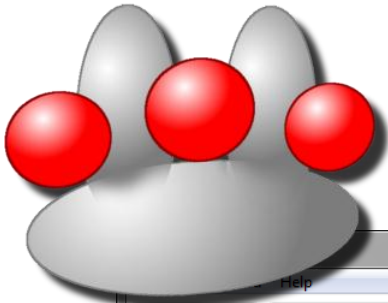




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1. Overview

The DGT Electronic Board is equipped with a non-volatile memory for storing all moves from up to 5 chess games. These moves are continuously being recorded, provided that the board is turned on (i.e. powered by battery or external power source), independent from a computer. This interesting feature makes it possible to record games being played at chess competitions.

The moves that were recorded in the DGT Electronic Board's internal memory, can be transferred to the computer using RabbitQueen. This program converts them to a PGN file, which in turn can be read by virtually any chess program.

RabbitQueen is more tolerant for non-clean moves than its predecessor (Queen5): you can play fast successive moves, slide pieces along odd routes, accidentally knock over pieces, takeback moves and so on. It is even occasionally allowed to misalign pieces; in most cases the program will be able to reconstruct the games correctly. And if not so, the reconstructor can search forward for moves later in the game that it is able to reconstruct – in this way it can recover from unreconstructable parts, possibly resulting in fragmented games. The output of such a fragmented game consists of multiple 'sub'-games, which can all be replayed in a chess program.

After installing and starting the program, click 'Configuration' and go to the 'Connection' tab and choose (or fill in) the COM port on which the electronic board is connected. Then click 'Transfer games' and if all goes well, the games (in PGN format) are visible in the main window. You can then edit/copy/save the games so that they can be loaded in a chess program.

You can also set-up a custom position: first set up the normal starting position, then remove the kings, then place all pieces (except the kings) in the desired position, then place the kings and finally play one clean move.

2. Version history

1.3 – April 25, 2012

Reconstructor improved, leading to reduced fragmentation (even in blitz games). PDN output now conforms to PDN 3.0 specification.

1.02 – March 15, 2012

Clock times can now be outputted to PGN. Some PDN 3.0 features implemented. Draughts games are now saved to a .pdn file by default. Fixed problem with 10x10 board caused by invalid eeprom data. 64-bit version added. Game order can be reversed. Note: Bluetooth boards require firmware upgrade to version 2.10 for correct clock times.

1.01 – January 2012

Simplified logging interface. Moved some user manual sections to Rabbit Commons User Manual. Added result detection. Fixed problem with garbage data from board memory.

1.0 – October 2011

Improved support for reading memory of oldest DGT boards. Some fixes. Added support for Brazilian and Russian Draughts.



0.9.3 (internal release) – September 2011

Added support for Draughts, English Checkers and Turkish Draughts. Fixed some PGN specification inconsistencies; some other small fixes and improvements.

0.9.2 – June 2011

Lots of small improvements, adjustments and fixes; filename appears in title bar, BT/USB detected, extra logging

0.9.1 – June 2011

Added logging, improved reconstructor, numerous fixes/improvements

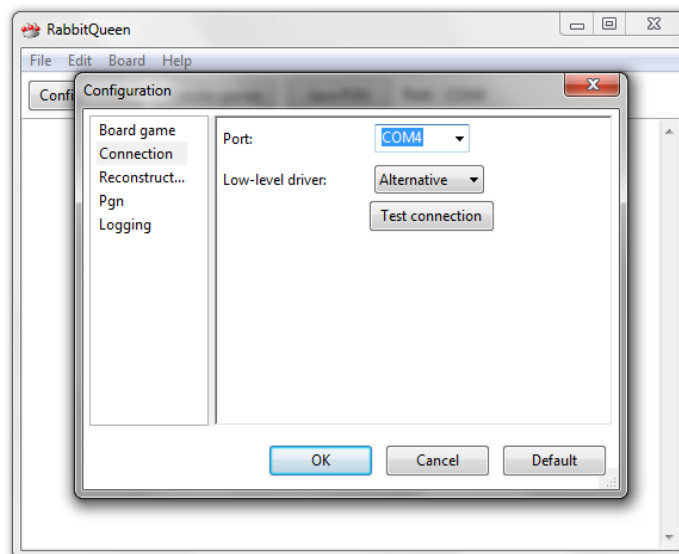
0.9 (internal release) – May 2011

First beta version

3. How to transfer games

First, you have to connect a DGT Electronic board to the PC; the exact way depends on the connectivity: USB, Bluetooth or serial. In any case, a COM port is used to communicate with the board.

In the RabbitQueen program, you choose the COM port in the 'Connection' tab of the Configuration window, after which you can test the connection. The other settings are initially best left at their default values.



After confirming the configuration, you can click 'Transfer' games. This transfers the electronic board's memory to the PC, after which the games are reconstructed from the data, according to the settings.

When the transfer and reconstruction of games has completed, you can review the output in the main window. If the output is not what you want (too few games, many short games), you can try adjusting the configuration; if you messed them up then you can restore the defaults with the



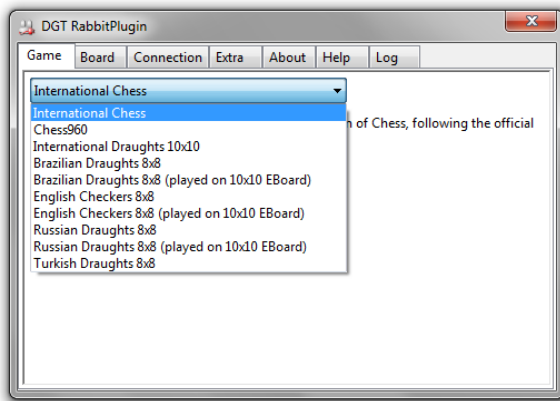
'Default' button (this step requires re-entering the COM port). You can also edit the text, which is useful for deleting unwanted fragments and filling in names and results.

Finally you can save the PGN to a file with the 'Save PGN' button, or from the menu (File->Save [as], or File->Append which appends the games to the end of an existing file). The default extension is .pgn, but you save to a different extension as well (e.g. when recording draughts games which are normally saved to a .pdn file). You can also use the clipboard to transfer the games to a chess program by selecting and copying the text.

4. Settings

There are lots of settings which can be adjusted. There are five tabs: Board game, Connection, Reconstructor, Pgn and Logging.

5.1 Board game



See the "Rabbit Commons User Manual" for an explanation of the different board games.

5.2 Connection

You can specify the COM port here, and also the low-level driver type: Standard (Eblld) or Alternative (Jazzy). These do the same, but are implemented differently and so behavior might be different in some cases. Both low-level drivers should work fine; if one gives connection problems then you can try switching the other.

5.3 Reconstructor

The max. search depth should usually be set at 2 ply. Lowering it to 1 ply gives problems when moves are played in quick succession, resulting in poor quality reconstruction. A value of 3 ply is still experimental; in some cases it leads to better quality reconstructions than the 2 ply setting.

The minimum game length allows to hide games that are actually no real games for being too short. For example, when you put the pieces in the begin position and then clear the entire board, you probably have a game containing 0 moves.

Note that the 'game length' in this tab applies to all moves (and special moves as well) in the entire game, which includes takebacks and fragment transitions as well.



If a game is fragmented (i.e. split into multiple portions separated by unreconstructable transitions), then it appears in the output as separate (sub-) games and that is the reason why you may still get (sub-)games that are much shorter than the specified minimum game length. You can control the minimum fragment length in the PGN tab.

You can also specify the maximum number of games; this controls how many (recent) games (satisfying the minimum length) are outputted at most.

5.4 PGN

Minimum fragment size: if you specify the lowest value (1 ply), then you may get lots of short fragments when you randomly move pieces around at the board (with both kings at the board). This is because the reconstructor always attempts to reconstruct moves (leading to new fragments), even when you're not actually playing a game. By specifying a value of 2 or 3 or higher, most of these short fragments will be suppressed. This option has no effect when PDN3.0 grammar is being used.

Options

Include takebacks: if checked, then the program will try to output moves that are taken back, but this feature is not yet fully implemented and consequently the 'takeback' format is not compatible with PGN specification. Just try out to see what you get when you play games involving takebacks.

Include clock times: if a DGTXL clock is attached when the game is recorded, clock times are stored in the board's internal memory. By activating the 'include clock times' option, these times are matched to moves (as far as possible) and outputted in the PGN.

Reverse game order: if checked, then the newest games appear on top of the resulting pgn/pdn. Normally this option is unchecked so that the games appear chronologically (oldest first) in the result, so that when you append games to an existing file the correct order is preserved.

Use PDN 3.0 grammar: this can be enabled for draughts games. Changes w.r.t. the old grammar include: no hard line breaks, no result in movetext (is already in result tag), fragmented games written as a single games (FEN move specifies transition) and more; see <http://10x10.dse.nl/pdn/> for more information. If your program cannot read the resulting files, turn these options off for old grammar output.

Use PDN 3.0 for non-draughts games: this option creates PGN output using the PDN 3.0 grammar; while this can give some advantages, it does not comply with PGN standard and so it probably can't be read by chess programs. Do not use this option if you need to import PGN's in chess programs.

Debugging options

Raw Eeprom data is the raw data that comes from the electronic board. You can check this option to get that data, if you are interested. The field updates of this raw data are available in chess fashion (involving chess piece characters and algebraic squares) or general fashion (numeric scan codes and square numbers).

Overall scan list/per-game event list/debug notes: these display other debugging information at various levels, which might help in understanding reconstruction problems. For example, if the program fails to reconstruct a certain game correctly, you can investigate whether the pieces were



correctly scanned at the correct squares, and reading the debug messages may give some hints about reconstruction problems.

5.5 Logging

See “Rabbit Commons User Manual” for information about how to set up logging.

5. Setting up positions

It is possible to set-up any custom position and play a game from that position. The idea is to trigger a transition from the begin position to the desired position. Just follow the steps:

1. Place the board in the normal begin position.
2. Remove the kings. If the desired set-up position differs from the begin position by less than 4 squares, then remove all white pieces as well.
3. Place all pieces/pawns (except the kings) at the desired position.
4. Place the kings back; the king of the side that is to move should be placed back last.
5. Play one clean move.

Explanation of the steps:

1. Putting the board in the normal begin position marks the start of a game and determines the orientation of the board. Leaving out this step most likely initiates a new transition of the current (=previous) game.
2. Removal of the kings eliminates the possibility that the reconstructor incorrectly starts a new fragment while you are still moving around pieces. And if the desired set-up position is very close to the beginning position, then you have to remove more pieces to be sure that a transition to a new fragment is initiated. For example, if you would like to play with a handicap of one rook, you cannot simply just remove the rook from h1 and start playing the game, because the reconstructor might think that the disappeared rook is misaligned, resulting in an ‘imaginary’ ghost rook at h1!
3. This brings you to the desired set-up position without the possibility that the reconstructor incorrectly starts a new fragment before you are ready.
4. It is actually not important which king is placed at the board first, but for uniformity with some other programs I’ve specified the order as well.
5. This step finally initiates the new fragment from the correct position. It is not allowed to accidentally knock over other pieces, and you have to pause at least half a second after completing the move, and the piece may only pass the squares in its normal path. For example, if the move is Rc3-c6, then the rook may only pass along squares c4 and c5, otherwise it is not a ‘clean’ move. These restrictions may be a problem when playing a blitz game from a set-up position; a workaround is to play a dummy move which is then taken back. Now it is possible to play quick successive moves immediately from the set-up position.

7. Troubleshooting

Also see “Rabbit Commons User Manual” for some extra troubleshooting information.



- a. **The COM port does not show up in the list in the 'Connection' tab.**
Close and re-open the Configuration window, this re-scans the available COM ports. If the COM port still does not show up, try entering it manually in the Port area. You can also look up the system's available ports in the device manager of your operating system.
- b. **Opening port failed / No board connected.**
Make sure that the board is powered/turned on, that the cable is connected (except when using Bluetooth), that you use the right COM port (look up in your device manager). Try switching to the alternative driver, try one of the other DGT programs to verify that the board is functioning correctly.
If you are using Bluetooth: try reconnecting a few times, or plug a cable and switch to USB connection. A Bluetooth connection is sometimes difficult to establish.
- c. **Many moves/fragments are missing in the PGN.**
Restore the configuration to default and try again. The minimum game/fragment size should not be too large and the reconstructor search depth should be set to 2 ply. Experiment with playing clean and non-clean moves to get some feeling about the reconstructor capabilities (i.e. tolerance of non-clean moves).
- d. **My chess program won't load the generated PGN correctly.**
Turn off takebacks, clock times, PDN3.0 and debugging options (in the PGN tab of the configuration), then try loading less games at a time to find out which game(s) is/are giving problems. If you think there is something wrong with the generated PGN, feel free to contact us so that we can improve the program.

8. Contact

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