

Installation Instructions „Dose Plan Convert for Plato (DPC10)“

Dose Plan Convert for Plato is a freeware program to convert axial exported dose plan matrices into matrices which are oriented in the plane of the chambers of the PTW 2D-ARRAY. Also the program was carefully tested by different applicators, no warranty is provided by the programmers.

Prerequisite for running the DPC software is the installation of the IDL virtual machine tool, which can be downloaded or ordered for free under <http://www.rsinc.com/idlvm/>. The IDL Virtual Machine is available for free for all common platforms.

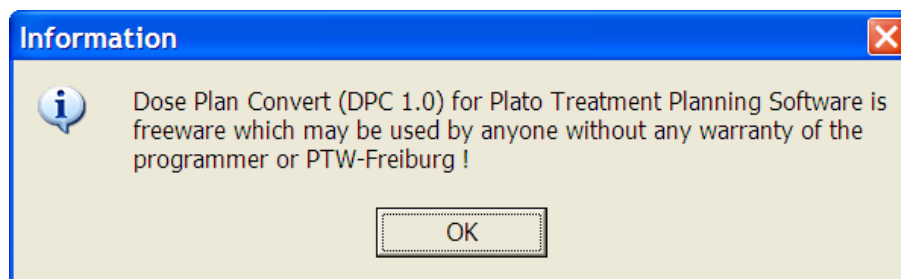
After installing the IDL Virtual Machine you may store the program DPC10 together with the configuration file in a folder of your choice.

Double click on

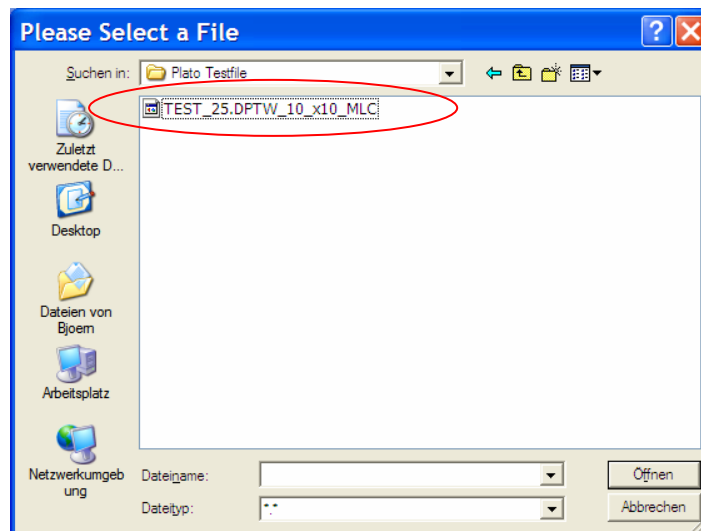


to start the program.

The IDL Virtual Machine screen will appear, just click on it to continue. One more necessary pop-up window appears:



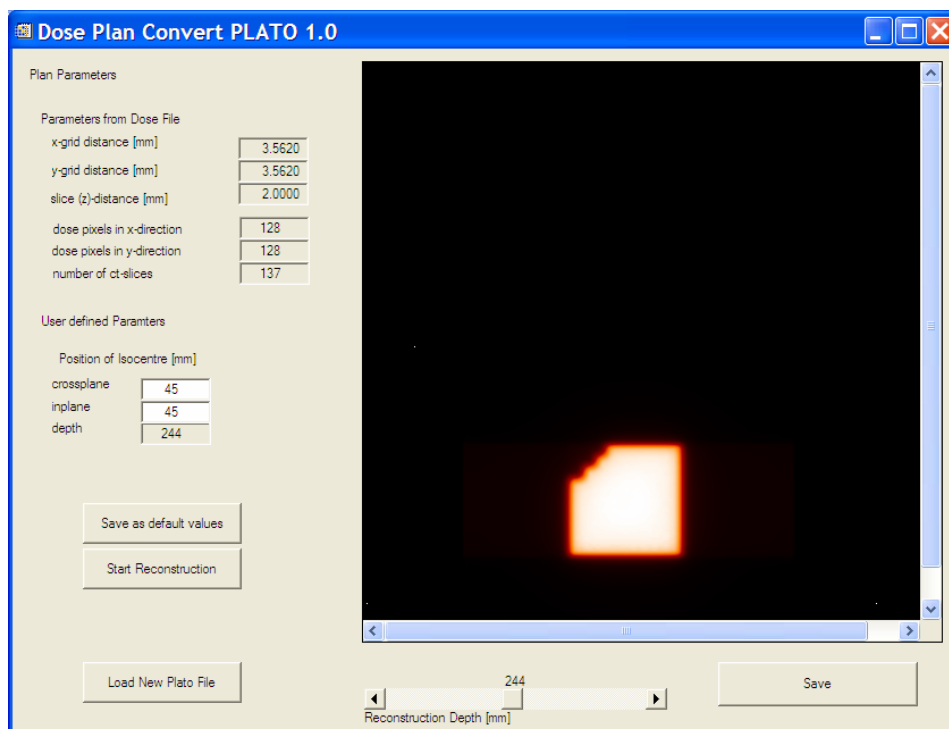
In the next pop-up window choose the file Plato dose file you want to convert. Hint: Typical values for dose matrix parameters may be found in the test data.



The main screen will appear. After clicking on “Start Reconstruction”, the slice in depth predefined in the DPC.INI file will be reconstructed. On the screen plan parameters like the distance of the x- and y-grid as well as the slice distance are given in the upper left corner. Followed by the dose pixels in x- and y- as well as the slice numbers the geometrical dimension of the dose matrices are completed.

In the user defined parameters section you can define the position of the isocenter in in-plane and cross-plane direction. These two values are editable and can be stored in the DPC.INI file by clicking on “save as default values”. The parameters define small “white” point in the reconstruction to allow an easy definition of the isocenter in VeriSoft.

The depth represents the depth of the first reconstructed slice relative to the top of the dose matrix (NOT of the phantom !!!). The desired depth shall be determined by the user and stored in the DPC.INI file (by using a common editor).



By moving the slider “Reconstruction depth” other slices can be reconstructed on-line. By changing the name under the “Save” button the data may be stored. Please use the ending “.txt”. With the button “Load New Plato File” the next dose plan may be chosen.

The reconstructed data will be rebinned into a grid distance of $1\text{ mm} \times 1\text{ mm}$. The values will be interpolated by using the cubic convolution interpolation method. Further information on this method may be found in:

Rifman, S.S. and McKinnon, D.M., "Evaluation of Digital Correction Techniques for ERTS Images; Final Report", Report 20634-6003-TU-00, TRW Systems, Redondo Beach, CA, July 1974.

S. Park and R. Schowengerdt, 1983 "Image Reconstruction by Parametric Cubic Convolution", Computer Vision, Graphics & Image Processing 23, 256.