

Ultra-fast cone-beam reconstruction software

The ultra-fast cone-beam reconstruction algorithm is an original invention and the protected IP of Bronnikov Algorithms. The algorithm has an FBP-type implementation. The know-how includes the use of special mathematical algorithms for computing the cone-beam backprojection operator. The use of ultra-fast backprojection provides acceleration in ~100-200 times as compared with the standard approach.

The Software Product is distributed in the form of a Windows DLL that is integrated into the Customer's environment. An USB dongle is used for the license protection.

Minimal system requirements:

- A Windows (2000, XP, Vista, Win7; 32 or 64 bits) PC with a dual-core CPU, clock rate 2 GHz;
- Hard disk 7200 rpm;
- 2 GB RAM.

We provide:

- The highest image quality optimized for the given scanner configuration;
- The fastest cone-beam reconstruction software implementation on the market;
- Full DICOM compliancy;
- Any standard I/O formats are supported;
- Unlimited data and image size;
- Optional: metal artifact reduction, scatter correction, beam-hardening correction, region-of-interest reconstruction, offset detector, etc.;
- Complete software upgrade from 2D to 3D x-ray imaging.

Benchmarking:

Reconstruction of a 512x512x512 image from 360 projections of 512x512 pixels:

CPU (~2 GHz) :	Single	Dual core	Quad core	Twin quad-core
Time :	~80 sec	~40 sec	~20 sec	~10 sec

Reconstruction of a 1024x1024x1024 image from 800 projections of 1024x1024 pixels:

CPU (~2 GHz) :	Dual core	Twin quad-core
Time :	~480 sec	~120sec