

ScanEx SAR Processor (SSARP) software has been developed for processing data from the Canadian RADARSAT-1 spaceborne synthetic aperture radar (SAR). SSARP requires an MS Windows workstation and enables to create RADARSAT CEOS Level-1 products (synthesized images) from CEOS Level-0 files (radar holograms)

Input Data:

RADARSAT RAW Signal Data (Level-0) in standard RSI CEOS format.

Output Products:

Full range of RADARSAT Level-1 products in standard RSI CEOS format.

SLC – Single Look Complex product

SGF – SAR Georeferenced Fine Resolution product (Path Image)

SGX – SAR Georeferenced Extra Fine Resolution product (Path Image Plus)

SCN – ScanSAR Narrow beam product

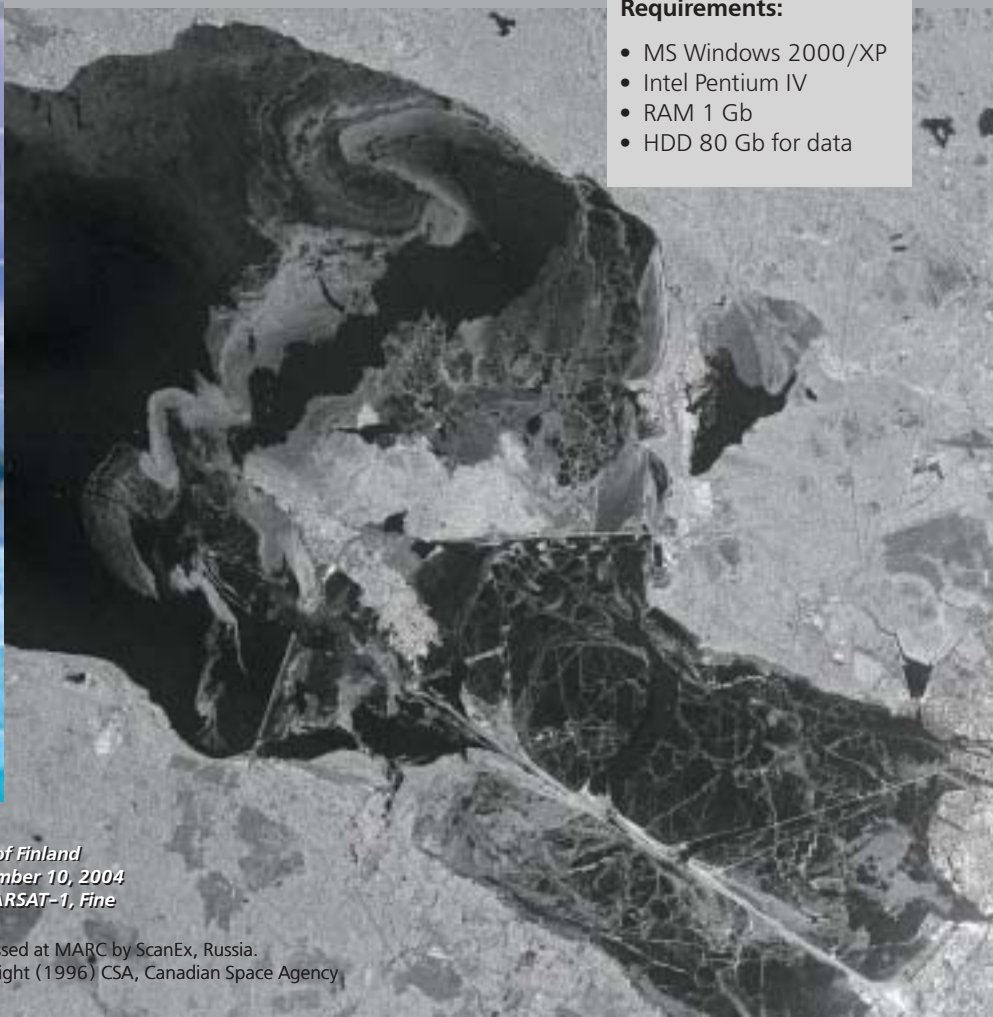
SCW – ScanSAR Wide beam product

ScanEx SAR Processor is used at several certified stations of the RADARSAT receiving network and is fully compliant with the international standards on the synthesized image quality, processing algorithms used and output format structure.

RDC ScanEx also offers ScanMagic® software as a companion tool to SSARP for easy-to-use visualization, comprehensive image analysis and custom processing capabilities. ScanMagic fully supports all the SSARP generated Level-1 SAR products and enables user to create value-added geolocated RADARSAT products on the same Windows workstation just in a few mouse clicks.

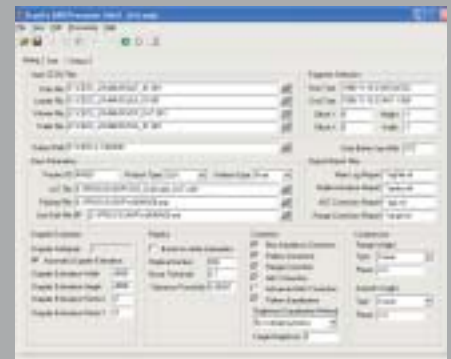
Minimal System Requirements:

- MS Windows 2000/XP
- Intel Pentium IV
- RAM 1 Gb
- HDD 80 Gb for data



User Interface:

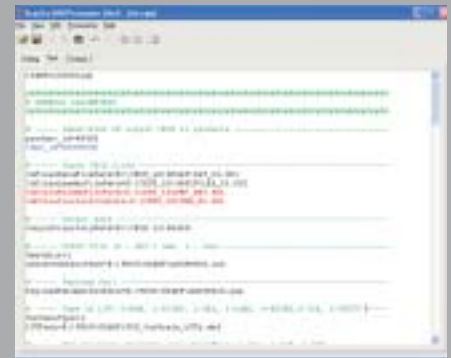
- user-friendly easy-to-use graphical interface;
- full control at all stages of SAR processing;
- disc-to-disc data processing;
- batch processing option;
- uprated performance due to the hardware efficient use;
- intuitive tools for interactive editing parameters in both the standard dialog and the advanced text editor;
- immediate validation of the processing parameters while editing;
- balloon help explains the meaning of each parameter and errors in parameter settings;
- processing start locks if input parameters mismatch;
- processing history record.



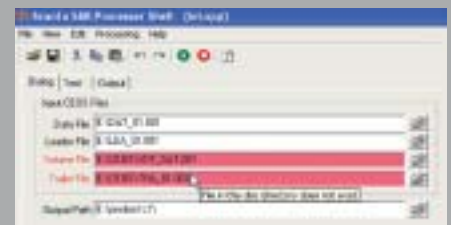
Easy-to-use graphical interface for quick processing parameters setting

Processing Algorithms:

- processing data obtained both in StripMap (single-beam) and ScanSAR (multi-beam) mode;
- generating integer and complex output products;
- possibility to select an image segment for synthesis, specifying a UTC time window;
- efficient processing stages: raw data correction, range compression with previous range migration correction, azimuth compression with optional multi-look processing;
- flexible choice of processing algorithms and the relevant processing techniques;
- high-accuracy algorithm for focusing the radar hologram in frequency domain;
- unique technique of Doppler frequency estimation using on both processed hologram and platform location data;
- automatic Doppler analysis uses MLBF, MLCC, CDE, SDE algorithms for high accuracy of Doppler estimation;
- possibility of manual correction for the Doppler frequency ambiguity;
- sophisticated algorithms for the Doppler centroid estimation to handle subtle problems causing imagery "scalloping" and "banding";
- elimination of the image brightness distortions caused by the narrow dynamic range of the onboard analog-to-digital converter;
- support of ground-range geometry, multi-looked and detected images for standard image processing;
- radiometric correction for antenna pattern, slant range variations, along track gain variations, azimuth length and range reference;
- output scaling using look-up tables (LUT).



Text editor of processing parameters file for extended use



Immediate validation of the processing parameters and balloon help

ScanEx SAR Processor generates full range of certified quality products for all RADARSAT-1 beam modes.

RDC ScanEx also offers Linux version of ScanEx SAR Processor.



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Taganrog bay
April 28, 2003
RADARSAT-1, Wide*

Processed at MARC by ScanEx, Russia.
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