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Abstract: In February 2000 the Shuttle Radar Topography Mission (SRTM) carried out a mission to map the world's landmass between ±60° using radar interferometry. The radar mapping instrument consisted of modified versions of the SIR-C C-band and X-band radars flown on the shuttle in 1994. Modifications to the SIR-C radars included a 60 m retractable boom equipped with C-band and X-band receive only antennas attached to the boom's end. Additional metrology systems designed to measure the shuttle position and attitude as well as the position of the boom antennas to high accuracy was also added. To map the world in the 10 days allotted for the mission required the C-band radar to operate in ScanSAR mode. The C-band interferometry data was collected in swaths that were comprised of four subswaths. ScanSAR mapping modes alternately switch between two (or more) beam positions in the cross track direction to increase the swath width at the expense of along track resolution. Exploiting the C-band polarization capability, the SRTM C-band radar operated in ScanSAR mode on vertical (V) and horizontal (H) polarizations to achieve an effective swath width of 225 km while maximizing the SNR over the swath. Operational processing of the C-band ScanSAR interferometric data into a seamless topographic map required several processor innovations. In this paper we present an overview of the SRTM processor and discuss how the raw data was converted into elevation data. Particular emphasis will be on the calibration and filtering of the data during the DEM generation process.