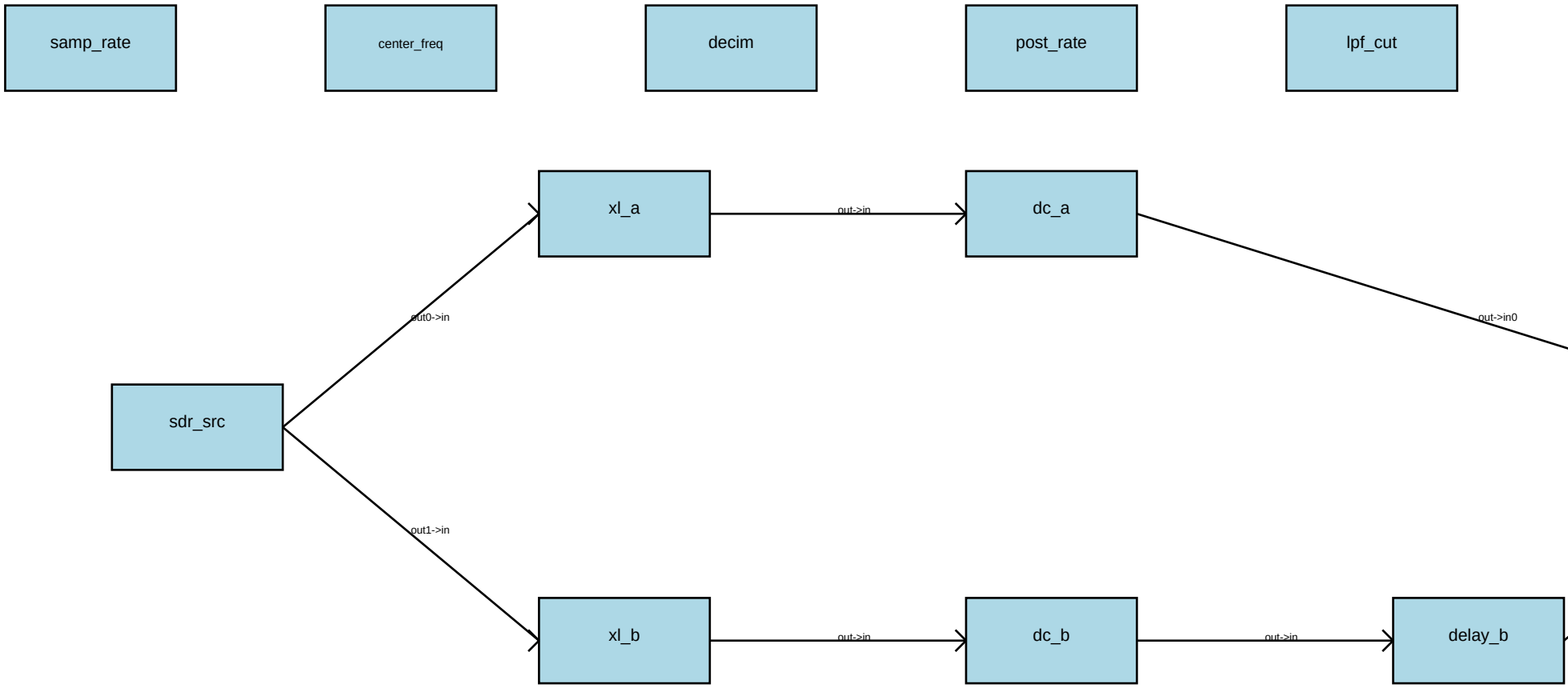
RSPduo Interferometer - Full Block Diagram (Annotated)



Legend / Block Functions

samp_rate: Global sample rate (Hz).

center_freq: Tuned center frequency (1420.405 MHz for H-line).

decim: Decimation factor applied to input stream.

post_rate: Effective rate after decimation.

lpf_cut: Low-pass filter cutoff.

trans: Transition bandwidth of filters.

int_time: Integration time for moving average.

ma_len: Moving average length in samples.

gui_rate: Update rate for GUI elements.

keep_n: Number of samples kept in vector stream.

delay_samp: Sample delay applied to one branch.

outdir: Output directory for data files.

ts: Timestamp string used in filenames.

fn_cplx: Filename for complex correlation output.

fn_mag: Filename for magnitude (power) output.

sdr_src: RSPduo SDR source block (dual coherent channels).

xl_a / xl_b: Stream extraction/splitting for channel A and B.

dc_a / dc_b: DC removal from each channel.

delay_b: Applies programmable delay to channel B.

mul_cj: Complex multiply with conjugate → cross-correlation.

ma_c: Moving average integrator (smooth correlation).

keep_c: Keeps fixed number of samples for output.

file_cplx: Writes complex correlation data to file.

file_mag: Writes magnitude-only data to file.