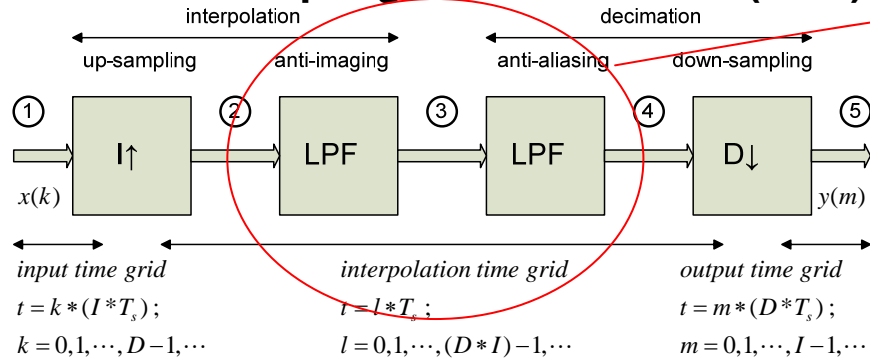


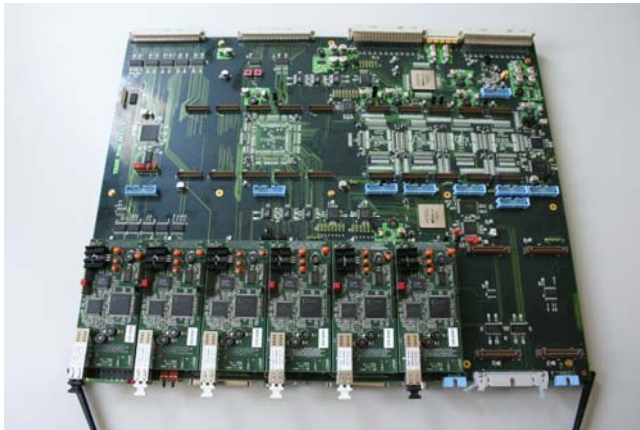
# fractional sampling-rate conversion (SRC) system



# anti-aliasing/anti-imaging filter

PPF (poly-phase filter)	TVF (time-variant filter)
<b>computational accuracy:</b> dynamic range quantization noise	<b>computational efficiency:</b> clock rate power consumption circuit size
interpolation clock	non-linear distortion

## TADU-TOM board



## direct re-sampling → non-linear distortion

$I = 5, D = 7$

single harmonic:  
8.0 MHz

sampled at 25 ns  
 ⇔ 40.0 MHz

re-sampled at 35 ns  
 ⇔  $(5/7) * 40.0 = 28.5714$  MHz

single frequency:  
8.0 MHz

multiple frequencies:  
 $16.0/7 = 2.2857$  MHz  
 $24.0/7 = 3.4286$  MHz  
 $56.0/7 = 8.0000$  MHz  
 $64.0/7 = 9.1429$  MHz  
 $96.0/7 = 13.7143$  MHz

