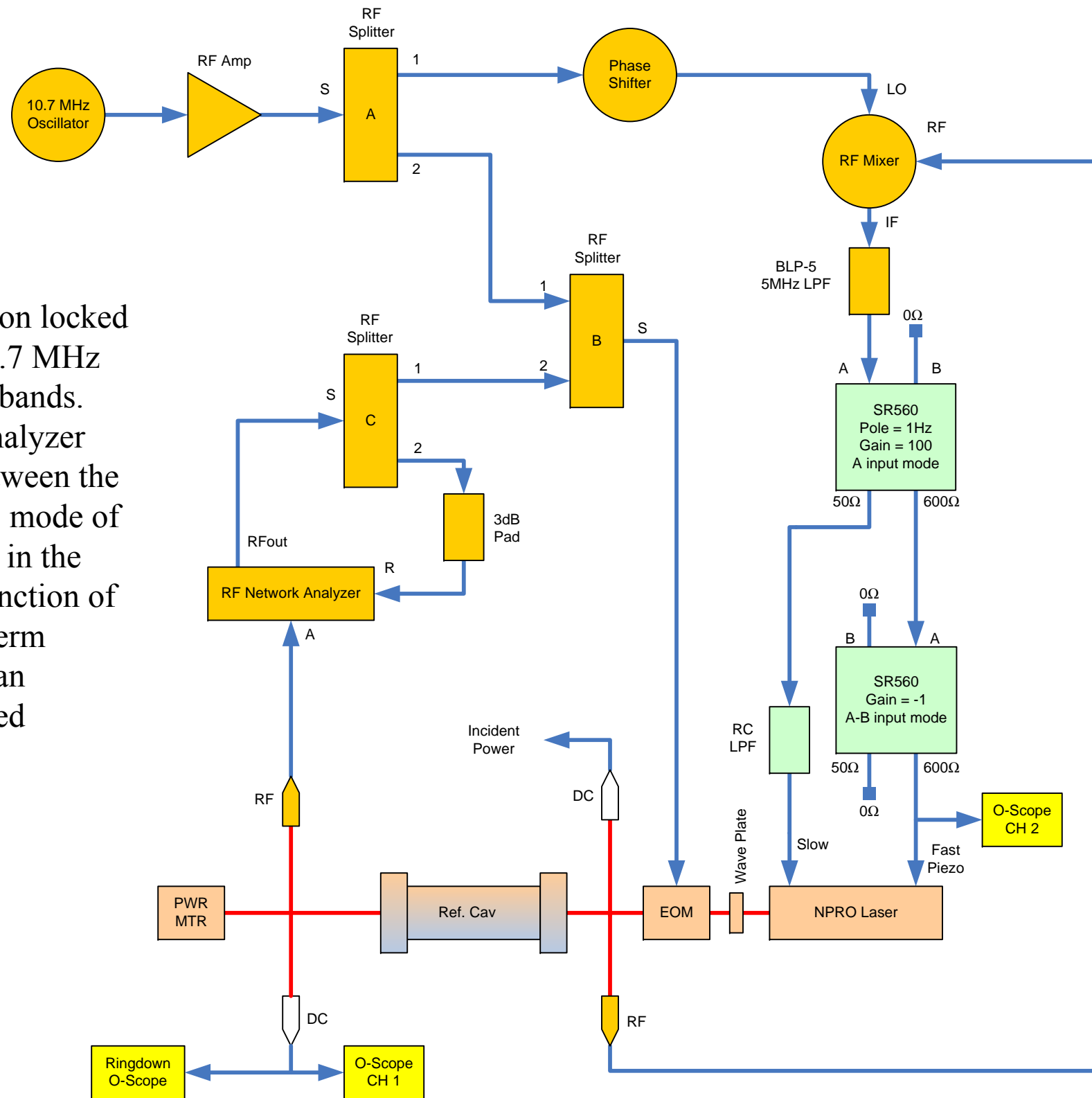


## Cavity Optical Contamination Test Facility Controls Block Diagram



The Reference Cavity is reflection locked to the NPRO Laser using the 10.7 MHz oscillator as a source of RF sidebands. Once locked, the RF network analyzer measures the beat frequency between the TEM 00 mode and the TEM 01 mode of the Reference Cavity. The shift in the beat frequency is plotted as a function of input optical power. The long term variation in this shift is used as an indicator of contamination related absorption.

The frequency response of the locking loop is set by the gain and filter parameters of the two SR560 low noise gain blocks. Monitoring points are provided to view the cavity ring down transient in transmission of the Reference Cavity