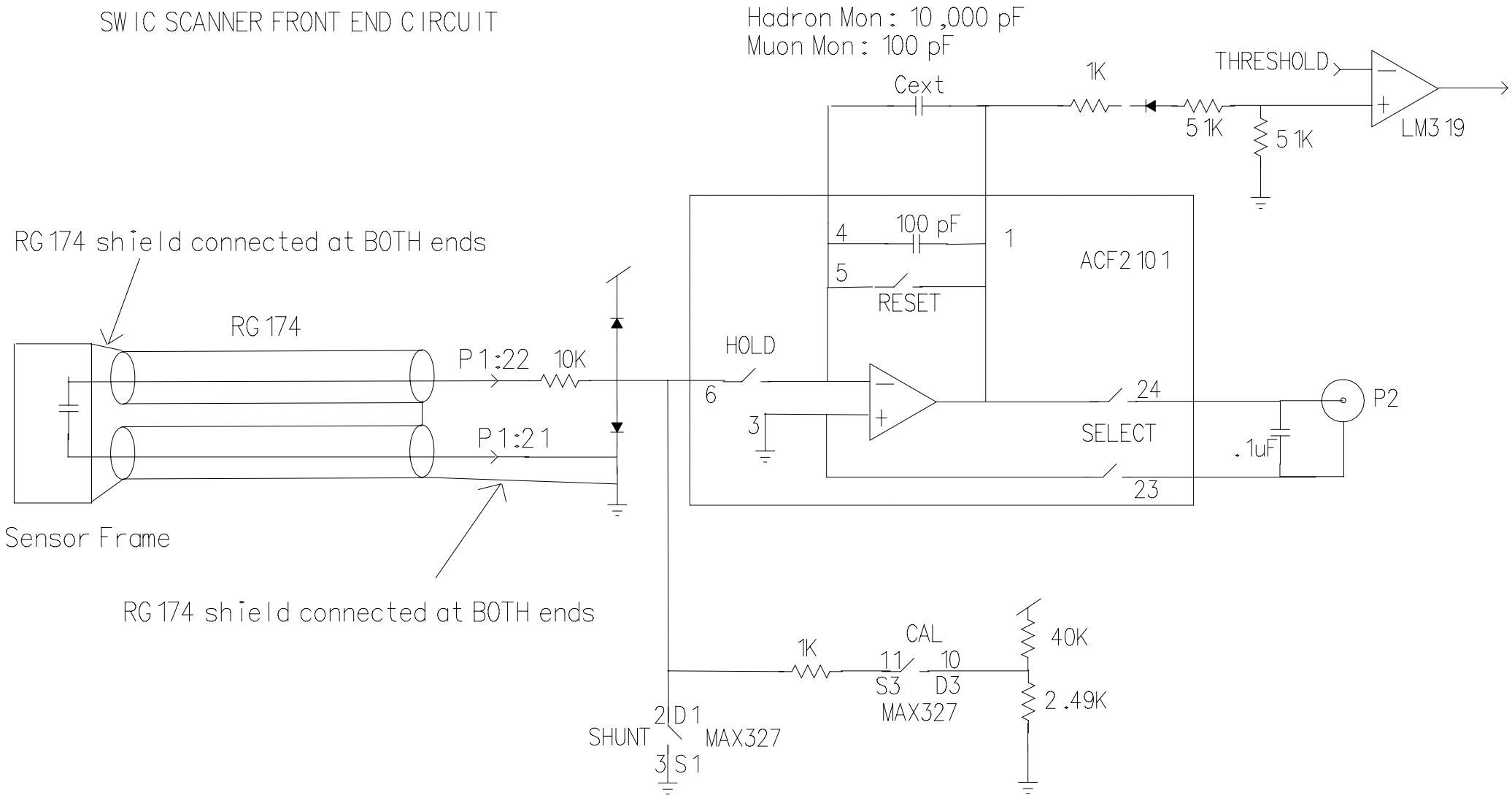SWIC SCANNER FRONT END CIRCUIT