Ag2120 / Ag2130 Parallel Phone and Line Detect Circuit

This circuit will work with either an Ag2120 or Ag2130, V_{CC} = 3.3V or 5.0V.

The circuit only requires 1 x quad comparator, 1 x quad 10K resistor network, 2 x 390R resistors, 2 x 100R resistors and 1 x 100nF capacitor (all resistors tolerances are ±1%).

V_{REF} is used as the reference and V_{TR} equals the voltage across TIP & RING divided by 220 (with respect to V_{REF}) .

Table 1 shows the output logic states for the different line conditions.

Line Conditions	PPhone	LStatus
Line detected and parallel phone is ON-Hook	0	0
Line detected and parallel phone is OFF-Hook *	1	0
No line detected	1	1

Table 1

* This state also applies if the Ag2120 or Ag2130 goes OFF-Hook (LSC = 1)

Ag2120 or Ag2130 - Parallel Phone and Line Disconnected Detector Circuit