

Ag1170 Ringing Performance

The ringing capability of the Ag1170 is specified as 40Vrms into 3 REN on a 500 ohms line (3km).

Ringer Equivalence Number (REN) is a measure of the impedance of a telephone ringer circuit and 1 REN is defined to be equivalent to a standard telephone, which, at the time the standard was established, was a bell ringer circuit. This is a much lower impedance than the electronic ringer circuits used in modern phones, which consequently have a lower REN value. The U.S. and European definitions of REN are:

U.S.	8 μ F in series with 6930 ohms
Europe	1 μ F in series with 1800 ohms

Both definitions equate to approximately 8000 ohms at 25Hz.

Because the impedance of modern ringer circuits is higher than the old bell ringers the Ag1170 can ring more than three phones. The following table shows the measured ringing voltage across five phones connected in parallel. The phones used were:

LG GS-460F (x2), Samsung SP-F118, Preetel TPG-360, U-Tech UT-601D

Line Length		Ringing Voltage – Ag1170S-3	Ringing Voltage – Ag1170S-5
0km	0R	52Vrms	55Vrms
0.6km	100R	51Vrms	54Vrms
2km	370R	48Vrms	50Vrms
3km	500R	47Vrms	49Vrms
4km	670R	46Vrms	47Vrms
5km	840R	44Vrms	45Vrms

All five phones rang correctly.

The following table shows the measured ringing voltage into a 3 REN load:

Line Length	Ringing Voltage – Ag1170S-3	Ringing Voltage – Ag1170S-5
0.6km	42.6Vrms	50.0Vrms
3km	39.0Vrms	44.3Vrms

It can be seen that the ringing voltage into 3 REN is significantly lower than the voltage when ringing five real phones.