LOOPaLINE Application Note #1

Provisioning a New Telephone Service

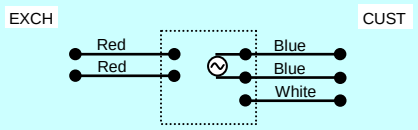
This application note shows how the **TX915 LOOPaLINE** enables a telephone line technician to quickly commission a new customer telephone service, without assistance from a second technician at the Exchange end of the cable, and without having to travel from one end of the cable to the other several times during the commissioning process.

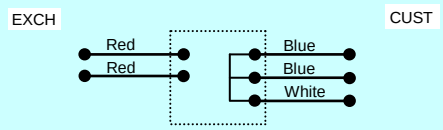
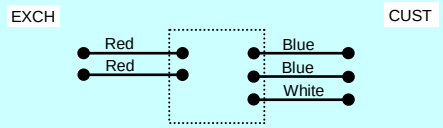
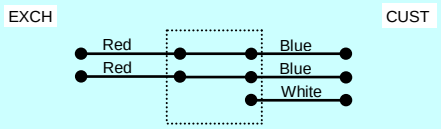
An indispensable instrument in the telephone line technician's kit, is the Pair Identifier which consists of an Oscillator, or tone generator, and a Probe. The Oscillator puts a distinctive tone on the pair at one end of the cable, and the Probe is used to quickly find or identify that pair at the other end.

LOOPaLINE is a pair identifier with the added ability to remotely control the termination at the far end of the pair, after it has been identified by the Probe.

In the application below, **LOOPaLINE** eliminates the need for a second technician at the Exchange end of the cable and reduces from five to two, the number of times the unassisted technician needs to traverse the cable from end to end.

In Australia, **LOOPaLINE**, used as below to provision new telephone services in the metropolitan area, pays for itself typically, in about twenty five jobs, or just a few days. In rural areas where cables are much longer, the pay back period will be even shorter.

Step	Using a Pair Identifier	Using LOOPaLINE
1	At the Exchange end of the cable, select the pair to be used for the new service and isolate it from the Exchange.	
2	Connect the Oscillator to the pair.	Connect the blue Oscillator leads to the Customer side of the pair and the red leads to the Exchange side of the pair. 
3	Travel to the Customer end of the cable (Trip 1).	
4	Identify the pair using the Probe.	
5	Place a short circuit across the pair. Travel back to the Exchange end of the cable (Trip 2) and remove the Oscillator.	Connect the Probe leads to the pair and press the SHORT button. This places a short circuit across the Exchange end of the pair. Disconnect the Probe from the pair. Note that the white wire is used in fault location using a resistance bridge fault locator.

		
6	Use an ohmmeter to measure the loop resistance of the pair. See **Note 1**.	
7	Travel back to the Customer end of the cable (Trip 3), leaving the pair open.	Re-connect the Probe to the pair and press the OPEN button. This removes the short circuit at the Exchange end of the pair. Disconnect the Probe from the pair. 
8	Use a high voltage megohmmeter to measure the insulation resistances of the pair. See **Note 1**.	
9	Travel back to the Exchange end of the cable (Trip 4). Re-connect the pair to the Exchange. Travel back to the Customer end of the cable (Trip 5).	Re-connect the Probe to the pair and press the EXCH button. This connects the pair to the Exchange. Disconnect the Probe from the pair. 
10	Test and commission the customer telephone service.	
11		Travel back to the Exchange end of the cable (Trip 2). Disconnect the Oscillator and re-connect the pair to the Exchange. This does not have to be done immediately after commissioning the service because the Oscillator will provide the Exchange connection until it is removed.

Note 1 : The tests included here are loop and insulation resistance measurements. If additional tests are desired, perhaps because the pair is to be used for a high frequency service such as pair gain or ADSL, the Teletech TX120A and TX125 Digital Line Test Sets are recommended. Both instruments incorporate the LOOPaLINE functionality.