

Most COT (Central Office Terminal) linecards comprise a POTS interface (Plain Old Telephone System) to cope with analog telephone sets. Consequently, production testing of COT devices must include standard POTS measurements as e.g. level, gain, distortion, LCL, RL. The document describes how to set up such a test with RT-2X and a holding coil.

1. Test Setup

A typical test setup for POTS devices comprises three modules, i.e. the

- COT linecard,
- Holding coil,
- RT-2X analyzer.

Fig. 1 shows a simplified test setup for a COT linecard in TX configuration.

- The linecard converts the digital TX audio data (e.g. in E1 or T1 format) into an analog signal.
- The holding coil emulates the telephone set ¹⁾.
- The RT-2X analyzer has an input impedance of $900\ \Omega + 2.16\ \mu\text{F}$ ²⁾.

1) The holding coil is required to emulate the loop holding current, which flows if a telephone set, connected to the COT, is in the Off-hook state.

2) North American standard; other impedance modules available for RT-2X.

2. Test Procedure

Measuring a POTS device with RT-2X, requires activation of the involved components in a certain order. The procedure below explains this order, whereby a COTS linecard is tested in the TX-mode (test circuit as shown in Fig. 1).

1. Close S1, i.e. connect the holding coil to the circuit.
2. Connect the COTS linecard to the measurement circuit. RT-2X automatically executes the following procedure to get all capacitors charged for settled conditions:
 - i) S3 open (overvoltage protection),
 - ii) S2 closed during $< 500\ \text{ms}$ (i.e. $600\ \Omega$ input impedance active, thus charging C1 & C2),
 - iii) S3 closed and S2 open.
3. The test circuit is now settled, i.e. the measurement can be started.

NOTE Steps i)-iii) are executed automatically by RT-2X. The operator must only consider the 500 ms settling time in the test program after connecting the COT to the system.

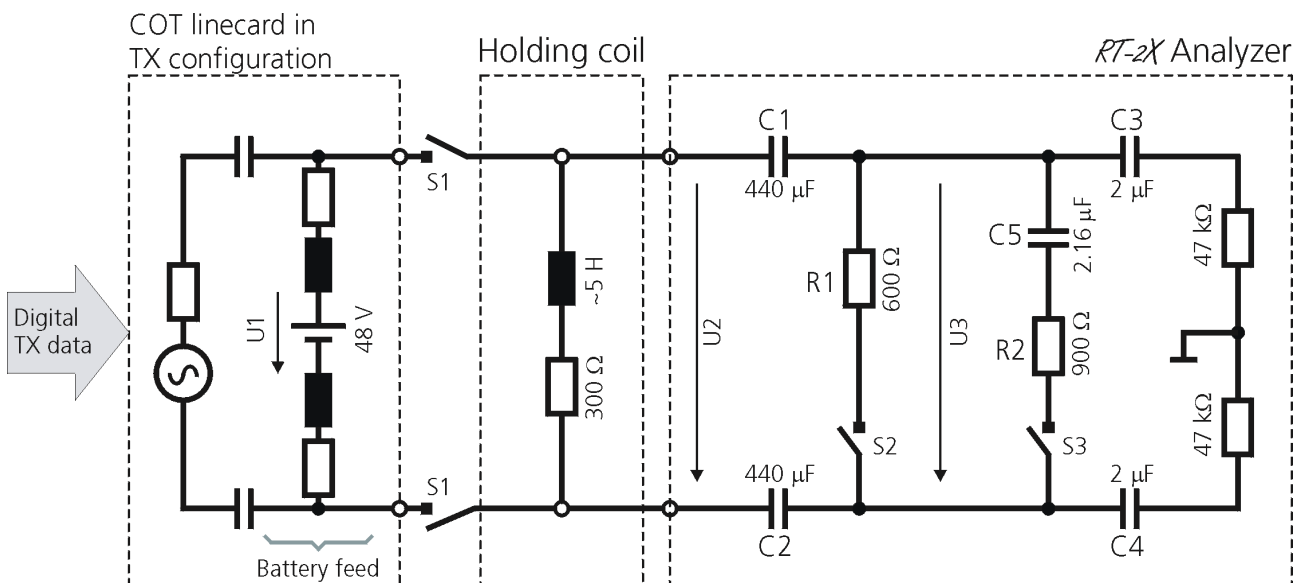


Fig. 1 Example of test setup with COT in TX configuration