

DAVE VANNESS

RTS COMMANDS

RLT — Remote Loop Test

DESCRIPTION

The RLT macro may be used to test for loop shorts, ground faults, opens, and foreign voltages on 2-wire and 4-wire loops connected to the drop side of a SLC Series 5 RT channel unit. The RLT macro has options that allow verification of MBP (metallic bypass pair) integrity, loop tests on the circuit, or loop tests on the bypass pair. Tip and ring turnover can also be performed through this macro.

For 4-wire circuits, measurements can be performed on either the A or B pair. Measurements are always provided in the E direction (i.e., in the direction away from the SLC/RT and towards the customer loop).

The MBP verification performs two resistance measurements on the bypass pair when connected to the "known" (i.e., 0.267K ohms) termination at the SLC/RT: one measurement with tip and ring normal and the second measurement with tip and ring reversed. One measurement result should equal the sum of the (i.e., 0.267K ohms) termination resistance and the cable resistance of the bypass pairs (i.e., 0 to 2K ohms). The other measurement should be over range (greater than 2000K ohms). If these resistance measurements are within the acceptable range (i.e., 0.2K ohms to 3K ohms), a message indicates the MBP is intact, and the RLT macro continues to the metallic loop test commands. If the MBP is not within range, the RLT macro is terminated and a message (stating that the MBP cannot be verified) is displayed. If the MBP is not intact, the RLT macro is terminated.

The RLT macro makes a series of resistance, voltage, and capacitance measurements. These measurements are tip-to-ground, ring-to-ground, and ring-to-tip; all in the E direction.

Upon completion of the loop test, the circuit is restored to the circuit monitor condition. The results are displayed and logged.

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PREREQUISITES

RLT macro is valid only for SLC-5 RT access.

The orientation and configuration must be either **FE 4AB** or **FE 2WA** (for a 2-wire circuit).

The 703 command must be executed prior to this command.

COMMAND PROMPTERS

2-Wire Prompter:

```
RLT/  
RLT/MBP VERIFY - YES:NO/CKT:MBP/NORM:REV/
```

Where:**MBP VERIFY=YES:NO**

Specifies MBP verification (YES) or no MBP verification (NO).

CKT:MBP

Specifies loop test to be run on circuit (CKT) or bypass pair (MBP).

NORM:REV

Removes tip and ring reversal (NORM), or selects tip and ring reversal (REV).

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4-Wire Prompter:

```
RLT/  
RLT/MBP VERIFY = YES:NO/A:B:MBP/NORM:REV/
```

Where:

MBP VERIFY=YES:NO

Specifies MBP verification (YES) or no MBP verification (NO).

A:B:MBP

Selects A, B, or bypass pair (MBP) for testing.

NORM:REV

Removes tip and ring reversal (NORM), or selects tip and ring reversal (REV).

RESULTS

Messages are displayed to show whether or not the MBP was intact. If the MBP was verified, the **BYPASS PAIR INTACT** message is displayed. If the MBP was not intact, the **CANNOT VERIFY BYPASS PAIR** message display is displayed.

Normally, each RTS completion updates the message line, the test point display, and the information display. For each intermediate result, the message line is updated to indicate the status of the RLT macro. The information display shows a cumulative display of all intermediate results as they are processed. Each intermediate result is recorded in the tester log. The MBP verification sequence is not logged or displayed on line 2.

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The message line is updated for each loop test intermediate result returned from the RTS as follows:

RLT r:N

Where:

r = relative number of the current command

N = maximum number of expected commands for the macro **11** for REV or **9** for NORM.

For voltage measurements:

In range = **aaaaaaVDC**

Over range = > **199.9 VDC**

Under range = < **-199.9 VDC.**

For resistance measurements:

In range = **b.bbbKOHMS**

Over range = > **2,000 KOHMS.**

For capacitance measurements:

In range = **ccccccUFD**

Over range = > **19.99 UFD.**

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Results Display (4-wire):

```
T: RLT/VERIF-YES/MBP/REV
T: BYPASS PAIR INTACT
T: G04/REV T&R/MBP/
T: M12/-----/E/MBP/
  T-GRD = >2000 KOHMS
  R-GRD = >2000 KOHMS
  R-T = 1.134 KOHMS
T: M11/-----/E/DC/DISCH/MBP/
  T-GRD = +00.87 VDC
  R-GRD = +00.65 VDC
  R-T = -00.00 VDC
T: M13/-----/E/B/
  T-GRD = 0.110 UFD
  R-GRD = 0.110 UFD
  R-T = 0.113 UFD
T: G04/NORM T&R/MBP/
```