

Compensated Continuity Resistance (CCR)

This mode directive allows accurate low resistance measurements without using costly four-wire switching and adapter cables. It references stored tare resistance maps removing all of the series resistance from the desired measurement. DIT-MCO's standard operating software, T81 version 4.4 and later, offers CCR.

Using the CCR mode, the accuracy for the Digital Comparator Subsystem (DCS) and Single Board Comparator (SBC) is as follows:

DCS Low Resistance Measurements (CCR)			
Current	Increment	Resistance Limit	Accuracy
1A to 2.0A (2 wire)	2.5mA steps	0.1 ohm to 9.99 ohm	±1% ±0.05 ohm
1A to 2.0A (2 wire)	2.5mA steps	1 ohm to 99.9 kohm	±1% ±0.05 ohm

SBC Low Resistance Measurements (CCR)			
Current	Increment	Resistance Limit	Accuracy
1A to 2.0A (2 wire)	2.5mA steps	1 ohm to 99.9 kohm	±2% ±0.1 ohm

The software uses the switching characterization file (SCF) and the product resistance file (PRF) to store the internal resistance and the external adapter cabling resistance. The SCF is a constant for a given system and can be automatically learned. The PRF may change with each product and the software provided allows for a simple generation of the adapter cable resistance.

Below is an example of a test program using the CCR mode directive:

```
[SHORT/OPEN TEST CABLE 40 FT. LONG
ACT,C:\TESTFILE\CABLE
PRF,C:\DITMCO\PCF\CABLE.PRF
ENB,CCR,DTB,CES,DIG
F,DCS,100V,>10M,.1T,.5S
C,DCS,1A,<5R,.02S
STP
F0
C100
.
```

For an existing DIT-MCO test system with a Digital Comparator System (DCS), you will need to request the Switching Mapping Kit and version 4.4 of T81.

