SmartClass ADSL

Copper Testing

Dag Hauge – JDSU Nordic

About SmartClass ADSL Copper Testing

The SmartClass Tester's copper features allow quick turn-up and basic troubleshooting of the copper local loop.

The copper features include two quick tests:

- **CABLE CHECK, auto test**
- **SNAPSHOT**

You can also perform specific measurements for the following tests (called MEASURE):

- **AC volts**
- **DC volts**
- **Resistance**
- **Leakage**
- **Distance to short**
- **Opens (distance) and capacitance**
- **DC current**
- **Balance**
- **Load coil detect**

Extreme Ease of Use

```
    MAIN MENU
1. MODEM TEST
2. DSL QUICK
3. COPPER TEST
4. SYSTEM SETUP
```

OK

```
COPPER TEST
1. CABLE CHECK
2. SNAPSHOT
3. MEASURE
4. SETUP
```

OK


```
DC VOLTS
+0.0 V (TR)
LOW:-10.0      HIGH:+10.0

          ACT     LOW     HIG
>1.TR    +0.0    +0.0    +0.0
 2.TG      -       -       -
 3.RG   +10.0    -5.2   +10.7
```

Extreme Ease of Use

DC VOLTS

+0.0 V (TR)

LOW:-10.0 HIGH:+10.0

	ACT	LOW	HIG
>1.TR	+0.0	+0.0	+0.0
2.TG	-	-	-
3.RG	+10.0	-5.2	+10.7

AC VOLTS

0.1 V(AB)

TERMINATION(#): 100KOhm

	ACT	LOW	HIG
>1.AB	0.1	0.1	0.1
2.AE	-	-	-
3.BE	-	-	-

RESISTANCE

>100.0 MΩ(TR)

Distance to Short N/A

	ACT	LOW	HIG
>1.TR	100.0M	100.0M	100.0M
2.TG	-	-	-
3.RG	-	-	-

Connecting the SmartClass ADSL to the dry Copper line

- **Connect the 3 test leads to the mini-Banana connectors on the top:**
  - **Red to A**
  - **Black to B**
  - **Green to Earth**

300 V MAX is a peak value

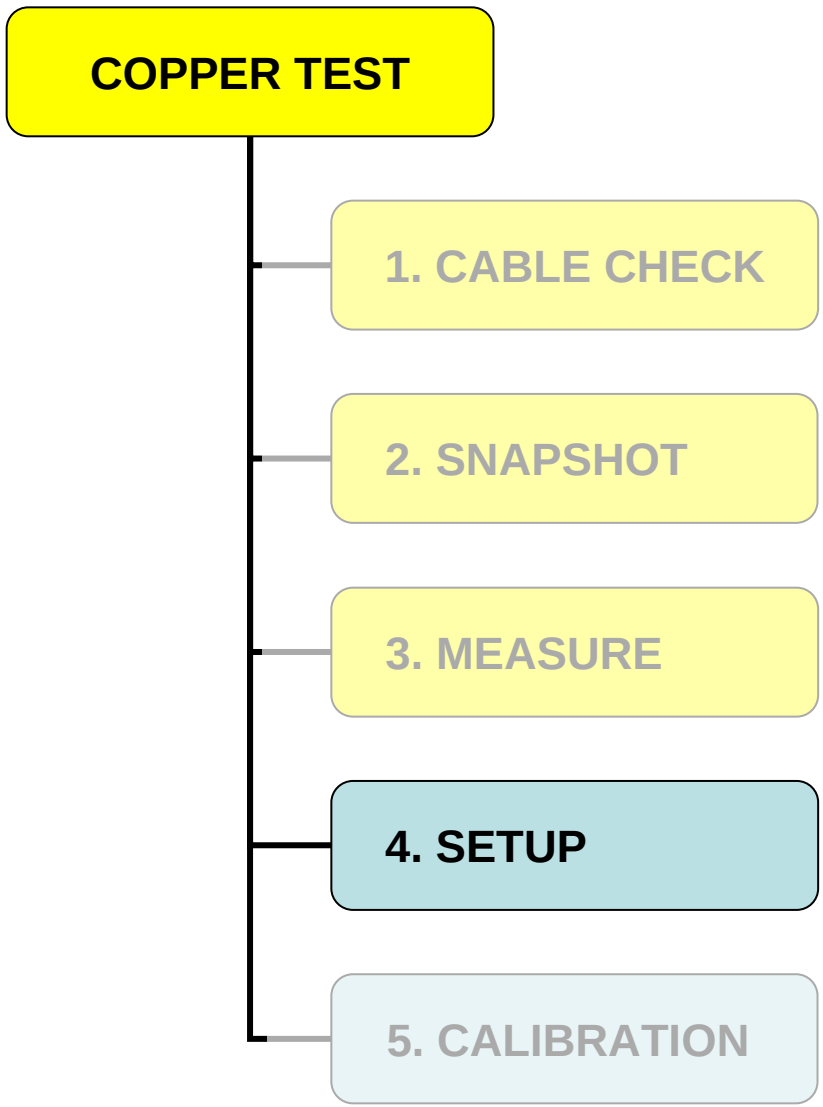
Never connect and test on the 230 VAC mains power

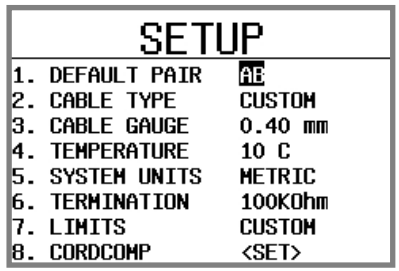
SmartClass ADSL

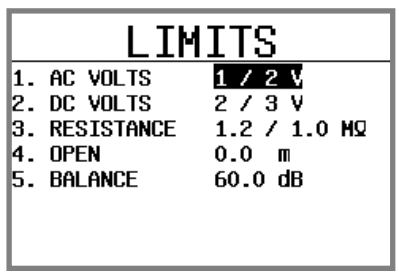
Configuring Tests

TDC krav - Kobber målinger			
Måleværdi	**Målt på linien**	**Norm på Produktet**	**Bemærkning**
Volt DC/AC	A►B= A►J= B►J=	Max. 2 Volt DC Max. 0,8 Volt AC	
Isolation (MOhm)	A►B= A►J= B►J=	Min. 1 M-ohm.	
Sløjfemodstand	A►B=	**PSTN/Rå Kobber:** Max. 1400 Ohm **ISDN:** Max. 1300 Ohm	Skal altid måles ved Rå kobber.
DC balance	Ohmsk forskel på A og B tråd (I forhold til reference tråd)	Afvigelse, max. 2%	Målingen kan bl.a. afsløre dårlige samlinger.
Kapacitiv Balance (nF)	A►J= B►J=	Afvigelse, max. 5%	Kan måles med Isokap. (Kapacitive balancefejl afsløres også ved måling af stresstest)
Jordbalance (Stresstest)	 (Stress=)	> 60dB (**Stresstest <30dBrnc**) Alle delstrækninger skal måles	Skal måles ved støjfejl, bitfejl eller for lav margin up. Hvis skema "XDSL måleværdier" er overholdt og margin er < 6dB skal Jordbalancen måles. Jordbalancen kan måles med Sidekick, SmartClass eller 3M 965 (evt. af gul mand)

Specifying Test Configuration Settings – SETUP

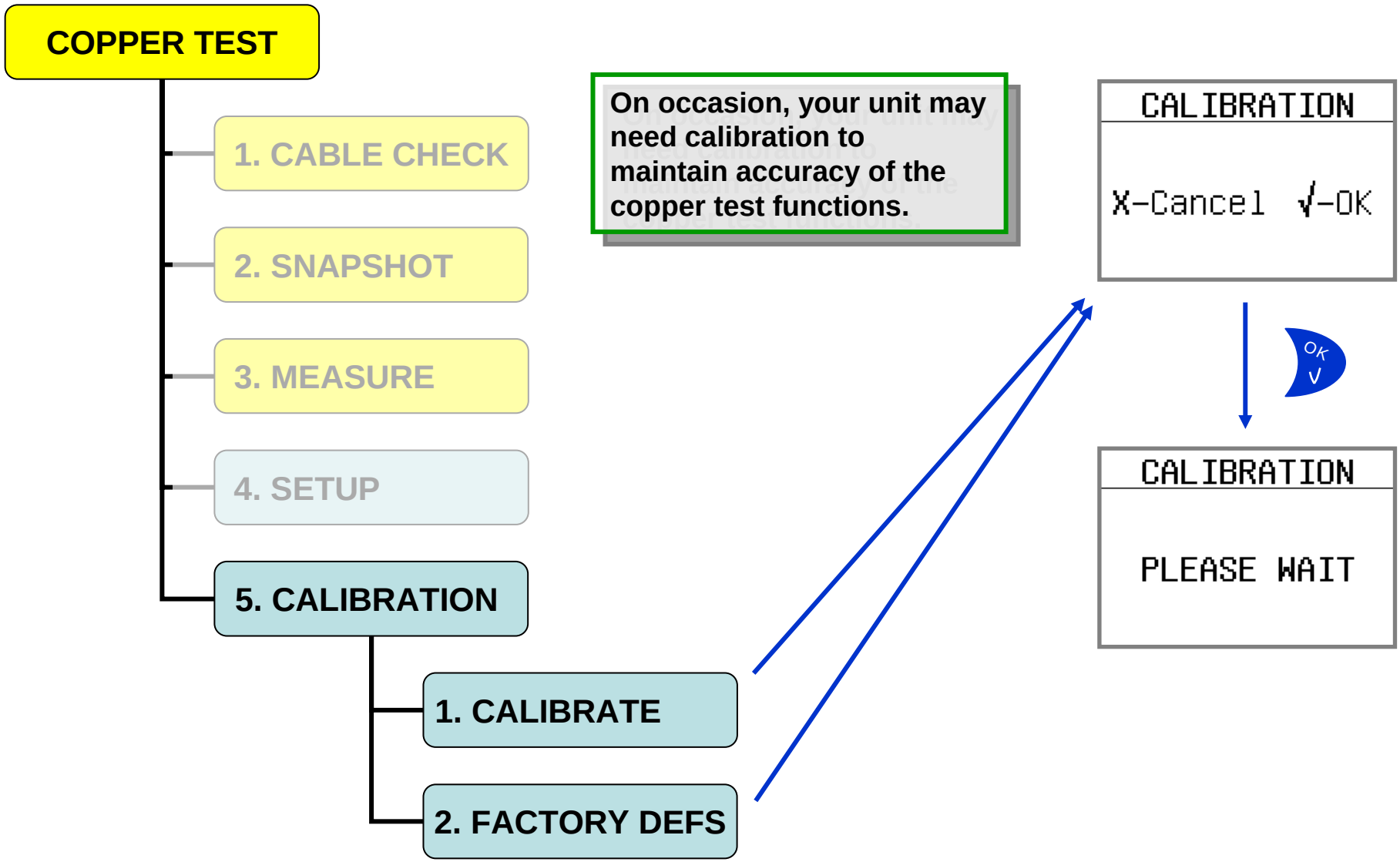




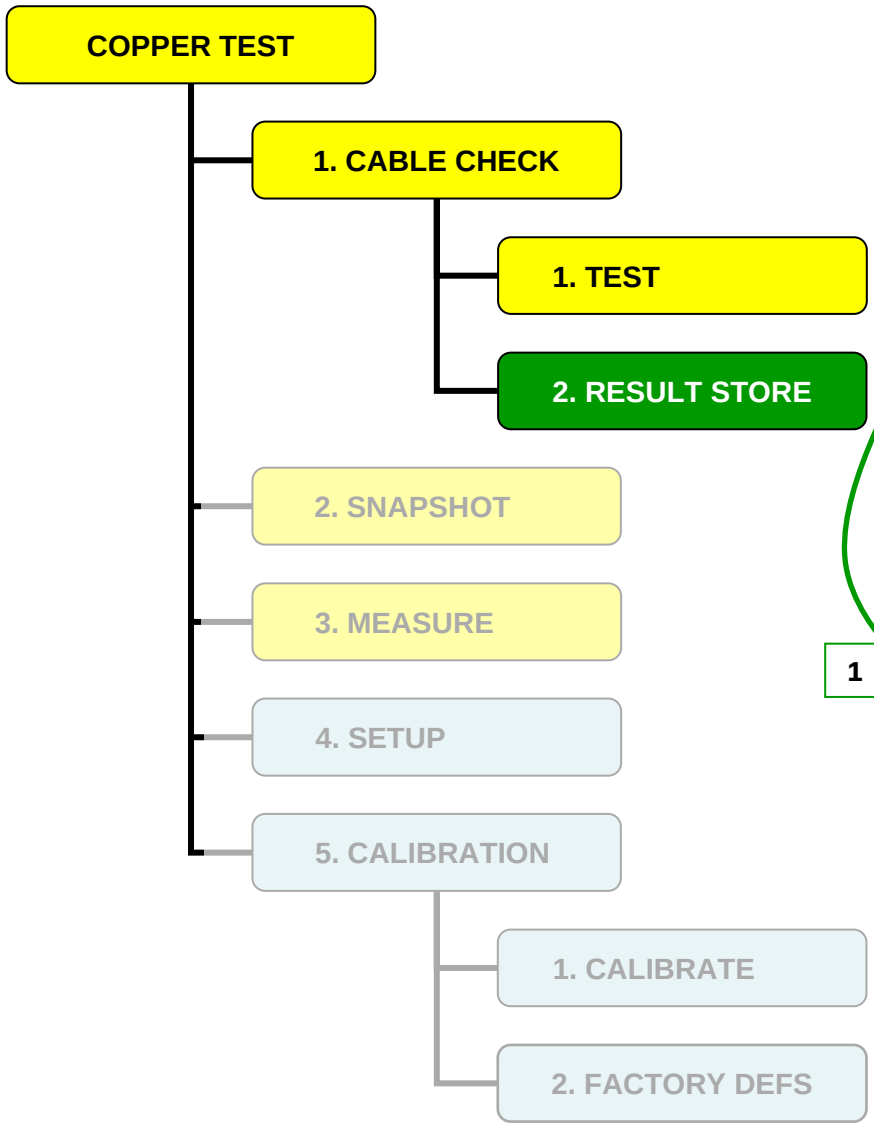


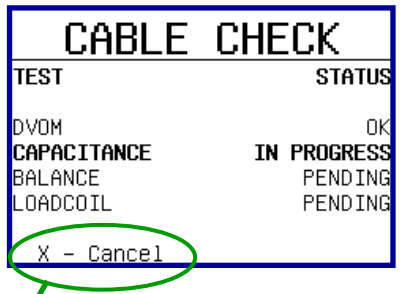
For greatest accuracy, JDSU also recommends that you perform a cord compensation to remove the effects of the test leads from the test measurements. There are two scenarios for compensation: all leads open and all leads shorted.

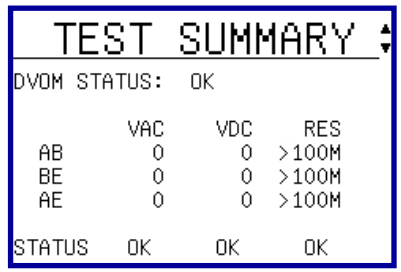
Calibration and Factory Defaults

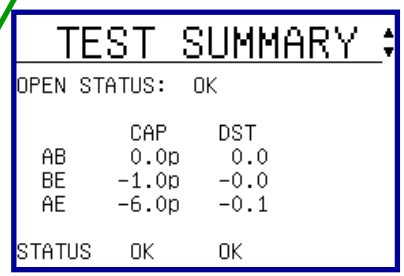


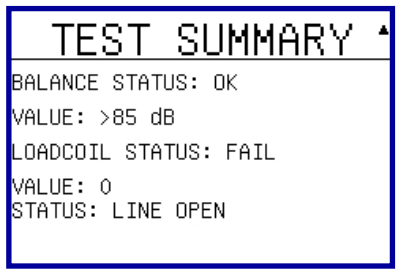
CABLE CHECK

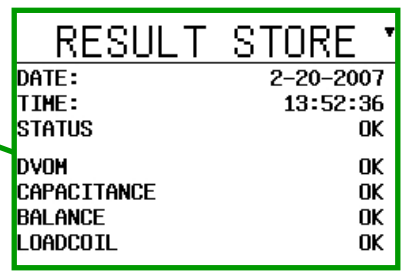






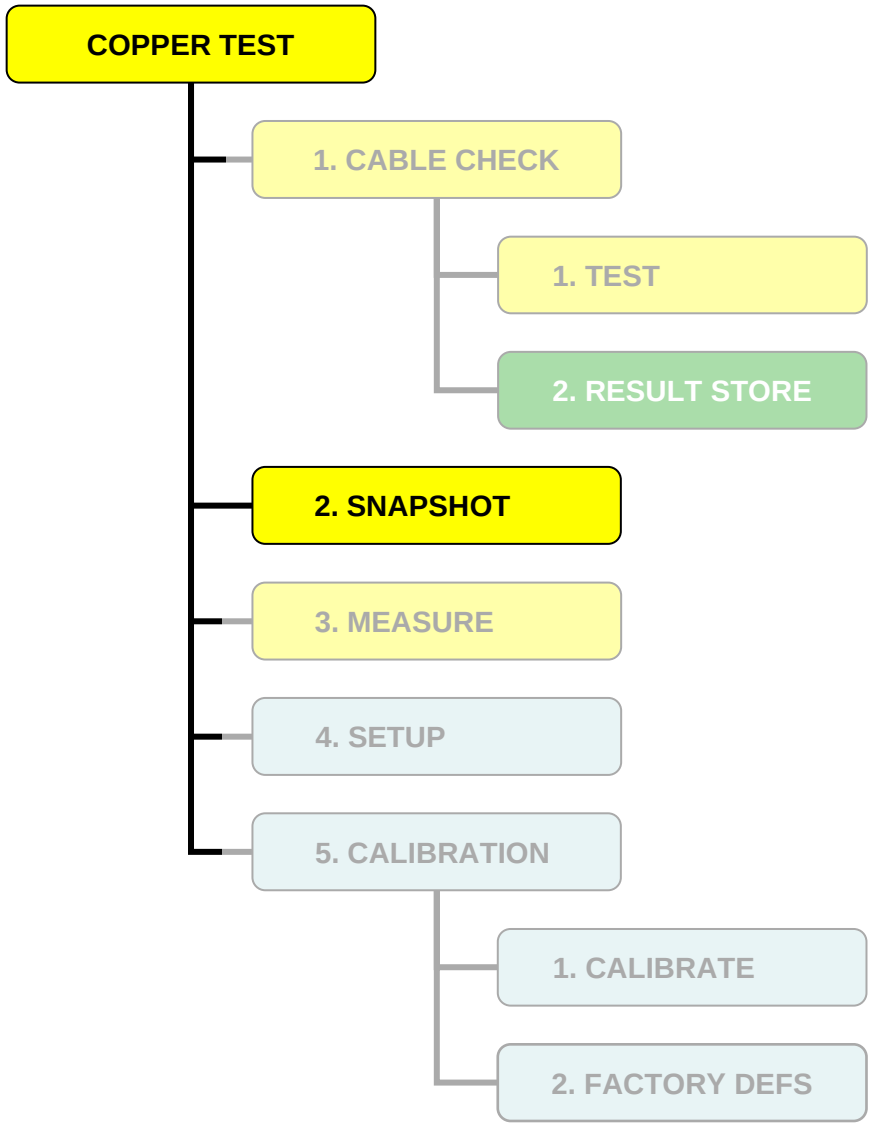


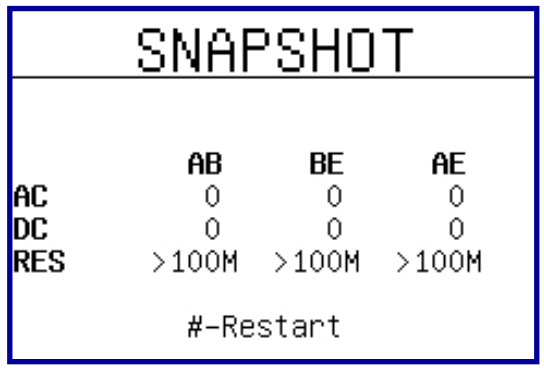




1 – SAVE
Will first appear after the test has ended

SNAPSHOT





The SNAPSHOT feature performs a quick test of

- **AC volts**
- **DC volts, and**
- **Resistance**

across all pairs

MEASURE

COPPER TEST

- 1. CABLE CHECK
- 2. SNAPSHOT
- **3. MEASURE**
- 4. SETUP
- 5. CALIBRATION