

TOSL Calibration Coefficient Installation for ICM CALIBRATION KITS Series TOSL-300x on HP8753 Series

PREFACE:

This procedure is valid for series TOSL-300x calibration kits.

(This example uses the TOSL-3001 calibration kit)

INSTRUCTION CRITERIA:

- Comments and suggestions are contained in parenthesis
- Screen menu keys are in *ITALICS*
- Data or hard keys are in **BOLDFACE**

EQUIPMENT:

HP 8753ES with disk drive

ICM TF-3001-B P/N A0107124

ICM TOSL-3001 P/N A0104416

Standard Definitions for TOSL-3001 FOR HP8753ES

5/16" Torque Wrench

**ICM Application Note 111 "Mainframe/TRL Calibration Trouble
Shooting Guide"**

For background information on the HP8753 Network Analyzer, please refer to the HP operating manual.

START INSTALLATION:

Select **CAL** (located in RESPONSE area of front panel)

Select *CAL KIT* [...] (could be any internal coaxial cal kit)

Depress *MODIFY* [...]

DEFINING OPEN STANDARD:

- Depress *DEFINE STANDARD* (screen will display CALIBRATION STANDARD # x)

Enter **2** then **x1** (located in ENTRY area of front panel)

- Depress *OPEN*
- Depress *MODIFY STD. DEFINITION*
- Depress *C0*

Enter **3 7 . 7** then **x1** (Active area should read 37.7)

- Depress *C1*

Enter **4 8 6 0** then **x1** (Active area should read 4.86K)

- Depress *C2*

Enter **- 5 0 0 0** then **x1** (Active area should read -5K)

- Depress *C3*

Enter **5 6 0** then **x1** (Active area should read 560)

- Depress *SPECIFY OFFSET*
- Depress *OFFSET DELAY*

Enter **0** then **G/n** (Active area should read 0 s)

- Depress *OFFSET LOSS*

Enter **0** then **x1** (Active area should read 0 Ohms/s)

- Depress *OFFSET Z0* (should read 50 Ohms), otherwise enter 50 then x1
- Depress *MINIMUM FREQUENCY*

Enter **0** then **G/n** (Active area should read 0 Hz)

- Depress *MAXIMUM FREQUENCY*

Enter **6 . 1** then **G/n** (Active area should read 6.1 GHz)

- Depress *COAX*
- Depress *STD OFFSET DONE*
- Depress *LABEL STD*
- Depress *ERASE TITLE*

The label is created by the operator using the rotary knob and screen menu keys
(For this example, use **O P E N**)

- Depress *DONE*
- Depress *STD DONE* (defined)

DEFINING SHORT STANDARD:

- Depress *DEFINE STANDARD*

Enter **1** then **x1**

- Depress *SHORT*
- Depress *MODIFY STD. DEFINITION*
- Depress *SPECIFY OFFSET*
- Depress *OFFSET DELAY*

Enter **0 . 0 0 0 4 9** then **G/n** (Active area should read 0.49ps or 490fs)

- Depress *OFFSET LOSS*

Enter **0** then **x1** (Active area should read 0 Ohms/s)

- Depress *OFFSET Z0*

Enter **1 5 4 . 8** then **x1** (Active area should read 154.8 Ohms)

- Depress *MINIMUM FREQUENCY* (should read 0), otherwise enter 0 then x1
- Depress *MAXIMUM FREQUENCY*

Enter **6 . 1** then **G/n** (Active area should read 6.1 GHz)

- Depress *COAX*
- Depress *STD OFFSET DONE*
- Depress *LABEL STD*

- Depress *ERASE TITLE*
- The label is created by the operator using the rotary knob and screen menu keys (For this example, use **S H O R T**)
- Depress *DONE*
- Depress *STD DONE (DEFINED)*

DEFINING MATCH or LOAD STANDARD

- Depress *DEFINE STANDARD*

Enter **3** then **x1**

- Depress *LOAD*
- Depress *MODIFY STD. DEFINITION*
- Depress *FIXED*
- Depress *SPECIFY OFFSET*
- Depress *OFFSET DELAY*

Enter **0 . 0 0 1 4 8 5** then **G/n** (Active area should read 1.485 pS)

- Depress *OFFSET LOSS*

Enter **0** then **x1** (Active area should read 0 Ohms/s)

- Depress *OFFSET Z0*

Enter **1 2 0 . 9** then **x1** (Active area should read 120.9 Ohms)

- Depress *MINIMUM FREQUENCY* (should read 0), otherwise enter 0 then x1
- Depress *MAXIMUM FREQUENCY*

Enter **6 . 1** then **G/n** (Active area should read 6.1 GHz)

- Depress *COAX*
- Depress *STD OFFSET DONE*
- Depress *LABEL STD*
- Depress *ERASE TITLE*

The label is created by the operator using the rotary knob and screen menu keys (For this example, use **L O A D**)

- Depress *DONE*
- Depress *STD DONE* (defined)

DEFINING THRU STANDARD

- Depress *DEFINE STANDARD*

Enter **4** then **x1**

- Depress *DELAY/THRU*
- Depress *MODIFY STD. DEFINITION*
- Depress *SPECIFY OFFSET*
- Depress *OFFSET DELAY*

Enter **0** then **x1** (Active area should read 0 s)

- Depress *OFFSET LOSS*

Enter **0** then **x1** (Active area should read 0 Ohms/s)

- Depress *OFFSET Z0* (should read 50 Ohms), otherwise enter 50 then x1
- Depress *MINIMUM FREQUENCY* (should read 0), otherwise enter 0 then x1
- Depress *MAXIMUM FREQUENCY*

Enter **6 . 1** then **G/n** (Active area should read 6.1 GHz)

- Depress *COAX*
- Depress *STD OFFSET DONE*
- Depress *LABEL STD*
- Depress *ERASE TITLE*
- The label is created by the operator using the rotary knob and screen menu keys (For this example, use **T H R U**)
- Depress *DONE*
- Depress *STD DONE* (defined)

CLASS ASSIGNMENTS:

- Depress *SPECIFY CLASS*

- Depress *S11A*

Enter **2** then **x1**

- Depress *S11B*

Enter **1** then **x1**

- Depress *S11C*

Enter **3** then **x1**

- Depress *S22A*

Enter **2** then **x1**

- Depress *S22B*

Enter **1** then **x1**

- Depress *S22C*

Enter **3** then **x1**

- Depress *MORE*
- Depress *FWD TRANS*

Enter **4** then **x1**

- Depress *REV TRANS*

Enter **4** then **x1**

- Depress *FWD MATCH*

Enter **4** then **x1**

- Depress *REV MATCH*

Enter **4** then **x1**

- Depress *RESPONSE*

Enter **1** then **x1** **2** then **x1** **4** then **x1**

- Depress *RESPONSE & ISOLATION*

Enter **1** then **x1** **2** then **x1** **4** then **x1**

- Depress *SPECIFY CLASS DONE*

- Depress *LABEL KIT*
- Depress *ERASE TITLE*
- The label is created by the operator using the rotary knob and screen menu keys (For this example, use **TOSL3001**)
- Depress *DONE*
- Depress *KIT DONE (MODIFIED)*
- Depress *SAVE USER KIT*, (instrument will beep but no other menu will appear)
- Depress *RETURN*
- Depress *CAL KIT [TOSL3001]*
- Depress *SELECT CAL KIT*
- Depress *USER KIT*
- Depress *RETURN*
- Depress *RETURN*

IT IS SUGGESTED THAT THE OPERATOR SAVES THIS CAL KIT TO DISK

- Push **SAVE/RECALL** (located in INSTRUMENT STATE area of front panel)
- Depress *SELECT DISK*
- Insert a Floppy disk (must be double sided and formatted)
- Depress *INTERNAL DISK*
- Depress *RETURN*
- Depress *SAVE STATE* (display will show SAVING: INSTRUMENT STATE, then SAVING: CAL KIT, then a file name is assigned that will be used for recall later)
- END OF PROCEDURE

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