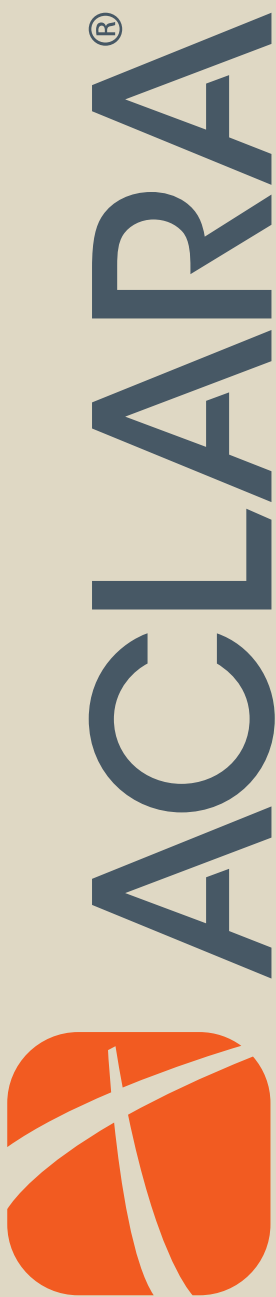ACLARA®

101-9975T-SRFN
User Manual

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WARNINGS, CAUTIONS, AND NOTES

Always consult and adhere to all local and national safety codes, regulations, and standards.WARNING, CAUTION and Note statements are used throughout this manual to emphasize important and critical information to help you ensure safety and prevent product damage. These statements are defined below.

WARNING   Indicates a potentially hazardous situation which, if not avoided, could result in death or serious physical injury.

CAUTION   Indicates a situation, which, if not avoided, could result in damage to equipment, damage to software, loss of data or invalid results.

NOTE   Indicates important supplemental information.

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FCC/IC Compliance

The following statements cover the RF exposure guide and the field calibration procedure.

FCC/IC RF Exposure Guide

Aclara Technologies LLC low power RF devices and their antennas must be fixed-mounted on indoor or outdoor permanent structure(s) providing a separation distance of at least 20 cm from all persons during normal operation. This device is not designed (and it has no external connection) to operate in conjunction with any other antennas or transmitters. No other operating instructions for satisfying RF exposure compliance are needed.

Field Calibration Procedure

Aclara Technologies LLC low power RF devices have passed through extensive and multitask testing and calibration procedures while in the factory. Therefore, no additional calibration or adjustment is required in the field. Aclara Technologies LLC low power RF devices are shipped to the customer in the sealed enclosures. Thus, no adjustments can be made in the field, without breaking the factory sealed enclosure.

Antenna

This radio transmitter (4546A-9975T) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Manufacturer	Manufacturer Part Number	dBi
Laird Technologies	FG4605	5
MAXRAD	MFB4605(NF)	5

AVERTISSEMENTS, MISES EN GARDE ET REMARQUES

Toujours consulter et respecter les codes, règlements et normes de sécurité locaux et nationaux. Des AVERTISSEMENTS, MISES EN GARDE et remarques sont utilisés tout au long de ce guide pour souligner l'information importante et critique qui vous aidera à assurer la sécurité et à prévenir les dommages au produit. Ces énoncés sont définis ci-dessous.

AVERTISSEMENT

indique une situation potentiellement dangereuse qui, si elle n'était pas évitée, pourrait entraîner la mort ou des blessures graves.

MISE EN GARDE

indique une situation qui, si elle n'était pas évitée, pourrait entraîner des dommages à l'équipement, des dommages au logiciel, des pertes de données ou des résultats invalides.

REMARQUE   indique des informations supplémentaires importantes.

Conformité FCC/IC

Les énoncés qui suivent portent sur le guide d'exposition aux RF et la procédure de calibration sur place.

Guide d'exposition aux RF FCC/IC

Les appareils RF à faible puissance Aclara Technologies LLC ainsi que leurs antennes doivent être montés de manière fixe sur des structures intérieures ou extérieures permanentes qui se trouvent à au moins 20 cm des personnes pendant le fonctionnement normal. Cet appareil n'est pas conçu (et il n'a aucun branchement externe) pour être utilisé en association avec toute autre antenne ou tout transmetteur. Aucune autre instruction d'utilisation n'est requise pour assurer la conformité aux règles d'exposition aux RF.

Procédure de calibration sur place

Les appareils RF à faible puissance Aclara Technologies LLC ont été soumis à des tests étendus et multi-tâches et à des procédures de calibration complexes en usine. Par conséquent, ils ne requièrent pas de calibration ni d'ajustement supplémentaire sur place. Les appareils RF à faible puissance Aclara Technologies LLC sont expédiés au client dans des boîtiers scellés. Aucun ajustement ne peut donc être effectué sur place sans briser le boîtier scellé en usine.

Antenne

Cet émetteur radio (4546A-9975T) a été approuvé par Industrie Canada pour fonctionner avec l'antenne types énumérés ci-dessous avec le maximum de gain admissible indiqué. Types d'antenne non inclus dans cette liste, ayant un gain supérieur au gain maximum indiqué pour ce type, sont strictement interdits pour une utilisation avec cet appareil.

Référence du fabricant	Numéro de pièce fabricant	dBi
Laird Technologies	FG4605	5
MAXRAD	MFB4605(NF)	5

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9975T FINAL TEST INSTRUCTION

Written by: David George

Title: Test Engineer

Revision History

Revision	Description	Revised by	Date
A	Initial Release	D George	2015-11-12
B	Added firmware checks	D George	2015-11-12

Purpose

The purpose of this document is to provide instructions for testing of the 9975T transciever board during Final DCU Test and Integration.

Scope

The scope of this instruction includes the testing of functionality of the transmit and all 8 receive channels, as well as configuring customer settings.

Related Documents

SRFNI-XCVR Configuration Workflow

477-2015-001-TRS

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Test Instruction

CAUTION: Make sure antenna cable is plugged into the DCU! This test transmits to an end point and transmitting without a load can damage the transmitter!


1. Plug the communications cable into the 4-pin connector J19 of 9975T board.
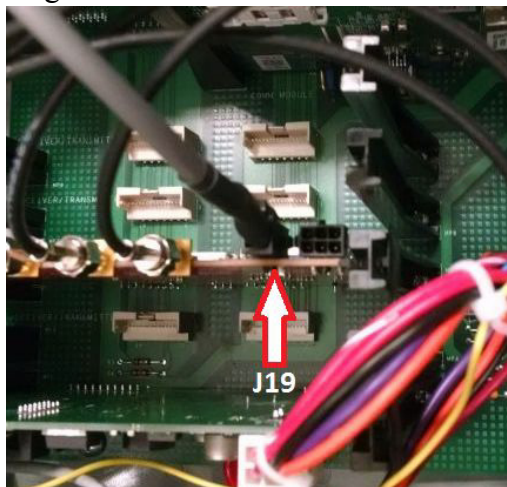
2. Make sure DCU under test has been powered for at least 2 minutes to allow 9975T time to boot up.

3. On DCU Main board verify:

   • CPU Board has 02.40.0009 Firmware or higher

   • 9975T board is recognized with a "w" response and reports a firmware version of 1.10.0033

   • Make a note of the current number of test records

4. Launch the **Final Test - 9975T** application.
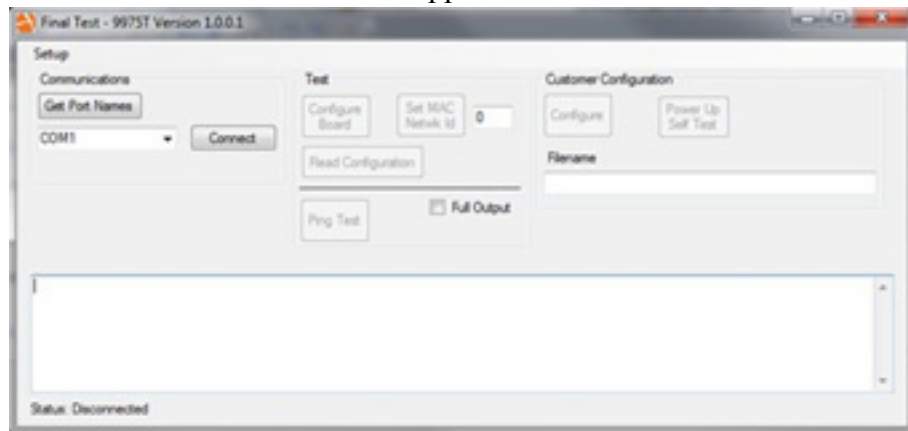
5. Select **Setup,** and set the correct Comm Properties.
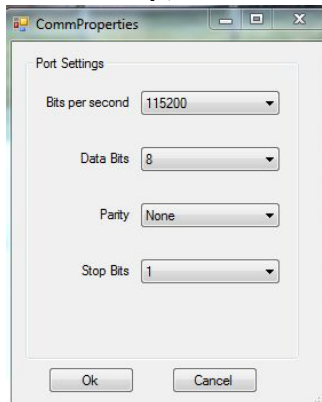
6. Click the **Get Port Names** button**.**

7. Select the correct COM Port Name for the cable that is plugged into the 9975T board**.**

8. Click the **Connect** button**.**

9. Select **Read Configuration,** and verify communications response from the 9975T**.**

10. Select **Set MAC Network ID** and set MAC Network ID to 0**.**

11. Click the **Configure Board** button**.**

12. Verify all receive channels are set to the correct frequency.

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13. Verify Transmit Channel frequency.

14. If all frequencies are set correctly, select **Ping Test**.

15. Verify Radios 1 – 8 have received a ping response from the factory end point with a signal strength no less negative than -30 dBm

```
Waiting for end point data...

Radio 1 = 249, -9.5dBm
Radio 2 = 249, -9.5dBm
Radio 3 = 249, -9.5dBm
Radio 4 = 249, -9.5dBm
Radio 5 = 249, -9.5dBm
Radio 6 = 249, -9.5dBm
Radio 7 = 249, -9.5dBm
Radio 8 = 249, -9.5dBm
```

Customer Configuration Instruction

1. Verify communications with 9975T by clicking **Read Configuration,** if necessary

2. Click the **Configure** button.

3. Select the appropriate customer .xml file.
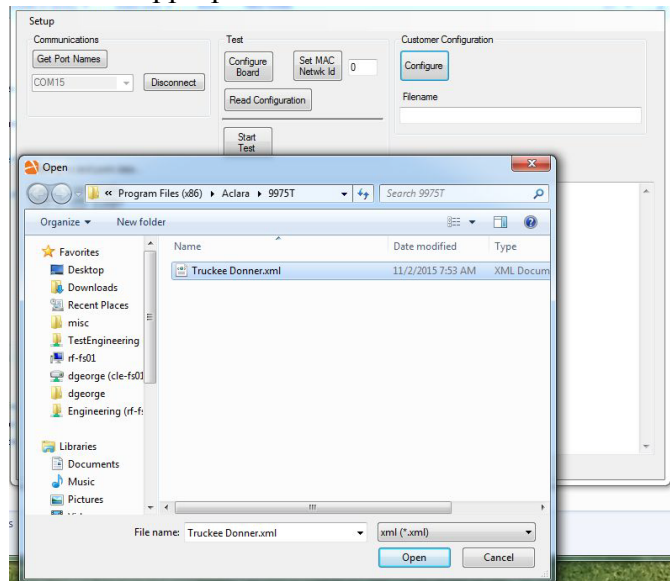
4. Click the **Open** button. The program will now configure the 9975T with customer frequencies and settings.

5. Select **Read Configuration,** and verify that the frequency settings are correct per customer work order (move the scroll bar of the output window up to display Receive and Transmit Frequencies).

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6. Click on **Power Up Self Tests**.

7. Verify that RTCFailCount, SecurityFailCount and NvmRWFailCount are all
    set at 0.

8. Verify that shipMode 1 write was successful. (It may be necessary to click
    twice to see shipMode write successful.)

```
Index 31 not set
stRTCFailCount
stRTCFailCount 0
stSecurityFailCount
stSecurityFailCount 0
stNvmRWFailCount
stNvmRWFailCount 0
stRamRWFailCount
[I]2015/11/13 00:30:50.970 DBG_TSK Received command: 'stRamRWFailCount'
[E]2015/11/13 00:30:50.970 DBG_TSK unexpected command: stRamRWFailCount
[R]2015/11/13 00:30:50.970 DBG_TSK stRamRWFailCount is not a valid command!
shipMode 1
[I]2015/11/13 00:30:59.150 DBG_TSK eFN_MODECFG Write Successful
shipMode 1
stRTCFailCount
stRTCFailCount 0
stSecurityFailCount
stSecurityFailCount 0
stNvmRWFailCount
stNvmRWFailCount 0
stRamRWFailCount
[I]2015/11/13 00:31:03.200 DBG_TSK Received command: 'stRamRWFailCount'
[E]2015/11/13 00:31:03.200 DBG_TSK unexpected command: stRamRWFailCount
[R]2015/11/13 00:31:03.200 DBG_TSK stRamRWFailCount is not a valid command!
shipMode 1
```

9. Verify number of test records has increased on DCU Main Board