ORBIT

OceanTRx™

OceanTRx7™

Maritime Stabilized VSAT System

Technical Note

BUCs Power Supply

Document: TEC32-1664-006,

September 2013

COMMUNICATION WITHOUT BOUNDARIES

Orbit Communication Systems Ltd. P.O.B. 42504, Israel, Tel: +(972) 9 892 2777, Fax: +(972) 9 885 5944 **www.orbit-cs.com**

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Revision History and Control

Revision History

Rev #	Modified by	Date	Comments
.	Albert	September 24, 2013	New Release

About this Manual

This manual is designed to guide you through the procedures required for maintaining the `BUCS POWER SUPPLY` for the OceanTRx7™ Maritime Satellite Communication System.

Text Conventions

Style	Indicates	Example
Text	Normal descriptive text	Contents
`Text`	Words or figures that appear on the screen or that should be typed The name of a file or directory	`System Status`
`<Text>`	A key to be pressed	`<ESC>`
`TEXT`	The name of a hardware component	`ANTENNA`
Text	The name of a GUI element	**Operation Screen**
➢	The description of a procedure	➢ **To configure…**

Notations

	Indicates important information that should be noted.
	Indicates a potential hazard.
	Indicates the safest method of installation or an operation that *must be adhered to.*

Effective Releases

This document is effective for both OrBand™ and OceanTRx7™ of the OceanTRx7™ Maritime Satellite Communication Systems.

For a description of the changes between OrBand™ and OceanTRx7™ refer to the *OceanTRx7™ Maritime Satellite Communication System Release Notes*.

Table of Contents

1 Introduction

1.1 Purpose

The purpose of this Technical Note is to provide detailed instructions on how to replace and verify the `BUC POWER SUPPLY` operation.

1.2 Principles

The following principles must be followed when performing the procedures in this Technical Note.

1.2.1 Torque Table

The following table provides the torque that should be used when tightening screws of the listed types, as relevant.

Table 1-1: Torque Values

Screw Type	Torque
M8	$25^{N}/_{m}$
M6	$10.2^{N}/_{m}$
M5	$6^{N}/_{m}$
M4	$2.5^{N}/_{m}$
M3	$1.35^{N}/_{m}$

1.3 BUCs Power Supply Description

The system contains an AC-to-DC module which converts the AC mains input voltage (90-130/200-250 VAC, 50/60 Hz) to +48 VDC connected to the BUCs.

The AC mains input voltage is connected to the ADE POWER BOX. The power supply modules and other ADE components located above the TURNTABLE receive power from the POWER BOX via the AZIMUTH AXIS SLIP-RING/ROTARY-JOINT ASSEMBLY.

Figure 1-1: BUC Power Supply Unit

1.4 Spare Kit Contents

The following table provides a list of the parts in the BUCS POWER SUPPLY spare kit.

Table 1-2: Spare Part Kit Contents

KIT32-1664-011-SP		
P/N	**Description**	**Quantity**
31-1400-9-2	CABLE POWER 220V TO P.S4 AL-7107-SYSTEM-2	1
31-1401-9-1	CABLE 48V ADAPTER BUC TO PS4 AL-7107	1
E22000021	POWER SUPPLY 48V 10A 480W	1
K03000010	RUB 3M 950+SILIC 2MM FOR PSU	1
PKG-049	PKG BOX 240X150X130mm RSC	1

1.5 Required Tools and Parts

The following table provides a list of tools and customer-supplied parts that are needed to perform the procedures in this Technical Note.

Table 1-3: Required Tools and Parts

Tool/Part Name	Notes	Figure
Medium Phillips screwdriver		
Flat screwdriver		
Tie Cutter		

2 Preliminary Procedures

The following preliminary procedure must be performed before replacing the BUCS POWER SUPPLY:

The preliminary procedure described below must be performed before replacing the SHUNT REGULATOR:

1. Open the RADOME hatch.
2. Switch off the ADE POWER BOX at the ANTENNA PEDESTAL base (located inside the RADOME).
3. Toggle the SERVO DRIVER MAINT/OPER switch on the servo driver to MAINT position to release the brake and allows smooth movement of the axis .
4. Manually rotate the PEDESTAL AXES to gain convenient access to the serviced unit.

In the following procedures, be very careful when tightening and loosening the screws with which the parts are assembled and attached to the system. Some of these screws are delicate and can be damaged by excess force. When using an Allen key make sure to insert the key all the way into the screw head to avoid thread stripping.

WARNING!

The Utility Outlet is connected directly to the vessel's AC voltage input terminals (125 VAC / 250 VAC). Therefore, there still exists live voltage at the Utility Outlet after disconnecting the power supply to the ADE using the Mains Power On/Off Switch.

Only qualified and authorized personnel are allowed to carry out system service/maintenance procedures.

3 Replacing the BUC Power Supply

3.1 Removing the BUC Power Supply

➢ **To Remove the BUC Power Supply:**

Step 1

Remove 4 screws using a long Phillips screwdriver.

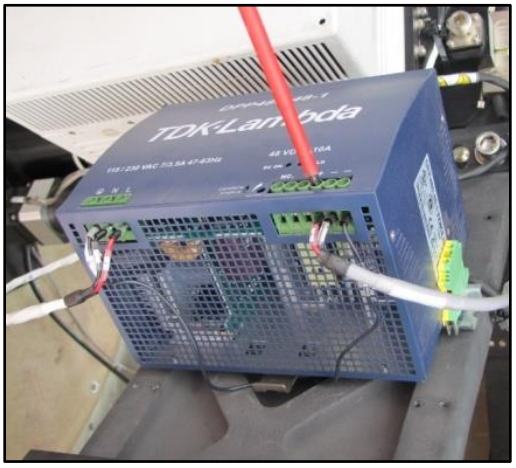
Step 2

Remove the cover by pulling it upwards.

Pay attention to the cables.

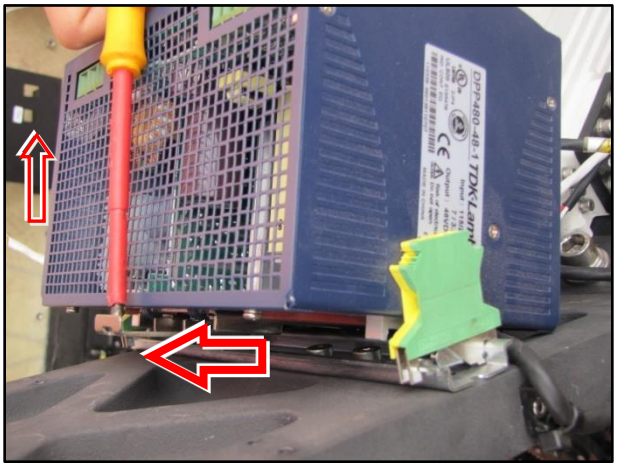
Step 3

Release the screws that holding the wires and pull out the wires to disconnect the cables.



Step 4

Release the `DIN RAIL HOLDER` that's holding the `BUCK PS` to the rail and pull it out.

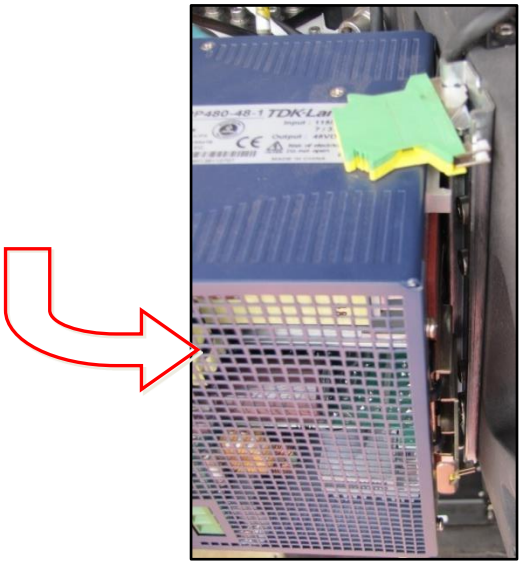


3.2 Installing a BUC Power Supply

Step 1

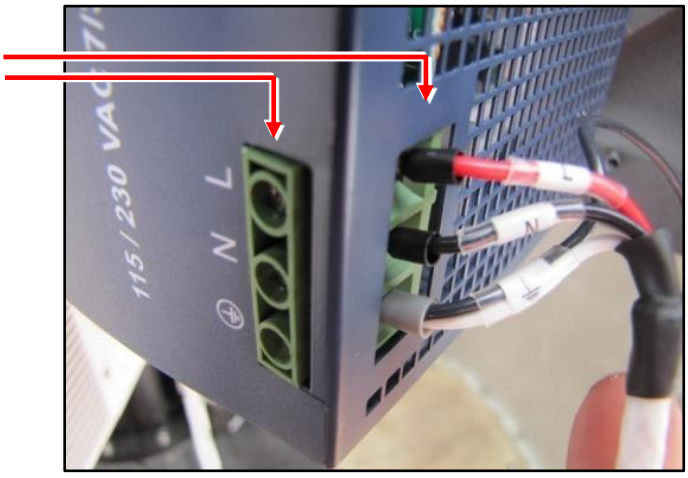
Mount the new `BUCK PS` unit on the upper side of the rail mounting strip.

Push the lower part to lock on rail.



Step 2

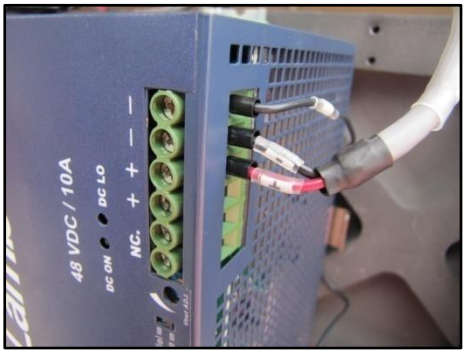
Insert the wires to their proper marked position and tighten using a screwdriver.



Make sure you fasten each wire to the same position from which it was removed (use your markings).

Step 3

Repeat **Step 2** with the upper `BUCK PS` cables.



Step 4

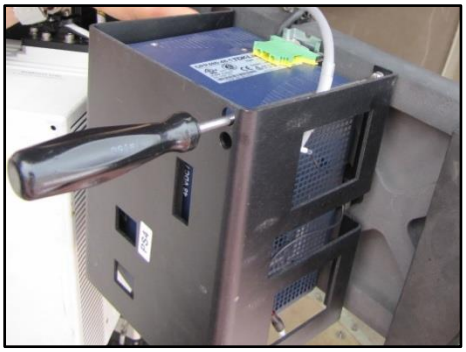
Secure the upper cable using tie warp.

Step 5

Locate the `BUCK PS` cover.

Step 6

Tighten 4 screws using a long Phillips screwdriver.



4 Perform Verification Test

➢ **To Perform Verification Test:**

1. Start up the system (see the *OceanTRx7™ Installation and Operation Manual* for instructions).
2. Make sure no error messages appear in the **System messages** window.
3. Perform 1db compression point test with the satellite operator.