

Thales Radio Equipment Manuals Change Notice
Preparing the AN/PRC-148 Radio for Immersion
February 2010

BACKGROUND / REASON FOR EQUIPMENT MANUAL CHANGE

It was identified that the equipment manual for the AN/PRC-148 did not clearly provide the radio settings for immersion.

As a result, Thales will be providing an update to the equipment manuals that clearly describes the necessary steps to prepare the radio for immersion.

SUMMARY OF CHANGE

The following immersion checklist will be added to Chapter 9 of each of the equipment manuals and will be included in the equipment quick reference guides.

- For JEM Radio Immersion -- refer to page 1
- For MBITR Radio Immersion -- refer to page 3
- For PRC6809 Radio Immersion -- refer to page 4

JEM -- Preparing the Radio for Immersion

!	<p>NOTE The paragraph references below are applicable for the JEM equipment manual (PN 84357 Rev G) only.</p>
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9.xx Preparing the Radio for Immersion

In preparation for operations which require the radio to be immersed into water, the following actions should be performed in order to avoid possible damage to the radio.

1. Verify that an immersible antenna is connected to the radio’s antenna connector PRIOR to immersion.
2. Verify that the battery o-ring is in place and not damaged. (Refer to paragraph 4.5.2.3)

!	<p>NOTE The positive contacts on the top of the battery are protected by an O-Ring that forms a watertight seal when attached to the radio or when the plastic cap is attached. If this O-Ring is missing or damaged, water (or other fluids) can reach the contacts, causing the battery to discharge and corrosion to both the battery and radio contacts. If not prevented, this can result in permanent damage to the radio and battery, including flooding the radio interior when immersed.</p>
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!	<p>NOTE</p> <p>It is also important that any spare batteries (not installed on the radio) have the plastic cap in place prior to immersion.</p>
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3. Verify that battery is attached to the radio.
4. Ensure the Side Connector is DISABLED prior to immersion into water. (Refer to paragraph 9.10)

!	<p>NOTE</p> <p>An enabled side connector can cause the radio to malfunction and cause severe corrosion damage when exposed to water (especially salt water). To prevent damage to the radio while powered on, the side connector MUST be disabled before the radio is immersed in water.</p>
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!	<p>NOTE</p> <p>If there is NO headset attached to the radio, refer to step 5 and 6.</p> <p>If there is an immersible headset attached to the radio, refer to step 7.</p>
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5. When immersing the radio without an immersible headset, it is important to verify that the audio path setting is set to INT AUDIO. (Refer to paragraph 9.5)

!	<p>NOTE</p> <p>Only one audio path is active at a time. Selecting one path (internal, top, or side) automatically disables the others. However, connecting or disconnecting an external audio device DOES NOT enable or disable the corresponding audio path.</p>
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6. Ensure the TX TIMEOUT is set to 30S. (Refer to paragraph 2.2.3.3.1) The 30S TX TIMEOUT setting will automatically limit a transmission and help to minimize the drain on the battery due to an inadvertent keying of the PTT.
7. When immersing the radio with an immersible headset, it is important to verify that the audio path setting is set to TOP AUDIO. (Refer to paragraph 9.5)

!	<p>NOTE</p> <p>Only one audio path is active at a time. Selecting one path (internal, top, or side) automatically disables the others. However, connecting or disconnecting an external audio device DOES NOT enable or disable the corresponding audio path.</p>
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- 8. Ensure the keypad is locked prior to immersion. Press ALT + ESC to lock and unlock the keypad.
- 9. The radio can now be safely immersed into the water.

MBITR -- Preparing the Radio for Immersion

!	NOTE The paragraph references below are applicable for the MBITR Equipment manual (PN 84329 Rev G) only.
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9.xx Preparing the Radio for Immersion

In preparation for operations which require the radio to be immersed into water, the following actions should be performed in order to avoid possible damage to the radio.

- 1. Verify that an immersible antenna is connected to the radio’s antenna connector PRIOR to immersion.
- 2. Verify that the battery o-ring is in place and not damaged. (Refer to paragraph 4.5.2.3)

!	NOTE The positive contacts on the top of the battery are protected by an O-Ring that forms a watertight seal when attached to the radio or when the plastic cap is attached. If this O-Ring is missing or damaged, water (or other fluids) can reach the contacts, causing the battery to discharge and corrosion to both the battery and radio contacts. If not prevented, this can result in permanent damage to the radio and battery, including flooding the radio interior when immersed.
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!	NOTE It is also important that any spare batteries (not installed on the radio) have the plastic cap in place prior to immersion.
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- 3. Verify that battery is attached to the radio.
- 4. Ensure the Side Connector is DISABLED prior to immersion into water. (Refer to paragraph 9.10)

!	NOTE An enabled side connector can cause the radio to malfunction and cause severe corrosion damage when exposed to water (especially salt water). To prevent damage to the radio while powered on, the side connector MUST be disabled before the radio is immersed in water.
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!	<p>NOTE</p> <p>If there is NO headset attached to the radio, refer to step 5 and 6.</p> <p>If there is an immersible headset attached to the radio, refer to step 7.</p>
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- When immersing the radio without an immersible headset, it is important to verify that the audio path setting is set to INT AUDIO. (Refer to paragraph 9.5)

!	<p>NOTE</p> <p>Only one audio path is active at a time. Selecting one path (internal, top, or side) automatically disables the others. However, connecting or disconnecting an external audio device DOES NOT enable or disable the corresponding audio path.</p>
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- Ensure the TX TIMEOUT is set to 30S. (Refer to paragraph 2.2.3.3.1) The 30S TX TIMEOUT setting will automatically limit a transmission and help to minimize the drain on the battery due to an inadvertent keying of the PTT.
- When immersing the radio with an immersible headset, it is important to verify that the audio path setting is set to EXT AUDIO. (Refer to paragraph 9.5).

!	<p>NOTE</p> <p>Only one audio path is active at a time. Selecting one path (internal, top, or side) automatically disables the others. However, connecting or disconnecting an external audio device DOES NOT enable or disable the corresponding audio path.</p>
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- Ensure the keypad is locked prior to immersion. Press ALT + ESC to lock and unlock the keypad.
- The radio can now be safely immersed into the water.

PRC6809 -- Preparing the Radio for Immersion

!	<p>NOTE</p> <p>The paragraph references below are applicable for the PRC6809 Equipment manual (PN 84345 Rev B) only.</p>
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9.xx Preparing the Radio for Immersion

In preparation for operations which require the radio to be immersed into water, the following actions should be performed in order to avoid possible damage to the radio.

- Verify that an immersible antenna is connected to the radio’s antenna connector PRIOR to immersion.

2. Verify that the battery o-ring is in place and not damaged. (Refer to paragraph 4.5.2.3)

!	<p>NOTE</p> <p>The positive contacts on the top of the battery are protected by an O-Ring that forms a watertight seal when attached to the radio or when the plastic cap is attached. If this O-Ring is missing or damaged, water (or other fluids) can reach the contacts, causing the battery to discharge and corrosion to both the battery and radio contacts. If not prevented, this can result in permanent damage to the radio and battery, including flooding the radio interior when immersed.</p>
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!	<p>NOTE</p> <p>It is also important that any spare batteries (not installed on the radio) have the plastic cap in place prior to immersion.</p>
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3. Verify that battery is attached to the radio.
4. Ensure the Side Connector is DISABLED prior to immersion into water. (Refer to paragraph 2.2.3.2.1)

!	<p>NOTE</p> <p>An enabled side connector can cause the radio to malfunction and cause severe corrosion damage when exposed to water (especially salt water). To prevent damage to the radio while powered on, the side connector MUST be disabled before the radio is immersed in water.</p>
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!	<p>NOTE</p> <p>If there is NO headset attached to the radio, refer to step 5 and 6.</p> <p>If there is an immersible headset attached to the radio, refer to step 7.</p>
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5. When immersing the radio without an immersible headset, it is important to verify that the audio path setting is set to INT AUDIO. (Refer to paragraph 2.2.2.4.1)

!	<p>NOTE</p> <p>Only one audio path is active at a time. Selecting one path (internal, top, or side) automatically disables the others. However, connecting or disconnecting an external audio device DOES NOT enable or disable the corresponding audio path.</p>
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6. Ensure the TX TIMEOUT is set to 30S. (Refer to paragraph 2.2.3.3.1) The 30S TX TIMEOUT setting will automatically limit a transmission and help to minimize the drain on the battery due to an inadvertent keying of the PTT.

7. When immersing the radio with an immersible headset, it is important to set the audio path to EXT AUDIO. (Refer to paragraph 9.5).

!	<p>NOTE</p> <p>Only one audio path is active at a time. Selecting one path (internal, top, or side) automatically disables the others. However, connecting or disconnecting an external audio device DOES NOT enable or disable the corresponding audio path.</p>
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8. Ensure the keypad is locked prior to immersion. Press ALT + ESC to lock and unlock the keypad.
9. The radio can now be safely immersed into the water.

EQUIPMENT MANUALS AFFECTED

The following equipment manuals will be impacted by this change:

Document Number	Current Revision	Date	Description
3400577-1	Rev H	Oct 2009	Quick Reference Guide -- MBITR
3400738-1	Rev B	Aug 2008	Quick Reference Guide -- PRC6809
3400905-1	Rev E	Sept 2009	Quick Reference Guide -- JEM
84329/84329-IETM	Rev G	Oct 2009	MBITR Operation and Maintenance Manual
84345/84345-IETM	Rev B	Jan 2004	PRC6809 Operation and Maintenance Manual
84357/84357-IETM	Reg G	Sept 2009	JEM Operation and Maintenance Manual

Thales is currently updating the equipment manuals to include the steps to be taken to prepare the radio for immersion. If there are any questions or comments relating to the user documentation, please email THALES_ILS@thalescomminc.com.