

UtiliSwitch™

REMOTE SWITCHING FOR FASTER LOCATING

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READ AND UNDERSTAND THIS USER GUIDE PRIOR TO OPERATING THE SYSTEM



UtiliSwitch™ Operation Manual

Contents

1. UtiliSwitch Features	3
2. Overview	4
3. Installing batteries in UtiliSwitch	4
4. Preparing UtiliSwitch for use	5
5. Connection and operation	6
6. Status indications	7
7. UtiliSwitch Product Specifications	8
8. Part numbers	8
9. Compliance	9

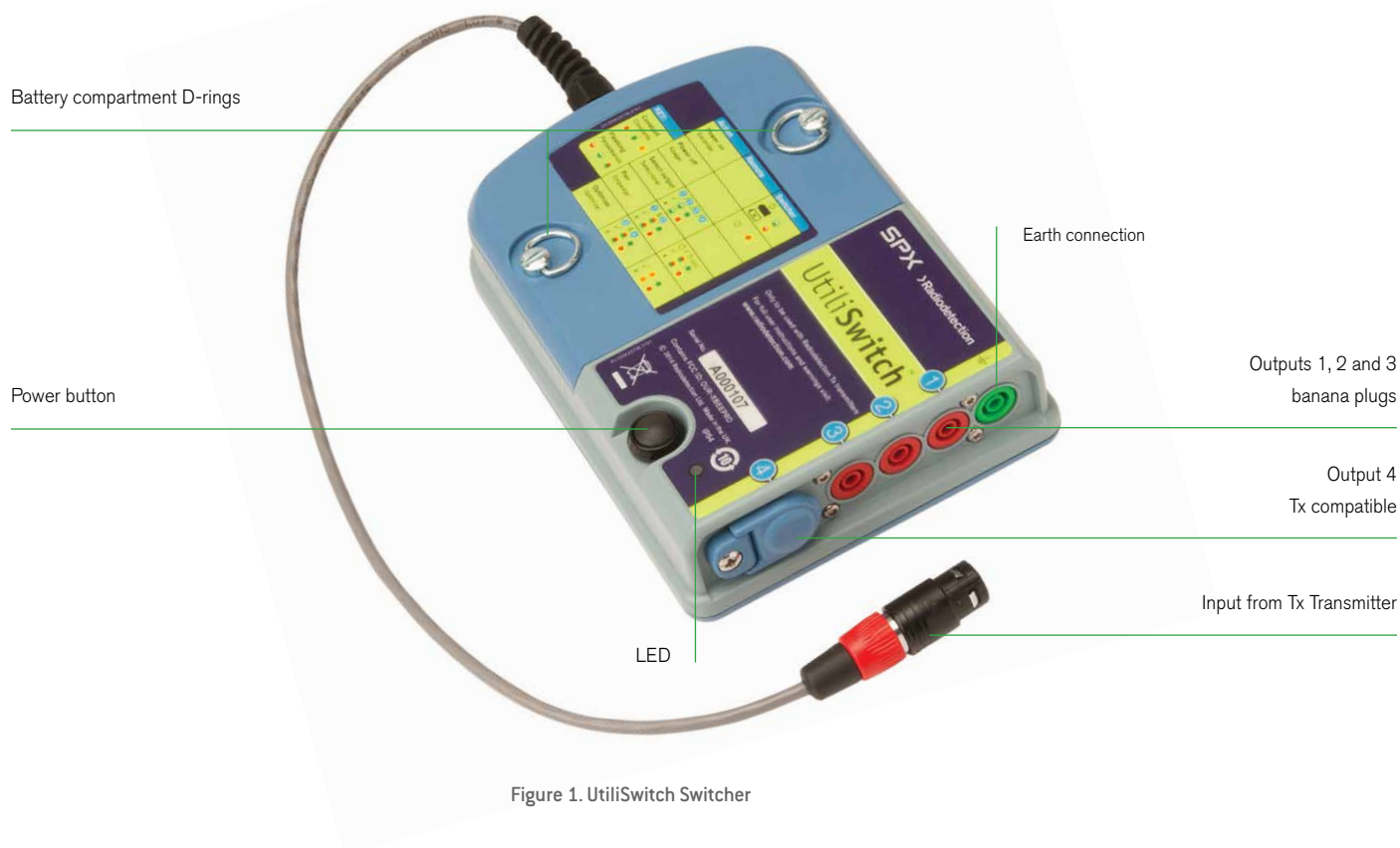
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1. UtiliSwitch Features



⚠ WARNING! Direct connection to live conductors is POTENTIALLY LETHAL. Direct connections to live conductors should only be attempted by fully qualified personnel using the relevant products that allow connections to energized lines

⚠ WARNING! The transmitter is capable of outputting potentially lethal voltages. Take care when applying signals to any pipe or cable and be sure to notify other technicians who may be working on the line.

⚠ WARNING! The transmitter is capable of outputting potentially lethal voltages. UtiliSwitch is only to be used by competent personnel familiar with the operating instructions of Radiodetection's Tx transmitter products.

Ensure that appropriate measures have been taken to protect the general public from the live locate circuits, particularly when switching outputs.

⚠ Use of UtiliSwitch for any other purpose is expressly forbidden.

⚠ Ensure UtiliSwitch and Tx transmitter are turned off when connecting or disconnecting.

⚠ WARNING! Switch off UtiliSwitch Switcher and disconnect cables before changing batteries.

⚠ WARNING! UtiliSwitch is NOT approved for use in areas where hazardous gases may be present.

UtiliSwitch Switcher contains devices that emit radio frequency energy during the operation of certain product features. While the devices are pairing, optimizing communications or sending commands to each other always ensure a minimum separation of 8 inches (200mm) between the antenna and your body.

Battery disposal

Batteries should be disposed of in accordance with your company's work practice, and / or the relevant laws or guidelines in your country or municipality.

Training

Radiodetection provides training services for most Radiodetection products. Our qualified instructors will train equipment operators or other personnel at your preferred location or at Radiodetection headquarters.

For more information go to **www.radiodetection.com** or contact your local Radiodetection representative.

2. Overview

UtiliSwitch™ Switcher has been designed to switch the output of Radiodetection™ Tx transmitter products to up to four outputs remotely.

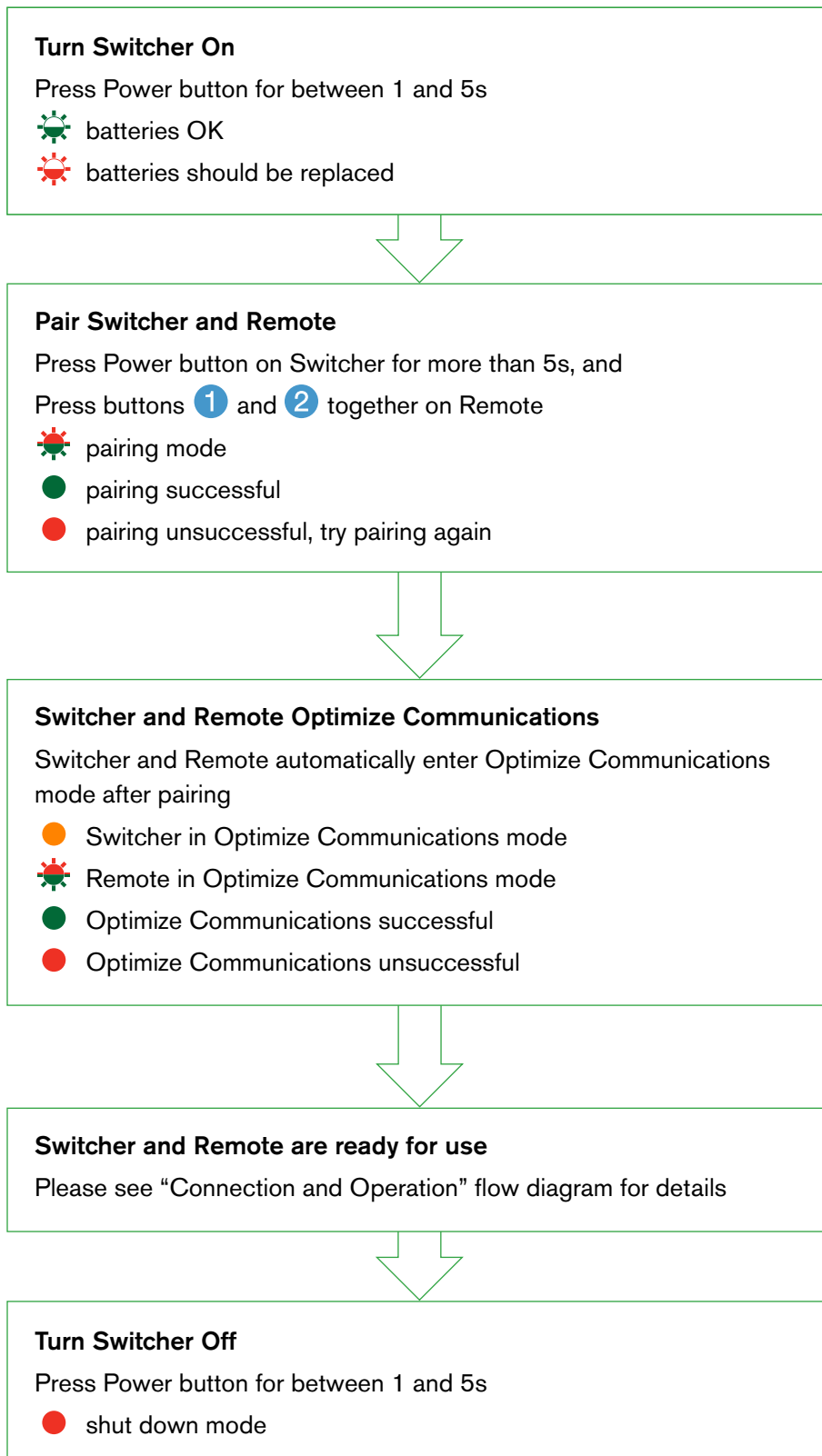
3. Installing batteries in UtiliSwitch

NOTE: Ensure that the batteries are installed with the correct polarity as marked in the battery compartments.

Undo the two D-rings on UtiliSwitch Switcher to access the battery compartment (see Figure 1).

Undo the two Phillips screws on UtiliSwitch Remote to access the battery compartment (see Figure 2).

4. Preparing UtiliSwitch for use



NOTES:

The Remote has no separate Power button, no user action is required.

The Switcher and Remote must be paired to enable the two units to communicate.

If the paired units are solely used with each other, Pairing should only need to be carried out once, even if the batteries are changed. Pairing will have to be carried out again if a different Switcher or Remote unit is used.

Optimize Communications chooses the best radio channel between the two units, maximizing the range over which they can communicate.

Units can still communicate, even if Optimize Communications was unsuccessful. Please see “Connection and Operation” flow diagram for how to implement Optimize Communications manually.

The Remote has no separate Power button, no user action is required.

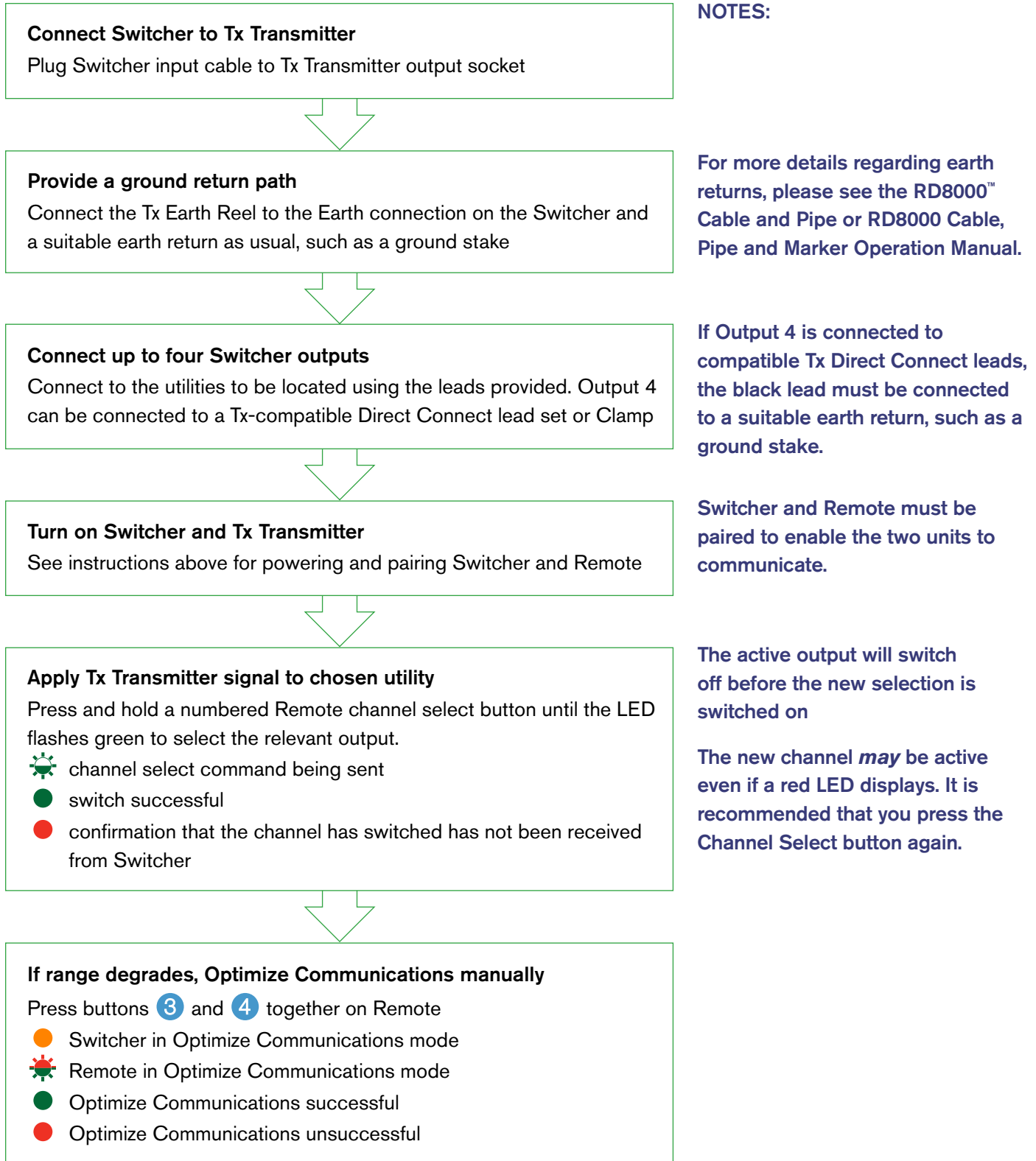
Output 4 is active when Switcher is turned off (but no power is consumed).

Flow diagram 1. Preparing UtiliSwitch for use

5. Connection and operation

⚠ WARNING! Ensure UtiliSwitch and Tx transmitter are turned off when connecting or disconnecting cables.

Please refer to Figures 1 and 2.



Flow diagram 2. Connection and operation

6. Status indications












UTILISWITCH SWITCHER:				
User action	Button Press Time (s)	Switcher action	LED Color	LED indication
None		Off	Off	
To turn on	1 to 5s	Switcher is turning on, battery is OK		Flashing fast
	1 to 5s	Switcher is turning on, battery is low		Flashing fast
		Switcher is on, waiting for a command, battery is OK		Flashing slow
		Switcher is on, waiting for a command, battery is low		Flashing slow
To turn off	1 to 5s	Switcher is turning off		Solid for 2s
To Pair	Over 5s	Switcher is in Pairing mode.		Flashing alternately
		Pairing was successful		Solid for 3s
		Pairing failed		Solid for 3s
To Optimize Communications	See Remote	Switcher and Remote are Optimizing Communication channels		Solid
		Communications were optimized successfully		Solid for 3s
		Communications were not optimized successfully		Solid for 3s

Table 1. Summary of UtiliSwitch Switcher status indications


















UTILISWITCH REMOTE:				
User action	Button Press Time (s)	Remote action	LED Color	LED indicators
None		Off	Off	
Select Channel	   or  for more than 0.5s	Remote is sending a command		Channel LED flashing fast
		Success – Switcher Output Channel Selected		Channel LED Solid for 3s
		No response from Switcher ¹		Channel LED Solid for 3s
To Pair	1 to 30s	Press and hold buttons  and  together		LED Position 1 flashing alternately
		Pairing successful		LED Position 2 solid for 3s
		Pairing failed		LED Position 2 solid for 3s
To Optimize Communications	1 to 30s	Press and hold buttons  and  together		LED Position 3 Flashing alternately
		Optimization successful		LED Position 4 solid for 3s
		Optimization failed		LED Position 4 solid for 3s

Table 2. Summary of UtiliSwitch Remote status indications

NOTES: ¹ A Channel Select command may have been executed by the Switcher even if no response is received by the Remote.

7. UtiliSwitch Product Specifications

Operating and storage temperature range	-20°C to +50°C		
Environmental protection	IP54		
Batteries	Switcher:	2xAlkaline D-cells (LR20) or NiMH (HR20)	
	Remote:	2xAlkaline AA-cells (LR6) or NiMH (HR6)	
Unit weight	Remote:	0.23lb (0.10kg) 0.34lb (0.15kg)	Including batteries: Excluding batteries
	Switcher:	2.35lb (1.07kg) 1.74lb (0.79kg) 1.11lb (0.50kg)	Including batteries and leads Including batteries Excluding batteries
Signal switching rating	10W max		
Maximum signal current	1.0A rms		
Maximum signal voltage	125Vrms / 250Vpk		
Maximum VA	10VA		
Maximum “foreign” signal	30V AC rms, (50/60Hz)		The system will continue to function correctly with an existing voltage on the target utility up to but not exceeding the Max foreign signal
Accidental connection protection	250V AC rms		Protected against accidental connection of output to 250V AC rms

Table 3. UtiliSwitch specifications

8. Part numbers

Description	Part number
UtiliSwitch kit (complete)	10/UtiliSwitchKit
UtiliSwitch Switcher	10/UtiliSwitcher
UtiliSwitch Remote	10/UtiliRemote
UtiliSwitch spare connection lead set	10/UtiliLeads

Table 4. UtiliSwitch part numbers

9. Compliance

FCC Compliance Statement

This equipment complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

The equipment may not cause harmful interference.

The equipment must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instruction manual, may cause harmful interference with radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case you will be required to correct the interference at your own expense.

Industry Canada Compliance Statements

ICES-003 Class A Notice:

This Class A digital apparatus complies with Canadian ICES-003.

Avis NMB-003, Classe A:

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Modifications

Any modifications made to this equipment not approved by Radiodetection may void the authority granted to the user by the FCC to operate this equipment.



UtiliSwitch

**FASTER LOCATING THROUGH
MULTIPLE SIGNAL CHANNELS**

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Radiodetection is a leading global developer and supplier of test equipment used by utility companies to help install, protect and maintain their infrastructure networks.

Radiodetection is a unit of SPX (NYSE: SPW), a global Fortune 500 multi-industry manufacturing company. With headquarters in Charlotte, N.C., SPX has 14,000 employees in more than 35 countries worldwide. Visit www.spx.com.