



WIRELESS ACCESS SERIES

OPERATING INSTRUCTIONS

TEST KIT

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OPERATING INSTRUCTIONS

Test Kit

NOTE: These instructions are for using the Test Kit, a component of a Wireless Access System.

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1. Wireless Access™ System Components

1.1 Overview

Every access control system that uses Wireless Access™ contains two different types of modules (Figure 1-1):

at least one Wireless Panel Interface Module (WPIM), and

at least one Wireless Access Point Module (WAPM)

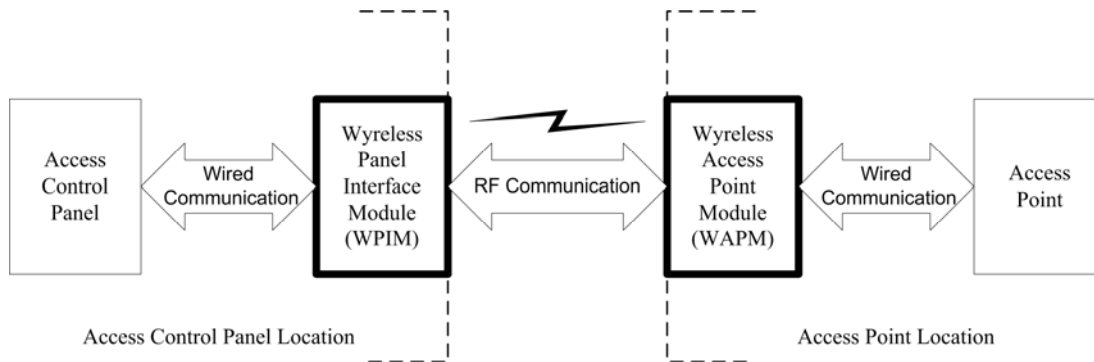


Figure 1-1 – Wireless Access System Block Diagram

The Schlage product line contains several different expressions of each module.

The WPIM is wired to the access control panel and ideally is installed very close to the access control panel. The WPIMs installation location is determined by the location of the WAPMs with which it will communicate using RF.

The WAPM is installed at the access point where access will be controlled and/or monitored. Depending on the application and which WAPM is used, some wiring at the access control point may be required.

Regardless of which WPIM or WAPM module is used, the communication link between the WPIM and WAPM is always RF.

This manual describes how to use the Test Kit to determine the optimum mounting locations for WPIMs and WAPMs in a Wireless Access™ System to achieve the best RF reliability.

1.2 Test Kit Components & Sales Models

The Test Kit (Figure 1-2) consists of three components: a Panel Interface Module Tester Version 2 (PIMT-2), a Modular Integrated Reader Lock Tester (MIRLT), and a carry case.



Figure 1-2 – Test Kit

1.2.1 Panel Interface Module Tester Version 2 (PIMT-2)

The PIMT-2 (Figure 1-3) is used to determine the optimum mounting location for a PIM to insure that reliable RF communication is possible with all of the WAPMs that will be linked to it. The PIMT-2 is supplied with an AC power cube (Figure 1-4) that will power the PIMT-2.

The PIMT-2 is to be used with the MIRLT.



Figure 1-3 – PIMT-2



Figure 1-4 – PIMT-2 AC Power Cube

1.2.2 Modular Integrated Reader Lock Tester (MIRLT)

The MIRLT (Figure 1-5) is used to determine if the required mounting position of a WAPM (MIRL, IRL, WRI, WISI, WUSI, or WPR) will provide reliable RF communication with the PIM to which it will be linked. The MIRLT is battery powered.

The MIRLT is to be used with the PIMT-2.

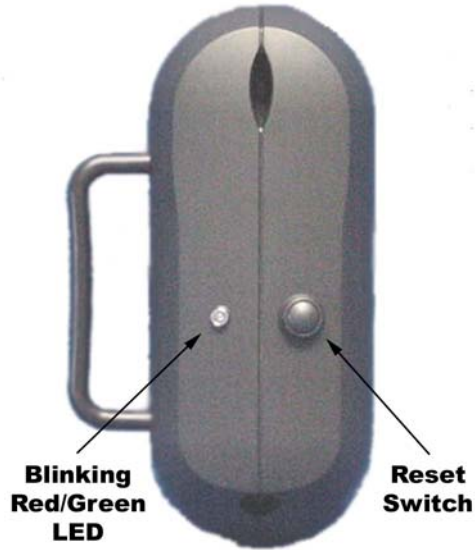


Figure 1-5 - MIRLT

1.2.3 Test Kit Sales Models

MODEL	INCLUDES		DOES PRE-INSTALLATION TESTS FOR							
	PIMT-2	MIRLT	MIRL	IRL	WRI	WPR	WISI	WUSI	WCM	WEXK
TK797	√	√	√	√	√	√	√	√	√	√

Table 1-1- Test Kit Sales Model Table

2. Using the Test Kit

2.1 Test Kit Overview

The Test Kit operates at less than half the transmission power of the equipment that will actually be installed. Checking out every location that a WPIM and WAPM will be used assures the installing company that the equipment will communicate when installed.

Do not be disappointed if the tester indicates poor or no communications by not linking. It is a conservative indicator.

During the test, the quality of communications can be determined by the blinking LED on the MIRLT. All **green** blinks on the LED indicate a perfect RF communication location. All **red** blinks indicate that no RF communication is occurring. **Never** put a WAPM in a location where the LED blinks are predominantly **red**. If there are a few **red** blinks among the **green** ones but linking is not accomplished, it is possible to install the WAPM in its location with the help of the recommendations in section 3, Improving RF Communications (page 12). This should overcome the lack of complete communications in areas where some **red** blinks are noted and the tester will not link.

2.2 Using the PIMT-2

2.2.1 Locating the PIMT-2

The PIMT-2 should be mounted in the exact location that the PIM would be located (see “configuration and operating manual for PIM location details). Since the PIMT-2 is being used as tool for determining whether a location is suitable for the PIM’s RF communication, the mounting location of the PIMT is important. It is recommended that the PIMT-2 be mounted to the wall (or ceiling) as the PIM would (screws, bolts, etc.).

NOTE: The PIMT-2 comes with a remote antenna gland installed so that a location that requires a remote antenna can be tested. The remote antenna must be purchased separately. Please contact Schlage for information on ordering the proper remote antenna for your application.

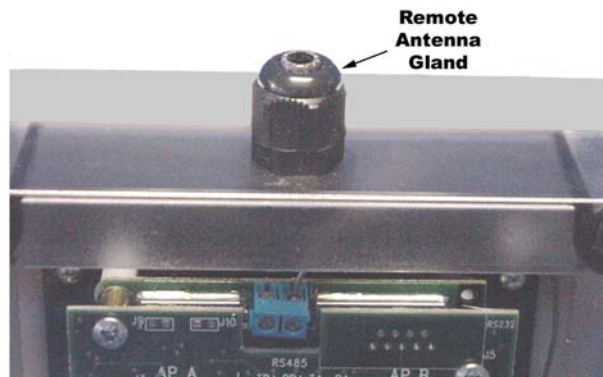


Figure 2-1 – PIMT-2 Remote Antenna Gland

2.2.2 Powering the PIMT-2

Supplied with the Test Kit is a power cube (Figure 2-2) to power the PIMT-2. Plug the DC connector on the AC Power Cube into the PIMT-2 (Figure 2-3) and then plug the AC Power Cube into 120 VAC. At this point the PIMT-2 will start to power up LED's will blink specific sequences signifying software product status. Thirty (30) seconds after powering up the PIMT-2 is ready to be put into link mode.



Figure 2-2 – PIMT AC Power Cube



Figure 2-3 – Original PIMT PCB Power Connections

2.2.3 Placing the PIMT-2 in Link Mode

ORIGINAL PIMT-2 (switch SW7 installed): Before you put the PIMT-2 into link SW7 (Figure 2-4) must be set/checked to insure that it is set to RF channel 15 (all four switches in the dip switch set “down”).

NEWER PIMT-2 (switch SW7 not installed): The newer PIMT-2 does not have switch SW7 installed and therefore they are always set to RF channel 15.

Insert a small non metallic device, like the eraser end of a pencil, through the hole in the clear plastic cover and momentarily press switch AP A (Figure 2-4) to put the PIMT-2 into link mode. CR9 (Figure 2-4) will begin to blink red-green. The PIMT-2 is now ready to go through the pre-installation RF communication link process.

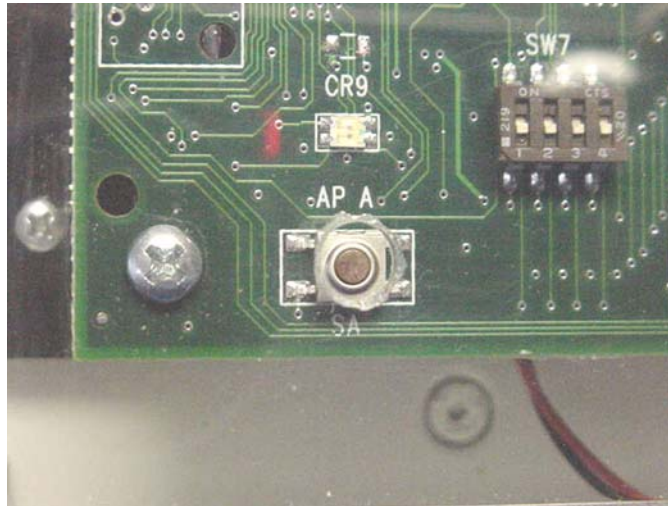


Figure 2-4 – PIMT Switches and LEDs

2.3 Using the MIRLT

2.3.1 Locating the MIRLT

The MIRLT is a battery-powered device used in conjunction with the PIMT-2 to determine if a specific location is acceptable for mounting any Schlage WAPM product. The MIRLT has a flat back and a handle so it can be held up and placed in the exact spot where the WAPM will be installed.

- ✓ **Always hold the MIRLT by the handle not by the housing (Figure 2-5).**
- ✓ **Always locate the MIRLT in the intended mounting position(s) before and during the linking process (see below).**
- ✓ **Always test on the intended door with the door open and with the door closed.**

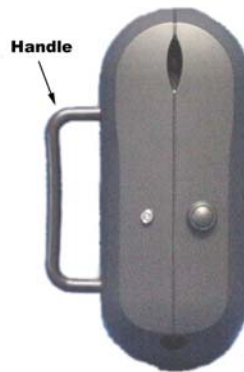


Figure 2-5 – MIRLT Handle

2.3.2 Testing the MIRLT Location

2.3.2.1 Resetting the MIRLT

The MIRLT is battery powered. It is always ON. The battery should last over two years with normal use.

Press and release the momentary Reset switch (Figure 1-5). This resets the MIRLT and starts the link process.

2.3.2.2 MIRLT Low Battery Indication

A low battery in the MIRLT is indicated by a long red LED flash and three sounder beeps after pressing the MIRLT Reset switch. If a low battery is indicated, refer to section 4, MIRLT Battery Installation/Replacement (page 13).

Note: Do not attempt a pre-installation test if the battery is low.

2.3.2.3 Observing the MIRLT Linking Process

Two to three seconds after pressing the rocker switch on the MIRLT it will go into link mode, the LED will blink green very fast for about 20 seconds.

NOTE: It is recommended that the first time you link the MIRLT to the PIMT-2 that it is done within close proximity to the PIMT-2 so that you can observe what to expect from a successful link before using it at a remote distance.

2.3.3 Evaluating the MIRLT Linking Results

During the 20 seconds that the LED is blinking very fast, the PIMT-2 and the MIRLT are communicating back and forth 200 times. For every successful transmission the LED on the MIRLT blinks green once. For every unsuccessful transmission it blinks red once.

2.3.3.1 Successful MIRLT Link

At the end of a successful link the MIRLT will blink and beep 15 times (signifying a link to channel 15). A successful link will produce many more green blinks than red blinks during the link transmissions. A greater than 85% successful transmission rate is needed for a successful link. This will assure that more than 99.6% of all RF transmissions will be completed error free.

2.3.3.2 Unsuccessful MIRLT Link

At the end of an unsuccessful link the MIRLT will blink red and beep once. An unsuccessful link will produce many more red blinks than a successful link. Less than 85% successful transmissions will cause a failure to link.



3. Improving RF Communications

Mount the PIMT-2 where PIM will be mounted. Locate MIRLT where the WAPM (MIRL, IRL, WRI, WISI, or WUSI) will be mounted. Follow test procedure.

If tester will not link, but most of the LED blinks are green, try one of the following recommendations:

1. Rotate the PIMT-2 90° and try to link to all WAPM locations again. If this works, then the PIM must be oriented this way when installed.
2. If that doesn't resolve the linking problem and the PIMT-2 is in a closet, try moving it into the open area outside closet where a Schlage Remote Antenna could be located or install an optional remote antenna on the PIMT-2 (see section 2.2.1 on page 8 above). This will eliminate the RF attenuation from the closet wall. If this allows the MIRLT to link, then the PIM should be mounted outside the closet. If mounting the PIM outside the closet is impractical, then mount the PIM in the closet and mount the Schlage Remote Antenna outside the closet.
3. If that doesn't allow all locations to link, but those locations that won't link give mostly green blinks, try a PIMT-2 with a Schlage approved directional (remote) antenna aimed at that non-linking MIRLT location.
4. Or move the PIMT-2 closer to the non-linking MIRLT location until it links. Then use another PIM for the non-linking location only located closer to the previously non-linking location.
5. Lastly, if 1-4 do not resolve the linking, a repeater can be located halfway between the PIM location and the WAPM location.

Remember, there are several simple ways to improve RF communications if a problem occurs:

- rotate the PIM,
- use a Schlage Remote Antenna Module,
- add a Schlage approved directional antennas that have gain,
- move PIMs closer to WAPMs,
- add another PIM just for the non-linking unit which will be located closer to the non-linking unit – close enough so it links,
- and/or, use a repeater.

4. MIRLT Battery Installation/Replacement

The MIRLT use a battery pack (BP12V-001, Figure 4-1).



Figure 4-1 - BP12V-001 Battery Pack

To install or replace the MIRLT Battery Pack, remove the MIRLT Battery Cover (Figure 4-2). If installed, remove the Battery Bracket (Figure 4-3). If replacing, remove and disconnect the old Battery Pack (Figure 4-3 & Figure 4-5). Connect & install the new Battery Pack then install the Battery Bracket. Install the MIRLT Battery Cover (Figure 4-2). Depending on how long the Battery Pack was disconnected, the MIRLT may or may not go through its power-up sequence.

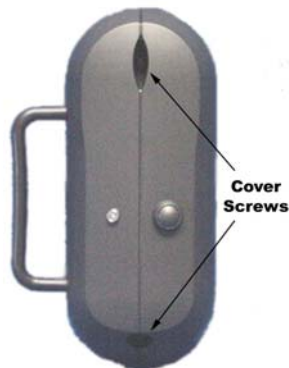


Figure 4-2 - MIRLT Battery Cover

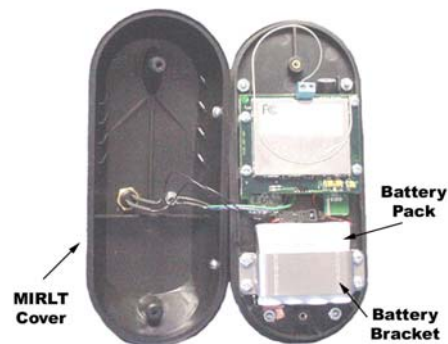


Figure 4-3 - MIRLT Cover Removed

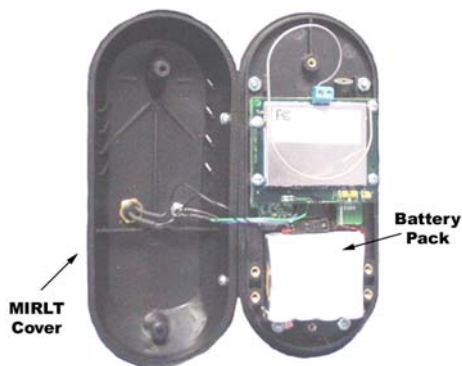


Figure 4-4 - MIRLT - Bracket Removed

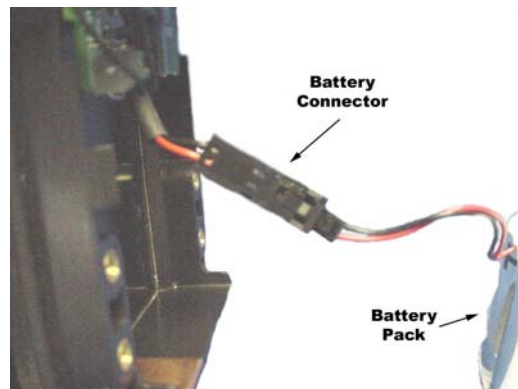


Figure 4-5 - MIRLT - Battery Connector



5. Contacting Schlage

For questions regarding Wireless Access™:

<http://www.irsupport.net>

(866) 322-1237
(866) 322-1233 fax



6. FCC Compliance & Warnings

6.1 FCC Compliance

These devices have been authorized by the FCC Rules and Industry Canada.

These devices comply with the limits for a Class B digital device and a Class B intentional radiator, pursuant to Part 15 of the FCC Rules and with RSS-210 of Industry Canada. Operation is subject to the following two conditions: (1) This device may cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The Wireless Access System Component must be installed by qualified professionals or contractors in accordance with FCC part 15.203, Antenna Requirements.

Do not use any antenna other than the one provided with the unit.

6.2 Warnings

RF Exposure - To comply with FCC RF exposure requirements for mobile transmitting devices this transmitter should only be used or installed at locations where there is normally at least a 20 cm separation between the antenna and all persons.

Do not co-locate and operate in conjunction with any other antenna or transmitter.

Use only the Battery Pack specified in this instruction manual.

Do not subject Battery Pack to fire or high temperatures.

Do not attempt to recharge, short out or disassemble Battery Pack.

Follow local regulations for alkaline battery disposal.

Immediately remove the batteries and discontinue use if:

- the product is impacted after which the interior is exposed, or
- the product emits a strange smell, heat, or smoke.

Changes or modifications not expressly approved by Schlage could void the users authority to operate the equipment.

DISCLAIMER: While the Test Kit can be used to increase the probability that the RF reliability of the actual product installation will be acceptable, it cannot guarantee it. Schlage assumes no liability for any discrepancy between the performance of the Test Kit and the actual installed product.



7. Revision History

Version	Date	Changes
X001	06/03/03	preliminary in house release for comments
X001.1	06/24/03	changed name from MIRL Pre-Installation Tester to Test Kit
001	06/24/03	added verbiage/figure about pressing PIMT-2 link button & holding MIRLT by handle, released for publication
002	07/02/03	corrected model number
003	09/17/03	added newer PIMT-2's not having channel selection DIP switch verbiage, added WCM & WEXX to list of modules that the MIRLT tests