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**1.0**

**IST'S SWIMSTART REMOTE START**

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The SWIMSTART Remote Start, combined with your SWIMSTART or another electronic start gives your officials the freedom to focus on the race without worrying about wires. Coaches love using the SWIMSTART Remote Start when teaching starts in practice. Please take a few moments to read this manual to become familiar with the features and operation. The 900MHz radio frequency does not require an operator's license.

The SWIMSTART Remote Start consists of a hand held transmitter powered by a 9 volt alkaline battery and a Receiver that plugs directly into your existing starting device in place of the microphone. If you are using IST's SWIMSTART, the Receiver gets its power from the SWIMSTART's battery. If you are using another start, a 9 volt alkaline battery is also required for the Receiver.

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**1.1**

**Assembling the SWIMSTART Remote Start**

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When you unpack the SWIMSTART Remote Start, you should have the following pieces:

- Remote Start Receiver with coiled cord
- Remote Start Transmitter with IST lanyard
- Adhesive-backed Velcro strips
- SWIMSTART Remote Start Operating Instructions

If any of these items are missing, call 800/835-2611 for replacements. You will also need one 9 volt alkaline battery for the Transmitter for connection to a SWIMSTART. If you are using a start other than IST's SWIMSTART, you need two 9 volt alkaline batteries, one for the Transmitter and one for the Receiver. (Receivers connected to a SWIMSTART get their power from its internal rechargeable battery.)

To install the 9 volt alkaline battery, slide the battery cover away from the case as indicated by the arrow. Insert the battery, being careful to match the **+** and **-** battery poles with the markings in the case. If proper polarity is not observed, damage could occur. To test the Transmitter, press the Push to Talk button and see if the red **Transmit/Lo Batt** LED comes on. If not, remove the battery and replace correctly. If your Receiver requires a battery, you must check it by sending a signal from the Transmitter, as described in Section 1.4.

Begin assembly by connecting the Receiver to your start. If you are using a start from another company, be sure to insert a battery in the Receiver, as explained above. Disconnect the existing microphone from the start, and plug the connector from the Remote Start Receiver in its place. Now determine the best place to attach the Receiver to the start's case, or on the backstroke flag pole above the start. For best reception, the Receiver should be mounted so the antenna is in clear view from any location where the Transmitter might be used. The antenna should extend above the top of the start's case. In addition, it is helpful to have the LED indicators visible to the official using the Transmitter.

When the Receiver location has been determined, use the adhesive-backed Velcro strip to attach the Receiver to the start. Place one side of the Velcro on the start, and the other side on the back of the Receiver, but not over the battery cover.

HELPFUL HINT: It will be easier to remove the Receiver if the two sides of the Velcro form a "cross" when connected, rather than being parallel.

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## 1.2

## Selecting an Operating Channel

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When using the SWIMSTART Remote Start, both the Transmitter and Receiver must be on the same channel, numbered **0-7**. To find a clear channel in your facility, begin by turning on the SWIMSTART. (If you are using another start, turn on both the start and the ON switch on the side of the Receiver.) The Channel Select switch is on the top of the Receiver. The button marked "+" selects a higher channel and the "-" button selects a lower one. Receivers used on IST's SWIMSTART also have a 7-segment LED display on the front that indicates the current channel. Receivers used on other starts do not have this display to conserve battery power.

Move through the channels and monitor the yellow **Carrier** LED on the front of the Receiver for 10-15 seconds on each channel. If the LED lights up, there are other radio devices in the area that using that frequency. These channels should not be used. You should find several channels that will not detect any radio signals, so the **Carrier** LED will not light up. These are the channels you should use for the Receiver and Transmitter. When you have selected a channel on the Receiver, set the Channel Select switch on the Transmitter to the same channel. If the Transmitter and Receiver are not on the same channel, the Remote Start will not function.

If you are not able to find a channel without other radio traffic, you can return your Transmitter and Receiver to IST and they can be reprogrammed with a different set of frequencies to insure valid starts.

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## 1.3

## Using SWIMSTART Remote Start Microphone

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When the Receiver is installed and both the Transmitter and Receiver are set to the same channel, you are ready to use your Remote Start. For safety, keep the Transmitter lanyard around your neck when using it. The Transmitter has two buttons: **Push to Talk** on the left and **Start** on the right.

When the **Push to Talk** button is depressed the red **Transmit/Lo Batt** LED on the Transmitter lights up, indicating an encoded signal is being sent. On the Receiver, you should see two LED's light up. The yellow **Carrier** LED indicates the Receiver has detected a radio signal. The green **Valid Receive** LED means the signal received carries the correct code to activate the start. The **Push to Talk** button allows you to use the Transmitter as a microphone

for the PA system in your start. Simply hold the **Push to Talk** button down and speak into the round grid near the top of the transmitter. You can adjust the volume control on the start to get the proper audio level.

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## 1.4

## Starting a Race

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To start a race with the Remote Start, hold down the **Push to Talk** button and press the **Start** button. If the **Push to Talk** button is not depressed, the **Start** signal will not be sent and the start device will not be activated. When you press the **Start** button with the **Push to Talk** button depressed, you will see two LED's on the Receiver light up. The green **Start** LED will flash briefly as the start tone and strobe are activated. You should then release both buttons.

The red **Recall** LED will stay lit for about 10 seconds. While the red **Recall** LED is on, pressing the **Push to Talk** and **Start** button on the Transmitter a second time will activate a three second, pulsing recall tone from the start. You should then release both buttons. The **Start** LED on the Receiver will stay lit while the recall tone sounds.

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## 1.5

## Monitoring the "Carrier" LED

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Even though you selected a clear channel when you set up the Remote Start, you may still see the yellow **Carrier** LED on the Receiver flash occasionally. Signals from cell phones, pagers or other electrical devices nearby may be on the same frequency as the Receiver. If people come into the area using devices that are on the same frequency as the selected channel on the Remote Start, the yellow **Carrier** LED on the Receiver may flash. You may want to select another clear channel on both the Transmitter and Receiver to avoid possible interference.

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## 1.6

## Low Battery Indicators

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**Transmitter:** When the **Transmit/Lo Batt** LED on the Transmitter begins to blink, the battery is getting low. While you still have about 10 hours of normal operation left, you should replace the battery before using the Transmitter for another meet.

**Receiver:** If you are using the Receiver on a start other than IST's SWIMSTART, your Receiver will have a red **Low Batt** LED. When this begins to blink, the battery is getting low. While you still have about 4 hours of normal operation left, you should replace the battery before using the Receiver for another meet.

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1.7

Replacing the Battery

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To replace the 9 volt alkaline battery on the Transmitter (or the Receiver on non-SWIMSTART models) slide the battery cover away from the case as indicated by the arrow. Insert the battery, being careful to match the **+ and -** battery poles with the markings in the case. If proper polarity is not observed, damage could occur. To test the Transmitter, press the Push to Talk button and see if the red **Transmit/Lo Batt** LED comes on. If not, remove the battery and replace correctly. If your Receiver requires a battery, you must check it by sending a signal from the Transmitter, as described in Section 1.4.

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1.8

Automatic Receiver Shut Off (Non-SWIMSTART Models Only)

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Receivers used on starts other than IST's SWIMSTART have an Automatic Shut Off to preserve the life of the battery. If the Receiver has not detected a valid transmission after 30 minutes, it will shut itself off. Before using the Receiver again, you must toggle the ON/OFF switch on the side of the unit to turn it back on.

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1.9

Warranty

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The IST Remote Start Transmitter and Receiver are covered by a five-year limited warranty that includes parts and labor to repair any manufacturing defects.

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1.10

FCC Information

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**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Contact International Sports Timing for assistance. 800-835-2611.