Operator's Manual for the Strider Detector System

Version 2.0

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SECTION 1. INTRODUCTION

This document is intended to familiarize the operator with the Strider Detector System. This guide also provides the operator with warnings, cautions, and instructions for operation and maintenance of the Strider Detector System.

The Strider Detector System is a hands-free detection system designed to provide the operator with an audio alert when the system is passed over a detectable target. To keep this manual US UNCLASSIFIED, the types of targets that Strider can detect will not be described in this document. Units receiving new equipment training for Strider will be instructed during training on the types of targets that the system can detect.

The Strider Detector System is also officially known as the Detector, Body Worn, Strider. The Management Control Number or MCN for the Strider Detector System is 669501I000773. The Non-Standard Line Item Number or NSLIN for the Strider Detector System is FG959Y.

SECTION 2. SAFETY CONSIDERATIONS

Section 2.1 Warnings

General

(1) PERSONAL SAFETY. TO PREVENT PERSONAL INJURY, READ AND FULLY UNDERSTAND THE OPERATING INSTRUCTIONS AND ALL WARNINGS AND CAUTIONS BEFORE USING THE STRIDER DETECTOR SYSTEM.

(2) PERSONAL INJURY. TO PREVENT CUTS FROM SPLINTERS FROM FRAYED KEVLAR STRANDS THAT MAY DEVELOP ON THE STRIDER HOUSING, TAKE CARE WHEN HANDLING THE STRIDER DETECTOR SYSTEM.

(3) PERSONAL INJURY AND EQUIPMENT DAMAGE. TO PREVENT PERSONAL INJURY AND EQUIPMENT DAMAGE, SECURE THE STRIDER DETECTOR SYSTEM CONTROL CABLE TO THE LEG/BODY AND/OR UNDER THE BELT STRAP TO PREVENT CABLE FROM BECOMING A SNAG HAZARD.

(4) COLD SURFACE HAZARD. IN EXTREME COLD CONDITIONS THE STRIDER CONTROL AND SENSING UNITS COULD CAUSE FROST BITE IF HANDLED WITHOUT GLOVES. TO PREVENT FROST BITE, HANDLE THE CONTROL AND SENSING UNITS WITH GLOVED HANDS.

Batteries

(4) ENVIRONMENTAL HAZARD. DISPOSE OF BATTERIES IN ACCORDANCE WITH APPROPRIATE REGULATIONS AND UNIT SOPS.

Section 2.2 Cautions

General

(1) EQUIPMENT DAMAGE. To prevent equipment damage, DO NOT operate or use the Strider Detector System before reading and fully understanding all WARNINGS and CAUTIONS.

(2) EQUIPMENT SAFETY. To safely operate the Strider Detector System, read and fully understand the operating instructions before using Strider.

(3) EQUIPMENT DAMAGE. The Strider Detector System is designed to resist "day-to-day" impacts and knocks. To prevent damage to Strider, DO NOT subject Strider to high-impact forces, for example, dropping from heights. Whenever possible, always transport in the Hard Case.

(4) EQUIPMENT DAMAGE. To prevent damage to the Strider Detector System, always remove the batteries from the battery compartment and store them in the Hard Case after each use.

(5) INTEROPERABILITY. Maintain a five (5) meter separation distance between the Strider Detector System and Hand-Held Detectors (VMC1, VMR2, DSP-27, CEIA), Blue Force Tracker, Communications equipment (including cell phones), or Man Pack Counter RC-IED Electronic Warfare (CREW) systems. Maintain a ten (10) meter separation distance between Strider and Vehicle Mounted CREW systems. Maintain a thirty five (35) meter separation distance from the Duke v3 CREW system.

(6) INTEROPERABILITY. To prevent interference, possible false alarms, damage, and reduction in the sensitivity of the Strider Detector System, the Strider operator MUST NOT carry non-critical electronic devices

(such as LCD watches, mobile telephones, GPS receivers, or portable music players).

(7) EQUIPMENT DAMAGE. To prevent damage to the Strider Detector System cable connectors, always replace the connector dust caps after each use.

(8) EQUIPMENT DAMAGE. To prevent damage to the Strider Detector System while cleaning, DO NOT use solvents, abrasive materials, cleaning agents, or scrapers.

(9) EQUIPMENT DAMAGE. To prevent water damage to the Strider Control Unit, use the Strider Earpiece, rather than a personal earpiece or headphones.

Batteries

(10) EQUIPMENT FAILURE. To prevent failure of the Strider Detector System, when inserting batteries into the battery compartment, be sure to insert each battery in the correct orientation (with the positive and negative terminal ends in the correct positions).

(11) EQUIPMENT MALFUNCTION. To prevent damage to the Strider Detector System, DO NOT operate Strider with a mix of battery types or with a mix of new and partially used batteries.

Electrical Connectors

(12) EQUIPMENT DAMAGE. To prevent damage to the Strider Detector System cables, DO NOT pull on cables when detaching from Strider Control or Sensing Units; hold both connectors and pull apart to disconnect.

SECTION 3. EQUIPMENT DESCRIPTION

Section 3.1 System Overview

The Strider Detector System is a hands-free detection system designed to provide the operator with an audio alert when the system is passed over a detectable target. To remain unclassified, this manual will not describe the type of targets that Strider can detect.

The Strider Detector System includes the components listed in Table 1 and shown in Figure 1.

The Strider Detector System is controlled and operated via the Control Unit. The Control Unit includes the ON/Volume**+** button, a separate OFF/Volume**-** button, and a series of LEDs to indicate the system status. The Sensing Unit contains the detector that senses the target.

When configured for operations, the Sensing Unit is mounted on the calf and the Control Unit is mounted either on the thigh (left) or on the vest/IOTV (right), as shown in Figure 2.

Table 1: Strider Detector System Component List

Item Number*	Item Name/Description*
1	Sensing Unit: Contains detector that senses target
2	Control Unit: Provides user interface & contains battery compartment
3	Control Cable (system contains 3 of different lengths, only 1 shown)
4	Sensing Unit Pouch
5	Control Unit Pouch
6	Belt Loop
7	Interface Strap
8	Earpiece (system contains 4, only 1 shown)
9	Earpiece Adapter (system contains 2, only 1 shown)
10	Non-rechargeable AA Lithium Batteries (system contains 8, only 4 shown)
Not shown	Hard Case (Peli transit case for shipping and storage)

*** See Figure 1 to match Item Number, Name/Description, and photo.**

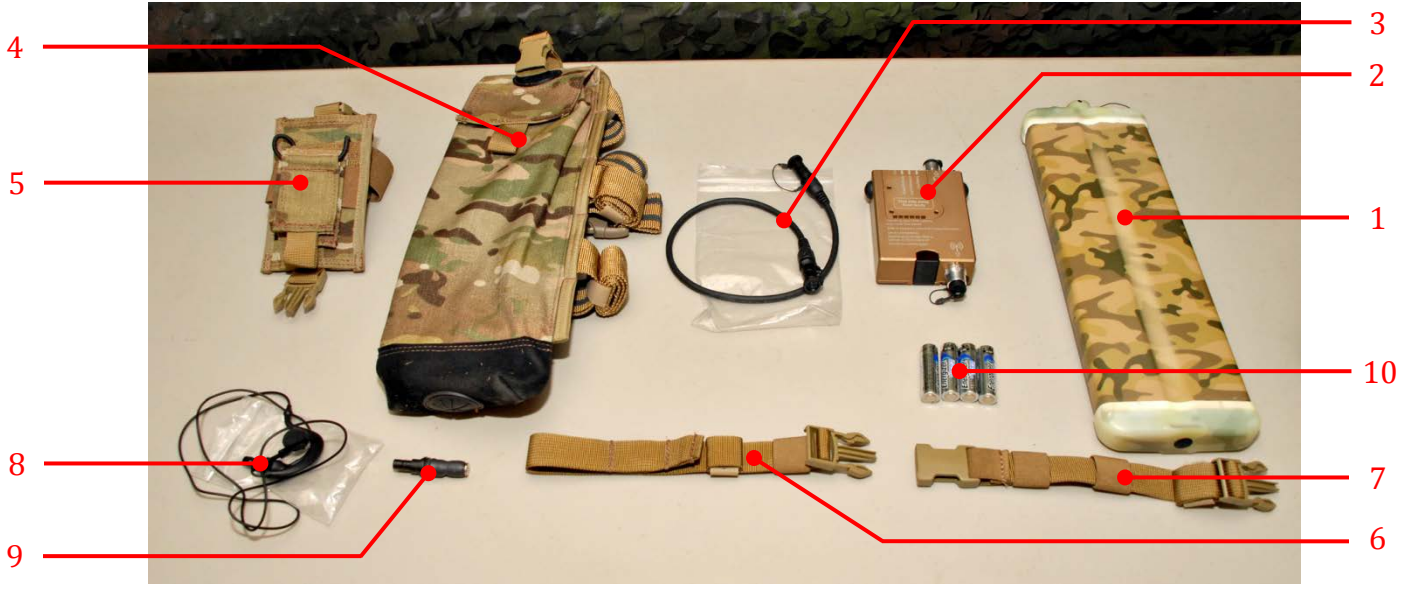

Figure 1: Main Strider Detector System components (see Table 1).

Figure 2: Strider Detector System in operational configuration,
with the Control Unit mounted on the thigh (Left) and with the Control Unit mounted on the vest/IOTV (Right).

Section 3.2 System Specifications

Hard (Transit) Case Dimensions: 19.78" x 15.77" x 7.41"
Complete System Weight: 15.75 pounds
Strider Weight: 4.7 pounds
Power Source: 4 x AA batteries

Section 3.3 Battery Information

The Strider Detector System operates on four AA batteries. Lithium batteries should be used when possible, as they will provide the longest runtime. Although the runtimes of Lithium and NiMH batteries are not affected by temperature, low temperatures will severely decrease the runtime of Alkaline batteries. The system will function properly with any type of 1.5V AA battery, but do NOT use a mix of different battery types. Also, do NOT use a mix of new and partially used batteries.

Runtime on Lithium batteries:		20 hours
Runtime on NiMH batteries:		12 hours
Runtime on Alkaline batteries:	at 70˚F:	10 hours
	at 20˚F:	3 hours

Non-Rechargeable Batteries:
Alkaline battery, size AA, NSN 6135-00-985-7845, 24/pkg
Lithium battery, size AA, NSN 6135-01-333-6101, 12/pkg,

Rechargeable Batteries:
NiMH battery, size AA, NSN 6140-01-467-3225, 2/pkg

Recommended Charger:
COTS NiMH Charger, Energizer model CHFC, NSN 6140-01-413-3929, can charge 8 AA batteries at same time

Optional Charger:
If Soldier Portable Charger (SPC) is available then adapter for charging AA batteries is: Adapter, Battery Terminal, NSN 5940-01-493-7622

SECTION 4. OPERATING PROCEDURES

WARNING - PERSONAL SAFETY. TO PREVENT PERSONAL INJURY, READ AND FULLY UNDERSTAND THE OPERATING INSTRUCTIONS AND ALL WARNINGS AND CAUTIONS BEFORE USING THE STRIDER DETECTOR SYSTEM.

Proper operation of the Strider Detector System will result in an audio alert to the operator when Strider passes over a detectable target. The following sections detail how to prepare the Strider Detector System for use, don the system, properly operate Strider, doff the system, shutdown and stow the system, troubleshoot malfunctions, maintain the system, and order replacement parts.

Section 4.1 System Preparation and Donning

WARNING - PERSONAL INJURY AND EQUIPMENT DAMAGE. TO PREVENT PERSONAL INJURY AND EQUIPMENT DAMAGE, SECURE THE STRIDER DETECTOR SYSTEM CONTROL CABLE TO THE LEG/BODY AND/OR UNDER THE BELT STRAP TO PREVENT CABLE FROM BECOMING A SNAG HAZARD.

CAUTION - INTEROPERABILITY. The Strider Detector System must never be switched ON within five (5) meters of Hand-Held Detectors (VMC1, VMR2, DSP-27, CEIA), Blue Force Tracker, Communications equipment (including cell phones), or Man Pack Counter RC-IED Electronic Warfare (CREW) systems; within ten (10) meters of Vehicle Mounted CREW systems; or within thirty five (35) meters of the Duke v3 CREW system.

CAUTION - INTEROPERABILITY. To prevent interference, possible false alarms, damage, and reduction in the sensitivity of the Strider Detector System, the Strider operator MUST NOT carry non-critical electronic devices (such as LCD watches, mobile telephones, GPS receivers, or portable music players).

CAUTION - EQUIPMENT MALFUNCTION. To prevent damage to the Strider Detector System, DO NOT operate Strider with a mix of battery types.

CAUTION - EQUIPMENT MALFUNCTION. To prevent damage to the Strider Detector System, DO NOT operate Strider with a mix of new and partially used batteries.

CAUTION - EQUIPMENT DAMAGE. To prevent damage to the Strider Detector System, always use the provided Earpiece.

To prepare the Strider Detector System for operational use, complete the following steps:

1. Open the Hard Case by unlatching the two latches on the front of the Hard Case.
2. Remove the Control Unit from the Hard Case.
3. Lift up the Battery Compartment Cover Latch on the bottom of the Control Unit and open the Battery Compartment Cover on the rear of the Control Unit.
4. Insert four AA batteries into the Battery Compartment. Ensure that each battery is inserted in the correct orientation, with the Positive terminal of each battery aligned with the Red terminal of each battery slot (Figure 3, left side) and with the Negative terminal of each battery aligned with the Black terminal of each battery slot (Figure 3, right side).

Figure 3: Inserting four AA batteries into Control Unit, aligning Positive battery terminals with Red battery slot terminals (left) and aligning Negative battery terminals with Black battery slot terminals (right).

5. Close the Battery Compartment Cover and Latch securely.
6. Remove the Control Unit Pouch from the Hard Case.
7. Open the flap of the Control Unit Pouch and insert the Control Unit into its Pouch, matching the front face of the Control Unit to the front of the Pouch. Make certain that the Control

Cable Connector on the bottom of the Control Unit is accessible. Close the Pouch flap. The Earpiece Connector on the top of the Control Unit should also be accessible.

8. Remove the Sensing Unit and the Sensing Unit Pouch from the Hard Case.
9. Open the flap of the Sensing Unit Pouch and insert the Sensing Unit into its Pouch, making certain that the alignment marker of the connector faces the front of the Pouch. Close the Pouch flap, so that the Control Cable connector is accessible.
10. The Sensing Unit Pouch has seven slots through which the three Calf Straps can be fed; five slots are inside the Pouch, and two more are on the extension strap at the top of the Pouch. Select the slot for the top Calf Strap, such that the strap sits above, and rests on top of, the meat of your calf muscle, while the bottom of the Sensing Unit and Pouch are approximately 1 inch above the ground. Select slots for the other Calf Straps, such that the Sensing Unit and Pouch are secure and comfortable on your leg.
11. Adjust the length of each Calf Strap to fit snuggly around your leg and secure the strap ends, using the small Velcro tabs sewn onto the end of each strap.
12. Before strapping the Sensing Unit Pouch to your calf, remove the Boot Clip from the rear of the Sensing Unit Pouch and insert the tab of the Boot Clip without the Velcro strip inside the top of your boot. The Boot Clip tab with the Velcro strip should be facing out. Place the fingers of one hand between the bottom of the Pouch and the ground, to roughly measure the 1 inch spacing required. Align the Velcro strip on the Pouch with the Boot Clip tab, and

push the Sensing Unit Pouch against your leg to secure the Pouch to the Boot Clip. Finally, buckle each Calf Strap around your calf.

13. Unsnap the Belt Loop, loop it around your trouser belt, and resnap the Belt Loop.
14. Attach the male buckle of the Interface Strap to the buckle on the top of the Sensing Unit Pouch and the female buckle of the Interface Strap to the Belt Loop buckle. Standing up straight, tighten one or both of the straps of the Belt Loop and the Interface Strap and secure the ends of the straps.
15. To thigh mount the Control Unit and Pouch, skip to Step 18. To vest/IOTV mount the Control Unit and Pouch, Continue to Step 16.
16. To prepare the Control Unit and Pouch for vest/IOTV mounting, first pull the MOLLE straps out of the loops, then remove the Thigh Strap from the Pouch.
17. To mount the Control Unit and Pouch onto your vest/IOTV, feed the Pouch's MOLLE straps through the MOLLE loops on your vest and snap the straps to the Pouch. (See Figure 2 Right.)
18. To prepare the Control Unit and Pouch for thigh mounting, first feed the MOLLE Straps under the two MOLLE Loops that are closest to the snaps on the Pouch. Then feed the Thigh Strap behind the MOLLE Straps. Finally, snap the MOLLE Straps to the Pouch.
19. To mount the Control Unit and Pouch onto your thigh, unbuckle the Interface Strap from the Belt Loop (if necessary) and, unless you are very tall, shorten the Belt Loop strap to its shortest length. Buckle the top of the Control Unit Pouch to the bottom of the Belt Loop.

Wrap the Thigh Strap around your thigh, as high up as is comfortable, adjust the length, and buckle the Thigh Strap. Buckle the bottom of the Control Unit to the top of the Interface Strap. Standing up straight, adjust the length of the Interface Strap. And, if needed, adjust the length of the Belt Loop strap. Secure all strap ends. (See Figure 2 Left.)

20. From the three Control Cables provided, select the shortest length Control Cable that will comfortably reach between the Control and Sensing Units for your installation. Remove the dust caps and connect the Control Cable to the Sensing Unit, aligning the connector markers. To avoid snag hazards, thread the Control Cable up through the two elastic Cable Bands on the Interface Strap and the single elastic Cable Band on the Belt Loop. Remove the dust caps and connect the Control Cable to the Control Unit, aligning the connector markers. Insert the Control Unit and Sensing Unit dust caps into the Control Cable dust caps to keep them clean.
21. An alternative acceptable method of securing the Control Cable to avoid snag hazards is to spiral wrap the Control Cable around the Interface Strap and Belt Loop. Note that usage of the elastic bands is the preferred method. However, DO NOT wrap the Control Cable around the Sensing Unit or Sensing Unit Pouch, as this could interfere with system performance.
22. To use the Strider Earpiece in lieu of the built-in Loudspeaker, remove the dust cap from the Earpiece connector on the top of the Control Unit. Connect the Earpiece to the Control Unit, aligning the connector alignment markers. Then mount the Earpiece onto your ear.

23. To use any personal earpiece or headphones with a 3.5 mm connector in lieu of the Strider Earpiece, remove the dust cap from the Earpiece connector on the top of the Control Unit. Connect the Earpiece Adapter to the Control Unit, aligning the connector alignment markers. Plug the connector of your earpiece into the 3.5 mm connector of the Earpiece Adapter. Then mount your earpiece or headphones onto your ear.
24. Strider preparation is complete; the system is ready to be turned ON.

Section 4.2 System Startup and Operation

1. Ensure that the steps in Section 4.1 have been completed to properly prepare the Strider Detector System for operation.
2. After inserting batteries, wait at least 3 seconds prior to turning Strider ON.
3. To turn Strider ON, press and hold the ON/VOL**+** button for about 2 seconds. Several tones will be heard, while the three LEDs (Green, Yellow, and Red) are each illuminated, then all three flash simultaneously, and finally only the Green LED is illuminated. During these 3-4 seconds, Strider will be executing its start-up routine and built-in test. When only the Green Power ON/Ready LED is illuminated, Strider is ready for use.
4. If Strider does not follow the start-up routine and built-in test sequence described in Step 3, refer to the troubleshooting section of this manual for assistance.
5. To assure the operator that Strider is functioning properly, a Confidence Click is sounded off once every 6 seconds (Figure 4).

6. To increase the volume, momentarily press and release the ON / Vol + button. To decrease the volume, momentarily press and release the OFF / Vol – button. Each time either button is pressed, a short tone will be heard with the new volume level (Figure 5). Continue to momentarily press and release either button, until the desired volume level is reached.
7. The operator cannot manually adjust the LED brightness. Instead, Strider automatically adjusts the brightness of the Green, Yellow, and Red LEDs, based on the ambient lighting. In bright sunlight, the brightness of the LEDs will increase, and in low light conditions, the brightness of the LEDs will decrease. This is accomplished via a built-in light sensor located next to the Green LED. Note that the light sensor is not a fourth LED. Also note that if the light sensor is covered up, the system will dim the LEDs.
8. When Strider detects a target, the system will sound off the Detection Tone (Figure 6). As the system approaches the target, the Detection Tone will start soft and increase in volume (and maybe pitch). The volume of the tone will peak when the system is at its closest point to the target. Finally, the volume of the tone will decrease after the target is passed. It is recommended that the Strider operator walks, at a normal pace, without abruptly turning, and without lifting the leg to which the Strider system is attached any higher than necessary for the terrain.

   Note: Holding a Strider system stationary near a target for too long can temporarily reduce its detection capability (by raising its detection threshold). If this occurs, move the Strider at least 2 meters from all known targets and wait 10 seconds before resuming searching.

9. If the Yellow Low Performance LED is illuminated, the system's detection capability, or sensitivity, might be reduced. There are no steps for the operator to take to increase the system's sensitivity. Just be sure to take steps of 1.5 feet in length or shorter and to try not to raise the bottom of the Sensing Unit more than 4 inches above the ground while searching for targets. Otherwise, continue to use the system normally, remaining aware that the detection capability might be reduced. The system will automatically turn OFF the Yellow Low Performance LED, when the detection conditions improve. Strider will also generate a short tone whenever the Yellow LED is turned ON or OFF (Figure 5).
10. Strider can be operated with the Sensing Unit submerged to search for targets in wet locations. When the Sensing Unit is first submerged, Strider might sound its target detection tone, even if no target is present. If the detection tone is heard upon submersion, hold Strider still until the tone stops. Then, while keeping the Sensing Unit submerged, first search the area of interest with Strider and afterwards return to the location where the Sensing Unit was first submerged. If no target is present at this location, then Strider should not sound its detection tone again.
11. The Strider operator should never carry personal electronic devices, such as cell phones, GPS, and PDAs, while searching for targets, as the emission of these devices can affect Strider's performance. In addition, the Strider operator should maintain a separation of at least 5 meters from Hand Held Detectors (HHDs), such as VMC1, VMR2, DSP-27, and CIEA,

and Man Pack Counter RC-IED Electronic Warfare (CREW) systems; 10 meters from vehicle mounted CREW systems; and 35 meters from Duke v3 CREW system.

12. Strider has a built-in Battery Life Test. If the batteries are weak, the Red Low Battery LED will flash and the Confidence Click will be replaced by the Low Battery Alarm, sounding off once every 1.5 seconds (Figure 7). From the time the Low Battery Alarm starts, the remaining lifetime of Lithium batteries is approximately 30 minutes, and the remaining lifetime of Alkaline batteries is approximately 90 minutes. When the batteries are too weak for the system to function properly, the Low Battery Alarm will be replaced by the Very Low Battery Alarm. During the Very Low Battery Alarm, , the Red LED will stop flashing and stay illuminated, and the tone will become constant (Figure 8) and the operator should stop using this Strider system for searching until new batteries have been installed.

    Note: After the Low Battery Alarm sounds, Strider will operate correctly for approximately 30 minutes on Lithium batteries and 90 minutes on Alkaline batteries, before the Very Low Battery Alarm sounds. After the Very Low Battery Alarm sounds, turn Strider OFF and replace the batteries.

13. If the Control Cable is damaged or is not connected properly, all three LEDs will flash simultaneously and a steady alarm tone will sound. To troubleshoot, first turn the Strider OFF, then examine the Control Cable. If no fault is discovered with the Control Cable or its connections, additional trouble shooting and/or system repair is required.

14. If the Strider built-in test detects a system fault, a continuous Alarm tone will sound (Figure 8), without flashing the three LEDs. This condition indicates that the system is not functioning properly and that additional trouble shooting and/or system repair is required.

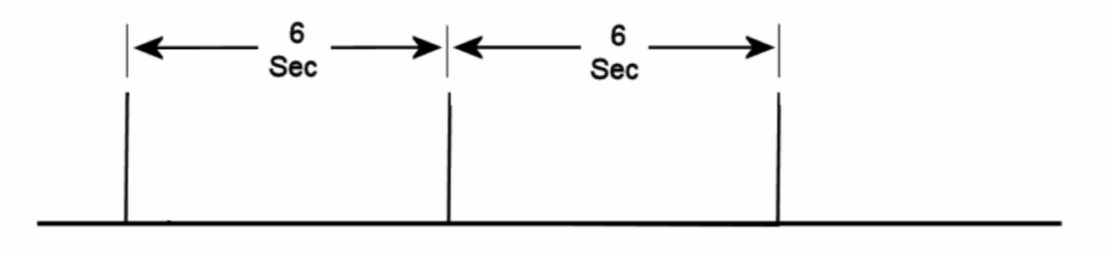

Figure 4: Confidence Click.

Figure 5: Volume Change or Low Performance Change Tone.

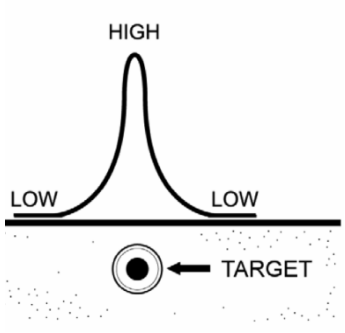

Figure 6: Target Detection Tone volume starts low, increases to maximum over target, then decreases.

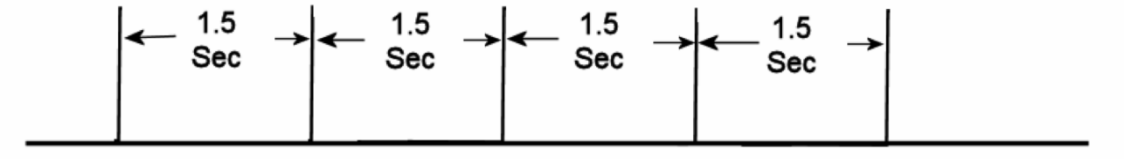

Figure 7: Low Battery Alarm.

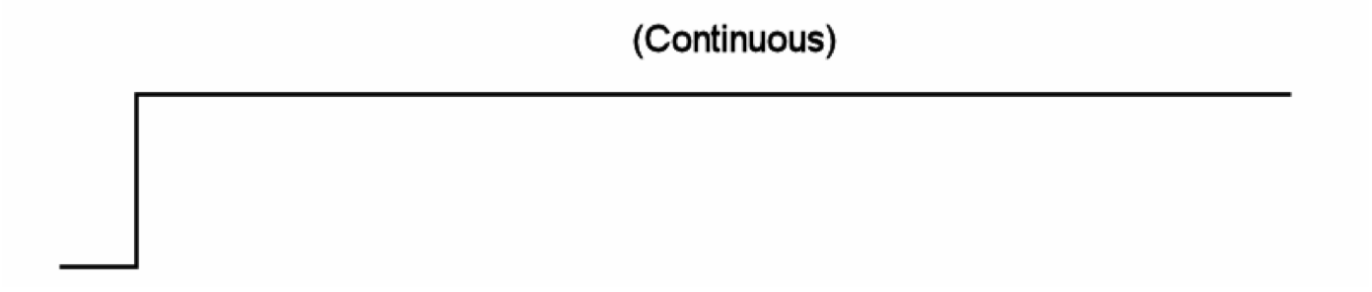

Figure 8: Very Low Battery Alarm or System Fault Alarm Tone.

Section 4.3 System Shutdown and Doffing

CAUTION - EQUIPMENT DAMAGE. To prevent damage to Strider, always replace dust cap onto Earpiece connector of Control Unit after each use.

CAUTION - EQUIPMENT DAMAGE. To prevent damage to Earpiece cable connector, DO NOT pull on cable to disconnect. Always hold the connector, and apply a gentle pulling motion to ease the connectors apart. Failure to observe this action could result in damage to cable.

1. To turn Strider OFF, press and hold the OFF/Volume**-** button for about 2 seconds, until a tone is heard and the Green LED is no longer illuminated.
2. If the Earpiece was used, unplug it from the Control Unit (gently pulling on the connector, not the cable), and replace the Control Unit dust cap. Remove the Earpiece from your ear, return it to its plastic bag, and store the Earpiece in the Hard Case.
3. If the Earpiece Adapter was used, unplug your personal earpiece from the Earpiece Adapter, unplug the Adapter from the Control Unit, and store the Earpiece Adapter in the Hard Case.
4. Unplug the Control Cable from the Control Unit (gently pulling on the connector, not the cable), detach the dust caps at the Control Unit, and replace the dust caps onto their connectors. Unplug the Control Cable from the Sensing Unit (gently pulling on the connector, not the cable), detach the dust caps, and replace the dust caps onto their connectors. Remove the Control Cable from the cable bands of the Interface Strap and Belt

Loop. Return the Control Cable to its plastic bag, and store the Control Cable in the Hard Case.

5. Remove the Control Unit from your vest/IOTV or thigh. When the Control Unit is vest mounted, unsnap the Control Unit's MOLLE Straps and remove the Control Unit's MOLLE Straps from your vest's MOLLE Loops. When the Control Unit is thigh mounted, unbuckle the Control Unit from the Interface Strap, unbuckle the Thigh Strap, and unbuckle the Control Unit from the Belt Loop.
6. Remove the Control Unit from the Control Unit Pouch, open the Battery Compartment Cover of the Control Unit, and remove the batteries. Either, store the batteries in the Hard Case for future use or dispose of the batteries properly. Close the Battery Compartment Cover. Store the Control Unit and Pouch in the Hard Case.
7. Open the snap of the Belt Loop, remove the Belt Loop from around your trouser belt, resnap the Belt Loop, and store the Belt Loop in the Hard Case.
8. Unbuckle the Interface Strap from the Sensing Unit Pouch and store the Interface Strap in the Hard Case.
9. Unbuckle the Calf Straps and remove the Sensing Unit from your calf. Slide the Boot Clip out of your boot and reattach it to the Velcro strip on the rear of the Sensing Unit Pouch. Remove the Sensing Unit from the Sensing Unit Pouch, and store the Sensing Unit and Pouch in the Hard Case.
10. Close the cover of the Hard Case and secure the two latches on the front of the case.

Section 4.4 Equipment Storage

The Strider Detector System is to be secured in the same manner as required for UNCLASSIFIED//For Official Use Only (FOUO) material.

Army regulations for FOUO storage are stated below:

> During working hours, reasonable steps should be taken to minimize risk of access by unauthorized personnel. After working hours, FOUO information can be stored in unlocked containers, desks or cabinets if U.S. Government or U.S. Government–contract building security is provided, or in locked desks, file cabinets, bookcases, or similar items.[1]

[1] "**Army Regulation 380-5, Department of the Army Information Security Program**" Headquarters, Department of the Army, Washington DC, 29 September, 2000

Section 4.5 Equipment Destruction

WARNING – RICOCHET/SHRAPNEL HAZARD. TO PREVENT INJURY FROM RICOCHET OR SHRAPNEL, ENSURE THAT THE STRIDER IS POSITIONED SUCH THAT PERSONNEL ARE NOT IN A POSITION OF DANGER.

It is permissible to dispose of the Strider Control Unit and the Strider accessories, if necessary. However, if capture of this system by the enemy is possible, the Strider Sensing Unit MUST be destroyed to prevent this critical technology from being used by the enemy. Follow these steps to safely destroy all critical components within the Strider Sensing Unit:

1. Ensure that all personnel are clear of danger area.
2. Place the barrel of a small arms weapon on the destruction aim point of the Strider Sensing Unit (Figure 9). The destruction aim point is directly in the center of the broad side of the unit, denoted by the red "X" in the figure. It is not necessary to remove the Sensing Unit from the Sensing Unit pouch.
3. Fire one shot through the Strider Sensing Unit to destroy internal electronics.
4. If possible, attempt to turn ON the Strider and verify that it is inoperable.

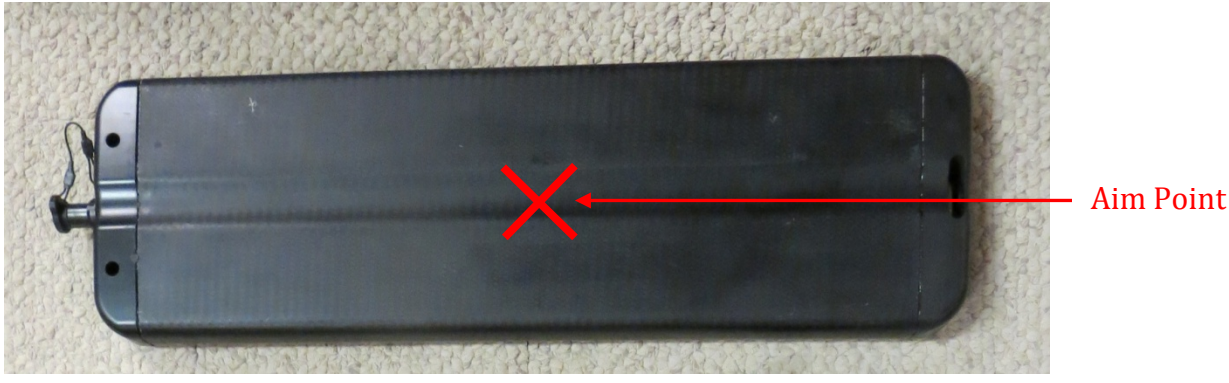

Figure 9: Destruction aim point of Strider Sensing Unit.

SECTION 5. TROUBLESHOOTING PROCEDURES

Refer to Table 2 for troubleshooting information for the Strider.

Table 2: Strider Troubleshooting Chart

No.	Malfunction/Display	Possible Cause	Action
1	Strider will not turn ON	Batteries are low	Replace batteries with 4 new AA batteries; see Section 4.1
		No batteries in Battery Compartment	Install 4 AA batteries; see Section 4.1
		Batteries incorrectly installed in Battery Compartment	Remove batteries and reinstall in correct orientation; see Section 4.1
		Battery contacts are corroded	Clean dirty or corroded terminals
		ON or OFF switch is faulty	Replace Strider
2	Flashing Red Low Battery LED and click every 1.5 sec	Batteries are low	Continue to use Strider until Red Low Battery LED is lit continuously and tone is continuous or replace batteries; see Section 4.1
3	Continuously lit Red Low Battery LED and continuous tone	Batteries are critically low	Replace batteries with 4 new AA batteries; see Section 4.1
4	Continuously lit Yellow Low Performance LED	Temporary reduction in Strider's detection capability	Continue to use Strider, taking steps of 1.5 feet or shorter and not lifting the bottom of the Sensing Unit more

			than 4 inches above the ground; Strider will automatically turn OFF the Yellow Low Performance LED, when the detection conditions improve
4	Unit does not detect targets; Green Power ON/Ready LED not illuminated	Control Unit Cable is damaged or not connected properly; Control Unit buttons are jammed/stuck; or Strider needs to be rebooted	Turn Strider OFF; remove batteries; wait 30 seconds; check Control Unit Cable for damage and good connections, replace Control Cable if necessary; ensure Control Unit buttons are not stuck; reinstall batteries; and turn Strider ON. Ensure Strider passes self-test (LEDs light and tones sound as expected); see Section 4.2
		Strider is faulty	If Strider does not perform self-test, if Red Fault LED is still illuminated, and/or if Green Power ON/Ready LED is still not illuminated, replace Strider
5	False alarms	CREW in close proximity	Keep Strider 5 m away from Man Pack CREW systems, 10 m from vehicle mounted CREW systems, and 35 m from Duke v3 CREW system

		Other Hand Held Detectors (HHDs) in close proximity	Keep Strider 5 m away from other HHDs (VMC1, VMR2, DSP-27, CEIA)
		Personal electronic devices in close proximity	Ensure that operator is not carrying other electronic equipment (cell phones, GPS devices, PDAs, etc.)
		Sudden turns or movements	Avoid sudden turns or movements; walk in straight lines
		False alarms while walking in a straight line	Walk around a clear area known to be target free; if Strider is still alarming; raise leg to lift Strider away from ground, Turn unit OFF , wait 10 seconds, turn unit back ON. If still alarming, compare to performance of another Strider; if performance is different, replace Strider
6	Flashing Green Power ON/Ready LED	System is using its internal memory	Press both the OFF/Volume**-** and ON/Volume**+** buttons simultaneously for approximately a half second to exit this mode

7	No audio from loudspeaker	Earpiece or Earpiece Adapter is connected to Control Unit	Disconnect Earpiece or Earpiece Adapter from Control Unit
		Loudspeaker is faulty	Use Earpiece or Earpiece Adapter, or replace Strider
		Strider is faulty	Replace Strider
8	No audio from Strider Earpiece or personal earpiece	Strider Earpiece is not connected properly to Control Unit; Earpiece Adapter and personal earpiece are not connected properly to Control Unit	Check Strider Earpiece connection to Control Unit; check Earpiece Adapter and personal earpiece connections to each other and to Control Unit
		Strider Earpiece is faulty; Earpiece Adapter and/or personal earpiece are faulty	Replace Strider Earpiece; replace Earpiece Adapter and/or personal earpiece; or use loudspeaker
		Strider is faulty	Replace Strider

SECTION 6. MAINTENANCE PROCEDURES

CAUTION - EQUIPMENT DAMAGE. To prevent damage to the Strider Detector System while cleaning, DO NOT use solvents, abrasive materials, cleaning agents, or scrapers.

Refer to Table 3 for maintenance procedures for the Strider system.

Table 3: Strider Maintenance Procedures

Step	Maintenance Description
1	Examine Hard Case for signs of damage, condition, and correct operation of latches and pressure equalization valve.
2	Examine Strider Control Unit for signs of damage; ensure Control Cable Connector dust cap is securely attached.
3	Examine Strider Sensing Unit for signs of damage; ensure Control Cable Connector dust cap is securely attached.
4	Examine Control Cables for signs of damage to connectors or cables; replace if necessary.
5	Examine Strider Mounting Kit for signs of damage; replace if necessary.
6	Examine Earpiece Cable and Connector for signs of damage; replace if necessary.
7	Verify that batteries fit properly in Battery Compartment.

8	Keep battery terminals and Battery Compartment contacts clean.
9	Ensure Battery Compartment Cover opens, closes, and fits properly.
10	Turn Strider ON to verify that unit performs start-up and self-test routine successfully and that all LEDs, buttons, and loudspeaker function properly.
11	Perform functional test of Strider to verify successful target detection.
12	Remove batteries before storing Control Unit in Hard Case.

SECTION 7. PARTS/CONTACT INFORMATION

Section 7.1 Parts Information

The Strider Detector System is also officially known as the Detector, Body Worn, Strider. The Management Control Number or MCN for the Strider Detector System is 669501I000773. The Non-Standard Line Item Number or NSLIN for the Strider Detector System is FG959Y. Table 4 lists information to assist with requesting replacement parts.

Table 4: Strider Parts Ordering Information

Item Name	National Stock Number (NSN)	Manufacturer's Part Number	Quantity in System
Strider Detector System (full system replacement)	To be assigned	4701PK001	1
Control Unit	To be assigned	410710010	1
Sensing Unit	To be assigned	470110020	1
Mounting Kit	To be assigned	410710032	1
Control Cable, Short	To be assigned	410330020	1
Control Cable, Medium	To be assigned	410330023	1
Control Cable, Long	To be assigned	410330024	1
Hard Case (Transit)	To be assigned	To be assigned	1

Earpiece	To be assigned	410710031	2
Earpiece Adapter (3.5 mm)	To be assigned	To be assigned	2
Battery, Non-rechargeable, Lithium, AA	6135-01-333-6101*	N/A	8
Complete Mounting Kit (also called DBW Drop Leg Arrangement)	To be assigned	410710032	1
Control Unit Pouch	To be assigned	410730036	1
Thigh Strap	To be assigned	410730035	1
Sensing Unit Pouch	To be assigned	410730038	1
Calf Strap	To be assigned	410730037	3
Boot Clip	To be assigned	410730039	1
Belt Loop	To be assigned	410730033	1
Interface Strap	To be assigned	410730034	1

*Strider is designed to operate on four AA batteries. The system can use Lithium, Alkaline, NiMH, or any other type of AA batteries, as long as all four batteries are of the same type. The NSN for AA Lithium batteries is listed here, because Lithium is the recommended battery type to use with Strider.

Section 7.2 Contact Information

For suggestions to improve this guide, replacement parts, program assistance, questions, concerns, or recommendations please contact the Army Research Laboratory as follows. If replacement parts are needed, first consult Section 7.1 Parts information and record the required parts item name, Manufacturer's Part number, and required quantity. Send an email with the above information along with unit ID and location in order to request replacement.

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