

Field Scout™ Bore Planning App

Operator's Manual



Issue 1.0

053-3067

ORIGINAL INSTRUCTION

Overview



Chapter Contents

Intended Use	2
About This Manual	2
• Bulleted Lists	2
• Numbered Lists	2

Intended Use

The Field Scout bore planning app is intended to be used in horizontal directional drilling applications. The app provides the user with the ability to plan the bore before drilling the first drill pipe. Variables such as pipe lengths, waypoints, and existing underground utilities are easily included in the model. After defining the environment, Field Scout generates a plan for the bore that may be shared via email and/or uploaded to Subsite® Electronics' ScoutView™ enabled displays.

Field Scout can also be integrated with Subsite Electronics' directional drilling tracking system to allow the operator to record information about every drill pipe recorded. Bore information can be sent directly from the Field Scout app to present either an as-built or an as-installed report.

The Field Scout app should be operated only by persons familiar with its particular characteristics and acquainted with the relevant safety procedures.

About This Manual

This manual contains information for the proper use of this equipment. Cross references such as "See page 50" will direct you to detailed procedures.

Bulleted Lists

Bulleted lists provide helpful or important information or contain procedures that do not have to be performed in a specific order.

Numbered Lists

Numbered lists contain illustration callouts or list steps that must be performed in order.

Foreword



This manual is an important part of your product. It provides safety information and operation instructions to help you use your Subsite® Electronics product.

Read this manual before using your product. Keep it available at all times for future reference.

If you need a replacement copy, contact your Ditch Witch® dealer. If you need assistance in locating a dealer, visit our website at www.subsite.com, email info@subsite.com or write to the following address:

Subsite Electronics
Attn: Product Support
1950 W. Fir
Perry, OK 73077
USA

The descriptions and specifications in this manual are subject to change without notice. Subsite Electronics reserves the right to improve equipment. Some product improvements may have taken place after this manual was published. For the latest information on Subsite Electronics equipment, see your Ditch Witch dealer.

Thank you for buying and using Subsite Electronics equipment.

**Field Scout™ Bore Planning App
Operator's Manual**

Issue number 1.0/OM-11/17

Part number 053-3067

Copyright 2017

by The Charles Machine Works, Inc.









Subsite, Ditch Witch, and DrillLok are registered trademarks of The Charles Machine Works, Inc.

This product and its use may be covered by one or more patents at <http://patents.charlesmachine.works>.

Contents



	Overview information about the type of work this machine is designed to performance and how to use this manual	1
	Foreword part number, revision level, and publication date of this manual, and factory contact information	3
	Safety machine safety alerts and emergency procedures	13
	Controls machine controls and how to use them	11
	System Operation procedures for using Field Scout app	23
	Support the warranty policy for this machine, and procedures for obtaining warranty consideration and training	31

Safety

Chapter Contents

Guidelines	8
Safety Alert Classifications	9
Safety Alerts	10



Guidelines

Follow these guidelines before operating any jobsite equipment:


- Complete proper training and read operator's manual before using equipment.
- Mark proposed path with white paint and have underground utilities located before working. In the US or Canada, call 811 (US) or 888-258-0808 (US and Canada). Also contact any local utilities that do not participate in the One-Call service. In countries that do not have a One-Call service, contact all utility companies to have underground utilities located.
- Classify jobsite based on its hazards and use correct tools and machinery, safety equipment, and work methods for jobsite.
- Mark jobsite clearly and keep spectators away.
- Wear personal protective equipment.
- Review jobsite hazards, safety and emergency procedures, and individual responsibilities with all personnel before work begins.
- Replace missing or damaged safety signs.
- Use equipment carefully. Stop operation and investigate anything that does not look or feel right.
- Contact your equipment dealer if you have any question about operation, maintenance, or equipment use.


Safety Alert Classifications


These classifications and the icons defined on the following pages work together to alert you to situations which could be harmful to you, jobsite bystanders or your equipment. When you see these words and icons in the book or on the unit, carefully read and follow all instructions. **YOUR SAFETY IS AT STAKE.**



Watch for the three safety alert levels: **DANGER**, **WARNING** and **CAUTION**. Learn what each level means.

 **DANGER** indicates a hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations.

 **WARNING** indicates a hazardous situation that, if not avoided, could result in death or serious injury.

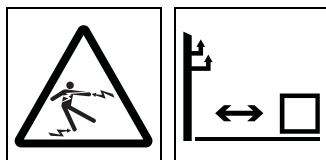
 **CAUTION** indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

Watch for two other words: **NOTICE** and **IMPORTANT**.

NOTICE indicates information considered important, but not hazard-related (e.g., messages relating to property damage).

IMPORTANT can help you do a better job or make your job easier in some way.

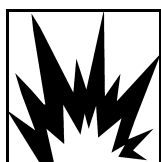
Safety Alerts



⚠ DANGER Electric shock will cause death or serious injury. Stay away.



⚠ WARNING Jobsite hazards could cause death or serious injury. Use correct equipment and work methods. Use and maintain proper safety equipment. 274-050; 274-724 (2P)



⚠ WARNING Explosion possible. Serious injury or equipment damage could occur. Follow directions carefully.



⚠ WARNING Misuse of machine can cause death or serious injury. Read and understand operator's manual and all other safety instructions before use. 273-475



⚠ WARNING Moving traffic - hazardous situation. Death or serious injury could result. Avoid moving vehicles, wear high visibility clothing, post appropriate warning signs.

Controls

Chapter Contents

Main Menu	12
Tab Bar	14
• Edit Menu	15












Main Menu



e20om015h.jpg

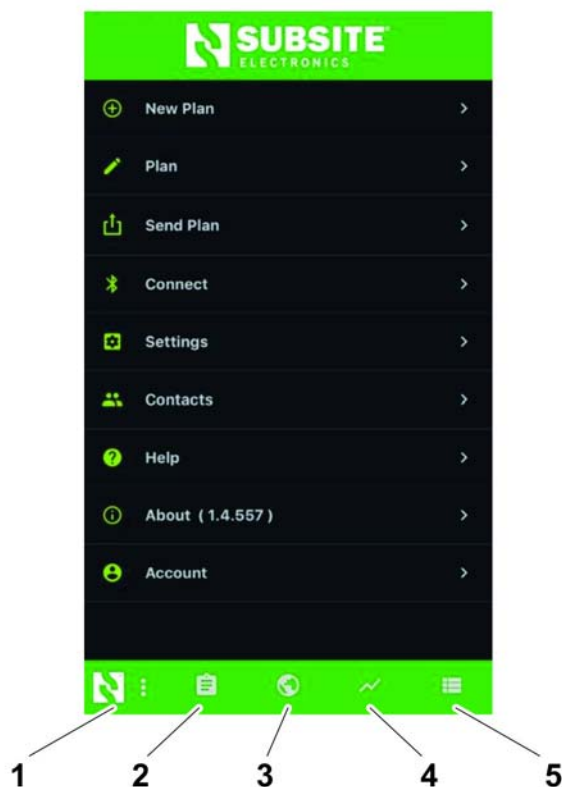
- | | |
|--------------|-------------|
| 1. New plan | 6. Contacts |
| 2. Plan | 7. Help |
| 3. Send plan | 8. About |
| 4. Connect | 9. Account |
| 5. Settings | |

Item	Description	Notes
1. New plan 	Create new bore plan.	
2. Plan 	Select existing bore plan.	
3. Send plan 	Send bore plan via email, copy bore plan to Google Earth™, or send bore plan to Commander 7™ or integrated display on drill.	

Item	Description	Notes
4. Connect 	Connect to Commander™ 7 or integrated display on drill.	
5. Settings 	Customize settings such as units of measurement and theme.	
6. Contacts 	Add and save contact information for clients.	
7. Help 	Quickly access help information, including operator's manual.	
8. About 	Display software version and copyright information. Also access Subsite® Electronics website and Customer Support.	
9. Account 	Access Green Ops login and license information.	See "Purchase Features" on page 24.








Tab Bar



e20om016h.jpg







- 1. Return tab
- 2. Edit plan tab
- 3. Overhead view tab
- 4. Profile view tab
- 5. Logged pipe tab

Item	Description	Notes
1. Return tab 	Press to return to previous menu screen.	
2. Edit plan tab 	Press to edit plan.	See "Edit Plan Overview" on page 15.
3. Overhead view tab 	Press to access planned/as-built overhead view and map of the bore.	IMPORTANT: This function only works if there is GPS data stored for each point.

Item	Description	Notes
4. Profile view tab 	Press to access planned/as-built profile view of the bore.	
5. Logged pipe tab 	Press to view logged pipe data.	













Edit Plan Overview

Description	Notes
 Add waypoint	Press to add waypoint information about the bore. Add or delete waypoints by swiping left on the screen directly on the waypoint information.
 Add obstacle	Press to add obstacle information about the bore.
 Lock plan	Press to lock Edit Menu. Press again to unlock.
 Record GPS coordinates	Press to record the GPS coordinates for a waypoint or obstacle. IMPORTANT: This function only applies to a bore plan with GPS.
 Coordinates recorded indicator	Indicates the GPS coordinates for a waypoint or obstacle have been recorded. IMPORTANT: This function only applies to a bore plan with GPS.
 Send plan	Press to send plan to the Commander 7™, integrated display on drill, email, or copy plan to Google Earth™.

Action Buttons

IMPORTANT: These buttons are only available at certain points of use in the Field Scout™ app. When available, they will appear in the bottom right-hand corner of the screen.

Description	Notes
 Open	Press to view available action buttons.
 Add obstacle	Press to add obstacle information about the bore. Obstacle information includes distance and depth of obstacle in addition to classification of obstacle.
 Add photo	Press to upload photo of obstacle to bore plan. IMPORTANT: Press again to delete uploaded photo.
 View logged pipe data	Press to view logged pipe data.
 Add contact	Press to add new contact.
 Send plan	Press to send plan to the Commander 7™ or integrated display on drill.
 Update	Press to update Commander 7 software.
 Download	Press to download plan, including logged pipe data.
 Check features	Press to check for new available features for the Commander 7 or integrated display.
 Close	Press to close available action buttons.

Prepare

Chapter Contents

- Gather Information 18**
 - Review Job Plan18
 - Notify One-Call Services18
 - Examine Pipe and Pullback Material.18
 - Arrange for Traffic Control.18
 - Plan for Emergency Services18

- Inspect Site 19**
 - Identify Hazards19
 - Select Start and End Points20

- Classify Jobsite. 21**
 - Select a Classification.21
 - Apply Precautions22

- System Requirements 22**

- Equipment Compatibility 22**



Gather Information

A successful job begins before the bore. The first step in planning is reviewing information already available about the job and jobsite.

Review Job Plan

Review blueprints or other plans and make sure you have taken bore enlargement during backreaming and pullback into account. Check for information about existing or planned structures, elevations, or proposed work that may be taking place at the same time.

Notify One-Call Services

Mark proposed path with white paint and have underground utilities located before working.

- In the US or Canada, call 811 (US) or 888-258-0808 (US and Canada). Also contact any local utilities that do not participate in the One-Call service.
- In countries that do not have a One-Call service, contact all local utility companies to have underground utilities located.

Examine Pipe and Pullback Material

Ask for a sample of the material you will be pulling back. Check its weight and stiffness. Contact the manufacturer for bend radius information. Check that you have appropriate pullback devices.

IMPORTANT: Field Scout does not take pipe bend radius into consideration. For more information about pipe bend radius, see drilling unit operator's manual.

Arrange for Traffic Control

If working near a road or other traffic area, contact local authorities about safety procedures and regulations.

Plan for Emergency Services

Have the telephone numbers for local emergency and medical facilities on hand. Check that you will have access to a telephone.

Inspect Site

Identify Hazards

Inspect jobsite before planning bore. Check for the following:

- overall grade or slope
- changes in elevation such as hills or open trenches
- obstacles such as buildings, railroad crossings, or streams
- signs of utilities
 - “buried utility” notices
 - utility facilities without overhead lines
 - gas or water meters
 - junction boxes
 - drop boxes
 - light poles
 - manhole covers
 - sunken ground
- traffic
- access
- soil type and condition
- water supply
- sources of locator interference (rebar, railroad tracks, etc.)

Take soil samples from several locations along bore path to determine best bit and backreamer combinations.



Select Start and End Points

Select one end to use as a starting point. Consider the following when selecting a starting point:

Slope

Fluid system should be parked on a level site. Consider how slope will affect drilling unit setup, bending pipe, and fluid flow out of hole. Assess the risks on each slope to determine if factors affecting risks create an unsafe condition for drilling.

Traffic

Vehicle and pedestrian traffic must be a safe distance from drilling equipment. Allow at least 10' (3 m) buffer zone around equipment.

Space

Check that starting and ending points allow enough space for gradual pipe bending.

Check that there is enough space to work and to set up electric strike system.

Comfort

Consider shade, wind, fumes, and other site features.

Drill downhill when possible so fluid will flow away from drilling unit.

Classify Jobsite



WARNING

Jobsite hazards could cause death or serious injury. Use correct equipment and work methods. Use and maintain proper safety equipment. 274-050; 274-724 (2P)

To help avoid injury:

- Wear personal protective equipment.
- Mark proposed path with white paint and have underground utilities located before working.
- Verify location of previously marked underground hazards by hand digging or soft excavation to the depth of the bore.
- If jobsite classification is in question or is the possibility of unmarked electric utilities exists, classify jobsite as electric.
- Mark jobsite clearly and keep spectators away.

Remember, jobsite is classified by hazards in place -- not by line being installed.



Select a Classification

Jobsites are classified according to underground hazards present.

If working . . .	then classify jobsite as . . .
within 10' (3 m) of a buried electric line	electric
within 10' (3 m) of a natural gas line	natural gas
in concrete, sand, or granite which is capable of producing crystalline silica (quartz) dust	crystalline silica (quartz) dust
within 10' (3 m) of any other hazard	other

NOTICE: If you have any doubt about jobsite classification, or if jobsite might contain unmarked hazards, take steps outlined previously to identify hazards and classify jobsite before working.

System Requirements

Operating System

Field Scout requires iOS 9.3 or greater.

GPS

IMPORTANT: GPS accuracy depends on the accuracy of the GPS device being used. See GPS device specifications to determine GPS accuracy.

The smart device's internal GPS may be used to perform tasks that require GPS.

For higher GPS accuracy, an external GPS device may be used. The device must be iOS compatible.

IMPORTANT: A GPS interface app may be needed for GPS to function with iOS devices.

Equipment Compatibility

Field Scout will work with the TK RECON™ Series tracker and the TK COMMANDER™ 7 display or Ditch Witch® integrated displays.

System Operation

Chapter Contents

Purchase Features	24
Create a Bore Plan	24
• Measuring Wheel Distance Plan	25
• GPS Plan	27
Send Plan.	30



Purchase Features

In order for the Field Scout app to function with Commander™ 7 or Ditch Witch® integrated displays without ScoutView™ pre-installed at the factory, a license for ScoutView must be purchased through the Green Ops website.

See "Account" on page 13 or visit the Green Ops website at <https://.subsitegreenops.com> to purchase or manage licenses.

Create a Bore Plan

NOTICE:

- Follow all safety precautions listed in both the tracking system and drilling unit operator's manuals.
- Field Scout™ does not take pipe bend radius into consideration. For more information about pipe bend radius, see drilling unit operator's manual.
- Field Scout cannot predict changes in bore path caused by sudden changes in soil conditions, improper drill head steering, incorrect drill pipe data, or missing drill pipe data. Subsite® Electronics assumes no responsibility for improperly entered variables. Always verify entered data.
- Read and understand operator's manual and all other safety instructions for mobile devices before use.



To create an accurate bore plan, the bore plan from entry to end must be planned. Ensure bore information such as waypoints and obstacles are accurately entered to provide a true representation of the jobsite.

Two types of bore plans can be created with the Field Scout app: measuring wheel distance and GPS Calculated Distance. A measuring wheel distance plan requires the user to enter measurements for distance and depth for each waypoint and obstacle while a GPS Calculated Distance plan obtains this information using a GPS device.

Measuring Wheel Distance Plan

Set-Up Plan

1. Select new plan from the main menu.
2. Enter a name for the plan and a description or notes if desired.
3. Set plan type to Measuring Wheel Distance.
4. Set drill pipe length.
5. Set minimum separation.

IMPORTANT:

- Minimum separation is the desired distance to be maintained between an obstacle and the drill pipe/backreamer.
- Sets overall minimum separation. Enter the largest minimum separation for entire bore.
- While creating a bore plan, Field Scout provides both an audible and visual warning if minimum separation is not maintained.

6. Add additional information, if desired.
 - Client
 - Contractor
 - Operator

Enter Waypoint

1. Press the edit plan tab from the tab bar.
2. Press the add waypoint icon.
3. Enter waypoint.

IMPORTANT: Entry point is automatically added to the bore plan with a depth and distance of 0' (0 m) and will only have a value for depth in unique situations.

Type of Waypoint	Description
Pay start	The point along the bore at which the contractor is able to start charging a fee.
Waypoint	A generic point along a bore.
Pay end	The point along the bore at which the contractor stops charging a fee.
Exit point	The point along the bore at which the drill head exits ground.

4. Enter waypoint information/measurements.

Enter Obstacle

1. Press the edit plan tab from the tab bar.
2. Press the add obstacle icon.
3. Select classification of obstacle.

IMPORTANT: Obstacles are color-coded according to the American Public Works Association (APWA).

Color	Description of Obstacle
Red	Electric power lines, cables, conduit, and lighting cables.
Orange	Telecommunication, alarm or signal lines, cable or conduit.
Yellow	Natural gas, oil, steam, petroleum, or other gaseous or flammable material.
Green	Sewers and drain lines.
Blue	Drinking water.
Purple	Reclaimed water, irrigation, and slurry lines.
Pink	Temporary survey markings, unknown/unidentified facilities.
White	Proposed excavation limits or route.
Black	Other

4. Enter obstacle information/measurements. Enter obstacle information/measurements.
 - Distance from entry
 - Planned bore depth
 - Obstacle depth

NOTICE: Verify location of previously marked underground hazards by hand digging or soft excavation to the depth of the bore.

Finish Plan

Continue along bore path until all desired waypoints and obstacles are added to the plan. Once complete, the plan can be viewed using the overhead view or profile view tabs or sent to another device. See "Send Plan" on page 30.



GPS Calculated Distance Plan

Set-Up Plan

1. Select new plan from the main menu.
2. Enter a name for the plan and a description or notes if desired.
3. Set plan type to GPS Calculated Distance.

NOTICE:

- Accuracy will depend on GPS receiver used.
- Field Scout will only record points if GPS accuracy is better than 32' (9.8 m).

4. Set drill pipe length.
5. Set minimum separation.

IMPORTANT:

- Minimum separation is the desired distance to be maintained between an obstacle and the drill pipe/backreamer.
- Sets overall minimum separation. Enter the largest minimum separation for entire bore.
- While creating a bore plan, Field Scout provides both an audible and visual warning if minimum separation is not maintained.

6. Add additional information, if desired.
 - Client
 - Contractor
 - Operator

Enter Waypoint

1. Press the edit plan tab from the tab bar.
2. Press the add waypoint icon.
3. Select entry point.
4. Press record GPS coordinate icon to lock in coordinates. This sets the distance to 0' (0 m).
5. Fill in depth if needed.

IMPORTANT: Entry point will only have a value for depth in unique situations.

6. Press the add waypoint icon.
7. Enter waypoint.

Type of Waypoint	Description
Pay start	The point along the bore at which the contractor is able to charge a fee.
Waypoint	A generic point along a bore.
Pay end	The point along the bore at which the contractor stops charging a fee.
Exit point	The point along the bore at which the drill head exits ground.

8. Press record GPS coordinate icon to enter waypoint coordinates.

Enter Obstacle

1. Press the edit plan tab from the tab bar.
2. Press the add obstacle icon.
3. Select classification of obstacle.

IMPORTANT: Obstacles are color-coded according to the American Public Works Association (APWA).

Color	Description of Obstacle
Red	Electric power lines, cables, conduit, and lighting cables.
Orange	Telecommunication, alarm or signal lines, cable or conduit.
Yellow	Natural gas, oil, steam, petroleum, or other gaseous or flammable material.
Green	Sewers and drain lines.
Blue	Drinking water.
Purple	Reclaimed water, irrigation, and slurry lines.
Pink	Temporary survey markings, unknown/unidentified facilities.
White	Proposed excavation limits or route.
Black	Other



4. After GPS coordinates have settled, press record GPS coordinate icon to lock in coordinates.
5. Enter obstacle information/measurements.
 - Planned bore depth
 - Obstacle depth

NOTICE: Verify location of previously marked underground hazards by hand digging or soft excavation to the depth of the bore.

Finish Plan

Continue along bore path until all desired waypoints and obstacles are added to the plan. Once complete, the plan can be viewed using the overhead view or profile view tabs or sent to another device. See "Send Plan" on page 30.

Send Plan

Once the plan is complete, it can be sent via email, copied to Google Earth™, or sent to the Commander 7™ or integrated display on drill.

1. Select send plan from the main menu.

NOTICE: Field Scout™ checks the plan after the report is created to ensure information appears accurate. This includes:, but is not limited to: Ensuring minimum separation has been maintained throughout the bore, GPS plan contains GPS information. and plan has waypoint information.

If inaccuracies are found, Field Scout will either warn the operator or stop the plan from being sent, depending on the severity of the inaccuracy.

2. Select Send Mail, Copy to Google Earth™, or Send to Drill.
3. Follow the on-screen instructions to complete the chosen action.

Email File Type	Description of File Type	Notes
.bplx	The bore plan in XML format.	This file type can be emailed to other Field Scout users and copied to the Field Scout app.
.pdf	The bore report in .pdf format.	This file type contains the bore plan and as-built information.
.kml	The bore report in an XML format used to display GPS data.	This file type contains the bore plan and as-built information and uses Google Earth™ or Google Maps to display GPS data. IMPORTANT: Cannot be created if plan has no valid GPS data.
.csv	Comma Separated Value (CSV) text file containing the bore plan.	Microsoft® Excel can be used to view or manipulate the data.
as-built.csv	Comma Separated Value (CSV) text file containing the as-built data.	Microsoft® Excel can be used to view or manipulate the data. IMPORTANT: Cannot be created if plan has no as-built data.

Support



Procedure

Notify your dealer immediately of any malfunction or failure of Subsite® Electronics equipment.

Always give model, serial number, and approximate date of your equipment purchase. This information should be recorded and placed on file by the owner at the time of purchase.

Return damaged unit to dealer for inspection and warranty consideration if in warranty time frame.

All repairs must be done by an authorized Subsite Electronics repair facility. Repairs done elsewhere will void warranty.

Resources

Publications

Contact your Ditch Witch® dealer for publications and videos covering safety, operation, service, and repair of your equipment.

Training

For information about on-site, individualized training, contact your Ditch Witch dealer.

Warranty

Electronics Limited Warranty Policy

Subject to the limitation and exclusions herein, free replacement parts and labor will be provided when a unit fails due to a defect in material or workmanship within one (1) year of first commercial use (See Exceptions below for specific products). Defects shall be determined through inspection by Manufacturer or authorized repair centers. An inspection must occur within thirty (30) days of the date of failure of the product or part by Manufacturer or its authorized repair facility. Manufacturer will provide the location of its inspection facilities or its nearest authorized dealer upon inquiry. Manufacturer reserves the right to supply remanufactured replacement parts under this warranty as it deems appropriate. Each warranty repair carries the remainder of the factory warranty or 90 days, whichever is longer, for all repaired components and labor.

Product Warranty Exceptions:

- All Directional Drilling Beacons, Locate Beacons and Accessories carry a six (6) month warranty.
- All Used (Cosmetic) Electronics products sold from Manufacturer carry a six (6) month warranty from date of sale to dealer.

EXCLUSIONS FROM PRODUCT WARRANTY

- All defects or damages caused by misuse, abuse, improper installation, alteration, neglect, modification, lack of maintenance, or uses other than those for which products were intended.
- All defects, damages, or injuries caused by improper training, operation, or servicing of products in a manner inconsistent with manufacturer's recommendations.
- All batteries, which are considered consumable and therefore not covered under this warranty.
- All damaged plastics are considered to be the result of misuse or neglect unless Manufacturer has determined otherwise.
- All repairs or attempted repairs by non-certified repair facilities or personnel will void the warranty.
- All incoming duties and freight charges.

(Exclusions from Product Warranty, continued)



- Manufacturer reserves the right to make changes in design and/or improvements to products from time to time, and user understands that Manufacturer shall have no obligation to upgrade any previously manufactured product to include any such changes.
- In no event shall Manufacturer or its agents, assigns or parent company be liable for any indirect, special, incidental, or consequential damages or for any cover, loss of information, profit, revenue or use based upon any claim by user for breach of warranty, breach of contract, negligence, strict liability or any other legal theory. In no event shall Manufacturer liability exceed the amount user has paid for the Manufacturer product.
- Manufacturer will not be responsible for loss of accessories or loss or erasure of data storage media.
- Should it be determined that applicable law prohibits enforcement of any provision of this Warranty Policy, then to the extent it is necessary to comply with the applicable law, this Warranty Policy shall be deemed amended.
- This Warranty Policy shall be the entire agreement between Manufacturer and the Purchaser. Any statements that purport to be different than or modify or expand the terms set forth in this written policy are not effective for any purpose. ANY IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR USE ARE EXPRESSLY DISCLAIMED. IN NO EVENT SHALL SUBSITE® ELECTRONICS, THE CHARLES MACHINE WORKS, INC., OR ANY AUTHORIZED SERVICING AUTHORITY BE RESPONSIBLE FOR ANY LOSSES, INCLUDING CONSEQUENTIAL AND INCIDENTAL DAMAGES, EXCEPT AS EXPRESSLY PROVIDED HEREIN.

SERVICE AND REPAIR

All units repaired at Manufacturer's location or an authorized service center will carry a 90 day warranty on all replaced components/parts and labor commencing on the date of repair.

EXTENDED WARRANTY

Consult your local Ditch Witch dealer for extended warranty options.

WARRANTY DETAILS

For information regarding this limited warranty, contact Subsite Electronics Product Support Department, 1950 W. Fir, Perry, OK 73077, or your local dealer.

March 2015

