Pole Track

User's Manual

HPK012 Contractor Kit

7-2-2003

This document contains training information specifically designed for the Hayton Systems Pole Track application. Pole Track is designed and licensed by Hayton Systems. Any required changes to this document or the application should be forwarded to Verizon Network Services – Infrastructure Provisioning Systems Support.

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Contents

1. Introduction

Power and telecom cables often use the same utility pole. Telecom companies often lease space on poles owned by power companies (and vice versa). Telecom companies pay a significant sum to power companies for this leased space. Telecom lines are often moved and occasionally leased poles are no longer used. Pole Track allows you to inventory poles so the power companies are paid only for the poles actually used.

Pole Track Terminal

Pole Track operates on the Symbol SPT handheld terminal and uses an operating system based on the Palm III operating system. Pole Track terminals include some standard Palm III "organizer" functions, an integrated bar code scanner, and a GPS module.

GPS Module

The GPS (Global Positioning System) module provides precise longitude and latitude coordinates to Pole Track. The GPS module connects to the bottom of the terminal and uses an internal antenna to receive the GPS data from the satellites.

Tracking Poles

The terminal prompts for information about each pole and each pole attachment. The terminal stores the collected pole data and you then send the collected data to the Pole Track server. The server receives the pole data and it uses this data to update its master database.

Summary

Pole Track provides an intuitive and efficient way to track the poles used for telecom cables.

2. Kit Information

Pole Track kits come with everything needed to start tracking telecom poles. In addition to the complete kits you can also order spare parts.

2.1 Pole Track Kit

Pole Track Kit *Part # HPK012*

Description	Comments	Part #
Symbol SPT1800 1D Scanner	*with slip case*	H15019
Modem Cradle	*with cable*	H15004
Cradle Power Supply		H15008
Power Supply Cord	*for cradle*	H15009
Vehicle Charging Adapter		H15017
Spare Battery	*Lithium Ion*	H15016
Stylus 5 Pack		H15013
GPS Adapter		H15025
Modem Adapter	*9-pin to 25-pin*	H15012
Serial/Charging Cable		H15010
SPT Soft Case	*for terminal & cables*	H15007
User's Manual		HS2151
Hard Carrying Case	*for the entire kit*	H15006
Quick Start Guide		N/A
Options:		
Jazz 150 Power Inverter		H15031
SPT to Printer Adapter	*for portable printer*	H15030

2.2 Parts List

The Contractor Kit contains these components. Contact Hayton Systems to reorder components or accessories.

H15019
Symbol SPT1800 with 1D Scanner

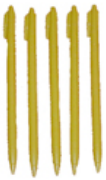
H15004
Modem Cradle (with cable)

H15025
GPS Adapter

H15008
Cradle Power Supply

H15009
Power Supply Cord (for Cradle)

H15016
Spare Battery (Lithium Ion)



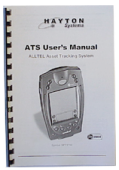
H15013
Stylus 5 Pack

H15012
Modem Adapter (9-pin to 25-pin)

H15010
Serial/Charging Cable

H15007
Soft Case for Terminal and Cables

H15006
Hard Carrying Case (for the entire kit)



HS2151
User's Manual

2.3 Repair Procedures

Send hardware in need of repair to Hayton Systems for processing. The SPT terminal, modem cradle, and GPS adaptor are the only components considered repairable. All other components are considered as expendable items that are not economical to repair due to their low initial cost.

Contact Hayton Systems at http://www.haytonsystems.com/support/repairs.htm (or call 360-403-9194) to begin the repair process. Complete and submit the online Return Authorization (RA) Form. After submitting the RA you will receive an RA number via email. Print two copies of the authorization: one copy for your records and enclose one with hardware being returned. The repair process normally takes three to four weeks.

You can make a copy of this shipping label and use it when returning the equipment.

From: Name _____

Address _____

City/State/ZIP _____

RMA Number _____

To: **Hayton Systems**
Attn: Wayne Hayton
19007 61st Ave NE Unit 3

Arlington, WA 98223

3. Quick Start

The quick start section is meant to be a reference on how to use the Pole Track system. The remainder of the manual describes each step in greater detail.

3.1 Quick Start Installation

The Pole Track kit includes all of the parts needed to begin operating. Unpack the kit and follow these steps:

1. Plug one end of the **phone cord** into the Line-In port on the back of the cradle. Plug the other end of the phone cord into a telephone wall jack.
2. Plug the **Power Supply** into the 9 VDC plug on the back of the cradle. Connect one end of the power cord to the power supply and plug the other end of the power cord into a wall outlet.
3. Place the **spare battery** into the charging slot on the top of the cradle (contacts down and facing the back of the cradle). Gently push – **DO NOT FORCE** -- the battery down until the charging light illuminates (leftmost light on the cradle). A red light means the battery is charging and green means it is fully charged.
4. Remove the **terminal** from the yellow **Soft Case**. Do not place the terminal in the Modem Cradle yet. Press the red button on the terminal to turn it on.
5. Check the battery indicator on the top line of the terminal's screen. You should fully charge the battery before using the terminal for the first time (indicator should be completely black). If the battery is not fully charged then place the terminal in the cradle to completely charge the battery (about 30 minutes maximum). The charging light will be red if the battery is charging and green if the battery is fully charged.
6. After the battery has been fully charged you are ready to start setting up the terminal. Press the red button on the terminal to turn it on.
7. Remove the yellow stylus from the back of the terminal. Follow the on-screen directions to align the touch screen digitizer.
8. Using the stylus, tap the  Application Launcher icon until the All category name shows on the upper right corner of the screen.
9. Using the vertical scroll bar on the screen if necessary, find the  Prefs icon and tap the  Prefs icon.

10. Set the date and time (if they are not correct) by tapping desired "outlined" item on the screen and then selecting the correct settings (See Start Pole Track & Enter Settings for more details).

11. Pull down the drop menu by tapping on the **General** category in the top right corner of the screen.

12. Tap on Digitizer and follow the on-screen instructions to align the touch screen digitizer. **It is extremely important that this is completed accurately.**

13. Tap the  Application Launcher icon until the All category name shows on the upper right corner of the screen.

14. Using the vertical scroll bar on the screen if necessary, find the  Restorer icon. Tap this icon then tap OK.

15. Once Restorer has finished running it may automatically launch **ATS Register**. If it does launch it, tap Cancel to go back to the **Application Launcher.**

16. At the Application Launcher find the  ATSync icon (use the vertical scroll bar on the screen, if necessary) and tap the ATSync icon. In ATSync tap the  Menu icon on the bottom left of the writing pad and then select Configure from the list of menu options. Your configuration settings should look like this:

Logon:	floyd
Password:	floyd (tap in the box to be prompted for a password)
Server:	143.091.038.150
A lServer:	*(s h o u l d b e blank)*
Port:	4040
LoadBal:	*(s h o u l d b e unchecked)*
Resource:	gps
Autoconn:	*(should be unchecked)*

17. Place the terminal in the cradle and tap the  ATSync icon on the application launcher. Place the terminal in the cradle and tap Connect. Note: To set a pre-dialing string contact Hayton Systems and we will walk you through that process.

18. Once the download is complete, tap OK (session complete). You will then be back at the main **ATSync** screen. Tap the **Application Launcher** icon.

19. If your terminal is an SPT1800*, you must perform the following steps before using Pole Track or GPS Check:

    a. At the Application Launcher, tap on the Pull Down Menu icon.
    b. On the App menu, tap on Delete
    c. On the list of applications, tap on PwrDvr35 (you may have to scroll down to see it)
    d. Tap on the Delete button
    e. Tap on the Done button

20. Attach the GPS module to the bottom of the Pole Track terminal and use the GPS Check application to initialize the GPS module.

Note: initializing the GPS unit for the first time can take up to eight minutes.

Call Hayton Systems if you have any questions.

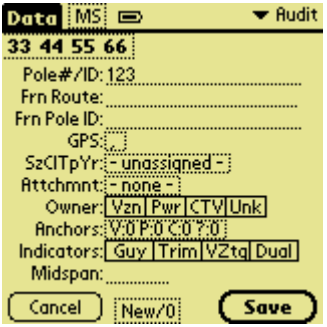
* The model number appears in the battery well. Remove the battery and quickly note whether the model number says SPT1700-xxxxxx or SPT1800-xxxxx. The x's represent several different configuration numbers and are not important to this task. Do not leave the battery out any longer than necessary or loss of programs and data will occur.

3.2 Quick Start Handheld

1. Connect the Pole Track terminal to the server and download all of the application related information (see "Quick Start Installation").
2. To calibrate (align) the touch screen then follow the on-screen directions.
3. If a new version of the application was loaded then the terminal forces you to enter the initial settings. Enter all the fields on the Settings screen. If there are no auditors in the terminal be sure to add an auditor. After you enter the settings the terminal displays the Help screen.
4. Press the DATA button to move to the main Pole Track data collection screen.

5. Enter the pole data into the main detail screen. Tap the initials (top line) or the summary line (second line) to activate the Settings screen. Tap the Attachmnts field to activate the Attachments section.

   After you enter data the terminal displays the Cancel and Save buttons.



6. To enter the Attachments section tap the Attachmnts field on the details screen (above). Tap New... to enter a new record. Each pole record shows only the attachments entered for that pole.

7. To send the Pole Track data to the server press the "UTIL" button and select Upload... . The terminal connects with the Pole Track server and sends its data. After the terminal successfully uploads its data press Delete All Records... to erase the stored data.

4. The Handheld Terminal

Touch screen technology allows you to use the on-screen keypad or hand-enter data using the writing pad (located on the bottom of the screen). Your terminal also comes with some standard "organizer" applications.

Application Buttons

When running Pole Track these buttons activate functions unique to Pole Track.

DATA view is the main data input and edit screen.

GRID view acts as a quick reference to view the most pertinent record data.

HELP view displays additional operating information.

UTIL view includes utility functions such as record delete, audit download, and mass record update.

Application Launcher

Press  to switch between application categories and see the list of applications. The terminal stores applications in three areas or categories, namely, Main, Verizon, and System. Do not modify or move applications in these categories.

Contrast Use this button to adjust the display contrast for your current lighting conditions.

Laser Scanner This laser scanner reads and decodes bar codes. Do not look directly into the scanning beam!

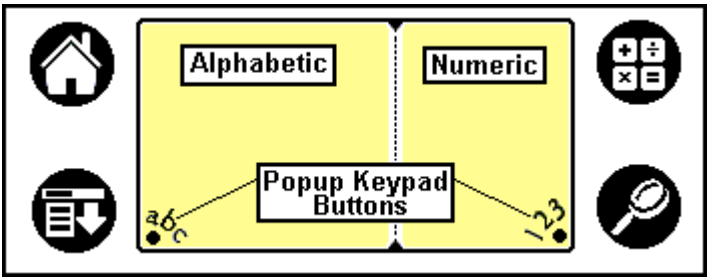
On/Off Press this red button to turn the unit on and off. Press and hold the On/Off button to turn the backlight on or off. Use the backlight in low-light conditions but also remember that using the backlight requires more battery power.

Scan Buttons The three yellow scan buttons activate the bar code scanner. Use the button that is most convenient for you (all three work the same way).

Scroll Buttons The two scroll buttons allow you to scroll through lists, data entry fields, and sometimes between screens. Use the button most convenient for you (both work the same way).

Touch Screen The main screen used to display information and enter data. Use only a recommended plastic-tipped stylus when writing on the touch screen.

Writing Pad / Keypad Use the writing pad to enter handwritten Graffiti characters. Use the left side of the pad to enter alphabetic characters and the right for numeric characters. Graffiti characters are similar to normal characters but require fewer strokes (see Appendix B).



You can also enter data using a pop-up keypad. Tap the “abc” or “123” buttons to activate a pop-up keypad. Keypads make it very easy to enter special characters.

4.1 Standard Applications

The terminal includes several standard applications such as a phone list, to do list, daily planner, calculator, note pad, etc. Neither Verizon nor Hayton Systems support these standard applications. The Verizon server does not backup data from standard applications (you are responsible for backing up your own data). You can use the Palm desktop software provided to allow your PC to communicate with the terminal.

Many third party applications exist for Palm terminals. We highly recommend not using these applications in your terminal. These applications could have a detrimental effect on Pole Track and the system may automatically remove these applications during an upload to the host.

4.2 Scanning Notes

The laser scanner works best when held at an angle to the bar code:

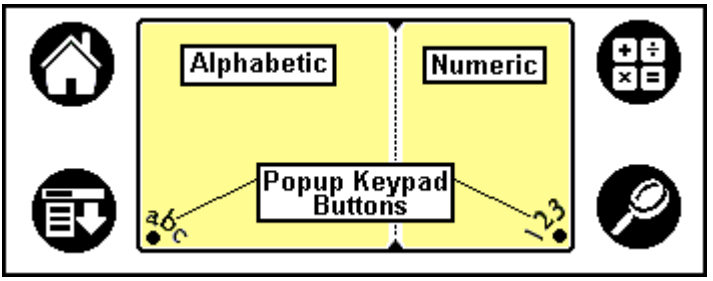
If a bar code does not immediately scan then try moving the scanning beam from the top of the bar code to the bottom.

Moving the scanning beam through the bar code (especially "dirty" ones) gives the scanner a better chance to find "good spots" within the bar code.

4.3 Entering Text

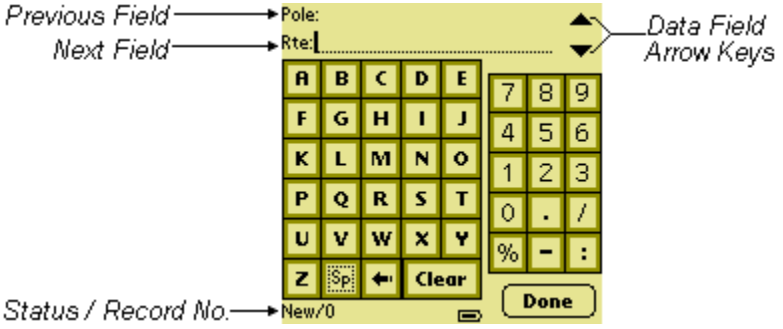
You can enter information into the data fields in three ways:

- Scan bar codes using the internal laser scanner
- Use the writing pad and hand-enter Graffiti characters
- Enter data characters using the pop-up keypad



Tap "abc" or "123" on the writing pad to activate the keypad.

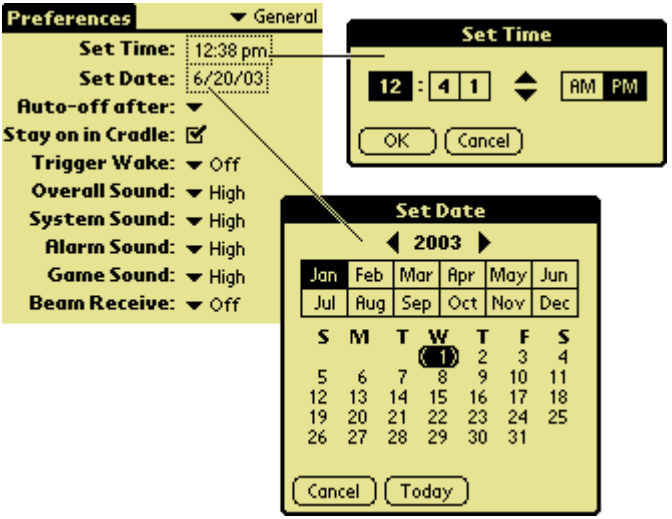
The custom keypad looks like this:



The custom keypad allows you to scroll through the current set of data fields and enter information. Use the Data Field Arrow Keys to move between input fields. After entering data in the last data field press Done to return to the DATA view. You can enter information for a single field or for multiple fields.

5. Set Date and Time

When you first turn on the terminal you must calibrate the touch screen and set the date & time.

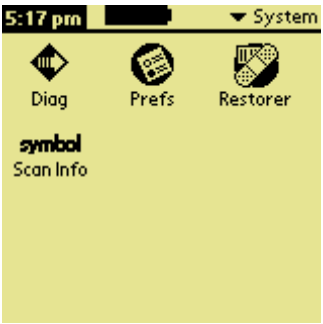


Tap Set Time or Set Date fields to activate the time/date edit screen.

Set Time Adjust the time values using the up/down arrows. Select the portion of the time to adjust and use the arrow keys to adjust the value. Press OK to set the time.

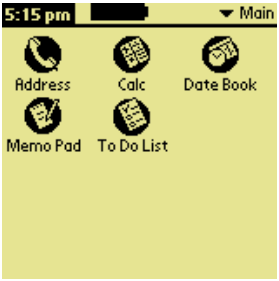
Set Date Select today's date (be sure to set select the correct year). Select the current, month, and day, or tap Today to move to the current date.

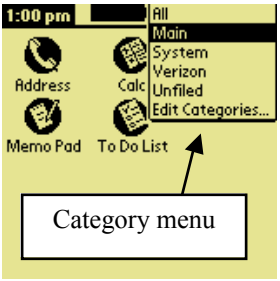
In the future you can always adjust the date and time. From the application menu tap the Prefs icon (short for Preferences) in the System category.



6. Application Launcher and Restorer

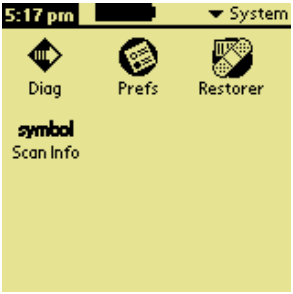
Palm terminals group applications in categories. Tap  to display the next application category. The current category name appears in the upper right of the screen.

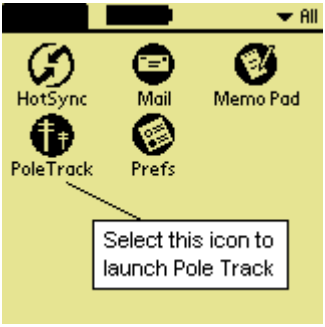




You can also tap the category name to display a category list. Select the desired category from the list.

Tap  Restorer to initiate downloading the latest version of the Pole Track application.





The terminal dials the server and receives the current Pole Track version. Tap the  PoleTrack icon to start the application.

To load the current Pole Track application place the terminal in the dock and tap  Restorer from the System category. Follow the instructions and Restorer initiates communications with the server so that the terminal receives the latest version of Pole Track. After the Pole Track program is received you will be prompted to calibrate the display digitizer.

7. Start Pole Track and Enter Settings

After Restorer loads a current version of Pole Track you can begin tracking poles. The terminal automatically starts Pole Track after running Restorer.

- *If a new version of Pole Track was loaded then you see this message.*

Otherwise you see the "Welcome!" screen. ®

OK goes to Welcome! Screen. ®

OK moves you to Settings screen. Tap Cancel to exit Pole Track.

Enter your Settings information. **Be sure to verify these settings each time you use the terminal!!** Tap the initials on the top line of any Pole Track screen to access the Settings.

Tap OK after entering all Settings data.

East West — Select the appropriate region. You cannot change regions if the terminal contains data records (Pole Track displays an error message if you try to do this).

Auditor — Select a name from the drop-down list or tap Edit Auditors... to add, edit, or delete auditors.

Other Fields — Each field contains a list of valid entries. Choose the desired entry from the list.

OK — After entering the required data press OK to store the settings and display the Help screen. You will then be ready to use Pole Track.

7.1 Maintaining the List of Auditors

From the Settings screen tap the Auditor field to display the list of auditors. Then tap Edit Auditors... to enter the Auditors section.

The Auditors section allows you to maintain the list of auditors. You can add a new auditor, edit an existing auditor, or delete an auditor.

When you are finished tap Done to return to the Settings screen.

Delete an Auditor

Select the name to delete and tap Delete... Pole Track displays a confirmation prompt prior to deleting an auditor.

Add or Edit an Auditor

Tap New... to create a new auditor or Edit to edit an existing auditor.

Tap OK to store the data and return to the Auditors screen.

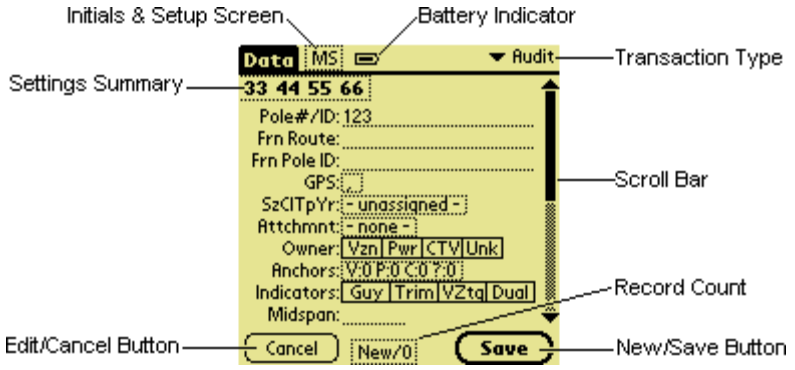
8. Tracking Pole Assets

Use the buttons on the bottom of the terminal to access the DATA and GRID views.

8.1 DATA View

In DATA view you can enter or edit records. DATA view shows all data fields for each record.

The number and type of data fields varies depending on the transaction type. The DATA view screen contains the following elements:



8.2 Data View Fields

GPS The GPS module populates this field with the current GPS longitude and latitude.

SzClTpYr A summary of the size, class, type, and year fields. Tap this data field to display a new screen that allows you to easily see and enter these four data fields.

Attachment This field shows the number of attachments entered for this pole. Tap the attachment value to display the attachment list for this Pole record (see Attachments section for details).

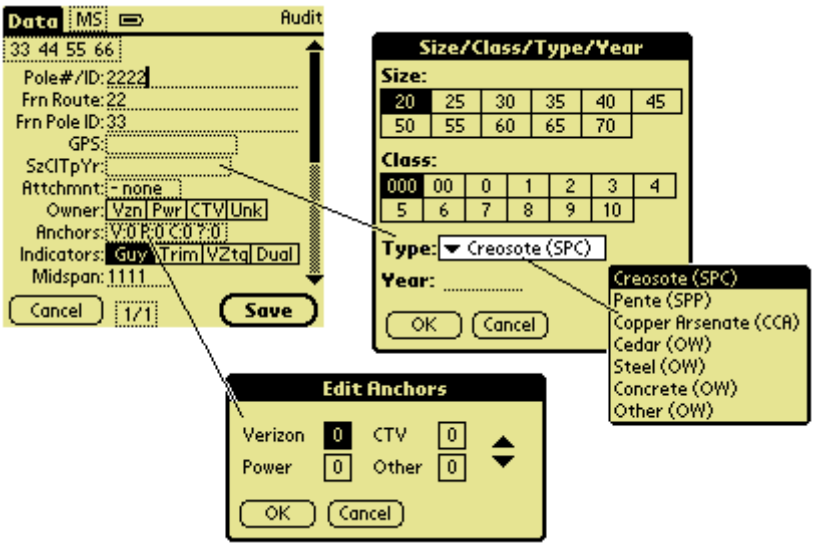
Owner These radio buttons allow you to select a single owner for this pole record.

Anchors Tap this summary field to display the Edit Anchors screen.

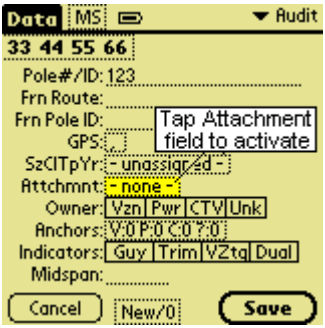
Indicators Select any of the indicators for this pole.

Midspan The Midspan feet/inches height in FFII format where FF is feet (00-99) and II is inches (00-11). If you enter two digits the terminal adds "00" for inches. If you enter a single digit the terminal adds a leading zero and "00" for inches.

Others With these edit fields you simply enter the appropriate data.



8.3 Add, Edit, Delete Attachments



The Attachments section allows you to maintain a list of attachments for each pole. You can add a new attachment, edit an existing attachment, or delete an attachment.

Tap the Attachmnts field to display the list of attachments for the current pole.

Attachments List

This screen shows the list of attachments for the current pole. Tap Done to return to the data entry screen.

Add or Edit an Attachment

Tap New... to create a new attachment, or Edit to edit an existing attachment. Most data fields use MRU (Most Recently Used) lists to make data entry faster, easier, and more accurate.

Tap OK to store the data and return to the Attachments (list) screen.

Delete an Attachment

Select the attachment to delete and press Delete... . Pole Track displays a warning prompt before deleting the attachment.

!! Note !! *The Company field uses MRU lists that change depending on the Ownership field selected. If you select* Vzn *you get an MRU list unique to Verizon. If you select* Pwr *then you get an MRU list unique to power companies.*

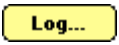
9. Utilities

Press the UTIL button to access some very powerful Pole Track utility functions.

This function deletes all the records in the terminal. Pole Track prompts you to confirm the delete before actually deleting the records.

GRID view allows you to mark records using a checkbox next to each record line. Tap this button to delete all marked records. You can also use the pull down list in GRID view to mark and unmark records. Pole Track prompts you for a conformation prior to deleting any records.

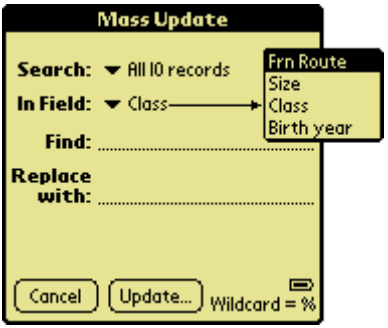
This function allows you to search for records based upon selected field criteria. See the Find section for more details.



This function displays a reference list of the last ten uploads. You cannot modify this information. The information displayed includes the user ID, time/date stamp, and the number of records uploaded.

Mass Update...

This function allows you to define changes for select records. A screen similar to the Find screen allows you to define the record type to modify. This function also allows you to replace selected data in the records matching the search criteria.



Select the field type that you want to update, enter the current value to change, enter the new field value, and tap Update... **Caution!!** This function could cause unwanted changes if you don't verify the change request prior to updating.

Upload...

Use this option to communicate with the server. Be sure that you have the proper Dial Settings (dial-up, direct connection, etc.). Your kit includes all the hardware needed for either type of connection.

Version...

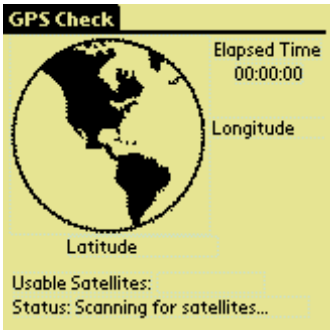
Tap this field to view details about your version of Pole Track.

10. GPS Check Utility Program

Use the GPS Check program to cold start the GPS adapter. GPS Check ensures that the adapter can use the satellites to provide accurate positional information.

Tap the GPS Check icon on the Application Launcher to run GPS check. GPS Check prompts to ensure that the GPS adapter is securely attached to the terminal, reminds you that the GPS does not function indoors, and cautions that the terminal does not time-out while running GPS Check. Therefore, if you leave the terminal unattended the GPS will completely discharge the terminal's battery and cause the terminal to lose its program and data.

GPS Check shows how many satellites it can receive and the number of satellites that are usable once the cold start is complete. For example, it may display "Usable Satellites: 4/9". This indicates that the adapter is aware of nine satellites and can use four of them for positioning information.



A status line provides progress information, namely, Scanning for satellites, Normal, or Invalid. "Normal" and "Invalid" indicate signal quality. If the status is "Normal" the GPS adapter displays the Longitude and Latitude coordinates. The GPS adapter is then ready to use with Pole Track. If the status is "Invalid" then the adapter cannot provide coordinates. Tap the Application Laucher to close GPS Check.

GPS Check also includes and Elapsed Time feature that displays the amount of time that elapsed for the cold start. A cold start can take as little as one minute or as long as ten minutes.

Appendix A – Graffiti

A		**0**		**Space**	
B		**1**		**Backspace**	
C		**2**		**Return**	
D		**3**		**Caps Shift**	
E		**4**		**Caps Lock**	
F		**5**		**Menu Cmd**	
G		**6**		**Cursor Left**	
H		**7**		**Cursor Right**	
I		**8**		**Short Cut**	
J		**9**		**Space**	
K		**Tap Once to use the shifted characters:**			
L		**.**		**( )**	
M		**,**		**;**	
N		**‘**		**:**	
O		**“**		**Tab**	
P		**-**		**< >**	
Q		**/**		**[ ]**	
R		**_**		**{ }**	
S		**?**		**`**	
T		**!**		**~**	
U				****	
V		**#**		**+**	
W		**$**		**=**	
X		**%**		**|**	
Y		**^**		*****	
Z		**&**			

Appendix B - Data Formats

Abbrev	Type	Description
A	Alphabetic	These fields accept alphabetic characters. Pole Track converts lowercase letters to uppercase.
A/N	Alpha-numeric	These fields allow alphabetic, numeric, and some special characters (such as space, period, etc.).
Anchr	Anchors	These fields indicate the number of each type of anchor on the pole. These values are '0' – '9'.
GPS	Coordinate	These fields contain longitude or latitude coordinates as read from the GPS module.
Hgt	Numeric	Height in feet and inches. This field must be in F, FF or FFII formats, where: F F = f e e t (0-99) II = inches (0-11, defaults to 0)
N	Numeric	These fields contain only the digits '0' – '9'.
Owner	Radio Buttons	These square, labeled fields act like radio buttons. You can only select one from the set.
Y/N	Yes/No	These fields only allow YES or NO values.
(list)	Simple List	A simple list contains a list of the valid items for that field. You must select one of the items in the list.
(mru)	MRU List	Most Recently Used lists allow you to enter data for a field or select the most recently entered values from a list. You can select an item from the list or enter a new value.

B.1 Pole Header Record

These records normally remain the same for a series of pole records. The auditor enters these fields once and the terminal copies these fields to each subsequent pole record. These fields are identified as the pole header since their data normally remains relatively static.

Pole Header *Relatively Static Fields for Pole Records*

Field Name	Type	VzE	VzW	Comments
Audit Date	Date	4-4	4-4	Default to the data entry date for this pole.
Audit Vendor	A/N	1-40	1-40	Name of the vendor company performing the audit.
Auditor Name	A (list)	1-40	1-40	Name of the individual performing the audit. The "Auditor" section breaks this name into first name (up to 15 chars) and last name (up to 25 chars).
(VzE only) IC-ID	A/N	1-3	----	
(VzW only) Jurisdiction	A/N	----	1-2	
Wire Center Number	A/N	1-4	1-4	
Municipality	A/N (list)	1-25	1-50	Drop list based on IC-ID or Jurisdiction and Wire Center. Wire Centers may contain multiple Municipalities.
Street Name	A/N (mru)	1-30	1-50	Truncation is OK.
(VzE only) Route	A/N (mru)	0-20	----	
(VzW only) Lead	A/N (mru)	----	1-14	

B.2 Pole Details Record

Pole Details *Fields that Change for Each Pole*

Field Name	Type	VzE	VzW	Comments
Pole Number/ID	A/N	1-15	1-15	Entered for each pole.
Foreign Route/Lead	A/N	0-12	0-12	Enter this value if it is available on the pole.
Foreign Pole ID	A/N	0-15	0-20	In VzW the CO may include the Lead as part of the record.
GPS Latitude	GPS	1-?	1-?	Value read from GPS unit.
GPS Longitude	GPS	1-?	1-?	Value read from GPS unit.
Pole Size	N	1-3	1-3	Valid values: 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70.
Pole Class	N	1-3	1-3	Valid values: 000, 00, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.
Pole Type/Treatment	N	1-1	1-1	Part of the Birthmark brand. Enter a best guess if not on the birthmark brand. Required for new poles. 1 = Creosoate (SPC) 2 = Penta (SPP) 3 = Copper Arsenate (CCA) 4 = Cedar (OW) 5 = Steel (OW) 6 = Concrete (OW) 7 = Other (OW)
Year (Birthdate)	N	4-4	4-4	Best guess if not found on birthmark brand. Entered for each pole. Use this value to base mortality (As built) date to drive mat codes for new poles.
Pole Ownership 1	A	1-1	1-1	V = Verizon P = Power C = Cable TV
Pole Ownership 2	A	1-1	1-1	Used if pole is jointly owned.
Midspan Height	Hgt	0,2,4	0,2,4	Height of the lowest Verizon cable at the mid-span towards the CO.
Anchors – Verizon	Anchr	1-1	1-1	Blank = 0. Valid values are 0-9.
Anchors – Power	Anchr	1-1	1-1	
Anchors – CATV	Anchr	1-1	1-1	
Anchors – Other	Anchr	1-1	1-1	

B.3 Pole Attachment Record

Pole Attachment *Fields that Change for Each Pole Attachment*

Field Name	Type	VzE	VzW	Comments
Ownership	date	1-1	1-1	Valid values: C = Cable TV O = Other (includes CLEC/Munies) P = Power V = Verizon
Company Name	A/N (mru)	1-50	1-50	The user can enter a company name or select one from the MRU list. If the user selects a different owner then the MRU changes to the MRU list for that owner.
Attachment Type	A (list)	1-20	1-20	See note [1] below.
Height	Hgt	0,2,4	0,2,4	Height of the attachment
License No	A/N	0-20	0-11	This optional field is used to uniquely identify the attachment.
[Guy] Guying Required	Y/N	1-1	1-1	Defaults to N. NO = guy is not required. YES=guys are missing or required.
[Trim] Tree Trim	Y/N	1-1	1-1	Defaults to N. YES=trim trimming is required.
[Tag] VZ Pole Tag	Y/N	1-1	1-1	No default (entry must be made). Indicates that the Verizon tag is missing from this pole.
[Dual] Dual Pole	Y/N	1-1	1-1	No default (entry must be made). YES=this new pole still has the old pole lashed to it.

[1] Attachment Type: The terminal displays and stores the selected value in upper and lower case for improved readability (it also takes less display space). The terminal sends the upper/lower-case strings and the server converts these strings to all uppercase. The attachment type list contains: COAX, CABLE, GUY, FIBER, POWER SUPPLY, LOOP, STREET LIGHT, POWER PRIMARY, POWER SECONDARY, MUNICIPAL, XCONN/TERMINAL, and OTHER.

ASCII Table

Dec	Hex	Char	Dec	Hex	Char	Dec	Hex	Char
0	00	NULL	43	2B	+	86	56	V
1	01	SOH	44	2C	,	87	57	W
2	02	STX	45	2D	-	88	58	X
3	03	ETX	46	2E	.	89	59	Y
4	04	EOT	47	2F	/	90	5A	Z
5	05	ENQ	48	30	0	91	5B	[
6	06	ACK	49	31	1	92	5C	\
7	07	BEL	50	32	2	93	5D	]
8	08	BS	51	33	3	94	5E	^
9	09	HT	52	34	4	95	5F	_
10	0A	LF	53	35	5	96	60	`
11	0B	VT	54	36	6	97	61	A
12	0C	FF	55	37	7	98	62	B
13	0D	CR	56	38	8	99	63	C
14	0E	SO	57	39	9	100	64	D
15	0F	SI	58	3A	:	101	65	E
16	10	DLE	59	3B	;	102	66	F
17	11	DC1	60	3C	<	103	67	G
18	12	DC2	61	3D	=	104	68	H
19	13	DC3	62	3E	>	105	69	I
20	14	DC4	63	3F	?	106	6A	J
21	15	NAK	64	40	@	107	6B	K
22	16	SYN	65	41	A	108	6C	L
23	17	ETB	66	42	B	109	6D	M
24	18	CAN	67	43	C	110	6E	N
25	19	EM	68	44	D	111	6F	O
26	1A	SUB	69	45	E	112	70	P
27	1B	ESC	70	46	F	113	71	Q
28	1C	FS	71	47	G	114	72	R
29	1D	GS	72	48	H	115	73	S
30	1E	RS	73	49	I	116	74	T
31	1F	US	74	4A	J	117	75	U
32	20	SP	75	4B	K	118	76	V
33	21	!	76	4C	L	119	77	W
34	22	"	77	4D	M	120	78	X
35	23	#	78	4E	N	121	79	Y
36	24	$	79	4F	O	122	7A	Z
37	25	%	80	50	P	123	7B	{
38	26	&	81	51	Q	124	7C	|
39	27	'	82	52	R	125	7D	}
40	28	(	83	53	S	126	7E	~

41	29	)	84	54	T	127	7F	
42	2A	*	85	55	U	128	80	

Glossary

Anchor The count of the number of lines that each company has attached to the pole. Anchors can be owned by Verizon, Power, Cable TV, or Other. Pole Track maintains a separate anchor count (0-9) for each of the four company types.

Anchr Abbreviation for Anchor or Anchors.

Application Buttons While in Pole Track these four buttons activate functions unique to Pole Track.

Application Launcher Press this button (the upper-left button on the writing pad) to switch between application categories. Use application categories to arrange programs in logical groups.

Attachment Attachments are items mounted on a pole and can include power supplies, streetlights, loops, etc. Pole Track allows you to enter information about the attachments on each pole.

Auditor Data specific to the person performing the audit (or, the "user").

Bar Code A series of bars and spaces used to encode information. Examples of bar codes include the UPC symbols used on retail products, and ISBN bar codes used on books and magazines.

Battery Indicator The Battery Indicator shows roughly how much battery life remains in the battery pack.

Calibrate The process the terminal uses to get known stylus positions so the touch screen can accurately "know" the stylus position. When calibrating the digitizer touch the stylus to the center of the bull's eye marker when prompted.

Category The Palm terminal allows you to group applications into categories and step through these categories using the Application Launcher button. The default categories are Main, System, and All.

Charging Slot The slot of the back of the cradle used to charge a spare battery pack.

Conduit A program used to communicate data between a Palm terminal and a host computer (normally a PC). Conduits normally handle synchronizing data between the two computers.

Contrast The "Contrast" button (lower right corner of the terminal) allows you to adjust the display contrast for your current lighting conditions.

Cradle The device that holds the handheld terminal and connects it to the communications line and to external power. The cradle is used to charge the terminal and also allows the terminal to send and receive data.

DATA View DATA view is the main data input and edit screen. This view shows an individual record and allows you to enter or edit pole records.

Digitizer The touch sensitive screen that detects the position of the stylus (also called the "touch screen"). The digitizer must be calibrated so the terminal can accurately "know" the position of the stylus. Be sure to use only a recommended plastic-tipped stylus when writing on this screen.

Glossary, Continued

Dock Same as "Cradle."

Download Moving data from a larger (or more important) computer system to another. That is, you would download data from your company's server to a user's handheld terminal.

GPS Module The GPS (Global Positioning System) module attaches to the bottom of the terminal and reads longitude and latitude coordinates from the GPS satellites.

Graffiti A way of writing letters, numbers, and special characters that makes it easy for the Palm terminal to recognize and decode. To view Graffiti templates touch the very bottom of the display and drag the stylus to the top of the display.

GRID View GRID view acts as a quick reference to view the most pertinent record data. It displays a summary of each record on a single display line.

HELP View HELP view display additional operating information. Pole Track allows you to select from a list of topics to view the help information.

Icon A small graphic image or picture that denotes a program function. These are normally used as shortcuts to select a specific program function.

Indicators These radio button fields give additional information about actions to be taken that relates to an attachment. The indicators are Guying Required, Trimming, Tag, and Dual Pole.

Keypad Pole Track includes a custom keypad that you can use to enter data. Tap the calculator icon while in Pole Track to activate the custom keypad.

Launcher See "Application Launcher."

LINE IN The port on the back of the cradle that connects the cradle to a telephone jack. The terminal uses this port to communicate to the server.

Log The log contains a list of informational messages written as the Pole Track application runs.

Mass Update This function allows you to select a group of record and define changes to be made for that entire record group.

Operating System The basic software on a computer that allows the computer to function. Examples of operating systems on PCs include Windows-95/98/NT/2000.

Power Supply The device that supplies power to the cradle. Connect one end into a standard AC outlet and the other end to the "9 VDC" plug on the back of the cradle.

Restorer Tap the Restorer icon (in the System category) to connect to the server and download the current version of Pole Track.

Scan Buttons The yellow buttons that activate the internal laser scanner. Any one of the three buttons will activate the scanner.

Scanner The laser scanner (top-center of the terminal) reads and decodes bar

Glossary, Continued

codes. Do not look directly into the scanning beam!

Scroll Button The two scroll buttons allow you to scroll through lists, data entry fields, and sometimes between screens.

Server The computer that the Pole Track terminal connects to when uploading data and downloading new versions of the application.

Settings The screen where you enter the most general records including Auditor, Vendor, Municipality, Street, etc.

Stylus The yellow, plastic tipped pen-like object used on the touch screen (attached to the back of the terminal).

Sync or Synchron-ization Synchronization is the process of integrating data between two systems, normally a Palm terminal and a PC. You might enter new address on your PC and enter appointments on your Palm terminal. During synchronization the two computers would exchange their differing data. When finished both computers would contain the same set of updated data.

Touch Screen See "Digitizer."

Upload Moving data from a smaller (or less important) computer system to a larger system. That is, you would upload the data collected in your handheld terminal to the company's server.

UTIL View UTIL view includes functions like record delete, find, upload, mass record updating, etc.

Writing Pad The area on a Palm terminal where you would handwrite Graffiti characters to enter data. The writing pad is the box on the bottom of the Palm display.