Encompass 1i Handheld AEI Reader Setup Program User Manual

October 12, 2009

Encompass 1i Handheld Reader Reader Setup Program Version 2.0 - Softrail Tel. 888 872-4612 or 724 942-1473 Web www.aeitag.com							
říle Setup Help							
C:\Projects\Encompass Setup\new2.adx 2CK6470L1D Save							
	Setup Password		Automatic Clock Update		Track Informa	tion	
Enabled:	Yes	AEI RR Manager:	No	Track	Spot Text T94 Emai	FTP Delete	
	Contact Information	NIST:	Yes	101 201	No No Yes No No Yes No No	No No Yes No	
Company:	Softrail]	Email Setup	301 a1	No Yes No No No No Yes No	No No No No	
Location:	Eighty-Four PA	SMTP Server:	mail.signalcc.com	none	No No Yes No	No No	
Contact:	Tom levine	Domain Name:					
Telephone:	724 942-1473	Reply Address:	tomlevine@signalcc.com				
Fax:	724 942-1480	User Name:	signalcc				
Email:	tomlevine@signalcc.com	Password:	*****				
	Default Values	Send Address:	tomlevine@signalcc.com				
Vehicle Initials:	csx	Send Address:	order@signalcc.com				
Track Orientation:	West - East	Send Address:					
	Portable Reader Identifier	Send Address:					
Identifier:	Yard 1	Send Address:					
	User Field Names	Send Address:			Barcode Text Tran	slations	
User 1:	Metal Type	Send Address:		Code	Text		
User 2:	User 2		FTP Setup	00010	empty loaded		
User 3:	User 3	Server Name:	ftp.signalcc.com	00020	broken glad hand		
User 4:	User 4	IP Address:		00100	cleaned		
User 5:	User 5	Listening Port:	21				
User 6:	User 6	File Path:	นขางขาง				
User 7:	User 7	User Name:	signalcc				
	AEI RR TCP/IP Setup	Password:	*******				
PDA Name:	WM_Tom_Levine		Barcode Setup				
PDA IP Address:	192.168.55.101	Default Start Code:	99				
Server IP Address:	10.1.10.187	Default Barcode Field:	User 4				
Server Port:	2101		OEM Folder Setup				
		Transmit Folder:					
		Status Folder:	L				

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1. BRIEF OVERVIEW

The Encompass 1i Handheld AEI Reader Setup program is used to specify the setup parameters for an Encompass 1i Handheld AEI Reader. This program makes it much easier to enter the handheld reader's setup parameters and to copy the setup parameters from one handheld reader to another.

The dialogs in this program closely resemble those in the handheld reader (see the Encompass 1i Handheld Reader User Manual).

The Handheld Reader Setup program creates a file called exportsetup.ads, which is transferred to the handheld reader using Windows Explorer. Microsoft's ActiveSync program must be installed in the computer, and the handheld reader must be connected to one of the computer's USB ports for the user to copy and paste this file into the handheld reader's mobile computer.

Once the file is downloaded to the handheld reader, the user must select the Load Setup File from Computer menu item under the File menu to load the setup parameters (see Paragraph 2.4).

The handheld reader will delete the exportsetup.ads file once it has loaded the new setup parameters.

The handheld reader also creates a file called importsetup.ads, which contains its current setup parameters. This file can be copied and pasted into a folder in the user's computer. Once the file is pasted into the computer, the handheld Reader Setup program can load the setup information into its database.

2. OPERATIONS

2.1. Main Display

Figure 1 shows the Handheld Reader Setup program's main display. The Handheld Reader Setup program can save setup parameters in template files that can be opened and saved.

The name of the current template file is located under the menu on the top left portion of the screen.

To the right of the template file name is the serial number of the handheld reader's mobile computer that was used to create the template file. If the setup data was not uploaded from a handheld reader, this area will be blank.

The main area of the screen shows the current setup parameters. To change any of these parameters you can either select a menu item under the Setup menu or place



the mouse pointer on the parameters you want to change and click the left mouse button. This will cause the appropriate dialog to appear (see Paragraph3).

Encompass 1i Ha	indheld Reader Reader Setup Program Ve	rsion 2.0 - Softrail Tel. 8	88 872-4612 or 724 942-1473 Web www	v.aeitag.co	m	
ile Setup Help						
C:\I	Projects (Encompass Setup)new?	2.adx	2CK6470LTD Save			
	Setup Password		Automatic Clock Update		Track Informati	on
Enabled:	Yes	AEI RR Manager:	No	Track	Spot Text T94 Email	FTP Delete
	Contact Information	NIST:	Yes	101 201	No No Yes No No Yes No No	No No Yes No
Company:	Softrail		Email Setup	301 a1	No Yes No No No No Yes No	No No No No
Location:	Eighty-Four PA	SMTP Server:	mail.signalcc.com	none	No No Yes No	No No
Contact:	Tom levine	Domain Name:				
Telephone:	724 942-1473	Reply Address:	tomlevine@signalcc.com			
Fax:	724 942-1480	User Name:	signalco			
Email:	tomlevine@signalcc.com	Password:	******			
	Default Values	Send Address:	tomlevine@signalcc.com			
Vehicle Initials:	CSX	Send Address:	order@signalcc.com			
ck Orientation:	West - East	Send Address:				
	Portable Reader Identifier	Send Address:				
Identifier:	Yard 1	Send Address:				
	User Field Names	Send Address:			Barcode Text Trans	lations
User 1:	Metal Type	Send Address:		Code	Text	
User 2:	User 2		FTP Setup	00010	empty loaded	
User 3:	User 3	Server Name:	ftp:signalcc.com	00020	broken glad hand	
User 4:	User 4	IP Address:		00201	cleaned	
User 5:	User 5	Listening Port:	21			
User 6:	User 6	File Path:	www			
User 7:	User 7	User Name:	signalco			
	AEI RR TCP/IP Setup	Password:	******			
PDA Name:	WM_Tom_Levine		Barcode Setup			
DA IP Address:	192.168.55.101	Default Start Code:	aa			
er IP Address:	10.1.10.187	Default Barcode Field:	User 4			
Server Port:	2101		OEM Folder Setup			
		Transmit Folder:				
		Status Folder:				

Figure 1 - Main Display

2.2. Loading and Saving Template Files

To create a new template file, select the New Handheld Reader Template menu item under the File menu. You cannot assign an existing file name to a new template file. All template files have ".adx" as their file extension.

To open or save any existing template file, select the Open Handheld Reader Template or Save Handheld Reader Template menu item under the File menu.

When you change any of the setup parameters, the Save button next to the handheld reader mobile computer's serial number will become active (see Figure 2). Clicking on the Save button will save the current template file.





Figure 2 - Save Button

2.3. Import Setup Parameters from the Handheld Reader

The handheld reader' mobile computer creates a file called importsetup.ads which can be imported into the Encompass 1i Handheld Reader Setup program. To import the setup parameters from the handheld reader you must install Microsoft's ActiveSync program and connect the handheld reader's dock to the computer via the USB cable. When the handheld reader is placed in the dock, ActiveSync will make a connection with the handheld reader's mobile computer.

Once the handheld reader is connected to the computer, the ActiveSync window shown in Figure 3 will appear indicating that the handheld reader is connected.

Microsoft ActiveSync	
File View Tools Help	
💿 Sync 🕒 Schedule 🔯 Explore	
Connected	Hide Details 🛠
Information Type Status	

Figure 3 - ActiveSync Connection

To transfer the importsetup.ads file to the computer, open Windows Explorer (go to Start/Programs/Accessories/Windows Explorer).



Near the bottom of the screen (see Figure 4) you should see Mobile Device. Click on the plus sign to the left to expand (See Figure 5).

🔄 Mobile Device						
] File Edit View Favorites Tools Help						
] 🔇 Back 🔹 🕥 👻 🏂 🔎 Search 🎓 Fol						
Folders						
🞯 Desktop						
🖅 😂 My Documents						
🖃 😼 My Computer						
🕀 🦺 31⁄2 Floppy (A:)						
🕀 😥 Local Disk (C:)						
🕀 🖤 QUICKBOOKS (D:)						
🕀 🥝 CD-RW Drive (E:)						
🕀 🧼 Backup (F:)						
표 🛫 C on 'Office Server (Server)' (G:)						
🖽 🌌 c on 'Janet's Desktop (janet desktop)'						
표 🌋 C on 'Janet Desktop 2004 (Janetdesk						
🗉 🌌 d on 'Office Server (server)' (S:)						
🗄 🌋 e on 'Office Server (server)' (U:)						
🕀 🌋 C on 'Vern's 2002 Desktop (Vern2002)						
🛨 💕 Control Panel						
🗄 🥁 Shared Documents						
🗄 🧫 Tom Levine's Documents						
🖸 My Digital Camera						
My Network Places						
🥑 Recycle Bin						
Share-to-web Upload Folder Share-to-web Upload Folder						

Figure 4 - Windows Explorer Mobile Device





Figure 5 - Import File

Expand the My Windows Mobile-Based Device folder, the Program Files folder and then click on the Encompass folder in the left hand screen.

Right click on the importsetup.ads file in the right hand screen, and a pop-up menu will appear. Select copy and then paste the file to a folder in your computer.

After the file is in your computer, select the Load Handheld Reader Import Setup File menu item under the File menu. The dialog shown in Figure 6 will appear.





Figure 6 - Import Setup File Folder Dialog

Enter the folder that contains the importsetup.ads file.

2.4. Export Setup Parameters to the Handheld Reader

The Handheld Reader Setup program creates a file called exportsetup.ads, which contains the handheld reader's setup parameters. To create this file select the Create Handheld Reader Export Setup File menu item under the File menu. A dialog will appear (similar to Figure 6) asking you for the name of the folder in which to store the exportsetup.ads file.

Once created the file must be transferred to the handheld reader's mobile computer by using Windows Explorer's copy and paste commands (see Paragraph 2.3). This file must be copied into the Mobile Device/My Mobile Windows Based-Mobile Device/Program Files/ Encompass folder.

The handheld reader will load the parameters in the file if you select the handheld reader's Load Setup File from PC menu item under the File menu (see Figure 7) or reset the handheld reader's mobile computer. To reset the mobile computer use a pen to depress the reset button, which is located on the backside of the handheld reader's case on the left. This will cause the Encompass program in the handheld reader's mobile computer to restart, and the parameters in the exportsetup.ads will be automatically loaded.





Figure 7 - Load Setup File

Once the handheld reader loads the new setup parameters it will delete the exportsetup.ads file from the handheld reader's mobile computer.

3. SETUP FUNCTIONS

There are a number of setup functions. These functions are used to configure the Handheld AEI reader to perform various tasks and reduce repetitive input.

The following is a list of setup functions:

- Contact information used when sending emails and maintenance information.
- Default values allows the user to enter a default vehicle initial for the manual vehicle entry dialog and default track orientation when the user starts taking track inventory.
- Memorized Data Maintenance many data fields have pull down lists of previously entered data. This function allows the user to edit the pull down (memorized) lists.
- Handheld Reader Identifier allows the user to assign a name to the handheld reader.
- Track Setup allows the user to edit track names and add T94 setup data for a track.
- User Field Names Setup allows the user to enter the names of the user defined fields.
- WiFi / Bluetooth Enable used to enable or disable wireless and Bluetooth communications.



- Email Setup used to enter email outbound server information for sending data via email.
- Email Send to Addresses used to enter up to seven email addresses that will receive AEI data.
- FTP Setup used to enter FTP server information for sending files to an FTP server.
- AEI RR TCP/IP Setup used to enter the IP address of the computer hosting Softrail's AEI Rail and Road Manager program.
- Barcode Setup used to specify the barcode parameters for barcodes that are used to enter data into a rail vehicle's data fields.
- Barcode Text used to enter a list of barcode numbers that are translated by the handheld reader into text.
- OEM Folder Setup used to define where the OEM's application can find files containing AEI tag data and where the OEM's application should save files that are to be transmitted via email or to an FTP server.

The following paragraphs define the setup functions in more detail.

3.1. Methods for Entering Setup Data

There are two methods for changing setup parameters. The first is to click on the Setup menu, which will cause a pop-up menu to appear with a list of menu items. Select the appropriate menu item, and a dialog will appear for entering the data.

The second is to place the mouse pointer on the setup parameters displayed on the screen and click the left mouse button. This will cause the appropriate dialog to appear.

3.2. Contact Information Setup

To set up contact information select the Contact Information menu item under the Setup menu or place the mouse pointer on the Contact Information data displayed on the screen and click the left mouse button.

This will cause the Contact Information dialog shown in Figure 8 to be displayed.



Eighty-Four PA
Tom Levine
724 942-1473
724 942-1480
tomlevine@signalcc.com

Figure 8 - Contact Information Dialog

Information entered in this display is used in the body of some email messages and in maintenance messages sent to Softrail.

3.3. Default Values Setup

To set up default values select the Default Values menu item under the Setup menu or place the mouse pointer on the Default Values data displayed on the screen and click the left mouse button.

This will cause the Default Values dialog shown in Figure 9 to be displayed.

De	fault Values 🛛 🗙				
	Vehicle Initials				
	Track Orientation West - East				
	OK Cancel				

Figure 9 - Default Values Dialog

Default values for vehicle initial and track orientation can be entered into the system. The default value for the vehicle initial is used when vehicle identification is manually entered into the handheld reader.

The vehicle initial can either be selected from a list of previously entered initials in the Vehicle Initial field's pull down list (which appears when you click on the down arrow located on the right side of the Vehicle Initials field), or a new initial can be typed in.



After you have entered a new initial, the new initial will appear in the Vehicle Initial's pull down list when this dialog is displayed again.

The default orientation is used when track inventory is started and the track name is entered.

3.4. Memorized Data Maintenance

For many fields the handheld reader remembers previous entries so they can be easily reused by simply selecting them from a pull down list. This eliminates retyping of common data entries.

The handheld reader has a function to maintain memorized lists of previously entered data. To access this function select the Memorized Data Maintenance menu item under the Setup menu. Memorized data fields are not displayed on the main screen.

This will cause the Memorized Field Select dialog shown in Figure 10 to be displayed.



Figure 10 - Memorized Field Select Dialog

The Memorized Field Select dialog displays all of the fields on which the handheld reader maintains memorized lists of data entries. To edit a particular field's list, select the particular field to be edited, and the appropriate Memorized Fields Data dialog will be displayed (see Figure 11).



Memo	orized Field Da	ta 🛛 🔀
	Add	Vehicle Initials BN BNSF CN CP CSX CSX
	Delete All	GATX NS UP UTLX
		Return

Figure 11 - Memorized Fields Data Dialog

The figure above is an example of what would appear if the Vehicle Initials field is selected in the Memorized Field dialog.

Previously entered values can be deleted or new values can be added to each particular field's memorized list. To delete an entry first select the entry by selecting it, and then click the Delete button. Only one entry can be selected at a time.

3.5. Handheld Reader Identifier

The handheld reader allows the user to assign a ten-character identifier to the handheld reader. If the user does not define an identifier, the handheld reader will use the last four characters of its mobile computer serial number as the identifier.

To access this function select the Handheld Reader Identifier menu item under the Setup menu or place the mouse pointer on the handheld Reader Identifier data displayed on the screen and click the left mouse button.

This will cause the Handheld Reader Identifier dialog shown in Figure 12 to be displayed.





Figure 12 - Handheld Reader Identifier Dialog

3.6. Track Setup

To set up track values select the Track Setup menu item under the Setup menu or place the mouse pointer on the Track Information displayed on the screen and click the left mouse button.

This will cause the Track Setup dialog shown in Figure 13 to be displayed.

Trac	:k Setup		×
		Select Track	
	Add	101 201 301	
	Delete		
	Rename		
	Туре		
	Spot Names		
	T94 Setup		
	Send Setup		
	Comments		
		Finish	

Figure 13 - Track Setup Dialog



Previously entered track names can be deleted or renamed, and new track names can be added. To delete or rename a track, first select the track and then click the Delete or Rename button. Only one track name can be selected at a time.

To add a new track name select the Add button, and an Add Track dialog will appear.

Tracks can be assigned to have spot locations. To designate that a track will have spot locations, select the track and select the Type button.

Names can be assigned to track spots. To assign names to track spots, select the track and select the Spot Names button. The Spot Name Setup dialog shown in Figure 14 will appear.

Spo	t Name Setup - Track: 201	×
	Total number of spots used 6	
	From: 🔿 North/West 💿 South/East	
	Select Spot to Edit 001 Name: "1A" 002 Name: "1B" 003 Name: "1C" 004 Name: "1C" 005 Name: "005" 006 Name: "1G"	
	OK Cancel	

Figure 14 - Spot Name Setup Dialog

Up to 100 spot names can be assigned. The user can specify the direction in which the spot locations are listed. Spot names are by default given numerical names based on their position on the track (see Position 005 in Figure 14). To assign a new name select the spot position you want to change, and the Rename Track Spot dialog shown in Figure 15 will appear.



Re	name Track Spot	×
	New Spot Name	
	Slot Number: 5 1F	
		J
	OK Cancel	

Figure 15 - Rename Track Spot Dialog

The T94 protocol has a TRK (track) segment. This segment is defined in Paragraph 2.26 in the Association of American Railroad's AEI Standard S-918, which can be downloaded from our web page at www.aeitag.com. T94 messages also have a requirement for an AEI site identifier (see Paragraph 2.1.5 in the S-918 standard). This information is entered by selecting a track and clicking on the T94 Setup button. This will cause the T94 Track Data dialog to be displayed (see Figure 16).

AEM Site	Colton
Location	WESTCOLTON
Yard	11
Track	101
Zone	23
Spot	01

Figure 16 - T94 Track Data Dialog

If data is to be transmitted in a T94 format, at a minimum, the 7-character AEM Site identifier must be entered. All other fields can be left blank.

When the user finishes taking inventory on a track, he can request that the track's consist be sent to other systems. To set the default parameters for sending track information, select a track and select the Send Setup button. This will cause the Send Track Inventory dialog shown in Figure 17 to appear.



Se	end Track Inventory - Track: 101	×
	🔿 Send as T94 File	
	 Send as Text File (EDI Format) 	
	Send as Text File (Excel Format)	
	🔲 Send via an Email	
	Send to FTP Server	
	Send ot Softrail's FTP Server	
	Send to AEI Rail and Road Manager	
	Delete track inventory after sending	
	Automatically send at end of track inventory	
	OK Cancel	

Figure 17 - Send Track Inventory Setup Dialog

The handheld AEI reader can send track inventory in two types of file formats. The T94 format is the standard format used for communication between wayside AEI readers and railroads' host computers. Information about this format can be found in the Association of American Railroads' AEI Standard S-918, which can be downloaded from our web page at www.aeitag.com.

The second format is a comma delimited text file. This type of file can be easily imported into most commercial word processing, spreadsheet and database programs. For information about the format of this type of file go to Paragraph 14 in the Encompass 1i Handheld Reader User Manual.

Track inventory in either file format can be sent as an attachment to an email and/or as a file directly sent to an FTP server. To use either of these options the email server name or FTP server name, user name, and password must be entered into the handheld reader's mobile computer prior to attempting to send inventory. Information on setting up the email or FTP functions can be found in Paragraphs 3.9 or 3.10, respectively. Files can be sent to up to seven email addresses. For information on entering email addresses into the system go to Paragraph 3.9.

Softrail also maintains an FTP server for receiving track inventory. Softrail uses this server to provide a data redistribution service to handheld reader users. Softrail can forward track inventory received on Softrail's FTP server to multiple email addresses, FTP servers or computers using dialup connections.

For more information about this service contact Softrail at 888 872-4612 or 724 942-1473.

The handheld AEI reader can also send track inventory to Softrail's AEI Rail and Road Manager program directly via a TCP/IP connection (see Paragraph 3.8).



A limited copy of the AEI Rail & Road Manager Program called AEI Rail & Road Manager Express is included with each Encompass 1i Handheld AEI Reader.

For more information about the AEI Rail and Road Manager software program contact Softrail at 888 872-4612 or 724 942-1473 or go to Softrail's web page at www.aeitag.com.

The user can cause the track inventory to be sent automatically when he finishes taking track inventory by reading a Track AEI tag or by selecting the End Track Inventory menu item from a pop-up menu (see Paragraph 2.3).

There are two comments fields associated with a track. To enter data into the comments fields, select a track and select the Comments button. This will cause the T94 Comments and Email Text dialog shown in Figure 18 to appear.

The TRK segment in the T94 message has a field for comments. This function allows the user to enter comments about a track in the TRK segment prior to the data being sent. It also allows the user to enter comments about the track in the body text of an email if the message is being sent via an email.

T94 (TRK Comments and Email Text - Track: 201	×
	T94 TRK Segment Comments	
	Email Body Text	
	OK Cancel	

Figure 18 - Track Comments and Email Text Dialog

3.7. User Field Names Setup

The handheld reader allows the user to define up to seven data fields. Data entered into these fields is maintained with the vehicle and can be sent to other systems in text file format.

The user can specify unique names for these fields by using the User Field Names Setup function. To access this function select the User Field Names Setup menu item



under the Setup menu or place the mouse pointer on the User Field Names displayed on the screen and click the left mouse button.

This will cause the User Field Names Setup dialog shown in Figure 19 to be displayed.

User Field Names 9	Setup X
User 1	Metal Type
User 2	User 2
User 3	User 3
User 4	User 4
User 5	User 5
User 6	User 6
User 7	User 7
ОК	Cancel

Figure 19 - User Field Names Setup Dialog

3.8. AEI RR TCP/IP Setup

The handheld reader is designed to work in conjunction with Softrail's AEI Rail and Road Manager program.

The AEI Rail & Road Manager software was designed as a low cost package for tracking rail vehicle movements in a rail yard. This is a Windows based program that can run under the Windows 98, NT, 2000, ME, or XP operating system.

The AEI Rail & Road Manager software program allows the user to draw his/her own facility and move rail cars by reading their tags with a handheld AEI reader or by manually dragging and dropping rail car icons from one track to another. By using input from wayside AEI readers, the program can also automatically track rail car movements.

A limited copy of the AEI Rail & Road Manager Program called AEI Rail & Road Manager Express is included with each Encompass 1i Handheld AEI Reader.

To send track data to the AEI Rail and Road Manager program the handheld reader needs to know the IP address of the computer hosting the AEI Rail and Road Manager program and the port to which the program is listening for a connection.

The listening port is a setup parameter in the AEI Rail and Road Manager program.

To enter this information, select the AEI RR TCP/IP Setup menu item under the Setup menu or place the mouse pointer on the AEI RR TCP/IP Setup data displayed on the screen and click the left mouse button.



This will cause the AEI RR TCP/IP Setup dialog shown in Figure 20 to be displayed.

AE	I RR TCP/IP Setup	X
	PDA Name PDA IP Address Server IP Address Server Port	WM_Tom_Levine 192.168.55.101 10.1.10.187 2101
	OK	Cancel

Figure 20 - AEI RR TCP/IP Setup Dialog

This display also shows the handheld reader's mobile computer Name and the current IP address of the mobile computer.

3.9. Email Setup

To send track inventory via an email attachment, the handheld reader must have information on how to access the user's outbound email server. To enter this information select the Email Setup menu item under the Setup menu or place the mouse pointer on the Email Setup data displayed on the screen and click the left mouse button.

This will cause the Email Setup dialog shown in Figure 21 to be displayed.



Email Setup		×
SMTP Server	mail.signalcc.com	
Domain Name		
Reply Address	tomlevine@signalcc.com	
User Name	signalcc	
Password	******	
Send Address	order@signalcc.com	
Send Address		
	DK Cancel	

Figure 21 - Email Setup Dialog

The Domain Name may not be required. Some outbound email servers require a different Domain Name than the Reply Name.

Some outbound email servers do not require a password, and this field can be left blank.

The reply address entered in this dialog is used as the reply address for all outbound emails.

The handheld reader's mobile computer does not receive inbound emails.

3.10. FTP Setup

To send track data to an FTP server the handheld reader must have information on how to access the FTP server. To enter this information select the FTP Setup menu item under the Setup menu or place the mouse pointer on the FTP Setup data displayed on the screen and click the left mouse button.

This will cause the FTP Setup dialog shown in Figure 22 to be displayed.



Setup		<u>×</u>
Server Name	ftp.signalcc.com	
IP Address		
Listening Port	21	
File Path	www	
User Name	signalee	
Password	******	
	DK Cancel	

Figure 22 - FTP Server Setup Dialog

The FTP Server must have either a Server Name or an IP Address. If both are present the handheld reader will use the Server Name.

The Listening Port is almost always 21.

The handheld reader sends files to the FTP server. It does not retrieve files from the FTP server.

3.11. Barcodes

The handheld reader is designed to operate with an optional barcode reader. With a barcode reader, information encoded into barcodes can be read to quickly and easily enter data about a rail vehicle.

The handheld reader is set up to read barcodes in the Universal Bar Code (UPC) format. The UPC format contains 12 digits. The first digit is usually O and specifies the Number Character System. The next ten digits are user specified, and the last digit is a check digit.

Figure 23 shows examples of barcodes.





Figure 23 - Barcode Examples

The handheld reader reads the barcode and enters the information into one of the 11 data fields (see Paragraph 3 in the Encompass 1i Handheld AEI Reader User Manual) that are associated with the rail vehicle. The user can specify into which of the eleven fields data from a barcode will be entered and can also specify if the barcode is a special barcode that was developed by the user for use with the handheld reader.

The handheld reader looks at the second and third digit of the barcode to determine how to handle the barcode. If these two digits are not the same as those entered into the Default Start Code field in the Barcode Setup dialog (see Figure 24), the barcode data will be entered in the field that is specified in the Default Bar Code Field in the Barcode Setup dialog.

In Figure 23 the UPC label at the bottom left does not have "99" in the second and third digits and, therefore, its data (025262888883) would be entered in the User 1 field for the rail vehicle.

To display the Barcode Setup dialog select the Barcode Setup item under the setup menu or place the mouse pointer on the Barcode Setup data displayed on the screen and click the left mouse button.



Bar	code Setup	×
	Default Start Code 99	
	Default Barcode Field User 1	
	OK Cancel	

Figure 24 - Barcode Setup Dialog

The user can specify his own unique set of barcodes that have special meaning to the handheld AEI reader. These barcodes have a special format that consists of three fields in the user specified ten-digit number of the bar code. These fields are the two-digit Default Start Code specified in the Barcode Setup dialog above, the three-digit Field Code (see Figure 25) and five-digits for the user data.



Figure 25 is a table that shows the barcode field structure.

Field Description	Position	Field Length	Data
Numeric System Character	1	1	Usually O
Default Start Code	2-3	2	Any two-digit combination specified by the user.
Field Code	4-6	3	Specifies the field into which the barcode data will be entered.
			200 = Status Field 201 = Consist Field 211 = Maintenance 1 Field 212 = Maintenance 2 Field 301 = User 1 Field 302 = User 2 Field 303 = User 3 Field 304 = User 4 Field 305 = User 5 Field 306 = User 6 Field 307 = User 7 Field
User Data Field	7-11	5	Five digits of data that will be entered into the field specified in the Field Code field.
Check Digit	12	1	Barcode check digit, not user specified.

|--|

Based on this structure, the barcodes in Figure 23 cause the following:

- Barcode 0 9930100010 9 00010 entered into the User 1 field
- Barcode 0 992000051 4 00051 entered into the Status field
- Barcode O 9921100401 4 00401 entered into the Maintenance 1 field
- Barcode O 9930600555 O 00555 entered into the User 6 field



- Barcode O 2526288888 3 O25262888883 entered into the User 1 field, since 99 is not in the second and third digit
- Barcode O 9920200112 O 099202001120 entered into the User 1 field, since 202 is not a legal Field Code

The user can also have the handheld reader translate the 5 digits of data in the barcode to a text string. For example, 00010 can be translated by the handheld reader into "empty". Instead of 00010 appearing in the User1 field, the text string "empty" would appear.

To enter barcode text translations select the Barcode Text Translation item in the Setup menu or place the mouse pointer on the Bar Code Text Translations data displayed on the screen and click the left mouse button. This will cause the Barcode Text Translation dialog shown in Figure 26 to appear.

Barcode Text Translation		
	Select Code	
Add	00010 - empty 00011 - loaded 00050 - cleaned 00101 - bad order	
Delete	00120 - broken glad hand 00200 - broken flange 00210 - cracked wheel	
Edit		
	Finish	

Figure 26 - Barcode Text Translation Dialog

To add a new barcode translation select the Add button and the Barcode Add/Edit dialog shown in Figure 27 will appear.



To delete or edit a translation, select the translation in the list and select the Edit or Delete button.

Barcode Add/E	dit 🔀	1
Code	00050	
Text	cleaned	
ОК	Cancel	

Figure 27 - Barcode Add/Edit Dialog

3.12. OEM Folder Setup

The handheld reader is designed to make it easy for other companies (OEMs) to develop their own applications to incorporate into the handheld reader.

To assist OEMs, the handheld reader provides easy access to AEI tag data and provides a simple method for applications to send their data to other system via email attachments or as a file transfer to an FTP server.

Data transfer between the handheld reader and an OEM's application is through a set of text files that are written into a specific folder in the handheld reader's mobile computer.

The folder to which the files will be written can be specified by using the OEM Folder Setup function.

To access this function select the OEM Folder Setup menu item under the Setup menu or place the mouse pointer on the OEM Folder Setup data displayed on the screen and click the left mouse button.

This will cause the OEM Folder Setup dialog shown in Figure 28 to be displayed.



OE	M Folder Setup		×
	Transmit Folder	AEI Transmit	
	Status Folder	AEI Status	
	OK Cancel		

Figure 28 - OEM Folder Setup

The transmit folder contains the OEM files that are to be transmitted by the handheld reader, and the Status Folder contains the file that has the AEI tag and barcode data.

For more information on interfacing OEM applications see Paragraph 9 in the Encompass 1i Handheld AEI Reader User Manual.



4. TECHNICAL SUPPORT AND UPDATES

Periodically Softrail issues maintenance releases and new versions of this program. Maintenance releases are free and correct problems found with the program and/or provide minor enhancements to the program. Before contacting us with problems we suggest that you contact your sales representative and review the issues with him and/or check our web page at www.aeitag.com to insure that you have the latest maintenance release of the program.

Two hours of free technical support during the first year after the purchase are included with each handheld reader that is purchased. Time is charged in blocks of 15 minutes.

A maintenance agreement can be purchased to extend the period of technical support or add additional hours.

For technical support or more information on the maintenance agreement contact Softrail at:

Softrail, Inc. 1098 Venetia Road Eighty Four, PA 15330

Tel. 888 872-4612 (toll free US and Canada only) or 724 942-1473 Fax. 724 942-1480 E-mail aei@signalcc.com Web Page www.aeitag.com



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