

Wayside Interface Unit Integrated

ASTS USA Part No.	
N17067602	
N17067602UP	



Software



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Revision History

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1. GENERAL INFORMATION

1.1. Safety Summary

This document provides a description of the software PTC VitalNet Co-Processor PCB that handles Positive Train control (PTC) functionality. See ASTS USA service manual 1D2.0001 for a description of the hardware.

Read and thoroughly understand this manual before attempting any of the procedures listed. Pay particular attention to:



These headings may appear throughout this manual. Caution statements indicate conditions that could cause damage to equipment. Warning statements indicate conditions that could cause physical harm, serious injury, or loss of life. Always observe standard precautions familiar to trained electrical technicians. Always adhere to all safety regulations stipulated by the railroad.

1.2. Abbreviations and Acronyms

The following are abbreviations and acronyms used in this manual along with their associated meanings.

ACK Acknowledgement

ASTS USA Ansaldo STS USA, Inc. (formerly known as Union Switch & Signal Inc.)

CAT 5	Category 5 cable
CMU	Communications Management Unit
CPU	Central Processing Unit
CRC	Cyclic Redundancy Check
DB	D-subminiature (a common type of computer connector)
DCD	Data Carrier Detect
DHCP	Dynamic Host Configuration Protocol
DNS	Domain Name Server
EMP	Edge Messaging Protocol
FPGA	Field Programmable Gate Array
GMT	Greenwich Mean Time
GPS	Global Positioning System



General Information

HMAC	Hashed Message Authentication Code
IP	Internet Protocol
LED	Light-Emitting Diode
LRM	Launcher Response Message
LRU	Line Replaceable Unit
N/A	Not Applicable
NTP	Network Time Protocol
PC	Personal Computer
PCB	Printed Circuit Board
PTC	Positive Train Control
QoS	Quality Of Service
RC2	Rivest Cipher 2
RS-232	Recommended Standard 232
SCAC	Standard Carrier Alpha Code
SNMP	Simple Network Management Protocol
TCP/IP	Transport Control Protocol/Internet Protocol
TTL	Time To Live
US&S	Union Switch & Signal Inc. (hereinafter ASTS USA)
UTC	Universal Time Code
WCM	Wayside Communication Module
WEU	Wayside Encoder Unit (also known as WIU)
WIU	Wayside Interface Unit (also known as WEU)



2. DESCRIPTION

The Wayside Interface Unit (WIU) is part of a Positive Train Control (PTC) system. The PTC function includes the ability to monitor wayside devices and transmit the status of those devices to a locomotive that requests the information. The train can then react in a safe and timely manner. The WIU sends its information to a Wayside Communication Module (WCM). The WCM communicates with the locomotive.

The Wayside Interface Unit is typically a MicroLok cardfile that is installed at interlocking control points to interface and process with the location's switch machine(s), signal(s), and PTC radio systems.

The VitalNet CPU PCB in the MicroLok cardfile performs core vital logic processing for the MicroLok II system, as well as ongoing diagnostics and event/error logging.

The VitalNet Co-Processor Daughter PCB is attached to the VitalNet CPU PCB. This PCB enables integrated PTC WIU functionality directly within the MicroLok II system.

A PC can be connected to the WIU to access functions and data.

2.1. Features

The main features of the Wayside Encoder Unit are:

- Vital signal control and aspect monitoring
- Dark territory switch position monitoring
- Hazard Detector Warning
- Self-contained and is a line-replaceable unit (LRU)
- Includes a health indicator







3. CENTRAL PROCESSOR UNIT

The MicroLok II Central Processor Unit (CPU) with Positive Tran Control capabilities is ASTS USA part number WIUN1706760X. The CPU front panel is shown in Figure 3-1. Refer to Table 3-1 for control/indicator descriptions.



Figure 3-1. CPU Front Panel

Note: Switches 9 through 12 are shown toggled to depict direction of operation. Switches are spring return-to-center at rest.

Central Processor Unit

3.1. User Interface

Table 3-1 lists the user indications and controls on the PTC Central Processor Unit (CPU) PCB ASTS USA part number WIUN1706760X.

REF	LABEL	DEVICE	PURPOSE
		MicroLok Configuration	Functions
1, 2	(none)	Two, four-character alphanumeric displays Top display is Red Bottom display is Green	 On-site configuration programming menus and options. Normal operating display is: The upper four-character display will continuously scroll the phrase US&S MICROLOK II. The lower four-character display will continuously scroll the Application name.
3	A, B, C, D, E	LEDs (Yellow)	 Select serial port with CPU front panel switches (9, 10, 11, &12) via the on-line serial test menu. A – Selected serial link is transmitting data. B – Selected serial link has received a valid message. C – Selected serial link has recognized the address in a received message. D – Selected serial link is receiving a Data Carrier Detect (DCD) signal. E – Selected serial link has detected a receiver error.
4	1, 2, 3, 4, 5, 6, 7, 8	LEDs (Red)	User-defined in Application software. LED #3 lights when CPU is booting-up.
5	ON LINE	LED (Green)	Lit indicates normal system operation (successful diagnostics). If out: reset system.
6	VPP ON (Voltage Input Flash Programming)	LED (Yellow)	When lit, indicates FLASH +5V programming voltage enabled (via CPU PCB jumper). Lit only during programming on CPUs without PCMCIA card installed. Lit continually on CPUs with PCMCIA card installed.
7	RESET	LED (Red)	When lit, indicates that the system is in reset mode. Normal operation = Off
8	RESET	Momentary pushbutton	When pressed, reboots the CPU. Also used to clear a CPS fault (VCOR/CPS down condition).

Table 3-1. CPU WIUN1706760X Controls and LED Indicators





REF	LABEL	DEVICE	PURPOSE
9	MENU L/R	Three-position (spring return-to-center) toggle switch	Used to search main program menu items shown on displays.
10	MENU UP/DOWN	Three-position (spring return-to-center) toggle switch	Used to select main program menu items shown on displays.
11	ADJUST UP/DOWN	Three-position (spring return-to-center) toggle switch	Used to cycle through configuration values shown on displays.
12	ACTION ACCEPT/ REJECT	Three-position (spring return-to-center) toggle switch	Executes or cancels menu items shown on displays.
13	RS-232 DTE Diagnostic Link Connector	DB9, RS-232 connector Data Terminal Equipment (DTE)	Used for connection to personal computer for system monitoring/diagnosis.
		PTC Configuration Fu	unctions
14	PORT 1 RX/TX	LED (green)	When lit, indicates activity on Port 1.
15	PORT 1 LINK	LED (yellow)	When lit, indicates a link is established on Port 1.
16	PTC	LED (green)	When dark, PTC co-processor is not present or the PTC operating system is not (yet) operational. When lit, indicates PTC co-processor is operating properly.
17	PORT 2 RX/TX	LED (green)	When lit, indicates activity on Port 2.
18	PORT 2 LINK	LED (yellow)	When lit, indicates a link is established on Port 2.
19	PORT 1 PORT 2	RJ-45 connector	Ethernet connections for Ports 1 and 2.
20	PTC RESET	Momentary pushbutton	When pressed for longer than 3 seconds, resets the PCB. When pressed for less than 3 seconds, acknowledges the software when prompted through the web interface.

System information can be accessed from the CPU by using the front panel toggle switches and the front panel alphanumeric displays (Items 1 and 2) or via a personal computer running ASTS USA MicroLok II Development System. The personal computer connects via the front panel diagnostics serial port (COM 5) DB9, DTE connector (Item 13).



3.1.1. Loading Software

Executive and Application software is uploaded to the CPU via the front panel diagnostics serial port and a personal computer running the MicroLok II Development System. Application software can be downloaded to the PC (from the CPU) by the same means. Executive software cannot be downloaded from the CPU.



4. CONNECTING TO WEB INTERFACE

4.1. Procedure

Proceed as follows to connect the WIU unit to the Web interface:

1. Connect a standard CAT 5 Ethernet cable from the PC to the Ethernet front panel RJ-45 connector Port 1 or Port 2 (Figure 4–1). The Ethernet port on the WIU is configured as a DHCP server by default and will provide an IP address to the PC.

NOTE

PC firewall software or internet browser proxy server settings may prevent connectivity to the device.

If you are having difficulty connecting, verify your IP address and proxy settings, and disable any firewall software.

If you have verified the settings above and are still have connection problems, contact your network administrator.



Figure 4–1. PC to WIU Connection

- 2. Apply power to the unit.
- 3. Launch any internet browser on the PC, and type the IP address into the address bar on the browser. The factory default IP address for Port 1 is 169.254.1.10. The factory default IP address for Port 2 is 169.254.2.10.
- 4. Select the Sign In Button located at the upper right of the screen.





5. Log into the WIU device by entering the administrator username and password. The default administrator username and password are both '**admin**'. Select Sign In.

User:		
admin		
Password:		
•••••		
	Cancel	Sign

NOTE

When logging into the account for the first time, it is recommended you immediately change the password.

- 6. Select the Sign In Button located at the upper right of the screen that will now displays your username. A dropdown menu will display.
- 7. Select User Accounts.
- 8. The User Account PTC WIU Control screen will display. Enter your password.
- 9. Select the Select User dropdown menu.
- 10. Select the account in which to change the password.
- 11. Enter the previous password for that account in the Your Current Password text box.
- 12. Enter the changed password in the New Password and Repeat text boxes.
- 13. Select the Change Password button.





Select User:	
Admin (Level 2)	
New Password:	
•••••	
Repeat:	
•••••	

4.2. Connection Verification

Proceed as follows to verify the Web connection of the WIU:

1. After the system boots up (It may take 1-2 minutes from when the WIU is powered on. The 'PTC' LED on the front panel of the WIU will be lit solid green.), navigate to the System Information page on the browser-based maintenance interface:

http://[ip_of_the_WIU]/system.cgi

- 2. The page displays the status of the Vital CPUs, model information, as well as version information of the software and FPGA components installed on the system. Make sure the versions match the revision of the firmware tar package that you have uploaded.
- 3. The "Vital Health Status field in the status bar should indicate GOOD upon successful boot and normal operation. If the health status indication is not GOOD, examine the vital event log in the maintenance interface to pinpoint the cause of the failure.

The VitalNet Co-processor CPU is shipped from the factory loaded with the latest PTC Executive software available at the time of release. As updates occur to the PTC WIU specification due to interoperability requirements, changes in protocol specifications, or new feature releases from ASTS USA, it will be necessary to update the PTC software and firmware running on the device.

4.3. Updating Software and Firmware

To update the Software/Firmware on the device, perform the following steps after logging in as an administrator:

- 1. Click on the Configuration tab located on the main menu bar of the page (Figure 6–1).
- 2. Click on the Upload Firmware link on the upper right side of the Configuration screen. The upload firmware screen will display (Figure 6–2).
- 3. Click on the Choose File button on the Update Device Firmware page to display a standard file-open window.





- 4. Browse to the latest update file (update files will be provided only by ASTS USA, and will have a .tar file extension). Select the file and click OK to return and close the file-open window.
- 5. Click on Force Update checkbox.
- 6. Click on the Update Firmware button to begin the firmware update process. Follow the onscreen instructions to complete the update process.
- 7. If you are loading a firmware package that is or 2.28 or lower, you must repeats Steps 4 and 6. Do not check the Force Update checkbox (Step 5) during the second upload.

4.4. Troubleshooting

If the event logs page is accessible through the maintenance interface, examine it first. The event logs will provide you with diagnostic information that may aid in troubleshooting.

Table 4-1 can be used as an aid in diagnosing problems.

Problem	Possible solution
The PTC LED is not solid	This is usually caused by a critical failure.
green. The PTC and Ethernet port lights cycle on and off light.	page, and examine the event log. Events of the critical level may cause the unit to enter a safe-state mode that ceases WSM communication.
J	Most critical events are caused by a hardware failure (or a software bug)
	This is usually caused by a critical failure.
	To diagnose this failure, disconnect all voltage and current inputs and outputs
The WIU reboots	Disconnect the power from the unit, wait 10 seconds.
continuousiy.	Once the unit stops the reboot cycle, navigate to the event log page, and examine the events.
	If the unit is still resetting, further maintenance by Ansaldo team is required.
The unit fails to send	This can be caused by a faulty application or a critical failure. If the health LED is not solid green, refer to the first Problem above.
wayside messages to the radio.	If the health LED is green and the vital health indication is Good, upload the WIU application package to the WIU. Make sure that you are using a standalone WIU application, and not the MicroLok PTC application.
The unit's time is incorrect	Check the time update settings. The WIU's internal clock ceases operation after 2-18 hours without power. Send five timestamp updates through Class C or configure the WIU to receive time updates through SNTP.

 Table 4-1. Troubleshooting Problems and Solutions



Connecting To WEB Interface

Problem	Possible solution
The maintenance interface is unreachable. The unit doesn't respond to ICMP ping	This is usually caused by a network setting problem. If the WIU's DHCP server is enabled, set the device connected to the WIU to receive its IP configuration through DHCP. If DHCP server is not enabled, try using the default IP configuration: Top Ethernet Port 1: 169.254.1.10 Top Ethernet Port 2: 169.254.2.10 You may also reset the WIU's configuration parameters to factory defaults by powering down the WIU, removing the WIU from the metal casing, and locating the DIP switch bank, and flipping the switch #1 to the ON position.









5. WIU MICROLOK II SCREEN DESCRIPTIONS

The following sections describe the screens that are displayed when using the MicroLok II interface.

5.1. HOME/DEVICE STATUS SCREEN

When the web server on the VitalNet Wayside Interface Unit device is first accessed with an Internet Browser, the home page (see Figure 5–1) will be displayed. If an application is already loaded, the home page shows the status of the devices that are configured within the PTC Application. If no application is loaded, the home page will be automatically forwarded to the Application Builder page (Section 6).

					3/31 18:23:45 Device: Ansaklo WIU	Location: Default Location English ¥ Sign In
MIC	ROLOK					
POSITIVE	TRAIN CONTROL	LINTERFACE				
EMP Output Bi	string: 0000	Locomotive Comman	ad V Appac	ation Upload Configura	oon Event Logs	Expanded View Compact View
Sudich SW			Switch CH			
00 - In Transto	on	_	00 - In Trans	tion		
Label	Equation	State	Label	Equation	State	
Reverse	AUX1_INPUT	0	Reverse	AUK3.INPUT	0	
Normal	AUX2.3NPUT	0	Normal	AUX4.INPUT	0	
Copyright C	2010 - 2011 Ansaldo STS					Vital Health Status: GOOD

Figure 5–1. Home Page

Changes to the configuration cannot be made until a user login name and password is entered. A Login User Name and Password area is located at the top right corner of the page.

- 1. Click on the Sign In hyperlink located in the top-right corner of the page, and a Sign-In Screen will be displayed (Figure 5–2).
- 2. On the Sign-In screen, type in a valid username and password.

If the username and password combination is valid, the tool will return from the Sign-In screen, and the current Signed-In user level will be displayed in the top-right corner of the screen next to the user icon. Once Signed-In, additional configuration options will be made available within the displayed menu bar, relative to the access level granted to the user.

Sign In	
User:	
Password:	
	Cancel Sign In

Figure 5–2. Sign-In Screen

5.2. Field Device Status Screen

The Field Device Status screen (Figure 5–3) displays information for WIU system devices. An expanded view or a compact view can be selected from the menu bar. The view can be compacted or expanded by selecting the Expand View and Compact View buttons at the right of the screen. The expanded view is shown in Figure 5–3. The compact view is shown in Figure 5–4.



Figure 5–3. Field Device Status Screen Expanded View



	ONTROL INTERFACE		dated: 07/23/31 2	2:07:24 Device: Ansaldo Wil	J Location: Default Location Eng	ioh ▼ admin ▼
Field Devices System Info	ormation Locomotive Command	 Application Upload 	Configuration	Event Logs		Advanced
EMP Output Bitstring: 0000					Expanded View	Compact View
Switch SW0 00 - In Transton	Switch SW1 00 - In Transition					
🐍 Copyright © 2010 - 2011 Ans	alda STS				Vital He	alth Status: 6000

Figure 5–4. Field Device Status Screen Compact View

5.3. Device Configuration Screens

The Device Configuration screens provide information about a particular device. The following screens can be selected:

- Import/Export
- Location
- Network
- Class C
- Class D
- ACSES
- SNMP
- NTP
- ITC Time and Location
- Operating Values
- ITCSM



WIU Microlok II Screen Descriptions

• Click the Browse button and the Choose File to Upload window opens. Select the new tar package and click open. The .tar package name will appear in the Upload Device Firmware window. From here, you can store or upload the firmware. The stored firmware files are listed in the Preloaded Firmware File window. You can display the MD5 Sum, upload the firmware, or delete the firmware by clicking on the circle under Select next to the .tar file and then selecting the appropriate command at the bottom of the window. See Section 6 for uploading firmware information.

5.4. SYSTEM INFORMATION SCREEN

The System Information screen (Figure 5–5) provides information about a particular system, including hardware model numbers, application information, and software and firmware version information.

After uploading the latest software and firmware to the device, verify that the version numbers match the version of the uploaded software.

System Information				Version Information			
Rodel Number:			N17067982	DHP Protocol Version:			
TC Application ORC:			SAGE	Cass D Protocol Version:			
TC Application Title:			90th_North	Gase C Protocol Version:			
TC Application Revision:			1.0	Con Setsure:	3.06	Con Software OIC:	108684
TC Application Date			2014-09-16, 9:32	System Executive:	3.06	Testam Executive CRC	205471
CBS Application CPC EP402				Altera Executable	3.05	Xileu Executatie:	3.1
CIES Application Title:			90th St. 3ct. North Interlocking	Altera Executable CIIC	83450FA7	Xiles Executable OIC	CA8067
CIES Application Newson			1.1	Albera Book Copier:	3.06	Niles Boot Copier:	14
CHES Application Dates			2014-09-16, 9:32	Altera Boot Manifac:	3.05	Xiles Boot Honitor:	34
Rowisk Application CRC:			1738	Abez (PG),	3.06	Xilen: FPGA:	34
Relice Titlet (contains every venue)			38/08/2854 07:27:33	SEPTA PIC Information			
ibera Vital Core Health		Xiles Wital Core Health		REP Protocol Version	1.1		
rdes.	3636023	Croke:	3626022	ATCS Protocol Version:	1.1		
ety Cycle:	10	Duty Cycle:	10				
asko Completivelt	26	Tasks Completed:	26				
with Status	Good	Health Status:	Good				

Figure 5–5. System Information Screen



5.4.1. Locomotive Command Screen

The Locomotive Command screen (Figure 5–7) gives the status of the Physical, Network, and Auxiliary bits.

NOTE

The Locomotive Command can only be modified by the PTC Application Builder.

IP Output Bitstring: (opodo comgeredon	Event Logs		Advan
	1000	Physical:	Disabled			Expanded View	Compact V
witch SW0	Switch	Network:	Disabled				
		Auxiliary:	Disabled				
		111111111					

Figure 5–6. Locomotive Command Screen



5.4.2. Application Upload Screen

The Application Upload screen (Figure 5–7) allows you to select a file and upload it.



Figure 5–7. Application Upload Screen



5.4.3. Import/Export Screen

The Import/Export screen (see Figure 5–8) allows you to load, export or load a configuration and print a summary. Selecting Load Configuration displays the Application Upload screen (Section 5.4.1). Selecting Export to file downloads the unit's configuration. Selecting Printable Summary displays the Summary screen (Figure 5–9) that can be printed.

MICROLOK II				Gpldavi: 18/198/14.05-28.07 Double: 5	eddard.ant.) (asto: fefad (asto: Toghih V admin V
Field Devices System Information Locomotive Command Y Application	Upload Configuratio	n Event Logs			Advanced
Instantia Instant Reference Class D ACSIS 54	MP NIP IICTim	and Location Operating Values	ETCSM		Upload Pirenkare
Loud Configuration	Location Configu	station			
Lipst to we	WDJ Configurat	ion Information	Track Information		
PREZNA SUNNUY	WEL/ Configuration	ac	\$040	100000000000000000000000000000000000000	
	FE34F348		ARAR		
	Device Name:		D		
	braf.best.unit.1		1		
	WEU Address:		Version:		
	Diff Mander Star		10		
	Calculated from Will A	diam.			
	brod.m.429273	S1.wis			
	Look ID:				
	Constant Location			10000	
	Time Source Set	tings			
	Time Server	Time Inner			
	O Class C	(GMT -5:00) Eastern Time (US 8	A Candal, Bogota, Lima	•	
	U ITC Tone				
				Terr (heren)	
				Restlement.	
L CrewryM © 2018 - 2012 Availab STS					Configuration statum OK Vital Health Statum 60000

Figure 5–8. Import Export Screen

WIU Microlok II Screen Descriptions



AnsaldoSTS	Device:	
Ansaldo STS WIU	Location: Ansaldo	wiu
Device Configuration Summary	WIU Address: Default Loca	tion
	7.620.000.00	0.01
Parameter	Value	
DeviceName	Ansaldo WIU	
CommunicationType	0	
TimeSource	0	
V_WIUConfigCRC	835C0069	
V_WIUAddress	7.620.000.000.01	
V_DeviceStatusConfigTableVersion	1	
V_DeviceStatusConfigTableId	1	
LocalID	Default Location	
V_EMPHeaderSourceAddress	test.w.000000:01.wiu	
SCAC	RRR	
TimeZone	-5	
ACSES.AcsesAppType	AMTRAK	
ACSES.Amtrak.BCPDownAddress	169.254.2.20	
ACSES.Amtrak.BCPDownPort	8094	
ACSES.Amtrak.BCPUpAddress	169.254.1.20	
ACSES.Amtrak.BCPUpPort	8092	
ACSES.Amtrak.V_EncoderAddress	7.AAA.AA1.AAA.A4.A1	
ACSES.SEPTA.MulticastlPAddress	239.255.0.9	
ACSES.SEPTA.MulticastUDPPort	49001	
ACSES.SEPTA.UnicastUDPPort	49002	
ACSES.SEPTA.V_EncoderAddress	7.AAA.AA1.AAA.A4.A1	
ClassC.Broadcast.ClassCIPAddress	239.255.0.5	

Figure 5–9. Summary Screen



5.4.4. Location Screen

The Location screen (Figure 5–10) provides WIU location information including WIU configuration information, time settings, and track information. Changes can be made by entering information in the displayed boxes and saved by selecting the Save Changes button.

Devices System Information Locomotive Command V Ap	Acation Upload Configuration Event Logs		Advance
out/Export V Location Notwork Class C Class D ACS	S SNMP NTP TTC Time and Location Operating	g Values ESCIM	Upload Firmera
	Location Configuration		
	WIU Configuration Information	Truck Information	
	Mills Conference (MC)	NW .	
	FE1-#149	8888	
	Device Name:	8	
	brof test unit 1	1	
	WEU Address	Vetan	
	7.076.439.273.00	1	
	DM Header Source October For HD Address		
	best at 439273:03 wite		
	Local ID:		
	Default Location		
	Time Searce Selfines		
	CO Class C 10MP 2004	Ine (US & Canda), Bopita, Lina	
	* NTP		
	C PL MA		
		and a second	
		Save Changes	

Figure 5–10. Location Screen



5.4.5. Network Screen

The Network screen (Figure 5–11) provides Ethernet Ports 1 and 2 information including connection type, IP address, network mask, gateway, and server information. Changes can be made by entering information in the displayed boxes and saved by selecting the Save Changes button.

POSITIVE TRAIN CONTROL INTERFACE		ipatent	38/98/18 05/27/35 Divice final land, and 3 Counting Definal Counting	n Toylek Y alker Y
Field Devices System Information Locomotive Command V Application Up	doud Configuration Event Logs			Advanced
Import/Export # Location Access Game C Class D ACSES SNPH	NTP TTC Time and Location Operating Values	EYCSM		Upload Feroware
	Network Configuration			
	Ethernet Port 1 (athd)	Ethernet Port 2 (athd)	1	
	Connection Tope: # Static IP U DHCP	Connection Type: # Static P () DHCP		
	19 Address: 10 295 102 230	19 Address: 169, 254, 2, 10		
	Network Wask:	Retroit Rok		
	Gateway 16,255,102,1	Gateman 189-254-2.1		
and the second of the second	DAS Seners Sinna manual	DNS Servers: General approach		
	10.295.102.1	169.254.2.1		
	C Did Seve	¥ DKP Server		
		Save Champ		
🔔 Cayinghi Q. 2015 - 2015 Aveelik 171			Configuration Action 108	Vial Health Tables 6000

Figure 5–11. Network Screen



5.4.6. Class C Screen

The Class C (Figure 5–12) screen provides Class C information including time, address, and port information. Changes can be made by entering information in the displayed boxes and saved by selecting the Save Changes button.

and a location distance average class to access	states and the first and incident. Consider Malant	TROOM .	Adv
part tocation memory (12-15 Class D ACMES	Server HTP TTC Time and Cocalians Operating Values	LIGH.	Uphoad Per
	Class C Protocol Configuration		
	Time Stamp Fernul:		
	C Relative # Absolute		
	Hultcast Address: Parts		
	239.255.0.5 : 32768		
	Time memory before tenders WSR	Hasman Tine Change	
	5	3 -	
	Time message deviation	Maximum Time Change: (untro mouse)	
	1	60 -	••••) (2000) (2000) (2000) (2000) (2000) (2000)
	Sprured Time Difference:	No Time (yes: Messages: (number the parts)	
	3 month	• -	····
	URM Maximum Time Difference:		
		Same C	hanges

Figure 5–12. Class C Screen

5.4.7. Class D Screen

The Class D screen (Figure 5–13) provides Class D information including link configuration, beacon configuration, protocol attributes, link attributes, beacon attributes and QoS information. Changes can be made by entering information in the displayed boxes and saved by selecting the Save Changes button.



WIU Microlok II Screen Descriptions

						Up	xdsted: 02/23/31 19;39:20 Device: Ansaldo WIU	Location: Default Location	English 🔻 admin 🔻
Field Devices System Information Locomotive Command V Applica	tion Upload Configurat	ion Event	Logs	10000					Advanced
Import/Export V Location Network Class C CATCOD ACSES SNP	P NTP TTC Time and t	Location O	perating Values	TICSM	_				Opload Firmware
	Class D Protocol Config	uration							
	Link Configuration								
	Mode:			TCP Role:					
	Bidrectional		•	Client			•		
	Remote Address: (AG)		Port:						
	10.255.102.254	÷	11000	Data ACK Enal	bled 🛛 🖸 Li	og Traffic			
	Data ACK Timeout		Keen Alve ACK To	manut	Connection	Marc			
	15000	milleeconda	15000	militaconda	60000	miliacord			
	Keep Alive Interval:		Connection Attemp	pt Timeout:	Connection F	leby Limit:			
	30000	milliseconds	30000	miliaeconda	-1				
	Data NAK Reby Limit:		Retransmit Delay:		Reconnection	n Limit:			
	3		0	milliseconds	-1				
	Beacon Configuration Beacon Destination Addres	6:	Continuous: Always (Continuo	(5) •					
	Broadcast Rate:	Max Inten	val: (0 = disabled) seconds	Deacon Dit Time: 60	acords 6	Nacon End Time:	-		
				**		•	-		
	GetWIUStatus Respons	e QoS		WIU Timed Bear	con Qo5				
	Class:	Special Han	nding:	Class:	5	ecial Handling:			
	7	3		7	3				
	Priority:	Network Pro	eference:	Priority:	N	ebwork Preference:			
	0	1		0	1		-		
	Time to Live:			Time to Live:					
	Compression Request			Compression F	Request				
	Delivery Acknowledge			Delivery Ackno	owledge				
	U Outcome Notification			U Outcome Notif	fication				
						Save Chan	ges		
	Constant of the local division of the local	-			-	An other designs			
Copyright @ 2010 - 2011 Ansaldo STS								Configuration status: OK V	Ital Health Status: GOOD

Figure 5–13. Class D Screen





5.4.8. Advanced Civil Speed Enforcement System (ACSES) Screen

The ACSES (Figure 5–14) screen is railroad-specific and provides configuration information for different application types.

MICROLOK II				190446 18/18	(1405-2140) Down bed keisent (souther Gelauf Laur	laa English V adaan V
Field Devices System Information Excession Command ¥ Application Up	kad Configuration Event Log					Advanced
Import/Export V Location Network Class C Class D ANNE SNPP	NTP ITC Time and Location	Operating Values	ETCSPI			Upload Firmware
	ACSES Configuration Access Application Type Antrok Configuration Desider Advances TABAARLABAARABA RCP Up IP Address 166.254.1.20 RCP Down JP Address 186.254.2.20	Pot: 1 8072 Pot: 2 8094		See Charges		
Sau Copyright © 1915 - 3911 Anaddis 191					Configuration datase OM	Vial Health Status 60000

Figure 5–14. ACSES Screen

5.4.9. SNMP Screen

The SNMP screens provide SNMP parameter information and event logs. The SNMP screens are selected via a drop-down menu .The different types of SNMP screens are shown in Figure 5–15 through Figure 5–20. Changes can be made by entering information in the displayed boxes or by checking or unchecking a box(s) and saved by selecting the Save Changes button.



WIU Microlok II Screen Descriptions

MICROLOK	1		Tiplated 1	18/16(114 01-20106 Dave	- bud ked and. I	Louise Default Louise	- Inglish IT -	
POSITIVE TRAIN CONTROL IN	I NTERFACE							
Field Devices System Information Locana	tive Command V Application Upload Configuration Event Logo						***	mont
Import/Export # Location Network Cla	INTE Class D ACSES COMP NTP ITC Time and Location Op	verating Values TTCSP4					Upload Firm	miler
SNMP Configuration								
Community Name: Select AnnaldeSTS	Privary ID							
Sys Contact Vital DefaultContact Contact	A Description 2	E.	Priority	C Reportable	Occurrences	Time Poriod (seconds)	Delay (month)	
Destruction IP Address 1: Web: 169.254.2.12								
Destination IP Address 2: 169-254.1.12		Plase select primary event 23.						
Ro-anable traps in: 30 minutes								
Traps are enabled								
Enable Traps Elizable Traps								
							See Ch.	-
🔔 Couveyin () 2017-2011 Annalas 175						Configuration station CM	Unit Health Status	6000

Figure 5–15. SNMP Drop-Down Menu Screen

	K II Irol interface				Tipdand 1	0/96/14 05.34.18 Dvs	er Venal Venik annik, V	Louiser Gefault Louis	a faglish V aska	
Field Devices System Information	Locanotive Command V Ap	pleaten tiphad Configurat	See EventLoga						Advant	-
Import/Export * Location Ref	work Class C Class D ACS	IS SAME AND ITC TH	ne and Location Operating Va	Auros 13CSM					Upload Firmer	
SNMP Configuration										
Community Name: Annahlor575	Select Primary ID	•								
Sys Cantad: DefaultContact	Description 1		Description 2		Priority	C Reportable	Occurrences	Time Period (seconds)	Delay (seconds)	
Destruction IP Address 1: 169.254.2.12										1
Dednation IP Address 2: 169-254.1.12				Peace saled primary event 23.						
Ro-enable traps in: 30 minutes										
Traps are enabled										
Enable Trape										
									Save Chang	
🔬 Copyright El 2018 - 2018 Annaktis 575								Configuration status: OR	Vital Health Status 60	

Figure 5–16. SNMP Select Primary ID Screen


WIU Microlok II Screen Descriptions

	K II Irol Interface		ليعلموا	80/90/14 22:36.76 I	looine band lood and l	Louisen Defeat Lau	ten fagiki f	-
Field Devices System Information	Locancive Command V Application Spinal Configuration Event Log							
Import/Export * Location Refl	work Class-C Class-D ACSES SHOP NTP ITC Time and Location	Operating Values TTCSH						
SNMP Configuration								
Cammunity Name: AexabloSTS	Vite •							
Sys Cantact: DefaultContact	Description 1 Descrip	lion 2	Priority	Reportable	Occurrences	Tiese Period (seconds)	Delay (seconds)	
Destination IP Address 1:	No application installed.		1		1	1	1	i i
168,254,2.12	Application OIC is incorrect.		1	<i>w</i>	1	1	1	
Destination IP Address 2:	Stale Data from DRAM.		2		1	1	1	
100.094.1.12	Set AMA register (logical 1) to let MLK know it is sk to write to DPRAM				1	1	0	
Re-enable trace in:	Set AMA register (logical II) to let MUK know the PTC coprocessor is not avail				1	1		
5 mode	COM software started.		1		1	1	1	
Loading SIRP status	COM Hardware Brox.		1		1	1	1	
	COM Application Software Error.		I.		1	1	1	
	HTTP server not operational Error.		1		1	1	1	
	SIMP Apert not running.		1		1	1	1	
	DRS server not running.		1		1	1	1	
	DKD server not running.		1		1	1	1	
	SLP server is not naming.		T.		1	1	1	
	Vital software is not running.		1		1	3	1	
	Vital Xiles MOR Flash Read Error.		1		1	1	1	
	Vital Xilex NOI. Flash Write Error		1		1	1	1	
	Vital Abara NOR Flash Read Error		1		1	1	1	
	Vital Abera MOR Flash Write Error		1		1	1	1	
	Inter composite memutch		1		1	1	1	-
🔔 Casynget & 2011 - 2011 Availer 575						Configuration mature (DM	Vital Health Sta	nun 6000

Figure 5–17. SNMP Vital Screen

	K II TROL INTERFACE			todani i	ayaayaa 20.0454 0	enter land Jest and J	Louise Defeat Lee	don English *	Singer In
Field Devices System Information	Locomotive Command ¥ Appl	Ication Upload Configuration Event Logs							
Import/Export V Location Net	work Class C Class D ACSES	SCHEP NTP ITC Time and Location Ope	erating Values ETCSPI						
SNMP Configuration									
Commanity Name: AnnaldoST9	Moniak	•							
Sys Contact: DefaultContact	Description 1	Description 2		Priority	Reportable	Occurrences	Time Period (seconds)	Delay (month)	
Destination IP Address 1	Moskk Event 1			1			0	0	
169.254.2.12	Moolok Event 2			1					
166.294.1.12 Re-endle trans m 5 emotion Landing SMMP status									
Country of 2010 - 2010 - 2010 - 2010 - 2010							Carlineater data (16	the realty links	. 6000
									-

Figure 5–18. SNMP MicroLok Screen



WIU Microlok II Screen Descriptions

MICROLO	12.11		append.	10/06/14 22:26:16	inter bead look and 1	lander: Defeat Loca	ten English T	r Sign In
MICROLO	K II Irol interface							
Publication Ration Information	International Property in the Intern	Contraction I from theme						
Teac Devices System Dependent	The second secon							
SNMP Configuration	an our our our sist	The same and focusion. Advanced Assess 1147 au						
Community Name: AreaddoSTS	Com +							
Sys Centad: DefaultContact	Description 1	Description 2	Priority	Reportable	Occurrences	These Portod (seconds)	(second)	
Destination IP Address 1:	096 Morslek not available		3		1	1	1	i i
109.254.2.12	005 Write Error		1		1	1	1	
Destination IP Address 2:	006 Read Error		1		1	1	1	
194.041.12	Availan Ban Error		1		1	1	1	
Re-enable traps in:	PTC-MLK - Invalid Timer Timeout		1		1	1	1	
5 model	PTC-MLX - Ack timesut		1		1	1	1	
Loading SHMP status	PTC-MLK - Stale data timeout		1		1	1	1	
	PTC-MLK - Clock update for Microlok		2		1	1	.1	
	MUK Application Bad CHC.		1		1	1	1	
	NUK Time Updated		1		1	1	1	
	MLK Recentranization requested		1		1	1	1	
	UEP message fragmented		2		1	1	1	
	TCP message ecomplete		1		1	1	1	
	Received Bad Class D protocol message		1		1	1	1	
	Com Error		1		1	1	1	
	Received Bad Class C protocol message		1		1	1	1	
	Received Bad (TP protocol message		2		1	1	1	
	New Tarball received		1		1	1	1	
	New HIGHC received		1		1	1	1	•
A commence of the second second second							100000000000	-

Figure 5–19. SNMP Comm Screen

Al Devices System Information	Lacamotive Camenand V Application Upload	befiguration Event Loga					
port/Export + Location Net	beork Class C Class D ACSES SAVER NTP	ITC Time and Location Operating Values ITCSPI					
MP Configuration							
Connently Name AmaldoSTS	740 · · ·						
les Contact: Default/Contact	Description 1	Description 2	Priority	Reportable	Occurences	Time Period (seconds)	Evelay (seconds)
estination IP Address 1:	OSE function call error		1			0	1
89.254.3.12	August Table Read Error		1		1.0		1
estruction IP Address 2:	Bit names parsing error		1		. 4	0	1
1010411J	Montainer logged on		1		0		1
e enable traps in:	Administrator logged in		1				1
renter	Engineering logged in		1		0	0	1
audeg SPAP status	User logged out		1		0	0	1

Figure 5–20. SNMP Web Screen



5.4.10. NTP Screen

The NTP (Figure 5–21) screen provides NTP configuration information. Changes can be made by entering information in the displayed boxes and saved by selecting the Save Changes button.

			Sadand 38/98/149539887 Soora bod kedualit (Genera Soloit Genera	English V adapts V
Field Devices System Information Locomotive Command ¥ Application Up	koat Configuration Event Logo			Advanced
Import/Export V Location Network Class C Class D ACSES \$999	TTC Time and Location Operating Values	ETCSM		Upload Fermiere
	NTP Configuration			
	NTP Server: 10.255.102.254	Update Determal: 38		
			ee Olangen	

Figure 5–21. NTP Screen

5.4.11. ITC Time and Location Screen

The ITC Time and location screen (Figure 5–22) provides the time configuration settings.



Figure 5–22. ITC Time and Location Screen



5.4.12. Operating Values Screen

The Operating Values screen (Figure 5–23) provides operating value settings.

			1	8/98(14.22.45.34 Dec	en Need Arel, and 1 - Locators Definall Locato	a English V adams
Field Devices Signing Information Locanotive Conservat ¥ Application Up	load Configuration EventLogs					Advances
Import/Export V Location Network Class C Class D ACSES SIMP	81P IIC Time and Location Operating Values	ETCSPI				Upload Firmwire
	Operating Values					
	Hellic Kay CRC	Lat Updated	-			
	H David	00-10-2014 02 17-44	Optional Horizon, Kong-	11100		
	K2 K4 CKC K351900F	06-10-2014-02-17-44	Upbad RC2 Key			
🔔 CountyPe © 2012 - 2012 Anadala 171					Configuration datus CM	Vial Health Tables 6008

Figure 5–23. Operating Values Screen



5.4.13. ITCSM Screen

The ITCSM (Interoperable Train Control System Manager) screen (Figure 5–24) provides operating value settings.

Name Notice Notice Application by Applic		INTERFACE				
Proventing Version Network Costor Cos	levices Nestern Information Loc	omotive Command V Application Hol	and Confineration Event L	905		Advant
Status: Putabled; 1110100 (delevay: Advant: 1110100 (deleva): 1110100 (t/Export V Location Retwork	Class C Class D ACSES SHMP	NTP ITC Time and Location	Operating Values	TICSH	Upload Firmw
Natalieri Paradeli (Veranni: Veranni: 11/CHG disteryery Admenti 11/CHG disteryery Admenti 11/CH					The second second	
Production 2 TCMM Gatewaye Advance 2 Texture 2 Textur		Status:				
Vesse: 2 Vesse: 2 TCSH Gateway Access TCSH TCSH Stateway Access TCSH Gateway Access TCSH		Installed:		,		
TCSM Gateway Advess 2 Runners: 2 Runners: 2 Configuration: 2 Configuration: Runners: Vali Runners: Vali: Runners: <td></td> <td>Version:</td> <td></td> <td>2</td> <td></td> <td></td>		Version:		2		
TCGH Gastering 3 Remons 3 Remons 3 Remons 3 Remons 10 Rem		ITCSM Gateway Adress:		2		
Pursure 2 Constructed line 10 (construct Prevene solution		ITCSH Gateway Port:				
Configuration Alexic configuration file ("conf); Alexic configuration file ("conf); Alexic configuration file ("conf); Alexic configuration file ("conf); "Alexic configuration file ("conf); <td></td> <td>Running:</td> <td></td> <td>3</td> <td></td> <td></td>		Running:		3		
Address contribution file (*contrib) "Maxime index f if is "Max		Configuration:				
Process Select File Bitwee File Updated Process Select File Bitwee File Bitwee File Val: * * Val: <td></td> <td>Asset configuration file (* config</td> <td></td> <td></td> <td></td> <td></td>		Asset configuration file (* config				
Appendix controlling of the controlling of the control Updations to the TELEMA settings takes ables ables the'r the Tanzitet TELEMF fortices is present Control: Bankawa FECMA Vada: Vada: <		Please Select File	Chasse File Upload	Download		
Pleases Select File Use New Yes Use New Yes Please Select File Use New Yes Please Select File Use New Yes		Agent configuration file (*.conf):				
"ubdates to the ITCM settings take place after the "setarat ITCM" button is present Centrol: SHIPE: Valo		Please Select File	Choose File Upload	1 Download		
Control: Restart TTEAM Control: Val: Val: Val: Par: Par: Certificates: SHIPS: Val: Va		*Updates to the ITCSM settings take	place after the 'Restart ITCSM' butt	on is pressed		
Certification: SHIP: Valid: Val		Control:				
Certificates: SHIP: Val: Val: Par: Certificates: SHIP: Val:			Restart ITCSH			
SHIPE: Vaki: Vaki: Vaki: Par: Outside from: Vaki: Vaki: <td< td=""><td></td><td>Certificates:</td><td></td><td></td><td></td><td></td></td<>		Certificates:				
Vali: Vali form: Please Select File Certificates: SHPR: Vali: Vali: Vali: Vali: Vali: Far: Vali form: Vali for		-				
Vadi form: Vadi f		SHIPE:				
Valk from: * th. Par: * Par: * Par: * Par: * Certificates: * SHPK: * Valc * Valc * Valc * Par: * SMPK Phylic (*,pen): * Please Select File Cheese File SMPK Phylic (*,pen): * Please Select File Cheese File Vald from: *		Vald:		×		
Pari 2 SMEX To Make (* gene): Please Select File SMEX: Vald: Vald: Par: SMEX Puble (* gene): Please Select File Consen File SMEX Puble (* gene): Please Select File Consen File		Valid from:	> tit.	,		
SHEYK Public (** pami)) Please Solect File Certificates: SHEPK: Valid: Valid: Valid: Valid: Par: SHEKK Public (** pami): Please Solect File Obsense File Valid: Valid: Valid: Valid: Valid: Valid: Valid: Par: SHEKK Public (** pami): Please Solect File Obsense File Valid: Valid: <tr< td=""><td></td><td>Part</td><td></td><td>2</td><td></td><td></td></tr<>		Part		2		
Please Select He Channe He Certificates:		SMPK Public (*.pen):				
Certificates: SHFK: Vald: Vald: Vald from: Plan: Concest File Concest		Please Select File	Choose Fife	Contract of the		
Certificates: SHPR: Vald: Vald: Vald: Vald from: Par: Please Select File Chasse File GW CERT: Vald: Vald from: Compare file Chasse File		Provide states and the				
SHPK: Vald: Vald from: Vald from: Par: SMK Public (*pem): Please Select File SMK Pivate (*pem): Please Select File Vald: Vald: Vald: <		Certificates:				
Vald: Vald from: Vald from: Vald from: Vald from: Vald from: Vald from: Vald: Vald from: Vald:		Page 1				
Vald:		SHIPK.				
Vaid from: Vaid from: Vaid from: Vaid from: Vaid from: Vaid: Vaid Vaid from: Vaid:		Valid		e .		
Vaid from: Vaid from:						
Par: " SMEX Public (* pem): Please Select File Onesse File Genesse File Genesse File Vald: Vald from: * til: * GW Public (* pem): Please Select File Genesse File Uplead Uplead Uplead		Valid from:	r tê	e		
SMOK Public (*.pem): Please Select File SMOK Private (*.pem): Please Select File Wald: Vald: Vald: Wald: Wald: Please Select File December File Wald: W		Part		e		
SMEK Public (*pem): Please Select File GW CLIRT: Vald: Vald from: Climene File Chinese File China C						
Please Select File Cheese File Upload SMDK Pinzte (*,pen): Wald: Vald: Vald: Cheese File Cheese File Cheese File Upload GW Puble (*,pen): Please Select File Cheese File Upload GW Puble (*,pen): Please Select File Cheese File Upload		SMPK Public (*.pen):				
SMPX Private (*_pem): Please Select File GW CLIRT: Vald: Vald: Vald: Chross File Chross F		Please Select File	Choose File			
Please Select File Cheese File Wald: Vald: Vald: Cheese File Cheese File Cheese File Cheese File Cheese		SMDK Drivet a (* nem)-		Upload		
GW CERT: Vald: Vald from: GW Public (*.pen): Please Select File Desses File Upload		Please Select File	Choose File			
GW CERT: Vald: Vald from: Vald from: Course File Upload						
Vald: Vald from: Customer Constant Co						
Vald: C Vald from: C til: C GW Puble (*.pem): Please Select File Chasse File Upload		GW CERT:				
Vald from: C til: C GW Puble (*.pen): Please Select File Choose File Upload		Valet				
Vald from: til: C GW Puble (*.pem): Please Select File Choose File Upload		104.				
GW Puble (*.pem): Please Select File Chasse File Upload		Vald from:	化性	<i>c</i>		
Please Seket File Okasse File Upload		OW Buble (I see):				
FRAME WORAL FR		Please Select File	Choose File	Upload		

Figure 5–24. ITCSM Screen



5.5. Event Logs Screen

The Event Logs screen (Figure 5–25) provides a listing of system events. Events can be selected from the Source drop-down menu for the Browser Interface, Communication, MicroLok, Vital – Altera events. The log scan be cleared or exported to a file by selecting the Clear Logs or Export to File buttons at the lower right hand of the screen.



Figure 5–25. Event Logs Event Selection Screen

5.6. Advanced Screen

The Advanced screen (Figure 5–26) displays a list of services, local presence configuration, and user certificate information.



Figure 5–26. Advanced Screen



5.6.1. Services Screen

The Services screen (Figure 5–27) displays SNMP, Class D, SLP service, And TLS service. A checked box indicates that the selection is enabled. Changes can be made by checking or unchecking a box(s) and then selecting the Save Changes button.



Figure 5–27. Services Screen



5.6.2. Local Presence Screen

The Local Presence screen (Figure 5–28) provides a list of local presence configuration parameters. A checked box indicates that you will be prompted to reset the WIU before the parameter can be enabled.

×		
1.12/advanced/localpresence.cgi		
CONTROL INTERFACE	Updated: 08/20/14 07:14:30 Device: 90th St North Locator: Airport 1	ine I
ormation Locomotive Command Application Upload Conf	figuration Event Logs	
Local Brazance Configuration	1000	
Configuration Parameter	Local Presence Remained	
DeviceName		
TimeSource	0	
SCAC		
LocalD	0	
ACSES.Amtrak.BCPDownAddress	0	
ACSES.Amtrak.BCPDownPort	0	
ACSES.Amtrak.BCPUpAddress		
ACSES.Amtrak.BCPUpPort	0	
ACSES.Amtrak.EncoderAddress	8	
ACSES.SEPTA.EncoderAddress		
ALSES SEPTA MulticasEPAddress	0	
ACSES.SEP TA.UnicastUDPPort	0	
ClassC, ClassCTimeStampFormat	01	
CassC.Ignored TimeDifference		
ClassC.HaxTmeChangeMnutes	0	
ClassC.MaxTmeChangeSeconds	8	
ClassC.No TimeSyncMessages	0	

Figure 5–28. Local Presence Screen



5.7. User Certificates Screen

The User Certificates screen (Figure 5–29) allows the user to upload a new certificate.

Proceed as follows to upload a new certificate:

- 1. Click on the Choose File button on the User Certificates screen to display a standard fileopen window.
- 2. Browse to the latest update file. Select the file and click OK to return and close the fileopen window.
- 3. Click on the Upload button to begin the certificate upload process. Follow the onscreen instructions to complete the upload process.

MICROLOK II Positive train control inter	upos RFACE	ee: 0 <i>27 237 31 21:</i> 36:00	ocation: Deraum Location English Y admin Y
Field Devices System Information Locomo	tive Command ¥ Application Upload	Configuration Event Logs	Advanced
Services Local Presence User Certificates			
	User Certificates		
	Maintainer	Administrator	
	Last Updated: Unavailable	Last Updated: Unavailable	
	Upload new certificate (PEM format):	Upload new certificate (PEM format):	
	prowse_	Drowse_	
	upeaa	upicad	
Conversité de 2010 - 2011 Annaido STS			Wal health Status 6000

Figure 5–29. User Certificates Screen



6. UPLOADING FIRMWARE THROUGH THE WEB INTERFACE

The VitalNet Co-processor CPU is shipped from the factory loaded with the latest PTC Executive software available at the time of release. As updates occur to the PTC WIU specification due to interoperability requirements, changes in protocol specifications, or new feature releases from ASTS USA, it will be necessary to update the PTC software and firmware running on the device.

To update the Software/Firmware on the device, perform the following steps after logging in as an administrator:

- 1. Click on the Configuration tab located on the main menu bar of the page (Figure 6–1).
- 2. Click on the Upload Firmware link on the upper right side of the Configuration screen. The upload firmware screen will display (Figure 6–2).
- 3. Click on the Choose File button on the Update Device Firmware page to display a standard file-open window.
- 4. Browse to the latest update file (update files will be provided only by ASTS USA, and will have a .tar file extension). Select the file and click OK to return and close the file-open window.
- 5. Click on Force Update checkbox.
- 6. Click on the Update Firmware button to begin the firmware update process. Follow the onscreen instructions to complete the update process.
- 7. If you are loading a firmware package that is or 2.28 or lower, you must repeats Steps 4 and 6. Do not check the Force Update checkbox (Step 5) during the second upload.

POSITIVE TRAIN CONTROL INTERFACE					
Field Devices System Information Locomotive Command V Application U	plant Configuration Tweet	laga			Advanced
Import/Export # Metadow Network Class C Class D ACSES SNM	P MTP ITC Tasse and Locatio	on Operating Values	ITCM		Upload Fammure
	Location Configuration				
	WTU Configuration Informat	Son	Track Information		
	WEP Configuration CRC:		SOAD		
	1114/140		6000		
	bead beat anit. 1		1		
	WEAR Address:		Version		
	7.876.439.273.01		A second		
	Columnation States				
	Send to				
	Default Location				
	Time Source Settings				
	Time Source: Rime 2	and the second			
	Class C (Set # NTP Cl27C free	-5:00) Eastern Time (US &	Canda), Bogota, Kima		
				Same Changes	
S., Casordex & 2000 - 2011 Aniality 705					Configuration status DR Vital Health Status 40000

Figure 6–1. Configuration Screen



		Updated: 10/0
Upload Configuration Ev	ent Logs	
IMP NTP ITC Time and Lo	cation Operating Values ITCSM	
	Update Device Firmware	
	Firmware tar package:	
	Please Select File Choose File	
	C Force Update	
	Store Firmware Update Firmware	
Preloaded Firmware Files		
Firmware tar package:	Info:	Select:
UD0902_Release_2.28.Ta	r 10823680 Wed Sep 10 07:57:36 2014	0
UD0902_Release_2.30.ta	r 13376512 Wed Aug 27 03:16:44 2014	0

Figure 6–2. Upload Firmware Screen

• Click the Browse button and the Choose File to Upload window opens. Select the new tar package and click open. The .tar package name will appear in the Upload Device Firmware window. From here, you can store or upload the firmware. The stored firmware files are listed in the Preloaded Firmware File window. You can display the MD5 Sum, upload the firmware, or delete the firmware by clicking on the circle under Select next to the .tar file and then selecting the appropriate command at the bottom of the window. See Section 6 for uploading firmware information.

6.1. Firmware Storage

The WIU has the ability to store multiple firmware packages through the firmware upload screen. To do so perform the following steps when signed in as an administrator:

- 1. Click the Browse button and the Choose File to Upload window opens.
- 2. Select the new tar package and click open. The .tar package name will appear in the Upload Device Firmware window.
- 3. From here, you can store or upload the firmware. Choose the upload option.

Once uploaded, the stored firmware files are listed in the Preloaded Firmware File window. There are multiple options with these stored firmware packages which is accomplished by clicking on the circle under Select next to the .tar file and then selecting the appropriate command at the bottom of the window.

- Display the MD5 Sum of any of the stored firmware packages
- Upload one of the stored firmware packages to the WIU
- Delete any of the stored firmware packages



7. ANSALDO STS WIU APPLICATION BUILDER

When building an application, the application can be configured to use Advanced Civil Speed Enforcement System Encoding (ACSES) encoding. ACSES encoding requires a CSV logic table. The table is railroad-specific and includes all switch positions and signal aspects within the span of track that the WIU unit is monitoring. An existing table can be selected by using the Browse button. A new Aspect Logic Table can be created by selecting the Create New button.

WIU with a MicroLok II Host Microlok Application:	host 💮 Standalone WIU
	Browse
PTC Application	
Enable Signals	
Aspect Logic Table:	
	Drawta Naw
	DIOWSELL CIEdle New
	Browsen. Create New
ACSES Encoder Applica	tion (Amtrak)
ACSES Encoder Applica	tion (Amtrak)
ACSES Encoder Applica	tion (Amtrak)
ACSES Encoder Applica ACSES Encoder Applica ACSES Logic Table CSV:	tion (Amtrak)

Figure 7–1. Create New WIU Application Screen

7.1. Opening an Existing Application

To begin setup on a WIU application, you must first create a new application. Proceed as follows:

1. Select File/Open Application drop down menu in the top left of the application builder.

New York Team	II II I	the logane is	And the same in	Barr.			
				Congestion from	Constantion Internet Statement Statements	Best Australians Transmission Section 2010 Specific and	

Or select the Open Application button in the center of the application builder window.





2. The window will appear for you to browse to the location on your computer where the application is stored.

Con Application					
💭 👍 a terta a hoto la	and a first		· 49 Second Law	to Septe App	
Organiza # New Salider				H	
Anote Desing Desing Desing Desing Desing Desing Desing Securities npm desing desing Desing Desing Volum Volum	Some Specific sources, Jurge many Specific sources, Jurge many Specific sources, Jurge many Specific sources, Jurge Market States, and a sources, July, 214, 717, many Specific States, 10188475 8004, well sources, ACHI, 1041 Ausopp	Den malfed 0152014302 HA 105201420 HA 105201420 HA 105201420 HA	Type Annative UTS VIDE - Annative UTS VIDE - Annative UTS VIDE - Annative UTS VIDE -	Lan 4 1.00 4 1.00 4 1.00 4 7 0	
Compare Windows(2012) Formatic Stat (2) General (Stat (2)) General (Stat (2)) Material Tourses use			· 2000.00	(Packages () etc.	



3. Select the file and then select Open.

• 49 million Type to 801 MM Arout 10.225 PM Arout 10.225 PM Arout	1 Second Lands Say 1 Seco	100 Aue	
ulified Type Dr 101 AM Annah Dr 201 AM Annah Dr 201 PM Annah Dr 201 PM Annah	10 10 10 10 10 10 10 10 10 10	100 0 2010 2010 2010	
and Inger Se Kill AM Around Se 20 27 AM Around Se 20 27 AM Around Se 201 794 Around Se 201 794 Around	6 100 else (21) elle : else (21) elle : else (21) elle : else (21) elle :	1,000-43 200,040 1,276-44 27-48	
		• Anada Michiel	 Seals Hit Pelage (* m) Sea

4. The selected file will open.

PTC Application ACSES divoder Applica	don (2014)				
Logi Talier	CIC- 20090606 Applicate	or Title (CIC) 1942 P	test Microluli Application OTICa:		
809 DL 33, North Scherholing tex. L.L.	Toport 1.01 (under		100.		
* build legals					
3	7				
5408	THOR.				
3100	Paul .				
3489	3461				
(Alac	24				
* Signal Ingulis					
C Signal Territory		-			
#160	EL-60	913-00	842-60	85-60	
		ana, 60			
escrop	82-070P	BULGTOP	BC-CTOP	85-0709	
-6400	-6390	-942,80	-442,00	-4100	

3 2015-01-00120-40-20 1 dunneeefully imported table 1200_000ACS 1700607071 3 2015-01-00720-40-20 1 Minering Amorek ACOUS Applications rectains Amorekondygetid

A green background for a device indicates a valid item. A red background indicates and invalid item. Messages will appear in green or red text at the bottom of the screen. The text will be green for a valid item. The text will be red for an invalid item.

If you type invalid text in a device window, the background will turn red.

	7
5-NOR	7-NOR
5 NWV	7 NWV
5-REV	7-REV
5RWC	7RWC



As you begin to type information in a device window, a list of bits from the MicroLok .mlp file will display. Click on one of these bits to assign it to the device.

	7
S-NOR	7-NOR
SNWC	গ
S-REV	ZNWC
SRWC	AUX2_INPUT
	AUX27.INPUT

7.2. WIU Application Builder Software Creation

The WIU Application Builder is a tool used to create application files that will be uploaded to the WIU to set what actions it will take in certain situations. The application builder is on a disc as part of the WIU X-kit. Proceed as follows to install the WIU Application Builder:

- 1. Insert the application builder disc into the computer.
- 2. Open the Start menu and click on the Computer menu item.
- 3. Double-click on the CD\DVD Drive. This will open up the drive where the App Builder Setup is located.
- 4. Double-click on the App Builder Setup to open the WIU Application Builder Setup Wizard.
- 5. Click the Next button, and after reading the license agreement, select I agree.
- 6. Make sure the check box next to Run WIU Application Builder is selected and click Install.
- Once completed, click Finish, and the Ansaldo STS WIU Application Builder will open (Figure 7–2).



Figure 7–2. Application Builder Home Page

7.3. Starting a New Application

To begin setup on a WIU application, you must first create a new application. Proceed as follows:

1. Select the New Application icon in the center of the application builder.



and Continue Device	· · · · · · · · · · · · · · · · · · ·	Esport Paris Satokana (HL	(ene		
w Application					
			Comparison Tool	New Application	Com Application
				Create a new WEU Application from existing components.	Open existing WIU Application file

Or select the File dropdown menu in the upper left of the menu bar, and then click New Application

Application	DE-N	Sea langing in	Story has been re.	East.		
sparture Rod	Care					
e 1. h.,	Cri-4 Cri-8(+3					
ere ber	Deve					
	Dr+Q					

Or select the New Application button in the center of the application builder window.



2. The Create New Application window will display.



Ansaldo STS WIU Application Builder

WIU with a MicroLok I	II host 🛞 Standalone WIU
Host Microlok Application:	
	Browse
PTC Application	
Enable Signals	
Aspect Logic Table:	
	Browse Create New
ACSES Encoder Applic	cation (Amtrak)
ACSES Encoder Applic	cation (SEPTA)
ACSES Encoder Applie ACSES Logic Table CSV:	cation (SEPTA)
ACSES Encoder Applie ACSES Logic Table CSV:	Cation (SEPTA)

- 3. You can choose to either set up an application for a WIU with a MicroLok II host or a Standalone WIU. Choose WIU with a MicroLok II host.
- 4. Select the desired file and choose Open. If the incorrect .mlp file is selected, the error screen shown in will appear when Create Application is selected.



Figure 7–3. .mlp Selection Error Screen

7.3.1. Creating a New SEPTA Application

Refer to the procedure in Section 7.3 to create a new SEPTA application. When the Create New WIU Application window appears, browse and select the appropriate Device Type, PTC Application, and ACSES Encoder Application (SEPTA).check the ACSES Encoder Application (SEPTA) checkbox.



Ansaldo STS WIU Application Builder

Device Type				
WIU with a MicroLok I	I host	Standalone	WTU	
Charles and the approximate				rowse
PTC Application				
I Enable Signals				
Aspect Logic Table:				
		Browse.	Great	e New
ACSES Encoder Appl	cation (Ar	ntrak)		
ACSES Encoder Appl	cation (SI	PTA)		
ACSES Logic Table CSV:	000000			
-			B	rowse

Select Create Application after all of the parameters have been selected.

7.3.2. Creating a New AMTRAK Application

Refer to the procedure in Section 7.3 to create a new AMTRAK application. When the Create New WIU Application window appears, browse and select the appropriate Device Type, PTC Application, and ACSES Encoder Application (AMTRAK).check the ACSES Encoder Application (AMTRAK) checkbox.

Create New Application	5 8
Create New WIU Application	
Device Type	
WIU with a MicroLok II host O Stan Host Microlok Application:	dalone WIDJ
	Browse
PTC Application	
C Enable Signals	
Aspect Logic Table:	
	owse
ACSES Encoder Application (Amtrak) ACSES Logic Table CSV:	
	Browse
ACSES Encoder Application (SEPTA)	
Create A	pplication Cancel

Select Create Application after all of the parameters have been selected.



7.4. Saving an Application

Proceed as follows to create a new application:

- 1. Select Save icon in the top left or the application builder or select the File dropdown menu and then select Save (Error! Reference source not found.).
- 2. If the save was successful, text messages that indicate a successful save will appear at the bottom of the window. An example of a successful save message is shown in Figure 7–4.

[2015-02-05T10:28:22] [2015-02-05T10:28:22] [2015-02-05T10:28:22]	Generating MLP Processing Compiler Output Vital Logic Compiler Log:
	MICROLOK II Compiler Version 8.50 (N800102-0001)
	Wednesday April 23, 2014 12:25:29
	Compiling <u>C:\Users\PTCLAB~1\AppData\Local\Temp\ptcapp.ml2</u> Image size: 0x23C6
	Application Image Checksum: 04c2
	Compile complete. 0 errors, 0 warnings. Compilation log written to <u>C:\Users\PTCLAB-1\AppData\Local\Temp\ptcapp.mll</u>
[2015-02-05T10:28:22]	WIU Configuration PTC CRC : 835C563C
[2015-02-05T10:28:22]	WIU Configuration ACSES CRC : 835C3407
[2015-02-05T10:28:22]	Successfully compiled selected components.
[2015-02-05T10:28:22]	Saving to C:\Users\PTC Lab\Desktop\SEPTA\Factory Merged Apps\Merged Factory App.wiuapp
[2015-02-05T10:28:22]	WIU Package Saved.
[2015-02-05T10:28:22]	Available sections: WIU Configuration, PTC Application.

Figure 7–4. Successful Save Text Messages

3. If the save was unsuccessful, text messages that indicate an unsuccessful save will appear at the bottom of the window. An example of an unsuccessful save message is shown in Figure 7–5.

I	2015-02-05T10:28:31	1	
[2015-02-05T10:28:31	1	Initiated application generation.
I	2015-02-05T10:28:31	1	Compiling PTC Application
I	2015-02-05T10:28:31	1	Generating ML2
I	2015-02-05T10:28:31	1	Compiling SEPTA ACSES Encoder Application
[2015-02-05T10:28:31	1	ACSES ENCODER: Processing Compiler Output
1	2015-02-05T10:28:31	1	ACSES ENCODER: MLP Generation Error:
			MICROLOK II Compiler Version 8.50 (N800102-0001)
			Wednesday April 23, 2014 12:25:29
			Compiling <u>C:\Users\PTCLAB~1\AppData\Local\Temp\encapp.ml2</u>
			Compile complete. 1 errors, 0 warnings.
			Compilation log written to <u>C:\Users\PTCLAB~1\AppData\Local\Temp\encapp.mll</u>
1	2015-02-05T10:28:31	1	ACSES Encoder Application failed to compile. Changes will not be saved.

Figure 7–5. Unsuccessful Save Text Messages

7.5. Device Configuration SETUP

The Configure Device selection window (Figure 7–6) in the PTC Application Builder gives the user the ability to set the various configuration options that are necessary for proper setup of the device.

and there and	on melb			
📄 🖆 🗔	X Configure Device	a, Show Compliation Log	Export Track Database XML	Exit
PTC Application	ACSES Encoder Applicat	tion (SEPTA)	Constant of the second s	-





7.5.1. Location Properties

The Location Properties section (Figure 7–7) contains general configuration parameters that must be set for each Ansaldo VitalNet WIU installation. These parameter values are used to uniquely identify each WIU device, and assist in Configuration Management of the device throughout the customer's PTC network. See Table 7-1 for a description of the Location Configuration parameter settings.

월 Device Config	uration	? 🗙
Device Configu Location Prop Network SNMP NTP TC Time & Lo ACSES Encoder Amtrak SEPTA V-ETMS ClassC ClassD Operating Val	Location Properties	Ansaldo WIU 7.620.000.000.01 test . w.0000000:01.wiu Default Location
	Track Information SCAC: Aspect Table ID: Aspect Table Version	RRRR 1 1
Import	Export	Cancel Save

Figure 7–7. Location Settings

NAME	DESCRIPTION	ENTRY TYPE	RANGE	UNITS
Device Name	This is the user-configured name displayed at the top of the PTC Configuration tool, so that remote users can verify that they have accessed the correct device	Free-text (50 alphanumeric characters) Default Value Ansaldo WIU	N/A	N/A
WIU Address	 The unique 48-bit WIU Address field is in the format 7.RRR.LLL.GGG.DD, where: 7 = WIU address type identifier RRR = Railroad Number LLL = Routing Region Code GGG = Location Code DD = Device Number 	Free-text (numeric values only) Default Value 7.000.000.000.00	N/A	N/A
EMP Header Source Address	This field identifies the WIU source address used when sending Wayside Status Messages from the WIU (Refer to Appendix A of the EMP Message Format Specification for more details on the format of this field)	Free-text (null-terminated string with a limit of 64 bytes.) Default Value "null"	N/A	N/A
Local ID	This is the user-configured device location displayed at the top of the PTC Configuration tool, so that remote users can verify that they have accessed the correct device location	Free-text (50 alphanumeric characters) Default Value "Location ID"	N/A	N/A
Time Source	This parameter specifies whether the WIU will obtain its time update messages via Class C messages from the EMP, or whether time updates will be provided from and NTP Server on a network	Radio Button • EMP • NTP Default Value EMP	N/A	N/A
Time Zone	This parameter specifies the Hour offset from Greenwich Mean Time which is used for display within the web configuration screens and used for error/event log timestamps. The time zone setting has no effect on communications to the Wayside Communications Module.	Drop-down List Default Value GMT-5:00 (Eastern)	N/A	N/A

Table 7-1. Location Properties Parameters



Ansaldo STS WIU Application Builder

NAME	DESCRIPTION	ENTRY TYPE	RANGE	UNITS
SCAC	This is the user-configured Standard Carrier Alpha Code (SCAC) – a unique two-to-four- letter code used to identify transportation companies – used to populate information in the track database .xml export file. The SCAC value does not have any other effects on settings for the device	Free-text (4 alpha characters) Default Value blank	N/A	N/A
Aspect Table ID	This field displays the name and CRC of the currently loaded aspect table being used for PTC application design. If no aspect table is being used (dark territory location), this field will show "N/A"	Read-only Default Value <i>N/A</i>	N/A	N/A
Aspect Table Version	This field displays the version number of the currently loaded aspect table being used for PTC application design. If no aspect table is being used (dark territory location), this field will show "N/A"	Read-only Default Value <i>N/A</i>	N/A	N/A



7.5.2. Network

The Network section (Figure 7-8) in the Device Configuration Setup gives the user the option to modify network controls, and view the relevant network information within the configuration. The IP address, subnet mask, gateway, and DNS Server are all viewable in the network configuration window if the user is using a static connection type; if the user is using a dynamic host configuration protocol, then this information is disabled (irrelevant). The options are repeated for Ethernet Port 1 (eth0) and Ethernet Port 2 (eth1). See Table 7-2 for a description of the network configuration parameter settings.

<u> Device</u> Configuration				? X
Location Properties	Port 1 (eth0) - Top From	nt Panel Port]
WMS/SMShell Key Network	Connection Type:	Static	C DHCP	
SNMP	IP Address:	192.23.1.11		
ITC Time & Locat	Subnet Mask:	255.255.255.0		
ACSES Encoder	Gateway:	192.23.1.1		
SEPTA	DNS Servers:	192.23.1.1		
V-ETMS ClassC	Enable DHCP Serv	/er		
ClassD	Port 2 (eth1) - Bottom	Front Panel Port		
Operating Values	Connection Type:	Static	O DHCP	
	IP Address:	169.254.2.10		
	Subnet Mask:	255.255.255.0		
	Gateway:	169.254.2.1		
	DNS Servers:	169.254.2.1		
	Enable DHCP Serv	/er		
Import Export.	Device Configura	ation Status: Saved	Cancel	Save

Figure 7-8. Network Settings



NAME	DESCRIPTION	ENTRY TYPE	RANGE	UNITS
Connection Type	This value specifies whether the device uses a user-specified static IP address, or if it will acquire an IP address from an external DHCP Server	 Radio Button Static IP Automatic Configuration (DHCP) Default Value 	N/A	N/A
		Static IP		
IP Address	IP Address of the device must be entered when Static IP is selected for the Connection Type	Masked Text Entry (Valid IPv4 Address)	N/A	N/A
		Default Value 169.254.1.10 (Ethernet Port 1) 169.254.2.10 (Ethernet Port 2)		
Subnet Mask	Device Network Subnet Mask	Masked Text Entry (Valid IPv4 Address)	N/A	N/A
		Default Value 255.255.255.0 (Ethernet Port 1) 255.255.255.0 (Ethernet Port 2)		
Gateway	IP Gateway address for the connected network	Masked Text Entry (Valid IPv4 Address)	N/A	N/A
		Default Value 169.254.1.1 (Ethernet Port 1) 169.254.2.1 (Ethernet Port 2)		
DNS Servers	Domain Name Server Address	Free Text (Valid IPv4 Address or DNS name)	N/A	N/A
		Default Value 0.0.0.0 (Ethernet Port 1) 0.0.0.0 (Ethernet Port 2)		

Table 7-2. Network Paramete	ers
-----------------------------	-----



Ansaldo STS WIU Application Builder

NAME	DESCRIPTION	ENTRY TYPE	RANGE	UNITS
Enable DHCP Server	Allows the user to obtain the IP address from the WIU unit.	 Check-box Unchecked (DHCP server disabled) Checked (DHCP server enabled) 	N/A	N/A
		Default Value DHCP server enabled (checked)		



7.5.3. SNMP

The SNMP section (Figure 7–9) in the Device Configuration Setup allows the user to specify the settings of the SNMP protocol. See Table 7-3 for a description of the SNMP configuration parameter settings.

😼 Device Configu	ration			?×
Location Prop Network SNMP NTP ITC Time & Lo ACSES Encoder - Amtrak SEPTA V-ETMS ClassC ClassD Operating Val	SNMP Parameters Community Name : SysContact : Destination IP 1 : Destination IP 2 :	AnsaldoSTS DefaultContact 169.254.2.12 169.254.1.12		
Import E	xport		Cancel	Save

Figure 7–9. SNMP Settings



NAME	DESCRIPTION	ENTRY TYPE	RANGE	UNITS
Community Name	Specifies the name of the community where traps are sent. This is any character string with no spaces in it.	Free-text (up to 50 characters) Default Value "AnsaldoSTS"	N/A	N/A
SysContact	The textual identification of the contact person for this managed node, together with information on how to contact this person.	Free-text (up to 50 characters) Default Value "DefaultContact"	N/A	N/A
Destination IP1 IP Address 1	This is the address used for Ethernet Port 1 for sending traps and informs.	Free Text (Valid IPv4 Address or DNS name) Default Value 169.254.2.12	N/A	N/A
Destination IP2 IP Address 2	This is the address used for Ethernet Port 2 for sending traps and informs.	Free Text (Valid IPv4 Address or DNS name) Default Value 169.254.1.12	N/A	N/A

Table 7-3. SNMP Settings



7.5.4. NTP

The NTP configuration section (Figure 7–10) in the Device Configuration Setup allows the user to specify the settings of the NTP server being used for time update messages – if the device is configured to receive time update messages from NTP, rather than from the WCM. See Table 7-4 for a description of the NTP configuration parameter settings.

🕉 Device Configu	ration			?×
Location Prop Network SNMP NTP ITC Time & Lo ACSES Encoder Amtrak SEPTA V-ETMS ClassC ClassC Operating Val	NTP Configuration NTP Host: Update Interval:	169.254.1.12 30 s		
Import E	qoort		Cancel	Save

Figure 7–10. NTP Settings



NAME	DESCRIPTION	ENTRY TYPE	RANGE	UNITS
NTP Host	IP Address of the NTP Server	Free Text (Valid IPv4 Address	N/A	N/A
		or DNS name)		
		Default Value		
		time.windows.com		
Update Interval	Frequency at which the WIU device will request time	Numerical Entry	1 – 300	seconds
	updates from the NTP Server	Default Value		

Table 7-4. NTP Settings

7.5.5. ITC Time and Location Configuration

The ITC Time and Location Configuration section (Figure 7–10) in the Device Configuration Setup allows the user to specify the settings. See Table 7-5 for a description of the ITC configuration parameter settings.



<u> Device</u> Configu	ration			?×
Location Prop	ITC Time and Location	Configuration		
SNMP	Host Address:	239.255.0.5		
ITC Time & Lo	UDP Port:	32700		-
ACSES Encoder	Periodicity:	4095		-
SEPTA V-ETIMS ClassC Operating Val	Timeout:	30 s		
Import	xport		Cancel	Save

Figure 7–11. ITC Time and Location Configuration Settings



NAME	DESCRIPTION	ENTRY TYPE	RANGE	UNITS
Host Address		Free-text	N/A	N/A
		(up to 50 characters)		
		Default Value		
		"239.255.0.5"		
UDP Port		Numerical Entry	N/A	N/A
		(up to 50 characters)		
		Default Value		
		"32700"		
Periodicity		Numerical Entry	N/A	N/A
		(Valid IPv4 Address or DNS name)		
		Default Value		
		4095		
Timeout		Numerical Entry	N/A	seconds
		(Valid IPv4 Address or DNS name)		
		Default Value		
		30		

Table 7-5.	. ITC Time and Locatio	n Settings
------------	------------------------	------------

7.5.6. SEPTA ACSES Encoder

The SEPTA section (Figure 7–13) in the ACSES Encoder allows the user to specify the settings for the SEPTA ACSES Encoder. See Table 7-5 for a description of the SEPTA encoder parameter settings.



Location Properties WMS/SMShell Key	SEPTA ACSES Encoder Parameter Encoder Address:	5 7.AAA.AA1.AA1.A4.A1	
SNMP	RRR - Rairoad:	000 - Initials (Company Name)	
NTP TC Time & Locat ACSES Encoder Amtrak SEPTA ETMS ClassC ClassD Operating Values	ILL - Line: GGG - BCP Address: Multicast Address: Unicast UDP Port:	1 SS - Encoder: 4 2 239.255.0.9 49002 2	© DD: 01 Port: 49001 ©

Figure 7–12. SEPTA ACSES Encoder Settings

NAME	DESCRIPTION	ENTRY TYPE	RANGE	UNITS
Encoder Address	The IP address of the encoder	Free-text (up to 50 characters)	N/A	N/A
RRR - Railroad	The name of the railroad	Drop Down Selection Entry	N/A	N/A
LLL – Line:	The railroad line number	Numerical Entry	999	N/A
GGG – BCP Address	Control point number	Free-text	N/A	N/A
SS - Encoder	Type of equipment	Free-text	N/A	N/A
DD	Specific instance of equipment	Free-text	N/A	N/A
Multicast Address	The IP address of the multicast Port	Free-text (up to 50 characters)	N/A	N/A
Port	Port number for the multicast address	Numerical Entry	0 - 6535	N/A
Unicast UDP Port	Port number for the unicast port	Numerical Entry	0 - 6535	N/A



7.5.7. Class C

The Class C section (Figure 7–13) in the Device Configuration Setup gives the user the option to configure the WIU to accept an EMP-based time message transported over Class C. The user can specify the parameters to be used when these Class C messages are being used to obtain Time Update Messages from the WCM. See Table 7-7 for a description of the Class C parameter settings.

<u> Device</u> Configu	ration	?×
Location Prop	Class C Parameters	
SNMP	Time Stamp Form	Absolute 💌
ITC Time & Lo	Multicast Address	239.255.0.5 Port: 32768 🗘
ACSES Encoder	Time messages before sending WSM:	5 messages
^U SEPTA V-ETMS	Time Message Deviation:	1 seconds
	Ignored Time Difference:	3 seconds
Operating Val	Maximum Time Change:	3 seconds
	Maximum Time Change (within minutes):	60 minutes
	LRM Maximum Time Difference:	3 seconds
	No Time Sync Message:	6 minutes
Import E	xport	Cancel Save

Figure 7–13. Class C Settings

Time Stamp The format of the time message Drop-down box N/A	N/A
Format received from Class C protocol • Relative Time	
will always be received as (elapsed time	
Absolute Time since last	
message	
creation)	
Absolute Time	
(UTC time	
expressed as	
the absolute	
number of	
seconds since	
00:00,	
1/1/1970)	
Default Value	
Absolute Time	
Multicast The IP multicast address used Masked Text Entry N/A N	N/A
Address to receive time sync messages (Valid IPv4 Address)	
Default Value	
239.255.0.5	
Port The port used to receive time Free-text 1024 -	N/A
sync messages (4 - 5 numeric 65535	
characters)	
Default Value	
32768	
Time Messages WIU shall not send WSM's until Numerical Entry 1 – 10 Numerical Entry	N/A
Before Sending this configured number of valid	
WSM GPS time messages are Default Value	
received (unless configured for 5	
NIP)	
I me wessage I ne allowable +/- time deviation Numerical Entry 0 - 3 Sec	conas
time used to determine validity	
of consecutively received GPS	
messages – corresponds to	
"Time Messages Before	
Sending WSM"	
Ignored Time The configured +/- time Numerical Entry 1 – 10 Sec	conds
Difference difference window for received	
time messages – messages Default Value	
received with time updates 3	
outside of this allowable window	

Table 7-7 Class C Parameters


Ansaldo STS WIU Application Builder

NAME	DESCRIPTION	ENTRY TYPE	RANGE	UNITS
Maximum Time Change	The maximum allowable internal WIU clock drift (+/-), caused by cumulative effects of time update messages	Numerical Entry Default Value 3	1 – 10	Seconds
Maximum Time Change (Within Minutes)	The specified time period over which the allowable internal WIU clock drift is calculated	Numerical Entry Default Value 60	1 - 120	Minutes
LRM Maximum Time Difference	The allowable time difference of received LRM messages compared to the internal WIU time	Numerical Entry Default Value 3	0 – 20	Seconds
No Time Sync Message	The allowable period of time for the WIU to wait for a time sync message after booting up	Numerical Entry Default Value 6	1 – 6	Minutes



7.5.8. Class D

The Class D section (Figure 7–14) in the Device Configuration Setup contains four section; each section specifies the arguments passed to a Class D object. Those four sections are the Protocol Attributes, Link Attributes, Beacon Attributes, and Quality of Service (QoS).

7.5.8.1. Protocol Attributes

The Protocol Attributes section (Figure 7–14) allows the user to view general Class D protocol options. These options are used in constructing the headers used in the framing of EMP-formatted messages which are transmitted over Class D from the WIU device. See Table 7-8 for a description of the Protocol Attributes parameter settings.

<table-of-contents> Device Configur</table-of-contents>	ation			?×
Location Prop Network	Protocol Attributes	Link Attributes	Beacon Attributes	QoS
SNMP NTP	Time Stamp Format:	Absolute		~
ACSES Encoder		Message Pers	sistence	
V-ETMS	🗹 Data Integrity ——			
ClassC ClassD Operating Val	Data Integrity Type:	HMAC		<u> </u>
Import Exp	port		Cancel	Save

Figure 7–14. Class D Protocol Attribute Parameters





NAME	DESCRIPTION	ENTRY TYPE	RANGE	UNITS
Time Stamp Format	The timestamp format to be used by the WIU device when transmitting WSMs	 Drop-down box Relative Time (elapsed time since last message creation) Absolute Time (UTC time expressed as the absolute number of seconds since 00:00, 1/1/1970) Default Value 	N/A	N/A
		Absolute Time		
Encryption	The encryption flag indicates that the messages being sent by the WIU will be encrypted. This is different from the QoS service indicators requesting that an intermediate gateway encrypt the message	 Check-box Unchecked (Body is not encrypted) Checked (Body is encrypted) Default Value Not Encrypted (unchecked) 	N/A	N/A
Message Persistence	The message persistence flag is disabled	 Check-box Unchecked (Persistence is not enabled) Checked (Persistence is enabled) Default Value Not enabled (unchecked) 	N/A	N/A

Table 7-8. Class D Protocol Attribute Parameters



Ansaldo STS WIU Application Builder

NAME	DESCRIPTION	ENTRY TYPE	RANGE	UNITS
Data Integrity	The data integrity option indicates whether the WIU will use data integrity when constructing the WSMs	 Check-box Unchecked (Do not use Data Integrity) Checked (Use Data Integrity) Default Value Use Data Integrity (checked) 	N/A	N/A
Data Integrity Type	Specifies the data integrity type to use to ensure that the message header and payload delivered to the final destination are exactly the same as the EMP header and payload generated by the WIU	Drop-down box • CRC • HMAC Default Value HMAC	N/A	N/A



7.5.8.2. Link Attributes

The Link Attributes section (Figure 7–15) allows the user to specify TCP/IP communicationsrelated Class D protocol options. These options are used in handling the TCP/IP communications link to the WCM. See Table 7-9 for a description of the Link Attributes parameter settings.

<table-of-contents> Device Configur</table-of-contents>	ation			? ×
Location Prop Network	Protocol Attributes	Link Attributes	Beacon Attributes QoS	
SNMP NTP	Mode:	Bidirectional		~
ITC Time & Lo	TCP Role:	Client		~
Amtrak	Remote Address (AG):	10.255.255.210		
V-ETMS	Remote Port (AG):	3001		\$
ClassC		Log Traffic		
Operating Val	Data ACK			
	Data ACK Timeout:	15000 ms		\$
	Data NAK Retry Limit:	3		*
	Connection Parameters			
	Conn. Attempt Timeou	30000 ms		-
	Connection Delay:	60000 ms		\$
	Connection Retry Limit	-1		\$
	Reconnection Limit:	-1		\$
	Keep Alive Interval:	30000 ms		\$
	Keep Alive ACK Timeou	15000 ms		-
	Retransmit Delay:	0 ms		\$
Import Ex	port		Cancel	Save

Figure 7–15. Class D Link Attribute Settings

NAME	DESCRIPTION	ENTRY TYPE	RANGE	UNITS
Mode	This parameter indicates the direction in which data messages are permitted for the link	Drop-down box Bidirectional Default Value	N/A	N/A
		Bidirectional		
TCP Role	This parameter indicates whether the node shall act as a TCP client or TCP server	Drop-down box Client Default Value Client	N/A	N/A
Remote Address (AG)	This parameter indicates the Application Gateway address to which the node shall be bound for the link	Free Text (Valid IPv4 Address or DNS name) Default Value 10.255.255.210	N/A	N/A
Remote Port (AG)	This parameter indicates the TCP port to which the node shall be bound for the link	Free-text (4 or 5 numeric characters) Default Value 3001	1024 - 65535	N/A
Log Traffic	This optional parameter indicates whether or not link traffic should be logged for debugging purposes. If this attribute is set to yes, all link traffic shall be logged by the node in a human readable format	 Check-box Unchecked (Do not log traffic) Checked (Log traffic) Default Value Do not log traffic (unchecked) 	N/A	N/A
Data ACK Enabled	This required attribute indicates whether or not acknowledgments (and negative acknowledgments) shall be sent or expected in response to data messages. The data ACK enabled attribute must be configured the same on both ends of a link	Check-box • Unchecked (Data ACK disabled) • Checked (Data ACK enabled) Default Value Data ACK enabled (checked)	N/A	N/A
Data ACK Timeout	The amount of time that a Class D node will wait for an acknowledgement of a data message, before timing-out	Numerical Entry Default Value 60,000	1 – 60000	milli- seconds

Table 7-9. Class D Link Attribute Parameters



NAME	DESCRIPTION	ENTRY TYPE	RANGE	UNITS
NAK Retry Limit	The NAK retry limit specifies the maximum number of times that the node will retransmit a message because of negative acknowledgements before the node terminates the link	Numerical Entry Default Value 3	1 – 10	Retries
Connection Attempt Timeout	This parameter indicates how much time shall be allowed to elapse while making a single attempt to establish a connection to the AG	Numerical Entry Default Value 30,000	1 – 60000	milli- seconds
Connection Delay	This parameter indicates how much time the node shall wait before retrying a connection to the AG after the previous attempt failed	Numerical Entry Default Value 15,000	1 – 60000	milli- seconds
Connection Retry Limit	This parameter indicates how many times an attempt shall be made to establish a connection to the AG in the event that connection attempts are failing NOTE: A value of "-1" indicates that the WIU should retry forever	Numerical Entry Default Value -1 (Retry forever)	-1 - 10000	Retries
Reconnection Limit	This parameter indicates the number of times that shall be allowed to reconnect to the AG before giving up NOTE: A value of "-1" indicates that the WIU should retry forever	Numerical Entry Default Value -1 (Retry forever)	-1 - 10000	Retries
Keep Alive Interval	This parameter indicates the rate at which keep alive messages shall be sent to the AG NOTE: A value of "0" indicates that no keep alive messages will be used – must be configured the same on both ends of the link	Numerical Entry Default Value 60,000	1 – 60000	milli- seconds
Keep Alive ACK Timeout	This parameter indicates how long the node shall wait for an acknowledgment to a keep alive message before terminating the link	Numerical Entry Default Value 30,000	1 – 60000	milli- seconds
Retransmit Delay	This parameter indicates the amount of time to wait before retransmitting a message after receiving a NAK from the receiver	Numerical Entry Default Value 0 (no delay)	0 – 10000	milli- seconds



7.5.8.3. Beacon Attributes

The Beacon Attributes section (Figure 7–16) allows the user to specify the settings related to the Beacon messages broadcasted by the WIU. See Table 7-10 for a description of the Beacon Attributes parameters settings.

📸 Device Configur	ation			? 🗙
Location Prop	Protocol Attributes	ink Attributes B	eacon Attributes	QoS
SNMP NTP	Broadcast Rate:	1000 ms		\$
ITC Time & Lo	Beacon Bit Time:	300 s		\$
Amtrak	Beacon End Time:	120 s		\$
V-ETMS	🛃 Max Beacon Interval	900 s		-
ClassC	Continuous:	Always (Continuou	us) 🔽 🗌 Broadcas	st on Change
^C Operating Val	Beacon Destination Add	XX.L.X.000000:tm		
Import Exp	port		Cancel	Save

Figure 7–16. Class D Beacon Attribute Settings



NAME	DESCRIPTION	ENTRY TYPE	RANGE	UNITS
Broadcast Rate	This parameter indicates the rate at which the WIU will broadcasts wayside status messages (beacons)	Numerical Entry Default Value 1,000	0 – 60000	milli- seconds
Beacon Bit Time	This parameter indicates the length of time that the WIU will send beacon messages with the BeaconTTL flag set HIGH	Numerical Entry Default Value 300	60 – 1800	seconds
Beacon End Time	This parameter indicates the length of time that the WIU will continue to send beacon messages (after the expiration of the BeaconBitTime) with the BeaconTTL flag set LOW. If a new request is not received from the requestor, the WIU will cease broadcasts at the end of this timeout period	Numerical Entry Default Value 120	60 – 1800	seconds
Max Beacon Interval	When the WIU is configured to <u>not</u> beacon continuously, this parameter specifies the length of time for the WIU to wait before sending a "heartbeat" message to the beacon destination address NOTE: This parameter is irrelevant if Beacon Continuous is set to "Always (Continuous)"	Numerical Entry Default Value 900 (if enabled)	60 – 86400	seconds
Continuous	The parameter indicates whether the WIU will continuously (always) send beacon messages to the beacon destination address. If configured to only send when requested, the WIU communications will "sleep" until a request is received, or the Max Beacon Interval expires (if enabled)	 Drop-down box Always (Continuous) Only When Requested (Times Out) Default Value Always (Continuous) 	N/A	N/A

Table 7-10. Class D Beacon Attribute Parameters



Ansaldo STS WIU Application Builder

NAME	DESCRIPTION	ENTRY TYPE	RANGE	UNITS
Broadcast on Change	This parameter indicates whether a WIU will broadcast a device status change in a WIU Status message immediately after it occurs (e.g. event driven) when it is <u>not</u> set to Beacon Continuous NOTE: This parameter is not available if Beacon Continuous is set to "Always (Continuous)"	 Check-box Unchecked (Do not broadcast on change) Checked (Broadcast on change) Default Value Do not broadcast on change (unchecked) 	N/A	N/A
Beacon Destination Address	This parameter indicates the EMP-formatted destination address to which all beacon messages will be sent by the WIU (Refer to Appendix A of the EMP Message Format Specification for more details on the format of this field)	Free-text (null-terminated string with a limit of 64 bytes.) Default Value "null"	N/A	N/A



7.5.8.4. Quality of Service (QoS)

The Quality of Service (QoS) section (Figure 7–17) allows the user to specify parameters that relate to the EMP message's variable message header and flags, for each type of message sent by the WIU. These parameters help specify the priority levels and routing information to the wireless messaging infrastructure, to ensure proper message delivery. Each message type (Timed Beacon or GetWIUStatus Response), has its own configurable parameter settings. See Table 7-11 for a description of the Quality of Service parameters settings.

<table-of-contents> Device Configura</table-of-contents>	ition			? 🗙
Device Configura	Protocol Attributes GetWIUStatus Response Class: Priority: Special Handling: Network Preference: Time To Live: Class: Priority: Special Handling: Network Preference: Timed Beacon QOS Class: Priority: Special Handling: Network Preference: Time To Live: Time To Live: Compression Requination Compression Requination Compression Requination Special Handling: Network Preference: Time To Live: Compression Requination	Link Attributes Se QoS O O O O O O O O O O O O O	Beacon Attributes	QoS Image: Constraint of the second s
Import Expo	ort		Cancel	Save

Figure 7–17. Class D QoS Settings



NAME	DESCRIPTION	ENTRY TYPE	RANGE	UNITS
Class	The parameter specifies which one of eight classes is assigned to the EMP message type, and determines message eligibility for various transport methods	Numerical Entry Default Value 1	0 - 7	N/A
Priority	This parameter specifies which one of eight priority levels which are used to indicate to the underlying messaging system the priority of the message type relative to all other messages in the system	Numerical Entry Default Value 1	0 – 15	N/A
Special Handling	This parameter specifies any special handling instructions for the message type, which are used by the messaging system to perform non- standard processing for that message	Numerical Entry Default Value 0 (no special handling)	0 – 31	N/A
Network Preference	The parameter indicates a transport network preference for the message type which is used to override the default network selection behavior of the messaging system	Numerical Entry Default Value 0 (no preference)	0 – 15	N/A
Time To Live	Determines the amount of time allowed by the sender to transmit the message	Numerical Entry Default Value 0 (no preference)	0 – 9999	seconds
Compression Request	This parameter specifies whether compression will be requested for the message type - if supported by the Message Gateway / CMU, those functions shall compress the message prior to transmission	 Check-box Unchecked (Do not request compression) Checked (Request Compression) Default Value Do not request compression (unchecked) 	N/A	N/A

Table 7-11. Class D QoS Parameters



Ansaldo STS WIU Application Builder

NAME	DESCRIPTION	ENTRY TYPE	RANGE	UNITS
Delivery Acknowledgement	This parameter specifies whether delivery notification will be requested for the message type – if supported by the Message Gateway / CMU, those functions shall implement delivery acknowledgement for the specified messages NOTE: Can only be requested if outcome notification is also requested	 Check-box Unchecked (Do not request delivery acknowledgement) Checked (Request delivery acknowledgement) Default Value Do not request delivery acknowledgement (unchecked) 	N/A	N/A
Outcome Notification	The parameter specifies whether outcome notification is requested for the message type – if supported by the Message Gateway / CMU, those functions shall asynchronously send the sender an EMP message indicating the outcome of the transmission attempt	 Check-box Unchecked (Do not request outcome notification) Checked (Request outcome notification) Default Value Do not request outcome notification (unchecked) 	N/A	N/A



7.5.9. Operating Values

This Operating Values page (Figure 7–18) in the Device Configuration Setup allows the user to specify the PTC operating values to be used for the WIU device, including the HMAC Encrypted Key and the RC2 Decryption Key. These values are entered in plain-text, but the RC2 Decryption Key is masked and then encrypted, so that it is only readable by the WIU device to which the value is uploaded.

The user can export the keys into separate files to be individually uploaded to the WIU unit through its browser-based configuration interface. The payload of the .rc2 file is encrypted and only visible to the WIU Application builder and WIU devices.

The user may also import the cryptographic keys from other WIU Application files and .HMAC and .rc2 files generated via exporting the keys from the WIU Application Builder.

See Table 7-12 for a description of the operating Values configuration parameters settings.



😼 Device Configu	ration ? 🗙
Location Prop Network SNMP NTP TTC Time & Lo ACSES Encoder Amtrak SEPTA V-ETMS ClassC ClassD	Warning! Default operating values loaded. Cryptographic Keys Encrypted HMAC Key (24 Hexadecimal Bytes EBE46656B93BAA4C157E21CA916DD6FDD3D3679A1F CRC32: FF339843 mport HMAC Key from file Export HMAC to file
Operating Val	RC2 Input Mode: ASCII Text Hexadecimal RC2 Decryption Key: 0x RC2 Decryption Key (Repeat): 0x 0x Import RC2 Key from file Export RC2 to file
Import E	«port Cancel Save

Figure 7–18. Cryptography (HMAC Operating Value) Settings

NAME	DESCRIPTION	ENTRY TYPE	RANGE	UNITS
Encrypted HMAC Key	Encrypted key necessary to support the HMAC calculations	Free Text (24 bytes)	N/A	N/A
		Default Value N/A		
RC2 Input Mode	The RC2 input mode sets the mode of how the RC2 decryption key will be entered	 Radio Button ASCII Text Hexadecimal Default Value Hexadecimal	N/A	N/A
RC2 Decryption Key	The RC2 embedded password used to decrypt keys used in the HMAC calculations. This value is hidden and encrypted so that this Key is not made available to field personnel	Free Text (20 bytes) Default Value <i>N/A</i>	N/A	N/A

Table 7-12. Operating Values Settings

7.5.10. Generate Report

To generate a listing of all the WIU parameters, elect Generate Report form the File menu.

ile View Export	Help
New Application	Ctrl+N
Open Application	Ctrl+0
Save	Ctrl+S
Save As	Ctrl+Alt+S
Generate Report	Ctrl+P
Exit	Ctrl+Q

A pdf file will be generated that lists all of the WIU's parameters. A window will open where you will be required to name the file and select a location to save the file.

7.6. Comparing Application Files

The comparison tool allows you to compare two files. Proceed as follows to compare files:

1. Select File/Comparison Tool drop down menu in the top left of the application builder.



Name and Address of the	and Antonia	-			Statement of the local division of the local		And in case of the local division of the loc	-	-
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Sector Sector	-								
		-							
				in temperature from	1	and the second second	-	-	

Or select the Comparison Tool button in the center of the application builder window.



2. The window will appear for you to browse to the locations on your computer where the applications are stored.

PTC NELAPPORT	HARPOT	ALC: Para Bis Diff	MA BARRAN BALLAN	PIC Device	age Resette 1 Ras	ni De	
			A	Comperison	Tool	1.9	-
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			1	16 #2 1		-	
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3. Browse and Select the files.



Ansaldo STS WIU Application Builder

Organize · New Folder					H.•.	0.0	
Facetas Fa	Fame Not-next-example.sology Not-next-example.sology Notices/HEMIN Solo rest-exa- Notices/HEMIN Solo-rest-exa- NoticeSology/HEMIN Solo-rest-exa-	Dete modified 9/18/2004 12:27 AM 9/18/2004 99:22 AM 9/19/2004 99:22 AM 9/19/2004 92:23 PM 9/19/2004 92:23 PM 9/19/2004 92:34 PM	Type Annalitio STS WBU - Annalitio STS WBU - Annalitio STS WBU - Annalitio STS WBU -	500 125 43 1200 48 120 49 127 49 127 43			Comparison Tool Comparison Tool File #1 : \Jute: Sapta App/NOt-north-example anapp File #2 : Compare Compare
File name: 300	north-example_large.mixapp			- (10)	upp	-	

omparison Vaswer	
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	Comparison Tool
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- 4. After both files to compare are opened, select Compare.
- 5. The comparison window will open. The parameters for the selected files will be displayed side by side. The file names of the files appear at the top of each list.





NOTE

The background colors in the comparison screens indicate a match or not matched parameter. A green background indicates that the parameters match. A gray or yellow background indicates that the parameters do not match.



Ansaldo STS WIU Application Builder

6. To compare the MicroLok II .mlp files, select the MLK MLP Diff icon from the main menu. The .mlp comparison screen will display.

Comperison Viewer	
er følt Help	
PTC UILIARP DIF MAXMAR DIF MAX Force Bits DIF MAX Boolean Bits DIF PTC Device Logic Raw File 1 Raw File 2 Evit.	
	MLK MLP Diff
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COPYRIGHT 2014 Assaido STS USA. All rights reserved.	COPYRIGHT 2014 Annaldo STS USA. All rights reserved.
•	
REVERSE COMPILED APPLICATION PROGRAM	REVERSE COMPILED APPLICATION PROGRAM
* (this the was automatically generated - do not modify)	 (fan far was automatically generated - do not modify)
ADDE SCATION COMPETED VERSION NUMBER OF 40	ADDI SCATION COMPLET VERSION NUMBER OF 50
APPLICATION COMPLEX VERSION STRING OF 10	APPLICATION COMPLEX VERSION STEING OF \$0
* APPLICATION IDENTITY CRC 44E8	 APPLICATION IDENTITY CRC A243
* PROM PROGRAMMER CHECKSUM DUF6	PROM PROGRAMMER CHECKSUM A752
* ID NAME TABLE CRC 3A76	 ID NAME TABLE CRC D851
 REVERSE COMPILED Tue Jan 06 0833/02 2015 	 REVERSE COMPILED: Tue Jas 06 08:33:02 2015
 REVERSE COMPILER VERSION NAME: Version 1.0E Maintainer (NB00XXX-010E) 	 REVERSE COMPILER VERSION NAME: Version 1.0E Maintainer (NB00XXX-010)
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INTERFACE	INTERFACE
LOCAL	LOCAL
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FIXED ENABLE 0	FIXED ENABLE 0
	80189.001
	FIXED ENABLE 0
	BOARD OB2
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BOOT FAN RITS	BOOLEAN RITS

7. To compare the MicroLok II forced bits, select the MLK Force Bits Diff icon from the main menu. The MicroLok forced bits comparison screen will display.

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index*19,"name**AUX2.INPUT*},	index"19,"name"/AUX2.INPUT*),
index"20,"name""AUX3.INPUT"),	index"20,"name"/AUX3.INPUT"),
index"21,"same"/"AUX4.INPUT").	index"21,"name"/"AUX4.INPUT"),
ades"22,"name"/AUX5.INPUT").	index"22,"name"/AUX5.INPUT'),
index*23, "name"/AUX6 INPUT"),	index*23, "name**AUX6 INPUT*),
index*24."name**AUX7.INPUT*).	index'24."name"/AUX7.INPUT').
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index*27 'same**AUX10 INPUT*)	index*27 'mane**AUX10 INPUT*3
aden"28 'same"/AUX11 INPUT'1	index*28 Summ**AUX11 INDUTY1
index*29 house**ATX13 INPUT*)	index*39 Summer Add X12 DOP (TV)
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ndex:35, name: AUXI8.INPUT),	nder: 35, name: AUA18.DVPUT3,
ndex"30, name"/AUXI91NPUT'),	nder 36, same (AUX19.DSPUT),
adex"37,"same"/"AUX20.INPUT"),	ades 37, name 'AUX20 INPUT'),
adex"38, "same""AUX21.INPUT").	ader 35, name 'AUX21.INPUT').
ndex"39, "name" "AUX22 INPUT"),	index"39,"name""AUX22.INPUT").
ndex"40, "name" "AUX23.INPUT"),	index"40,"name"/'AUX23.INPUT"),
index'/41, "name" "AUX24.INPUT"),	index'41, 'same'/'AUX24.INPUT'),
index"42,"name""AUX25.INPUT"),	index'42,"name"/AUX25.INPUT"),
index'43, 'name': 'AUX26 INPUT'),	index's43, "name's'AUX26 INPUT"),
ndex"44,"name":"AUX27 INPUT"),	index's44,"name"/AUX27.INPUT"),
ndex"45, 'name' ('AUX28.INPUT'),	index"45,"name":"AUX28.INPUT"),
index*46."name**AUX29.INPUT*),	index"46, "name","AUX29.INPUT"),
index'47,"name'/'AUX30.INPUT''),	index"47,"name"/AUX30.INPUT").
index"48,"name""AUX31.INPUT"),	index"48, 'name" "AUX31.INPUT").
index"49, "name" "AUX32 INPUT")] "Network" [] "Physical" [index*49."name**AUX32.INPUT*)];"Network*{];"Physical"{
index'58."name":'6NGO").	index*68."name**6NGO*).
index"69 "same"/#N1 260").	index*69.'name**8N1_2GO*1



8. To compare the MicroLok II Boolean bits, select the MLK Boolean Bits Diff icon from the main menu. The MicroLok Boolean bits comparison screen will display.

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"AUX4 INPUT"	"AUX4 INPUT"
"AUX5 INPUT"	"AUXS INPUT"
"AUX6 INPUT"	"AUX6 INPUT"
"AUX7 INPUT"	"AUX7 INPUT"
"AUXS INPUT"	"AUXE INPUT"
"AUX9 INPUT"	"AUX9 INPUT"
"AUX10 INPUT"	"AUXI0 INPUT"
'AUXILINPUT'	"AUXII INPUT"
"AUX12 INPUT"	"AUX12 INPUT"
"AUX13 INPUT"	"AUX13 INPUT"
"AUX14 INPUT"	"AUX14 INPUT"
'AUX15 INPUT"	"AUX15.INPUT"
"AUX16 INPUT"	"AUX16 INPUT"
"AUX17 INPUT"	"AUX17.INPUT"
'AUXIS INPUT'	"AUX18 INPUT"
PATRY 16 INDUPP	PATRONA INDUST

9. To compare the PTC device logic, select the PTC Device Logic icon from the main menu. The PTC device logic comparison screen will display.



10. This screen lists the devices that are contained in the application program. To select a list of devices for a type of device, select the arrow next to each device category. A listing of the devices will display.



Ansaldo STS WIU Application Builder

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PTC Device Logic						
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(mars	* Signan					
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Signal 65"	P Signal 65					
Signal 5/51	P Degrad 6/N1					
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No Device 5	 Sugad SA 104 					
No Device 0	Sugar Scillo					
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Co Deniza 18	 Manual KV10F 					
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11. To compare a specific device in a category, select the arrow next to the specific device. The comparison list for the device will display.





Companion Viewer 10 Mar	
PTC N2XMP DIF MCK M22 DIF MCK Parce Bts DIF MCK Booken Bts DIF MTC Denos Logic Ken File 2 Ken File 2 Ken	PTC Device Logic
C:Users PTC Lab Desktop SEPTA Josin Septa App 90%-aord-example wisapp • Devices • Signals • Switches • "Switch 5" * "Switch	C:Users PTC Lab Desktop SEPTA Justis Septa App 90th north-example_large wimpp • Devices • Signals • Switches • "Switch" - "Aspects Table Name"/No Aspects" Direction "florensing" Head Count "0 ID "SWO" ispatibit"("SRWC" SNWC")
Leagh '2 Milepon 'sail Offset '0 Sate Device ID '15' Sub Device To '15' Task's Device of '15' Task's Name 'sail Type 'switch' * 'Switch T' • 'Global Data	Length 12 Milepoor "mail Other "0 Site Device D '15" Sub Device Namber' and Switch Device'' 11" Track Name "aud Type "'switch" 'Switch 7" Global Data

12. To compare the app builder program's global data, select the arrow next to Global Data category. A comparison of the global data will display.

	PTC Device Logic
C/Users/PTC Lab Desktop SEPTA/Justin Septa App 90th-north-example_Jarge winapp	C/Users/PTC Lab/Desktop/SEPTA/Justin Septa App/99th-north-example wisapp
Devices Signals Switches Global Data Global Data Global Count 15 Debouxer Count Count 15 Baname [RESET Value 0 CRC [[FEST]] device1[Devices Signals Signals Switches Global Data Global Data Global Data "application" Deboance Codig Coast 85 Biname ["RESET" Value: 0 "CRC "[TFF3B"] dminon"]
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13. To view a raw data file, select Raw File 1 or Raw File 2 icon from the main menu. The raw data file for the application will display.





Comparison View	ver.								
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61-1-11-1	1.1.1.1	-1-1-1-1-1	1-1-1-1-1-1	.1.1.1.1.1.	1.1.1.1	4.1.11	1.1.	1.1.1.1.1 Disado 3, Name PRESTRUCTOR PROCEED Visited 13 Null YCE 12017 (New YCE)	
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[0,0,0,0,0,-1,-	1.d.d.d.	1.1.1.1.1.1.1.1	d. d. d. d. d. d.	deletetetet	delete	1,1,1,1,1,	4,4,0	[1] [1] [heads'3.'mane'/DARK', 'output'30, 'mie'/DARK'], ['bits':	
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[0,0,0,0,0,0,0,0	9,-1,-1,-1,	4,4,4,4,4,4,4	elelelelelele	1,-1,-1,-1],'hea	ds":1, 'nam	e''DARK'	outpa	puf'30,'nukr'/DARK'), ("bin':	
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[-LeLeLeLeLe	1,0,-1,0,-1,	-1,-1,-1,-1,-1,-1	chelelelelele	1,-1,-1,-1,-1,1,	1.1.1.1.1	-1-1,013	Mads .	12. Taxos "15100", "colput"15, inder "CR-1292"), [Tells".	
[-i,-i,-i,-i,-i	1,0,-1,0,-1,	-1,-1,-1,-1,-1,-1,-1	-1-1-1-1-1-1-1-	1,-1,-1,-1,-1,-1	eletete	1,-1,-1,1	brads	A '2, name 'STOP', output 15, name 'CR-1292'), [bits'	
[-1,-1,-1,-1,-1	1,0,-1,0,-1,	-1,-1,-1,-1,-1,-1	A	1,-1,-1,-1,-1,1]	brads 1,	name SI	UP. a	support 15, THE T.C.K-1292 (1, DES-	
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10.0.0.0.0.1	1-1-1-1	L.L.L.L.L.I	4.1.1.1.1.1.1	1.1.1.1.1.1.1	1.1.1.1	-1.11 bea	4.2.5	"anne" "Cab Speed, 'output" 7, 'nak" 'CR 1281A'), ("bin" 10.0.0.0.1.1.0.1.1.1.1.1.1.1.1.1.1.1.1.	ada"1."name"
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00000.1	1.1.1.1	1.1.1.1.1.1.1		1.1.1.1.1.1	1.1.1.		1.11	1.1.11 Standard Statement (Statement (Statem	

14. There is no icon in the main menu for the Septa Section Data. Use the scroll bar in the middle of the screen to scroll down the page to view the Septa Section Data comparison list.

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Signal 8N2" : type:signal, Signal SO10" : type: Signal SO100" : type: Signal SO100" : type: Signal SO100" : type: Signal SO100" : type:signal, Signal SO	**************************************

To return to any of the comparison screens, select the appropriate icon from the main menu.



8. WIU APPLICATION UPLOAD THROUGH A WEB INTERFACE

After successfully creating a WIU application as specified in Section 7, upload the WIU application as instructed below.

8.1. Uploading an Application and Monitoring the Unit

To successfully upload a new application and or configuration to the WIU you will need to make sure that you or someone else can locally press the reset button on the front of the WIU when prompted.

Once connected to the web interface and logged in on the unit, select the Application Upload tab.



In this tab you can upload a file that you have created using the WIU Application Builder, or load a previously stored application.

Jpload Application or Configuration Package	Applications Stored on Device		
Package File (*.wuapp; *.wucfg): Browse	factory_ptc.wiuapp Sat Oct 12 14:45:46 2013	Apply	Delete
Apply Immediately	PTC_256bits.wiuapp Thu Sep 26 15:34:47 2013	Apply	Delete
Upload Package	PTC_128bits.wiuapp Thu Sep 26 13:43:00 2013	Apply	Delete
	PTC_90bits.wiuapp Thu Sep 26 13:36:32 2013	Apply	Delete
	02bits.wiuapp Thu Sep 26-13:25:15-2013	Apply	Delete
	simwiuapp Thu Sep 26 13: 10:54 2013	Apply	Delete
	000115928_1.wiuapp Tue Sep 10 17:53:26 2013	Apply	Delete
	Factory_App.wiliapp Wed Sep 4 11/39/20 2013	Apply	Delete

The box on the right displays any applications that are already stored on the unit. To load one of these applications, select the apply button. This will then prompt you to press the PTC reset button on the front panel of the CPU PCB. You have approximately 20 seconds to push the button before it times out. Once pushed, the unit will take the necessary steps to load the application and will prompt you when it is complete.

Select the Delete button to delete any previously loaded applications.

Click the Browse button to upload a new application. Browse to the appropriate file

This will open the Choose File to Upload window. You can then browse for the desired file you wish to upload.



WIU Application Upload Through A WEB Interface

The uploader is compatible with either the .wiuapp or .wiucfg file extensions, which allows you to upload either an application or configuration file. If uploading a .wiucfg file your devices will not be changed, but only your configuration of the WIU itself.

8.1.1. Uploading an Application File Example

Proceed as follows to upload an application file:

Browse to the appropriate file and select the Open button.

Choose File to Upload	
Color 🗿 • HOFFMAN, Jeffrey • Dewnloads	• 49 Search Downlands P
Creanice New folder	a - 11 0
File name: factory_ptc	Alt Fais (**) Cancel

Select the Upload Package button.

Upload Application or Configuration Package	Applications Stored on Device	
Package File (*.wiuapp; *.wiucfg): C:\Users\hoffmajc\Downloads\fac Browse	PTC_256bits.wiuapp Thu Sep 26 15:34:47 2013	Apply Delete
Apply Immediately	PTC_128bits.wiuapp Thu Sep 26 13:43:00 2013	Apply Delete
Upload Package	PTC_90bits.wiuapp Thu Sep 26 13:36:32 2013	Apply Delete
	82bits.wiuapp Thu Sep 26 13:25:15 2013	Apply Delete
	sim.wiuapp Thu Sep 26 13:10:54 2013	Apply Delete
	000115928_1.wiuapp Tue Sep 10 17:53:26 2013	Apply Delete
	Factory_App.wiuapp	Apply Delete

Press the WIU's front panel reset button.

If the reset button is not pressed within 20 seconds, the dialogue box will disappear. The dialog box counts down to indicate the amount of time remaining.

Please p	press the PTC RESET button on the WIU front
panel to	i initiate upload.
Waiting	for pushbutton press for 19 seconds



When reset button is pressed, the WIU will go through a series of steps to complete the upload process.

The Package Processing Finished screen will appear stating that the application has been successful.



8.2. Monitoring and Checking the Configuration Settings

Select the Configuration tab to monitor the unit and to check configuration settings.



This opens the configuration settings. You can access various settings from the set of sub-tabs that appear below the main navigation. These tabs configure the parameters that you can configure using the application builder without having to have installed the application builder to the machine you are working from.

Select the Import Export tab. This will open a dropdown menu that displays three items:



- Load configuration, which will open the Application Upload tab.
- Export to File, which allows you to save the configuration settings just as you would in the application builder. Select, Export to file. The browser will prompt you to open or save the file. Choose save, save as, and pick your desired location and file name for this file. You can export these settings as a WUICFG file for use in the application builder or on a different unit.
- Printable Summary, which will print all of the configurable values in your system, similar to the functionality of the generate report feature in the application builder.



WIU Application Upload Through A WEB Interface

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Device Configuration Bummary	
Parameter	Value
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ACIES SEPTA WAR add/OPTive	
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ACCESS OF THE OWNER	7

The tab to the right of the Locomotive Command tab is the Network tab. The Network tab allows you to configure the IP addresses of your ports. Take precautions when doing this over the network, as it is possible to lose access to your device if an improper change is made.

Ethernet Port 1 (eth0)	Ethernet Port 2 (eth1)
Connection Type: Static IP O DHCP	Connection Type: Static IP ODHCP
P Address:	IP Address:
10.23.6.10	169.254.2.10
Network Mask:	Network Mask:
255.255.254.0	255.255.255.0
Gateway:	Gateway:
10.23.6.1	169.254.2.1
DNS Servers: Comma separated	DNS Servers: Comma reperated
10.23.10.10, 10.23.10.11	169.254.2.1
DHCP Server	DHCP Server

The Location, Class C, Class D, and NTP tabs are the same as in the application builder (Section 7.2).





Location Tab

DK II	ERFACE				Lipided. 10,
ken Laconolive Network Class (Command V Apple	sation Upload Configuration P SNMP NTP TTC Time and Lo	vent Logs scation Operating Values	псян	
		Class C Protocol Config	aration		
		Time Stamp Farnat: Relative # Absolute Multicast Address: 239:255.0.5 Time messages before set 5	Put: : 32768	Roimun Time Change:	
		The second designs		Home Too Channes	
		Time message deviation:	acords	Maximum Time Change((see	norder
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		3	acords	6	ender
		LRM Maximum Time Differ	where:		
		1	acords		
					Same Changers

Class C Tab



WIU Application Upload Through A WEB Interface

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Class D Tab

				Updated: 10/06
oplication Upl	and Configuration Event Lo	9 5		
CSES SNMP	NTP TTC Time and Location	Operating Values	ITCSM	
	NTP Configuration			
	NTP Server:		Update Interval:	
	10.255.102.254		30	accede
				Too the second

NTP Tab

8.2.1. ACSES Configuration

Select the ACSES tab. If your unit is configured for Advanced Civil Speed Enforcement System, ACSES, you can view some ACSES configuration settings in this window.



Commission (Applicat	Son Upload	1 00	diguration	EventLog					
Class D	ACSES	SNMP	NTP	ITC Time an	d Location	Ope	erating Values	TICSM		
		^	CSES (onfiguratio	0					
			Acses A Antra	pplication Typ Application	e					
			Amtrai	Configurati	on					
			Encode	Address:						
			7.888	AA1.AAA.AA	A1					
			809.00	P Address:			Port			
			169.2	4.1.20		7	8092			
			BCP De	n IP Address			Port:			
			169.2	4.2.20			8094			

It allows you to see the application type and Encoder Address. This screen allows you to change these addresses and ports without having to build and upload a new application.

8.2.2. SNMP Configuration

Select the SNMP tab. This opens the SNMP Configuration window.

	K II ROL INTERFACE				linden) 20/1	6/14 22:43:15 Devis	- bed look and 1	(andres Defail (analysis	i Coglish Y askess Y
Field Devices System Information	Locomotive Command V App	deater lipbal Configeration	Destlogs						Advanced
Import/Export * Location Netw	rork Class C Class D ACSE	IS SAMP MIP ITC Time.	and Location Operating Value	IS DOM					Upload Firmware
SNMP Configuration									
Community Name: Avsaldo515	Select Presary 30								
Syn Carefact:	Description 1		Description 2		Priority	Reportable	Occurrences	Tiese Period	Delay (month)
DefaultContact									
Destination IP Address 1:									
169.254.2.12									
Destruction IP Address 2:				Please select primary event 22.					
109.254.1.12									
Re-enable traps in:									
30 minutes									
Traps are enabled									
Enable Traps Disable Traps									

Click the Select Primary ID dropdown menu and select Vital.

Field Devices System Information	Locomotive Command V Application Splits Comfigurations Event Log						~	wanced.
Import/Export * Location Bet	twork Class C Class D ACSES SHATP NTP TIC Tase and Location	Operating Values					Optrad Fit	moure
SIBMP Configuration								
Community Name:	Via D							
AnnakduSTS Sex Contact:	Description 1	Descriptions	Priority	C Reportable	Occurrences	Time Period (second)	Entiry (consents)	
Destruction IP Address 1	The application installed,		4		1	a	1	0
169.254.2.12	Application CRC & Incoment,		4	60	1	4	1	
Destrution IF Address 2: 169.254.1.12	Stale bata han pinton.	1	1 9 1		1	(1	1	
Q	Text ARMA register (logical 1) to let MUK know it is on to write to DPRAM				1	1		
30 model	(Set AMA register (logical 0) to let MUX know the PTC coprocessor is not avail			R	1000	1		
Traps are enabled	COM software started.		1 1	ä	1	1.000	1	
Enable Traps Deable Traps	COM Hardware Erra.	a (1 4 1		1	1	1	
	COM Application Software Error		1 1		1	4	1	

Here you can select which event you want to be reported by SNMP by clicking the check boxes under the Reportable column.



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All of this SNMP data is stored on the unit. The left panel with Server information is set up in the app builder under the SNMP field. These servers are typically located in the Central Office. You can select which messages are to be sent to Central office from the right side of the page by checking the Reportable box.

Select the Save Changes button at the bottom right of the page. This will save all changes you have made in the interface.

Any items with checked boxes will be reportable by SNMP to the destination IP address specified on the left of the interface.

The Disable Traps button disables all the SNMP traps for a specified period of time. In this case, the traps would be re-enabled in 30 minutes.



8.2.3. ITC Time and Location

Select the ITC Time and Location tab.

SNMP	NTP TIC Time and Location	Operating Values ITCSM	
	ITC Time and Location Configu	ration	
	ITC Time Server:	Periodicity:	
	239.255.0.5	4095	
	UDP Port:	Timeout:	
	32700	30	sconh
COLORADO IN			-

This tab allows you to check and modify the IP address of the ITC time server and the Periodicity. It also shows the UDP port and timeout in seconds.

8.2.4. Operating Values

Select the Operating Values tab.

		tpdated 10/06/14	22:45
Upload Configuration Event Logs			
PHP NTP TTC Time and Location Operating Va	TICSM		
Operating Values			
HMAC Key OIC	Last Updated		
FF339643	06-10-2014 02:17:44	Optional HPMAC Kery	
RC2 Key ORC:	Last Updated:		
	and the best should be a	TABLE AND DECIMAL	



Here you can upload HMAC and RC2 keys directly to the unit via the web interface without having to build another application with the application builder. These would be changed for security purposes and it is much easier to update the values via the web interface rather than building and uploading a new application with the new HMAC and RC2 keys. For security purposes these keys are only visible to the administrator user. To change these keys click the Upload HMAC key or click the Upload RC2 key.

Path to .hmac file:		
(Exported from Ansak	do WIU Application Builder tool)	
	Browse	
	biowse	
	urowse	
	urowse	

The HMAC key must be input in its encrypted form as it would be in the app builder. Once the key is in select Upload HMAC Key. A successfully uploaded box will appear. The RC2 key will be uploaded in the same manner, although it does not have to be encrypted.

Select the Upload Firmware tab.



This tab is only visible if you are an administrator user. It allows you to update your unit's firmware by uploading a tar package specifically made for the WIU. A tar package is a software upgrade for the processors in the WIU. These updates are necessary to keep the unit running up to par.

8.2.5. Events Log

Select the Event Logs tab.



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Field Devices	System Inform	nation L	ocomotive Com	mand 🔻	Application Upload	Configuration	Event Logs
Source: Vital - Altera		Source	Event ID	Level	Туре	Message	
Event Descript	ion/ID:					L3	
From Date:	Clear						
To Date:	Clear						
	Filter						
Download Cla	ass D Log						

This will display a live view of what events the unit is reporting. If an event occurs, it will be displayed in the log.

Select the Source dropdown menu on the left of the interface to filter which event sources are displayed

1000
Source
ear
63f

Select the Event Description ID dropdown menu to filter events by their description.



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ield Devices	System Info	rmation Lo	comotive Con	nmand v	Applicat
Source:		Source	Event ID	Level	
Vital - Altera					
Funnt Descrip	tion /ID:				
Event Descrip	001/10:	_			_
All Events	installed S				
No application	n installed. w				-
Stale Data fr	DDRAM				
Set AMA reg	ister (logical 1) t	o let MIK know	it is ok to write	to DPRAM	
Set AMA reg	ister (logical 0) t	o let MLK know	the PTC conro	cessor is no	t avail
COM softwar	e started.	o let ment haron	r cile r r c copro	cessor is no	ic avan
COM Hardwa	re Error.				
COM Applicat	ion Software Er	ror.			
HTTP server	not operational	Error.			
SNMP Agent	not running.				
DNS server n	ot running.				
DHCP server	not running.				
SLP server is	not running.				
Vital software	e is not running.				
Vital Xiinx NC	OR Hash Read Er	ror.			
Vital XIInx NC	OR Flash Write E	rror			
Vital Altera N	OR Flash Kead E	rror			
Vital Altera N	OK Fidsh while i	EITOF			
Vital can't pa	ree DTC applicat	ion			
Xiliny Vital DP	RAM read error				
Xilinx Vital DP	RAM write error	4			
Altera Vital D	PRAM read error				
Altera Vital D	PRAM write erro	or.			
Vital unable t	o complete PTC	application pro	cessing.		

Select the From Date and To Date items to select a period of time to display only those events that occurred during the selected period.

Field Devices System Info	ormation
Source:	Source
Vital - Altera	vital-al
Event Description/ID:	i deal ad
All Events	Vical-al
From Date:	vital-al
Clear	vital-ał
To Date:	vital
Clear	vital-al
Filter	vital-al
Titter	vital-al
Download Class D Log	vital-ał
	vital-al

Use the green arrows at the bottom of the screen to navigate through the pages of event.



To download the class D log, click the Download Class D log button in the left panel. This feature allows you to download a .txt file of the traffic logs for all the class D messages.

Select the Export to File button at the bottom right of the interface. The Export Events window will appear.



5	records

The number of events that you wish to export and download can be entered in this window. To export all of the records, enter -1 and select the Download button.

A Success window will appear where you can download these records. Select the Download Records button to download the records.

Success		
Your event record	is ready.	
	Dismiss	Download records

This will create a csv file containing however many logs you have specified to export. This file will open with Microsoft excel. The file can then be printed, if necessary. When done with the file, save and close the excel document and to return to the PTC web interface.

8.2.6. Advanced Screen Displays

Select the Advanced tab at the upper right side of the screen. This tab is only visible if you are an administrator user.



The first tab shown is Services.

MICROLOK II Positive train control interface	Updated: 02/23/31 23:10:17 Device:	Ansakio WTU Location: Default Location English ¥ admin ¥
Field Devices System Information Locomotive Command \mathbf{v}	Application Upload Configuration Event Logs	Advanced
Services Local Presence User Certificates		
	Services	
	P SNMP Service	
	P Class D Service	
	Class C	
	NTP Clent	
	SLP Service	
	TLS Service	
	Note: Class C and NTP services are controlled by the Time Source parameter.	
	Save Changes	

Here you can start and stop different services that are running on the device. If the box next to a service is checked, the service is running. If it is not, the service is not currently running.

Select the Local Presence tab.




All vital parameters require local presence at the unit. You can configure non-vital parameters to require local presence also.

Local Presence Configuration	
Configuration Parameter	Local Presence Required
DeviceName	
Communication Type	
TmeSource	0
SCAC	
LocalID	0
TmeZone	
ACSES.AcsesApp Type	0
ACSES.Amtrak.BCPDownAddress	
ACSES.Amtrak.BCPDownPort	
ACSES.Amtrak.BCPUpAddress	

If the box to the right of a parameter is checked, it requires local presence to be configured. This means that to make any change to that specific parameter, you would need to manually press the button on the front panel of the unit to prove you are accessing it locally. If the check box next to a parameter is not checked, it does not require a local presence.

Select the User Certificate tab.



Here you can browse for single sign-on certificates if, for example, you wish for a password to not be necessary when any users are logging on.



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Maintainer		Administrator	
Last Updated: Un	available	Last Updated:	Unavailable
Upload new certificate (PEM format));	Upload new certificate	(PEM format):
Bro	owse		Browse

The certificate files are in a PEM format. You can only change the certificates for yourself and any users beneath you.

To browse for a certificate, select the Browse button. Here you can locate and select the PEM file. Once done, select the Open button.

Organize + New folder	s · Cl •
Favorites	
Constant Desktop	
Downloads	
1 Recent Places	
Jubraries	
Documents	
Music	
Pictures	
Tideos	
Scomputer	
GBTs (\\Projects) (B)	
👛 os (c)	
👝 Local Disk (E)	
🐨 mechcadd (\\projects) (G	
🖙 hoffmaic (//mu3.olobal.s *	
File name:	 All Files (*.*)
	Onen Canvel

Select the Upload button to initiate the use of the selected certificate.

After any session in the PTC interface, be sure to sign out before exiting. To do this, select the Admin dropdown at the top right of the screen.



Select the Sign Out link. This may bring you to a Please Sign In window.

Authorizati sign is as ai	on required to perform authorized user to p	m this function. Please proceed.
gn is as ai	authorized user to p	roceed.

From this point, you or someone else can sign in, or you can exit out of the interface.



9. RAIL TEAM AND TECHNICAL SUPPORT

The Rapid Action Information Link Team (RAIL Team) is a group of experienced product and application engineers ready to assist the user to resolve any technical issues concerning this product. Contact the RAIL Team in the United States at 1-800-652-7276 or by e-mail at railteam@ansaldo-sts.us.







End of Manual