

# User Manual - PTC Radio Control and Status Application

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## **Revision History**

Revision	Date	Summary of Changes
1.0	04/16/2012	First draft of FRA grant document.



## **Table of Contents**

1.	Introd	luction1
	1.1	Overview1
	1.2	Organization3
	1.3	Scope
	1.4	Acronyms4
	1.5	References4
2.	Applic	ation Installation5
	2.1	PC Hardware Requirements5
	2.2	SW Installation5
3.	Launc	hing the PTC Radio Control and Status App7
4.	PTC R	adio Control and Status App Front Panel8
	4.1	Menu Bar9
		4.1.1 LogOn 9
		4.1.2 Help 10
	4.2	Application Header 11
	4.3	Connection Control 11
	4.4	Category Selector
5.	Settin	g Up Radio Connection Configuration13
6.	Conne	ect to a Radio
/. o	Gettir	ng Information From the Radio
0.	0 1	
	0.1	
	0.2	20 CDS
	0.3	
	8.4 0 E	R551
	8.5	Log Tables
	8.6	Maint
	8.7	Scheduler
		8.7.1 Schedule to Poll the Radio for Info
		8.7.2 Set Radio Internal Scheduler
		8.7.3 Set Radio Traces

8.8	Telnet	35
8.9	Socket	38
8.10	Data Playback	40

## 1. Introduction

This document describes how to use the PTC Radio Control and Status Application. This application is a soft front panel to the radio. It decodes messages from the radio and displays the information in indicators, tables, and graphs. It provides controls to send commands to change the state of the radio. This application works with Base, Loco, and Wayside radios.

### 1.1 Overview

The PTC radios developed by Meteorcomm have a TCP-IP interface that allows maintenance to be performed over an Ethernet network connection. The interface sends and receives text messages (it is very similar to the text-based protocol Telnet). The PTC Radio Control and Status application described in this document communicates to the radio over the TCP-IP interface.

The PTC Radio Control and Status application is written in LabVIEW (by National Instruments) and runs on computers with a Windows operating system.

The application has a front panel window with a control section on the left and a display section on the right. The control section provides a list of different categories. When a category is selected, the display on the right changes to the page for that category. Each page provides information and controls related to that category of radio features.

The application supports different user levels. There is a LogOn menu item in the top menu bar. By default the operator is logged on as an "Observer". This mode displays status and has very limited access to control of the radio. By selecting different user levels more control of the radio is obtained. To log on at higher user levels, a password is required.



METEORCOMM LLC	ID 00001001	SW 01.01.14.01	די	'C Radi	o Co	ntro	l and	l Sta	atus	s Ap	<b>P</b> <sup>Ver</sup>	0.2.3	Help	]	[
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ame SITB-1 Base#1	Radio Info	POST 🦲			CHAN	BEACON	WAIT	DTRF	STAT	DIST	DEG	RXPKTS	TXPKTS	TXACKS	T
TP 10.1.13.100	Item	State	Ĩ	B-00001002	070	2089	0000	-045	0000	0.00	000	2089	0	0	Γ
10.1.13.100	Radio ID	00001001		BROADCST	000	0	0000	-150				0	0	0	Γ
Port 1001	Device	Base		CMNBDCST	000	0	0000	-150				0	0	0	
	SN	20036		r^00001201	060	0	0000	-084	0000			1151	0	0	
Connect Disconnect				r^00001202	060	0	0000	-086	0000			1150	0	0	
and the second sec				r^00001203	060	0	0000	-082	0000			1151	0	0	
ate Connected	Radio State	ISMP 🔲 HRX 🛄	-1	r^00001204	060	0	0000	-084	0000			1151	0	0	
trol Selector	Item	State		r^00001205	060	0	0000	-084	0000			1151	1	0	⊢
	DSP Mode	NORMAL		r^00001206	060	0	0000	-086	0000			1151	2	0	Ļ
Status 🗠	Host Mode	CONTINUE													2
Link Info	Tx Mode	STARTED		Ethernet Assigr	nment Info	•									
GPS	Tx Power (dBm)	48.75		Time	Dev/Tas	k Port	Protoc	ol T/O	)	Туре	State	/Dev	IP Add	iress	Т
DEST	Time Sync	Tracking GPS Timesync		16:27:55	E1	7777	ASCII	15		SERVER	Assig	ned	10.10.1.4	1:7777	Î
				16:27:55	E2	4004	ASCII	5		SERVER	Assig	ned	10.1.13.9	0:4004	1
Log lables	GPS			16:27:55	E2	6000	HRX	10		SERVER	Assig	ned	10.1.13.9	0:6000	1
Maint	Item	State		16:27:55	E1	5555	HRX	10		SERVER	Assig	ned	10.10.1.4	1:5555	1
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	Lat(deg)	47.473002		16:27:55	E2	Client	ISMP	5		CLIENT	CONNE	CTED	10.1.13.1	02:1275	Π
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	Heading	0		Rx Pkts	Segs	Msgs	Acks	FwdPwr	Rev	Pwr	VSWR	ExtV	DetR	Rese	t
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	Validity	7	-												
				Channel Table											
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a Level				010 06	50 0	50 1	104	106	108	116	118	070	_		-1

Header - General Info

Control Section -Connection Control and Category Selector Display Section - Pages of different category controls and information

PTC Radio Control and Status App

### 1.1.1.1 Purpose

The purpose of this document is to provide instructions to use the PTC Radio Control and Status Application.



### 1.2 Organization

This document is organized with sections that cover information about the application in the sequence that an operator would need to know as they use the application. The order is:

- Installation of the application
- Basic usage of the application
- Details about each Radio control/status category

### 1.3 Scope

The scope of this document is to provide instructions to use the PTC Radio Control and Status application. This document does not describe all the controls, status, and capabilities of the PTC Radio. It is assumed that the operator has a basic understanding of the PTC radio. See the Meteorcomm documentation on the PTC Radio for detailed information about the radio.



### 1.4 Acronyms

Acronym/Abbreviation	Description
Арр	Application
HW	Hardware
МСС	Meteorcomm LLC
MS	Microsoft
PTC	Positive Train Control
SW	Software
TCP-IP	Transmission Control Protocol/Internet
	Protocol

### 1.5 References

[1] ITCR 1.0.5.0 Command Line Interface (CLI) Reference for Administration and Service

## 2. Application Installation

### 2.1 PC Hardware Requirements

This application will run on basically any recent model desktop or laptop. The following table lists the minimum requirements:

PC Component/Feature	Requirements
Processor	Pentium III/Celeron 866 MHz or equivalent
RAM	256 MB
Screen Resolution	1024 x 768 pixels
Operating System	Windows 7/Vista/XP SP2/Windows Server 2003 R2 (32-bit)/Windows Server 2008 R2 (64-bit)
Disk Space	340 MB
Network Port or WIFI	1MB/s or better

### 2.2 SW Installation

This application comes with an installer that automatically installs all the components you need. You can obtain the installer from your Meteorcomm representative. The installer will install:

- The LabVIEW Runtime Engine (LRTE)
  - This will take about 10 minutes to install. It needs to be installed only one time. When you install updates to this application the LRTE install part will be skipped.
- This application

To install this application:

1) Run the setup.exe file in the installation folder.

Name ^
🌗 bin
\mu license
\mu supportfiles
nidist.id
🔜 setup.exe
📰 setup.ini



2) The installer will provide several info and prompt popup windows. Use the default settings and click "Next". There will be a license agreement popup window. Review and accept the license agreement.

🐙 PTC Radio		🐙 PTC Radio	
Destination Directory Select the primary installation directory.		Installation Complete	
All software will be installed in the following locations. To install software into a different locations, click the Browse button and select another directory.		The installer has finished updating your system.	
Directory for PTC Radio         Browse           C-Program Files (x86)/MCC\         Browse           Directory for National Instruments products         C-Program Files (x86)/National Instruments\			
<< Back Next >> 1	ancel	KK Back Nex	t>> Einish

### Installer Popup Windows

You may receive a popup window indicating your PC needs to be rebooted. If so then reboot your PC.



## 3. Launching the PTC Radio Control and Status App

When the Radio Control and Status Application is installed, short cuts are created on the desktop and in the All Programs Start menu MCC folder. Double click the icon to launch the application.



**Desktop Icon** 



All Programs -> MCC -> PTC Radio



## 4. PTC Radio Control and Status App Front Panel

The PTC Radio Control and Status App front panel consists of several sections:

	Menu Bar			Applica	ation H	eade	r					
					$\backslash$							
Composition	angle-Radio Control and Status	App.vi										
Connection	LogOn				-	-						
Control	METEORCOMM LLC	ID	<sup>●</sup> sw	PTC Ra	dio Cor	ntrol	and S	tatus	Appver	0.2.3	Help	Exit
_	Edit	Status	Refresh Info	Link Info	Sched Da	ata Refresh	$\bigcirc$	Interval	60 Secon	ds Last Upd	ate	
	Name	Radio Info	POST	r 💻 📃	CHAN	BEACON	WAIT DTRI	F STAT	DIST DEG	RXPKTS T	XPKTS TXACKS	EA
	IP	Item ID	State									-
	Port 0	Device										
	Connect Disconnect	SN										
	State Not Connected	Radio State	ISMP 🧧 HRX	-								-
		Item	State									
	Status	DSP Mode										<u>₹</u>
		Tx Mode		Ethernet A	ssianment Info							
	GPS	Tx Power (dBm	)	Time	Dev/Task	Port	Protocol	т/о т	ype Sta	te/Dev	IP Address	
	RSSI	Time Sync		_								
	Log Tables	GPS										- 11
	Maint	Item	State									-2
		Timing Mode										
		Long(deg)				1	1 1					
		Speed(MPH)		Stat	Cone M	1	also Fund	Dura DaveDur	WEMD	Earth	DatDí Das	
		Heading Altitude		KX PKts	Segs M	isgs A	ACKS FWO	PWF REVPW	r vswr	EXEV	Detki kes	ets
		Validity							-	-		
				Channel Ta	ble							
		SW Version		Name	Channel	TX M	IHz F	RX MHz	Mod-Val I	Bit Rate	Modulation	
		Component	Version			-						_
	τ.	N ———		Assign Sum	mary							
	licer Level			RX1	RX2 RX	3 RX4	4 RX5	RX6	RX7 RX	B RX9		<u> </u>
											<u> </u>	-
						_						
	1				1							
					1		_					
	Category Selector			Ca	tegory	Disp	lay Pa	ge				

PTC Radio Control and Status App



### 4.1 Menu Bar

### 4.1.1 LogOn

The LogOn menu is used to log on at different operator levels.

ᠷ Single-I	Radio Co	ntrol and Statu	s App.vi
LogOn			
✓ Observe Field Ter Enginee	er chnician r	COMM LLC	ID 0000
Develop	er	⊂ Edit	Statu
Name	SITB	-1 Base#1	Radio In
Name IP	SITB- 10.	-1 Base#1 1.13.100	Radio In Ite
Name IP	SITB 10.	-1 Base#1 1.13.100	Radio In Ite Radio
Name IP Port	SITB- 10.	-1 Base#1 1.13.100 1001	Radio In Ite Radio Devi
Name IP Port Con	SITB 10.	-1 Base#1 1.13.100 1001 Disconnect	Radio In Iter Radio Devi SM

Log On Menu

By default the operator is logged on as Observer. This level allows the operator to monitor status of the radio but not to change state of the radio. When a higher level is selected a popup window will appear requesting a password. When a lower level is selected, there will not be a prompt for a password.

×

Log On Popup Window

Supervisors must contact the Meteorcomm representative for instructions to obtain the default passwords and for setting custom passwords.

Higher user levels will expose more items to select from in the category control selector.



### 4.1.2 Help



Help Menu

• User Manual

Opens this user manual document. About

Opens a popup window with version information

🔛 Info Po	pup - About PTC Radio App.vi:1 (clone)	X
About t	he PTC Radio App	
Name: By: Version:	PTC Radio Control and Status Applicaiton Meteorcomm v0.2.4, 3/20/2012	
	Close	

About PTC Radio App



### 4.2 Application Header

The application header contains general information and controls.

Radio ID	Activity Light	Radio SW Version	Version	Help	
$\backslash$				iicip	Exit
🔜 Single-Radio Control and Status App. Vi		/			_ 🗆 X
METEORCOMM LLC ID 0	0001001 5w 01.01.14.01	PTC Radio Control an	d Status App <sup>ver</sup>	0.2.3	Help Exit

### **Application Header**

- Radio ID This is the ID of the radio the application is connected to.
- Activity Light this light blinks each time data is transferred from the radio to this application. (This is synonymous to the activity light of an Ethernet connection).
- Radio SW Version this is the SW version of the connected rasio.
- Version this is the version of the PTC Radio Control and Status Application.
- Help Button By clicking this button this user manual will be opened.
- Exit Button Click this button to exit the application.

### 4.3 Connection Control

This control is used to connect the application to a radio.

When the radio app is opened it is in the Not Connected state. For details on how to connect to radios, see the "Setting Up Radio Connection Configuration" and the "Connect to a Radio" sections.



### 4.4 Category Selector

This section displays controls and status for the selected category. This section is referred to as a "Page". Each category has a different looking page. See the

When the application opens it will be in the "Not Connected" state. The section in the top left corner is the Connection Control. The first time the App is used this will need to be configured - see section "Setting Up Radio Connection Configuration" for instructions to configure the connections. If you already have your connections configured then go to the "Connect to a Radio" section for info about connecting to radios.



## 5. Setting Up Radio Connection Configuration

The first time the Radio Control and Status App is used it will not have any radio connection configuration. To setup connections click the Edit button in the top left connection control section.



**Enter Connection** 

**Edit Connections Controls** 



Each connection has the following properties:

- Name The name is anything you want to call your connection. This is to help you identify your radio.
- IP This is the IP address of the radio
- Port this is the port the radio is configured to listen on for maintenance.

Configuration information may be entered in either of two methods:

- Enter Name, IP, and Port info in the "Edit Radio Connections" pop up window.
  - When you are done, select the radio in your list then click OK. That radio will appear in the Connection Control section when the Edit Radio Connections pop up window closes.
  - The Radio Connection file will be populated with the data you entered.
- Open the config file and enter the information in to the file.
  - In the Edit Radio Connections pop up window, click the "Open File" button. The Radio Connection file will open:



### **Empty Radio Connection File**

 Enter your radio connections using the "Name = IP,Port" format then save the file.

III Radio Connections.ini - Notepad	
<u>File E</u> dit F <u>o</u> rmat <u>V</u> iew <u>H</u> elp	
<pre>[Connections] SITB-1 Base#1 = "10.1.13.100,1001" SITB-1 Base#2 = "10.1.13.100,1002" SITB-1 Loco#1 = "10.1.13.100,1101" SITB-1 Loco#2 = "10.1.13.100,1102" SITB-1 Wayside#1 = "10.1.13.100,1201" SITB-1 Wayside#2 = "10.1.13.100,1202" SITB-1 Wayside#3 = "10.1.13.100,1203" SITB-2 Base#1 = "10.1.10.100,2001" SITB-2 Loco#1 = "10.1.10.100,2101" SITB-2 Loco#2 = "10.1.10.100,2102" SITB-2 Wayside#1 = "10.1.10.100,2201"</pre>	
<b>T</b>	

### Populated Radio Connection File

- After you manually entered info to the file you will need to select "Cancel" in the Edit Radio Connections pop up window then click the Connection Control "Edit" button again. Now your radios will be shown in the connection table.
- Select the radio in your list then click OK. That radio will appear in the Connection Control section when the Edit Radio Connections pop up window closes.



Once your connections have been setup you can quickly select a radio using the Connection Control section. The Connection Control section has a menu with a list of all your configured radios. Click on this menu control then select the radio you want to connect to. That radio's Name, IP and Port will appear in the Connection Control section.





## 6. Connect to a Radio

In order to connect to a radio over the network you need:

- Network connectivity between your PC and the radio.
- The radio needs to be configured to accept network connections. (See radio installation documentation to configure this)
- The IP address and port of the radio you want to connect to.

### NOTE

The eassign command is used to configure network connections. The connection is assigned a protocol. The connections assigned as ASCII or MAINT protocol maybe used by this application. The MAINT is preferred since this is the connection the radio traces are usually configured to be sent to.

### Connect to a radio:

- 1. Select the radio you want to connect to using the menu in the Connection Control section.
- 2. Click the Connect button.



The State will indicate "Connected" and will turn green.

### Connect to a Radio



## 7. Getting Information From the Radio

The radio sends information under the following situations:

- Response to a command
  - A command is sent to the radio and it responds back
- Scheduled events
  - The radio "Sched" command is used to schedule the radio to perform actions that it performs when commands are sent to it.
- Trace events
  - The radio has the ability to send notification messages when certain events occur. There are several different categories of traces: RF, GPS, TX, RX, DSP, HRX, ...
  - The level of messages is configurable from 0 for All Traces (the highest level) to 7 for only error messages (the lowest level).
  - Traces can also be turned completely OFF.

The radio must be setup to send information to this application or the information being displayed will be stale (old) and may not reflect the current state of the radio.

By default the PTC Radio a Control and Status App polls the radio for high level Status information at a rate of once per minute (60 seconds). See the "Control and Status Categories" -> "Status" section for info on how to change this interval.

Each Control and Status Category page provides controls to turn on the capability to get the radio to send the information it displays.

See the "Control and Status Categories" -> "Scheduler" section for info on how to control the flow of information provided by the radio.



## 8. Control and Status Categories

### 8.1 Status

The Status page provides general status information about the radio.

When the app connects to a radio it polls the radio for information to populate each indicator on this page.

The status information is refreshed at regular intervals. By default this interval is once every 60 seconds. This refresh maybe turned OFF and/or the interval may be changed by the refresh controls at the top of this page.

Certain status items are color coded to indicate the health of the state it is in.



**Status Page** 



### 8.2 Link Info

👼 Single-Radio Control and Status A	App.\	vi															_	. 🗆 🗙
LogOn																		
	ID	00001001	😐 sw	01.01.14	.01	РТС	Rad	lio C	Cont	rol a	nd S	Statu	is Ap	<b>P</b> Ver	0.2.3	Help		Exit
SITB-1 Base#1 🗸 Edit	L	ink Info		Refre	sh Info													
Name SITB-1 Base#1		Link Status				G	raph - Co	unts				Gr	aph - Link	History				
IP 10.1.13.100										-								
Port 1001		Link Status					S	ched Data	a Refres		Inter	rval 💮 🏼 6	0 Seco	nds	Last	Jpdate	18:29:26	
Connect Disconnect			CHAN	BEACON	WAIT	DTRF	STAT	DIST	DEG	RXPKTS	TXPKTS	TXACKS	BCAST	RXMSGS	TXMSGS	RXSEGS	TXSEGS	
Connect Disconnect		B-00001002	070	2249	0000	-045	0000	0.00	000	2249	0	0	0	0	0	0	0	
State Connected		BROADCST	000	0	0000	0000				0	0	0	0	0	0	0	0	
		CMNBDCST	000	0	0000	0000				0	0	0	0	0	0	0	0	
Control Selector		r^00001201	060	0	0001	-084	0000			6206	2	0	0	5	5	15	5	
Status 🔺		r^00001202	060	0	0001	-086	0000			6204	1	0	0	5	5	15	2	
		r^00001203	060	0	0001	-083	0000			6207	6	0	0	5	5	15	13	
		P^00001204	060	0	0001	-084	0000			6206	2	U	0	5	5	15	5	
GPS		P^00001205	060	0	0001	-083	0000			6206	4	0	0	5	5	15	8	
RSSI		F-00001206	060	0	0001	-065	0000			6205	4	0	0	5	5	15	15	
Log Tables		r^00001207	060	0	0001	-049	0000			6200	4	0	0	5	5	15	15	
Maint		r^00001209	060	0	0001	-045	0000			6204	4	0	0	5	5	15	12	
		r^00001210	060	0	0001	-082	0000			6206	3	0	0	6	6	17	9	
Scheduler		r^00001211	060	0	0001	-082	0000			6204	11	0	0	5	5	15	23	
Telnet		r^00001212_v	060	0	0001	-082	0000			3332	11	0	0	5	5	15	25	
Message Test		r^00001213	060	0	0001	-084	0000			6206	1	0	0	5	5	15	3	
Socket		r^00001214	060	0	0001	-082	0000			6203	6	0	0	5	5	15	13	
Data Dischards		r^00001215	060	0	0001	-081	0000			6208	6	0	0	5	5	15	12	
Data Playback																		
																		-
																		-
<b>T</b>														-				
User Level Engineer														-	-			
	1																1	
				_						_		_		_				

The Link Info page provides information about the Link Status.





Single-Radio Control and Status App.vi LogOn  METEORCOMM LLC ID 00001001 Status App.vi  METEORCOMM LLC ID 00001001 Status App.vi
WEFEORCOMM to       ID       00001001       \$will billink3       PTC Radio Control and Status Appver       0.23       iedo       tot         Stitus       Inik Info       Refeet       Refeet       Graph - Counts       Graph - Link History       Control Select       Data Select       Refeet       Control Select       W 0001002       V       Imit Status       Control Selector       Status       Control Selector       Status       Control Selector       Tx Packets       Tx Packets       V 00001202       V       Imit Status       V 00001202       V       V 00001203       V 00001202       V       V 00001203       V 00001213       V 000001213       V 00001213       V 0000121

Graph - Counts

The counts from the "linkstat" message is displayed in the "Graph - Counts" tab. Use the Data Select menu to choose the category of counts to display in the graph.



Graph - Link History

The "Graph - Link History" tab displays the linked radios versus time.



### 8.3 GPS

The Link Info page provides information about position and GPS tracking.

The Position Info table lists the information provided from the radio "pos" command.

The GPGSV table lists information provided in the GPS Trace GPGSV.

The Refresh Info" button sends a "pos" command to the radio. The radio's response will update the Position Info Table. The Data Refresh control can be used to cause regular updates of the Position Info.

At the top of the page is a GPS Trace control. Turn this ON to receive GPGSV trace information. This trace is sent every 15 seconds. This information is used to update the Signal Strength and the AZ and EL Graphs. The Green light indicates if the trace is in the ON or OFF state. The yellow light flashes each time trace info is received.

Single-Radio Control and Status Ap	p.vi										
On											
	D 00001001 9	5W 01.01.14.01 PTC	CRadio Contro	ol an	d Status	Арр	Ver	0.2.3	Не	Ip	Ex
SITB-1 Base#1 🗸 Edit	GPS Analy	SIS Refresh Info	GP5 Trace	ON O	FF (Trace nee	ds to be O	N to ge	t Satellit	e Info fo	r graphs)	
Name SITB-1 Base#1	GPS Status	5	ignal Strength Graph			Az and El G	Graph				
IP 10.1.13.100		Position Info Time Sy	rnc Tracking GPS Timesync		GPGSV			Last Upd	late	18:30:15	
Port 1001		Time	03/20/12 01:29:26		Time	In View	ID	EL	AZ	dBHz	
Connect Disconnect		GPS Interval	30		01:29:59	13	03	30	081	46	
Connect	Run Survey	Tx Format	TEXT		01:29:59	13	05	21	314	46	
State Connected		Input Format	UBX		01:29:59	13	06	25	065	44	
		GPSTime	01:29:26		01:29:59	13	07	73	298	51	
ntrol Selector		Lat(deg)	47.473002	_		===				===	
Status 🔺	Set Source	Long(deg)	-122.233613		01:30:00	13	08	37	267	49	
Link Tafa	to Survey	Speed(MPH)	0.000000		01:30:00	13	10	42	250	49	
LINK INTO		н	0	_	01:30:00	13	13	72	129	50	
GPS		A	12		01:30:00	13	16	25	046	45	
RSSI	Run Test	V President	/	_	01:30:00	13	19	18	118	45	-
Log Tables	4 Satellite	Precision	13		01:30:00	13	23	39	133	50	-
Maliat		HDOR	12		01:30:00	13	28	04	211	34	-
Maint		HOUD	OFF (95.55)	_	01:30:00	13	48	34	194	46	-
Scheduler			OFF	_	01:30:00	13	51	34	160	4/	-
Telnet		DGPS-Age	99 Seconds		01/20/14	12			001	===	-
Message Test		COPY Port	OFF		01:30:14	13	05	21	214	40	-
Contract		SCALE rrc values	0.0000		01:30:14	13	05	21	065	40	-
Socket	Data Refresh	RXDIFF	ON, ALL		01:30:14	13	07	73	298	50	
Data Playback		Timing Mode Requested	TIMING		===		===	===	===	===	
		Timing Mode Actual	TIMING		01:30:15	13	08	37	267	48	
	Interval(s)	Surveyed ECEF Pos x	-230367717		01:30:15	13	10	42	250	49	
	10	Surveyed ECEF Pos y	-365342419		01:30:15	13	13	71	129	49	
	. IV	Surveyed ECEF Pos z	467746603		01:30:15	13	16	24	046	44	
		Surveyed Param Fixed Err	1000		01:30:15	13	19	19	118	45	
		Surveyed Param Reg Err	0		01:30:15	13	23	38	133	50	
		Surveyed Param Reg Time	0		01:30:15	13	28	04	211	36	
<u>₹</u>					01:30:15	13	48	34	194	47	
Iser Level Engineer					01:30:15	13	51	34	160	47	
Ser Level Ingineer											T















### 8.4 RSSI

The RSSI page shows Receiver Signal Strength Indication of all received packets. To receive this information, both the RX and RF traces need to be turned ON. The RSSI from the RF trace info is mated with the Radio ID in the RX trace info.

At the top of the page is a RF Trace control. Turn this ON to receive RSSI information. The graph is updated as trace information is received. The Green light indicates if the trace is in the ON or OFF state. The yellow light flashes each time trace info is received.



**RSSI** Page



### 8.5 Log Tables

Each time a recognized message is received form the radio it is logged to a table. A table is created for each message type. These tables are displayed in the "Log tables" page.

The Log Table page has a selector called "Message Type Select" to select which message table to display.

These tabled can be logged to a file. The file format is TDMS which is a very efficient data file format developed by National Instruments. These files can be viewed in Microsoft Excel where each table is a separate Excel tab. To be able to view these files an Excel Add-In needs to be installed. The Add-In can be obtained from the National Instruments website:

http://zone.ni.com/devzone/cda/epd/p/id/2944

CITE 1 P-	rait	Logo						<u></u>		_						_
5110-1 00	ase#1 Edit	Logs			Me	essage T	ype Select	🗍 📜 ІТСВВ	Rx				Freez	ze Table 🤇		
Name 9	SITB-1 Base#1	Time	dir	RxNum	TxID	state	BaseHost	rev	F	-	lon	LocChan	util	BitRate	NCh1	NCh
IP	10.1.13.100	01:25:52.764	Rx	9	00001002	88	online	= <u>SN</u> .		11N	122:14.0168W	70	1	16K	123	117
Deut		01:26:04.764	Rx	9	00001002	88	online	dsp_mode		11N	122:14.0168W	70	1	16K	123	117
Port	1001	01:26:16.764	Rx	9	00001002	88	online	hostmode		111	122:14.0168W	70	1	16K	123	117
		01:26:29.310	Rx	9	00001002	88	online	ITCCTL TX		11N	122:14.0168W	70	1	16K	123	117
Connect	Disconnect	01:26:41.310	Rx	9	00001002	88	online	mode		11N	122:14.0168W	70	1	16K	123	117
State	Connected	01:26:53.310	Rx	9	00001002	88	online	TR RX		11N	122:14.0168W	70	1	16K	123	117
Juice	connected	01:27:30.672	Rx	9	00001002	88	online	🗸 ITCBB Rx		11N	122:14.0168W	70	1	16K	123	117
ntrol Sele	ctor	01:27:42.672	Rx	9	00001002	88	online	txpower		1N	122:14.0168W	70	1	16K	123	117
		01:27:54.672	Rx	9	00001002	88	online	timesync		1N	122:14.0168W	70	1	16K	123	117
Status		01:28:06.672	Rx	9	00001002	88	online	eassign		11N	122:14.0168W	70	1	16K	123	117
Link Iı	nfo	01:28:18.672	Rx	9	00001002	88	online	pos		1N	122:14.0168W	70	1	16K	123	117
GPS		01:28:31.218	Rx	9	00001002	88	online	linkstat		11N	122:14.0168W	70	1	16K	123	11
DCCI		01:28:43.288	Rx	9	00001002	88	online	stat.rf		1N	122:14.0168W	70	1	16K	123	11
K551		01:29:07.764	Rx	9	00001002	88	online	stat.hrx		11N	122:14.0168W	70	1	16K	123	117
Log Ta	ibles	01:29:19.764	Rx	9	00001002	88	online	stat		1N	122:14.0168W	70	1	16K	123	117
Maint		01:29:43.834	Rx	9	00001002	88	online	channel		11N	122:14.0168W	70	1	16K	123	117
Cohod	ulan	01:29:56.310	Rx	9	00001002	88	online	accian		11N	122:14.0168W	70	1	16K	123	117
Scheu	uler	01:30:08.310	Rx	9	00001002	88	online	assign		1N	122:14.0168W	70	1	16K	123	117
Telnet		01:30:21.672	Rx	9	00001002	88	online	post		1N	122:14.0168W	70	1	16K	123	117
Messa	ae Test	01:30:33.672	Rx	9	00001002	88	online	TICBBIX		11N	122:14.0168W	70	1	16K	123	117
Socko	+	01:30:45.672	Rx	9	00001002	88	online	trace	-	1N	122:14.0168W	70	1	16K	123	117
JUCKE	· · · ·	01:31:09.672	Rx	9	00001002	88	online	sched		11	122:14.0168W	70	1	16K	123	117
Data P	Playback	01:31:21.672	Rx	9	00001002	88	online	limits		1N	122:14.0168W	70	1	16K	123	117
		01:31:33.672	Rx	9	00001002	88	online	apps		- 1N	122:14.0168W	70	1	16K	123	117
		01:31:46.218	Rx	9	00001002	88	online	Defined	47:28.38	301N	122:14.0168W	70	1	16K	123	117
		I I I I I I I I I I I I I I I I I I I		_						_						•

Selector control for the Table to be displayed. It lists the different decoded messaged received form the radio.

### Log Table Page



The format of the log file name can be modified by the operator. This makes it easy to separate the logged data into separate files based on the activities performed with the radios.

- Test Name
  - There is a control called Test Name at the bottom of the page. If this is not empty then the text entered in this field is appended to the log file name.
- File Rotation Control File Name Changes Each Day
  - This Setting causes the file name to have the date in the file name. When the day changes the file name will be changed. This causes log files to only be as large as what is collected in one day.
- File Rotation Control File Name Changes Each Connect Event
  - This Setting causes the file name to have the tome stamp of when the App connected to the radio in the file name. This is useful if there are different tests being performed and the operator wants the file name to change with each connection.

		5	01.01			Raur	Contro	n and St			.2.5	Theip		
SITB-1 Base#1    Edit	Logs			Me	essage T	ype Select	() тсвв	Rx			Free	ze Table 🤇	D	
ame SITB-1 Base#1	Time	dir	RxNum	TxID	state	BaseHost	LocChStatus	lat	lon	LocChan	util	BitRate	NCh1	NCh
IP 10.1.13.100	01:26:29.310	Rx	9	00001002	88	online	Defined	47:28.3801N	122:14.0168W	70	1	16K	123	11
Port 1001	01:26:41.310	Rx	9	00001002	88	online	Defined	47:28.3801N	122:14.0168W	70	1	16K	123	11
1001	01:26:53.310	Rx	9	00001002	88	online	Defined	47:28.3801N	122:14.0168W	70	1	16K	123	11
Course Discourse t	01:27:30.672	Rx	9	00001002	88	online	Defined	47:28.3801N	122:14.0168W	70	1	16K	123	11
Connect Disconnect	01:27:42.672	Rx	9	00001002	88	online	Defined	47:28.3801N	122:14.0168W	70	1	16K	123	11
ate Connected	01:27:54.672	Rx	9	00001002	88	online	Defined	47:28.3801N	122:14.0168W	70	1	16K	123	11
	01:28:06.672	Rx	9	00001002	88	online	Defined	47:28.3801N	122:14.0168W	70	1	16K	123	11
trol Selector	01:28:18.672	Rx	9	00001002	88	online	Defined	47:28.3801N	122:14.0168W	70	1	16K	123	11
Chabus	01:28:31.218	Rx	9	00001002	88	online	Defined	47:28.3801N	122:14.0168W	70	1	16K	123	11
Status	01:28:43.288	Rx	9	00001002	88	online	Defined	47:28.3801N	122:14.0168W	70	1	16K	123	11
Link Info	01:29:07.764	Rx	9	00001002	88	online	Defined	47:28.3801N	122:14.0168W	70	1	16K	123	11
GPS	01:29:19.764	Rx	9	00001002	88	online	Defined	47:28.3801N	122:14.0168W	70	1	16K	123	11
DCCI	01:29:43.834	Rx	9	00001002	88	online	Defined	47:28.3801N	122:14.0168W	70	1	16K	123	11
K551	01:29:56.310	Rx	9	00001002	88	online	Defined	47:28.3801N	122:14.0168W	70	1	16K	123	11
Log Tables	01:30:08.310	Rx	9	00001002	88	online	Defined	47:28.3801N	122:14.0168W	70	1	16K	123	11
Maint	01:30:21.672	Rx	9	00001002	88	online	Defined	47:28.3801N	122:14.0168W	70	1	16K	123	11
Scheduler	01:30:33.672	Rx	9	00001002	88	online	Defined	47:28.3801N	122:14.0168W	70	1	16K	123	11
TI	01:30:45.672	Rx	9	00001002	88	online	Defined	47:28.3801N	122:14.0168W	70	1	16K	123	11
Teinet	01:31:09.672	Rx	9	00001002	88	online	Defined	47:28.3801N	122:14.0168W	70	1	16K	123	11
Message Test	01:31:21.672	Rx	9	00001002	88	online	Defined	47:28.3801N	122:14.0168W	70	1	16K	123	11
Socket	01:31:33.672	Rx	9	00001002	88	online	Defined	47:28.3801N	122:14.0168W	70	1	16K	123	11
Data Dlavback	01:31:46.218	Rx	9	00001002	88	online	Defined	47:28.3801N	122:14.0168W	70	1	16K	123	11
Data Playback	01:32:10.218	Rx	9	00001002	88	online	Defined	47:28.3801N	122:14.0168W	70	1	16K	123	11
	01:32:22.218	Rx	9	00001002	88	online	Defined	47:28.3801N	122:14.0168W	70	1	16K	123	11
	01:32:34.764	Rx	9	00001002	88	online	Defined	47:28.3801N	122:14.0168W	70	1	16K	123	11
														-
									l					L
		_	_		_									
	Log Tables to File		FF C			Log File I	Dath							
<b>T</b>				2		Log The F	raui							_
	File Rotation ↓ Fi	le Nam	e Chang	jes Each Day		C:\Use	ers\ekaetz\Docun	nents\PTC Radio\l	logs \Decoded Data	Radio ID 0	00010	01, 03-19-		Ope
er Level Engineer	Fi	le Nam	e Chang	jes Each Conr	iect Ever	1t	uns							Fold
,	Test Name												$\sim$	
														7

ontrois to change log file name

Log Table Page



🕌 Decoded Data						_ 🗆 🗡
COCO 🎍 • Computer • OS (C:) • Users • ekaetz	✓ My Documents  ✓ PTC Radio  ✓ Logs  ✓ Decoded Data			👻 🌆 Search I	Decoded Data	2
Organize 🔻 Include in library 👻 Share with 💌 Bu	rn New folder					• 🔟 🔞
☆ Favorites	A Name	Date modified -	Туре	Size		
🧮 Desktop	🔁 Radio ID 00001101, 03-19-2012.tdms	3/19/2012 6:38 PM	TDMS File	2,479 KB		
bownloads	Radio ID 00001101, 03-19-2012.tdms_index	3/19/2012 6:38 PM	TDMS_INDEX File	684 KB		
Recent Places	Radio ID 00001001, 03-19-2012, 174325.tdms	3/19/2012 6:38 PM	TDMS File	1 KB		
SITE-2 LV TE	Radio ID 00001001, 03-19-2012, 174325.td	3/19/2012 6:38 PM	TDMS_INDEX File	1 KB		
	🔁 Radio ID 00001201, 03-19-2012.tdms	3/19/2012 6:38 PM	TDMS File	2, 199 KB		
词 Libraries	Radio ID 00001201, 03-19-2012.tdms_index	3/19/2012 6:38 PM	TDMS_INDEX File	671 KB		
Documents	🔁 Radio ID 00001001, 03-19-2012.tdms	3/19/2012 6:36 PM	TDMS File	2,355 KB		
MCC	Radio ID 00001001, 03-19-2012.tdms_index	3/19/2012 6:36 PM	TDMS_INDEX File	793 KB		
	Radio ID 00001001, 03-19-2012, 171725.tdms	3/19/2012 5:37 PM	TDMS File	829 KB		
Source Code	Radio ID 00001001, 03-19-2012, 171725.td	3/19/2012 5:37 PM	TDMS_INDEX File	294 KB		
Videos	Radio ID 00001001, 03-19-2012, 171405.tdms	3/19/2012 5:15 PM	TDMS File	60 KB		
	Radio ID 00001001, 03-19-2012, 171405.td	3/19/2012 5:15 PM	TDMS_INDEX File	30 KB		
🔣 Homegroup						
P Computer						
🚰 OS (C:)						
P Labview Apps (\\10. 1. 10. 100) (Z:)						
12 items						

### Log Folder

	Image: State State     Image: State State       Image: State State     Image: State																
	File	Home I	nsert Pa	ige Layout Fo	ormulas Data	Review Vi	ew Develo	oper	Add-Ins	Acrobat						~ ?	- # %
Pa	iste	Calibri B I	Ţ	11 · A A ·	= = <mark>=</mark> F = 1	≫ · ■ Wrap 律律 國 Merge	Text e & Center ▼	Text \$	· % , 5	.0 .00 C	ondition ormattin	nal Format	Cell Styles +	Break Insert → Present → Delete	Σ • • • • • • • • • •	ort & Find 8	ι. •
Cit	board is	•	Font	2 		Alignment	La .		Number	121		Styles		Cells		Ealting	
	A	1	• 0	J× Time	1												~
	Α	В	С	D	E	F	G		H	1		J		K	L	M	N
1	Time	Bytes_Tx	Bytes_Rx	Segments_Tx	Segments_Rx	Segments_Corr	Segments_	Bad	Packets_Tx	Packets	Rx Ac	kedPkts_Ak	NonAc	kPkts_Tx	CtlPkt_Tx	CtlPkt_Rx	QStatPl
2	43:37.4	740	92434	3	2	0		0	1	5	653	60		62	0	4711	
3	44:37.4	751	94480	3	2	0		0	1	5	781	61		63	0	4818	
4	45.57.4	702	98734	3	2	0		0	1	5	0/11	64		66	0	4923	=
6	40.37.4	795	100823	3	2	0		0	1	6	171	65		67	0	5143	
7	48:37.4	806	102926	3	2	0		0	1	6	302	66		68	0	5252	
8	49:37.4	828	105034	3	2	0		0	1	6	429	68		70	0	5359	
9	50:37.4	839	107109	3	2	0		0	1	6	558	69		71	0	5466	
10	51:37.4	850	109212	3	2	0		0	1	6	689	70		72	0	5575	
11	52:37.4	872	111408	3	2	0		0	1	6	821	72		74	0	5685	
12	53:37.4	883	113437	3	2	0		0	1	6	948	73		75	0	5792	
13	54:37.4	894	115540	3	2	0		0	1	7	079	74		76	0	5901	
14	55:37.4	916	117699	3	2	0		0	1	7	209	76		78	0	6010	
15	56:37.4	927	119714	3	2	0		0	1	7	335	77		79	0	6116	
16	57:37.4	938	121789	3	2	0		0	1	7	464	78		80	0	6223	
17	58:37.4	960	123948	3	2	0		0	1	7	594	80		82	0	6332	
18	59:37.4	971	126023	3	2	0		0	1	7	723	81		83	0	6439	
19	00:37.4	982	128052	3	2	0		0	1	7	850	82		84	0	6546	
20	01:37.4	993	130113	3	2	0		0	1	/	978	83		85	0	6652	
21	02:37.4	1015	132258	3	2	0		0	1	8	107	85		87	0	6760	
22	03:37.4	LU26	134333	3 stmada	troowor to		non linke	U	total	8	230	86		88	0	0867	×
Re	ady	Jiv Z usp_	noue / no	sundue / mode	<u>, upower</u> u	mesyne Z eassign	<u>/ pus / iiriks</u>		stayn / Sta		111				100% -		

Log File being displayed in Excel



### 8.6 Maint

The Maint page has several tabs each with information about the radio state and health that may be used for maintenance.

🚋 Single-Radio Control and Status App	o.vi								_ 🗆 X
LogOn									
METEORCOMM LLC II	D 00001001 9	SW 01.01.14	DI PTC R	adio Con	trol and St	atus App	er O.	.2.3 Help	Exit
SITB-1 Base#1 🗸 Edit	Maint	Refresh Info							
Name SITB-1 Base#1	Power ON Self Test	Po	wer Supplies	Trace, Sched	Assign	Apps	Cal	INI Print	
IP 10.1.13.100	DOCT								
	PUSI	<u> </u>			<u></u>		1.1		
Port 1001	Time	Catagory	Description		Status	measured	-	POST Result	
	00:43:27	HOST	DDR Address Lin	e lest	PASS		- 111		
Connect Disconnect	00:43:27	HOST	DDR Data Line	lest	PASS		- 11		
State Connected	00:43:27	HUST	SPI CDCADD Dura		PASS		- 11		
otate	00:43:27	HUST	SUCARD Pres	ent	PASS		- 11		
Control Selector	00:43:27	HOST	SDCARD Fail	rill	OFF		-100		
Ctature A	00:43:27	HOST	SDCARD WHILE P	SEC	PASS		- 10		
Status	00:43:27	HOST	I2C Controll	-33 Pr	PASS		- 111		
Link Info	00:43:27	HOST	T2C Mux		PASS		- 11		
GPS	00:43:27	HOST	RTC		PASS		- 110		
RSSI	00:43:27	HOST	BOOT FLASH	(C)	PASS				
	00:43:27	HOST	BOOT FLASH	D)	PASS				
Log Tables	00:43:27	HOST	DATA FLASH	(E)	PASS				
Maint	00:43:27	HOST	SEEPROM STA	MP	PASS				
Scheduler	00:43:27	HOST	CALIBRATION PARA	METERS	PASS				
Telnet	00:43:27	HOST	REG PARAMET	ERS	PASS				
Massage Test	00:43:27	HOST	ID PARAMETE	RS	PASS				
Message Test	00:43:27	HOST	CHANNEL TAE	LE	PASS				
Socket	00:43:27	HOST	SITENAME		PASS				
Data Playback	00:43:27	HOST	DHCP CONTR	OL	PASS				
· · ·	00:43:27	HOST	SERIAL NUMB	ER	PASS		_		
	00:43:27	HOST	FPGA LOAD	)	PASS		_		
	00:43:27	HOST	DSP LOAD		PASS		-		
	00:43:27	HOST	DSP RUNNIN	G	PASS		_		
	00:43:27	HOST	FAN CONTROL	LER	PASS		_		
	00:43:27	HOST	ETHERNET		PASS		-		
	00:43:27	HUST	ETHERNET	1	PASS				
<u>र</u>	00:43:2/	HUST	PIAC 0		PASS		_		
User Lovel Engineer	00:43:27	HOST	MAC I		PASS		T		
user Level Engineer	00:45:2/	nusi	GP5	I	PASS	1			

Maint - POST (Power ON Self Test)



👬 Single-Radio Control and Status A	pp.vi									_ 🗆 X
LogOn										
	ID 00001001	5w 01.01.14.01	TC Ra	dio Con	trol and	d Statu	<b>Б Арр</b>	/er 0.2.3	Help	Exit
SITB-1 Base#1 🗸 Edit	Maint	Refresh Info								
Name SITB-1 Base#1	Power ON Self Test	Power Supplies		Trace, Sched	Assign	1 A	ps	Cal	INI Print	
IP 10.1.13.100										
Port 1001										
			Power Supply	Voltages						
Connect Disconnect			Time	Parameter	Low Threshold	High Threshold				
State Connected			00:43:28	28V	25.200	30.800				
			00:43:28	11.5V	10.350	12.650				
Control Selector			00:43:28	5V	4.500	5.500				
Status			00:43:28	3.3V	2.970	3.630				
Link Info			00:43:28	2.5V	2.250	2.750				
GPS			00:43:28	1.6V-CF	1.620	1.960	-			
RSSI			00:43:28	1.5V	1.350	1.650	-			
Log Tables			00:43:28	1.2V	1.080	1.320				
Maint										
Scheduler							-			
Telnet							-			
Message Test					1		<u> </u>			
Fichad										
Data Diauta da										
Data Playback										
<u>T</u>										
User Level Engineer										



🚟 Single-Radio Control and Status Ap	p.vi										_ 🗆 ×
LogOn											
METEORCOMM LLC	D 00001001	● sw 0	01.01.14.01 <b>P</b>	r <b>C</b> Radio	Conti	rol an	d Sta	tus App	er 0.2.3	Help	Exit
SITB-1 Base#1 🖯 Edit	Maint	Refresh	Info								
Name SITB-1 Base#1	Power ON Self T	est	Power Supplies	Trace, 9	Sched	Assig	n	Apps	Cal	INI Print	
IP 10.1.13.100											
Port 1001	Sched					Active Trace	25				
	Number	Interval	Offset	Command		Mode	Level	Level Descri	ption 🔺	Ĩ	
Connect Disconnect						RF	2	Debug			
State Connected					_	GPS	2	Debug			
Control Colorton					_	DEBUG	6	Critical War	nings		
Control Selector						IDLE	0	All Trace	5		
Status						NOISE	6	Critical War	nings		
Link Info					_	EVENT	6	Critical War	nings		
GPS					_	DSP	6	Critical War	nings		
RSSI					_	TX	6	Critical War	nings		
Log Tables						HRX	0	All Trace	5		
Maint					_	WS	6	Critical War	nings		
Scheduler					_	DLOG	6	Critical War	nings		
Telnet						CLASD	0	All Trace	5		
Message Test						ETH	6	Critical War	nings		
Socket						ISMP	0	All Trace	5		
Data Playback					_	L					
						L					
					Ψ.	-			<b>T</b>		
<u> </u>											
User Level Engineer											
ما					_		_				





Single-Radio Control and Status /	App.vi														2
	ID 000010	01 <sup>®</sup> sv	V 01.01.14.01	РТС	Radio	Contr	ol and	Sta	tus	Ар	PVer	0.2.3		telp	Exit
SITB-1 Base#1         Edit           Name         SITB-1 Base#1         IP         10.1.13.100         Port         1001	Maint Power ON Sel	Refi	resh Info Power S	Supplies	Trace,	Sched	Assign		App	95	1	Cal	Ì	INI Print	
Connect Disconnect	Task	Port	Prot	T/0	Туре	State	Baud	Р	D	5	F	TP	PT		A
	DBG	0	ASCII	30	SERIAL	Open	9600	N	8	1	N				
State Connected	POS	3	GPS	30	SERIAL	Open									
Orachard Colorban	RX1	010	ITCCOM		VHF 220		16000								_
Control Selector	RX2	060	ITCNET		VHF 220		16000			-					
Status 🔺	RX3	060	ITCNET		VHF 220		32000								_
Link Info	RA4	104	TTCNDR		VHF 220		16000		-	-	-				
GPS	RX6	108	TTCNBR		VHF 220		16000								
DEST	RX7	116	ITCNBR		VHF 220		16000								_
	RX8	118	ITCNBR		VHF 220		16000			-	-				
Log Tables	RX9	070	ITCNBR		VHF 220		16000								
Maint															
Scheduler															_
Telnet															_
Message Test															_
Socket															_
Data Disubash										-					
Data Playback															
															Ψ.
User Level Engineer															

Maint - Assign

Single-Radio Control and Status Ap	pp.vi												_ 🗆 ×
LogOn													
METEORCOMM LLC	ID 00	00100	9 <b>1 <sup>9</sup> s</b>	W 01.	01.14.01	PTC	Radi	o Cont	rol and Sta	tus App	/er 0.2.3	Help	Exit
SITB-1 Base#1 🗸 Edit	M	aint	Re	fresh Ir	nfo								
Name SITB-1 Base#1	Power	ON Self	Test		Powe	r Supplies	Trac	e, Sched	Assign	Apps	Cal	INI Print	
IP 10.1.13.100													
Port 1001	pps												
	Inde	x Pri	Status	Fail	Lnch	Date	Time	Size	Name	Notes	Last Status	Oldest	A
Connect Disconnect	3	145	RDY	0	10	03/09/2012	04:55 PM	3160956	D:01011401.A14	ACTV	Success	X	
State Connected													
Control Selector													
Status													-
Link Info													
GPS		_											-
RSSI													
Log Tables													
Maint													-
Scheduler													
Telnet													- 11
Message Test													
Socket													T
Data Playback													
<b>T</b>													
User Level Engineer													



Single-Radio Control and Status A	.pp.vi								<u>_   ×</u>
	ID 00001001	9 SW 01.01.14.01	PTC Rac	lio Cont	rol and S	tatus App	/er 0.2.3	Help	Exit
SITB-1 Base#1 🗸 Edit	Maint	Refresh Info							
Name SITB-1 Base#1	Power ON Self Test	Power Supp	ies 1	race, Sched	Assign	Apps	Cal	INI Print	
IP 10.1.13.100									
Port 1001	Cal								
	cal	1007000							<u> </u>
Connect Disconnect	Cal Params	are DUCKED							
State Connected	Cal Data Ver	sion(1024): OA.04							
State	XO	= 320							
Control Selector	IDC	= -553							
Control Selector	TCATN	= -307							
Status	OGAIN	= -92							
Link Info	CBUS R2	= 0xec							
GPS	CBUS_R5	= 0x20							
DCCI	CBUS_R6	= 0x1a							
R551	CBUS_R7	= 0x00							
Log Tables	CBUS_R8	= 0x00							
Maint	RSST OFF P	= -113.00							
Scheduler	RSSI OFF D	= -113.00							
Scheudier	TEMP_SP	= -39, -38, -37,	-36, -35, -3	4, -33, -32,	-31, -30, -29	, -28, -27, -26			
leinet	FREQ_SP	= 1, 2, 3,	4						
Message Test	PHASE_F1	= 0x40, 0x40, 0x40, 0	x40, 0x40, 0x4	D, 0x40, 0x40,	0x40, 0x40, 0x40	, 0x40, 0x40, 0x40 0x40, 0x40, 0x40	, 0x40 0x40		
Socket	PRASE_F2	= 0x40, 0x	x40, 0x40, 0x4 x40 0x40 0x4	D, 0x40, 0x40, D 0x40 0x40	0x40, 0x40, 0x40 0x40 0x40 0x40	0x40, 0x40, 0x40 0x40 0x40 0x40	0x40		
Data Dlauba alı	PHASE F4	= 0x40, 0x	x40. 0x40. 0x4	D. 0x40. 0x40.	0x40, 0x40, 0x40	. 0x40. 0x40. 0x40	0x40		
Data Playback	PHASE F5	= 0x40, 0x40, 0x40, 0	x40, 0x40, 0x4	D, 0x40, 0x40,	0x40, 0x40, 0x40	, 0x40, 0x40, 0x40	0x40		
	OK _								
User Level Engineer									Ŧ
,									

Maint - INI Print



### 8.7 Scheduler

The scheduler provided 3 methods to get info from the radio.

### 8.7.1 Schedule to Poll the Radio for Info

The PTC Radio App schedules to send commands to the radio. The radio responds with information.

• Added Scheduled Items

Use the upper table to enter the Interval, Offset, and command you want to schedule. Click the enable button to enable your entered item. You can enter several rows in this table. To add new items just click in an empty row of the table and enter info. To delete an item right click and select to Delete Element. Once you entered all your scheduled items, click the "Schedule Commands" button.

Delete Scheduled Items

Click on the item to delete in the Scheduled Items table (lower table). Then click the Delete Selected Sched Item button.

• Delete All Scheduled Items Click on the Set All Sched Commands OFF button.







### 8.7.2 Set Radio Internal Scheduler

This control will set the radio's internal scheduler. The command "sched" is used.

• Added Scheduled Items

Use the upper table to enter the Interval, Offset, and command you want to schedule. Click the enable button to enable your entered item. You can enter several rows in this table. To add new items just click in an empty row of the table and enter info. To delete an item right click and select to Delete Element. Once you entered all your scheduled items, click the "Schedule Commands" button.

- Delete Scheduled Items Click on the item to delete in the Scheduled Items table (lower table). Then click the Delete Selected Sched Item button.
- Delete All Scheduled Items Click on the Set All Sched Commands OFF button.

👬 Single-Radio Control and Status App.vi	
LogOn	
METEORCOMM LLC ID 00001001 9 5W 01.01.14.01	PTC Radio Control and Status Appver 0.2.3 [Help]
SITB-1 Base#1   Edit Scheduler	
Name SITB-1 Base#1 Schedule to Poll the Radio for Info	Set Radio Internal Scheduler Set Radio Traces
IP 10.1.13.100	Enabled Interval(sec) Offset(sec) Command
scheduler to send commands.	
Connect Disconnect	<b>15 1.000</b> Inkstat
State Connected Schedule Commands	C 2.000 eassign,all
Control Selector	> { 15 { 3.000 pos
Status When Schedule Commands is clicked,	
Link Info all of the enabled commands in the list will be scheduled.	
GPS	
RSSI	
Log Tables	
Maint Schodulor	
Telnet	
Message Test	Scheduled Items
Socket Use the controls below to delete	No Interval (Sec) Offset(Sec)
Data Playback	
Delete Selected	
Sched Item	
Set All Sched Commands OFF	
	T
User Level Engineer	

Set Radio Internal Scheduler



### 8.7.3 Set Radio Traces

This control will set the radio's trace levels. The command "trace" is used.

• Set Trace Levels

Use the table on the right to enter the desired trace levels for the desired Modes. Click the Enable button for the items you want to be changed. Click the "Update Trace Level" button to send command to the radio to change the trace levels.

• Stop All Traces Click on the "Set All Traces to OFF" button.

METEORCOMM LLC										
	(D 0000100	)1 🤗 sw	01.01.14.01 PTC R	la	dio Control and St	atus A	<b>pp</b> ver	0.2.3 Help	[	Exi
SITB-1 Base#1 🗸 Edit	Schedule	er								
ame SITB-1 Base#1	Schedule to Po	oll the Radio	o for Info		Set Radio Internal Scheduler		Set Rac	lio Traces		
IP 10.1.13.100	Active Trace	25	Refresh			Enabled	Mode	Level		
	Mode	Level	Level Description	*			RF	Errors	▽ 7	-
Connect Disconnect					Update Trace Levels		GPS	Critical Warnings	▽ 6	
tate Connected					To change trace level:	0	MSC	Critical Warnings	▽ 6	
ntrol Selector					1) Enable the traces you		DEBUG	Critical Warnings	▽ 6	
Status 🔺					2) Set the desired trace level(s)		IDLE	Critical Warnings	▽ 6	
Link Info					3) Click "Update Trace Levels"		NOISE	Critical Warnings		
GPS							EVENT	Critical Warnings	76	
RSSI							EEC	Critical Warnings		
Log Tables Maint							100	critical warnings		
Scheduler						9	USP	Critical warnings	0	
Telnet							ТХ	Critical Warnings	▽ 6	
Message Test					Set All		HRX	Critical Warnings	▽ 6	
Socket					Traces to OFF		WS	Critical Warnings	▽ 6	
Data Playback							DLOG	Critical Warnings	▽ 6	
							RX	Critical Warnings	▽ 6	
							CLASD	Critical Warnings	76	
							FTH	Critical Warnings	- 6	
							100			
							ISPIP	Critical Warnings	<b>▽ 6</b>	
T	<		4	T		9	FIO	Critical Warnings	▽ 6	
er Level Engineer			<u>,</u>	1			RSSI	Critical Warnings	▽ 6	-

Set Radio Traces



### 8.8 Telnet

The Telnet page provides information similar to XTerm (another MCC tool used to communicate with the radio).

Data being received from the radio is displayed in the "Radio Message Log".

Freeze the log by:

- Clicking Freeze button
  - Mouse click in the log

Unfreeze the log by:

- Clicking Freeze button
- Mouse double-click in the log

Data from the radio is displayed in the Radio Message Log

🔜 Single-Radio Control and Status App	p.vi		
LogOn			
			HYGO
METEORCOMM LLC	ID 00002001 SW 01.01.14.01	PTC Radio Control and Stat	us App ver 0.2.2 Help Exit
SS Sitb-1 B#1 🗸 Edit	Refresh List Sending 🧾	Radio Telnet Interf	ace
Name SITB-2 Base#1	Double Click to Send Command R	adio Message Log	
IP 192.168.1.10	Custom Command/Scripts	CEPELC, 0/2/11/.00, A, 4/20.300/11, N, 12214.01335, W, U.	uo,,170312,,,D"60
Port 2001	Get Radio Info	R CLASD 24: 07:27:17.127 Class D Message sent,	type: 2, vio port: 5
	Get Radio Status	R CLASD 111: 07:27:17.128 vio_port: 5 <02 02	00 00 48 CC 02 02 00 00 00 04 00 00 47 F7 03>
Connect Disconnect		R CLASD 107: 07:27:17.128 vio_port: 5 [02 02 ]	00 00 47 F7 04 02 00 00 00 00 03]
State Converted		R RF 521: 07:27:17.218 ITCCTL,dir=Tx,TxChan=06	2, TxMod=1, TxID=00002001, seq=161, cnt=00, ack_len=3, a
State		R RF 521: 07:27:17.754 ITCCTL,dir=Tx,TxChan=06	2.TxMod=1,TxID=00002001,seq=162,cnt=00,ack_len=3,a
Control Selector		R IDLE 101: 07:27:17.778 ITCBB,dir=Tx,TxChan=6 lat=47:28 3807N lon=122	<pre>2VTxMod=2,TxID=00002001,state=88,crc=ac5c, -14.0156W</pre>
Status A		LocChan= 62,util= 2,Bi	tRate=32K,
Link Info		NCh1= 95, NCh2= 93, NCh3=	91,NCh4= 86,NCh5= 84,NCh6= 82
CDC		'R RF 521: 07:27:17.818 ITCCTL,dir=Tx,TxChan=06 GCPRMC.072718.00.A.4728.38072.N.12214.01562.W.0.	2,TxMod=1,TxID=00002001,seq=163,cnt=00,ack_len=3,a 004190312D*63
GPS		GPGGA,072718.00,4728.38072,N,12214.01562,W,2,12	,0.75,11.4,M,-18.9,M,,0000*5D
RSSI		"R RF 521: 07:27:18.610 ITCCTL,dir=Tx,TxChan=06	2,TxMod=1,TxID=00002001,seq=164,cnt=00,ack_len=3,a
Log Tables		R F 521: 07:27:19.146 ITCCTL.dir=Tx.TxChan=06	
Maint		R IDLE 101: 07:27:19.170 ITCBB,dir=Tx,TxChan=2	0,TxMod=2,TxID=00002001,state=88,crc=ac5c,
Scheduler		lat=47:28.3807N,lon=122	:14.0156W,
Telnet		LocChan= 62,util= 2,Bi NCh1= 95 NCh2= 93 NCh3=	tRate=32K, 91 NCb4= 86 NCb5= 84 NCb6= 82
		GPGGA,072719.00,4728.38073,N,12214.01564,W,2,12	,0.75,11.4,M,-18.9,M,,0000*5B
		"R RF 521: 07:27:19.210 ITCCTL,dir=Tx,TxChan=06	2,TxMod=1,TxID=00002001,seq=166,cnt=00,ack_len=3,a
		'R RF 521: 07:27:19.746 ITCCTL,dir=Tx,TxChan=06 CORMC 072720 00 & 4728 38074 N 12214 01566 W 0	2,TxMod=1,TxID=00002001,seq=167,cnt=00,ack_len=3,a
		GPGGA,072720.00,4728.38074,N,12214.01566,W,2,12	,0.75,11.3,M,-18.9,M,,0000*53
		"R RF 521: 07:27:20.282 ITCCTL,dir=Tx,TxChan=06	2,TxMod=1,TxID=00002001,seq=168,cnt=00,ack_len=3,a
		R RF 521: 07:27:20.818 ITCCTL, dir=Tx, TxChan=06	2,TxMod=1,TxID=00002001,seq=169,cnt=00,ack_len=3,a
	T	GPGGA,072721.00,4728.38075,N,12214.01567,W,2,12	,0.75,11.3,M,-18.9,M,,0000*52
			-
	Open Custom Script INI File		
	(To use updated commands, Cmd	linkstat	
	exit then restart this app)	Type command then press [Enter] to send it [Up/Dow	n arrow keys show previous commands]
User Level Field Technician	Log Raw Data 💿 Data File	C:\Users\KEekaetz\Documents\PTC Radio\Logs\Raw Dat	a\Radio Msg Log Snapshot, ID ,03- Open Folder
1		III	



To send commands to the radio, enter the command in the "Cmd" text box then type the Enter key. The command will be sent to the radio. If the display was frozen when a command is sent, it will automatically unfreeze.

The size of the log is by default set to 100,000 characters. It can be changed by modifying the "Log Size" control (Top Right).



To continuously log the radio raw data click the "Log Raw Data" button (Bottom Left). Every 30 seconds any captured data will be appended to the Raw Data Log File. The file is named with the radio ID and the current date:

Radio Raw Data, ID [Radio ID], [MMDDYYYY].txt

The log buffer can be written to a file by clicking the "Save Snapshot" button (Bottom Right). The file is named with radio ID, the date, and a timestamp of the time it is written.

Radio Msg Log Snapshot, ID [Radio ID], [MMDDYYYY\_HHMMSS].txt

The snapshot tool is convenient to capture radio messages of interest during debugging issues.

Radio Logs are saved to the "Documents\PTC Radio\Logs\Raw Data" folder. Click the "Open Log Folders" (Bottom Right) to open this folder.

The Telnet provides the capability to create custom radio commands. These commands are displayed in the list to the left of the page. Double click on an item and the commands assigned to that item are sent to the radio. To create custom commands click the "Open Custom Script INI File" button (Bottom Left). An INI file will be opened. The top of the INI file has a comment section that describes the format of the items in the file.

Each section represents a command name. The section is text enclosed in brackets:

EXAMPLE: [My Command Script]

Once the Custom Command file has been edited the file must be saved then the "Refresh" button (Top Left) must be pressed for the file is reread. Any new commands will now show up in the command list.



🔜 Single-Radio Control and Status App.vi LogOn ۲ A METEORCOMM L ID 00002001 SW 01.01.14.01 PTC Radio Control and Status App Ver 0.2.2 Help Exit Freeze Display Log Size (Chars) SS Sitb-1 B#1 Edi **Radio Telnet Interface** Refresh List Sending 📓 1 100000 SITB-2 Base#1 Name Radio Message Log Double Click to Send Command IP 192.168.1.10 stom Comma 11 nd/Scripts . et Radio Inf Port 2001 A TR RF 📃 Radio Custom Commands.ini - Notepad - -X Get Radio Status SGPRMC TR RF File Edit Format View Help Connect Disconnect SCPVTC ;Custom Radio Commands SGPGGZ Conr SCPCGA SCPCGA SCPCGA (1) To create a custom commence, SCPCGA (2) Add one or more radio instructions in the section. TR RF : COCCU SCPCCA SCPCC State ected GPGSA Control Selector A Status Link Info GPS RSSI Log Tables Maint Scheduler TR RF ( GGET Radio Status] TR RF ( SCPRMC SCPCGA TR P Telnet TR RF 07:28: SGPRMO TR RF \$GPGGZ • Open Custom Script INI File (To use updated comman Acit then restart this app) nd links Сп User Level Field Technician Log Raw Data 🤇 Data File 🖁 C:\U

# Custom Command List. Double Click on an item to send the commands.

Telnet Page - Custom Command INI File

This button opens the custom command file so it can be edited.

MCC



### 8.9 Socket

The Socket page controls settings for connecting to the Radio App via data socket and controlling it remotely.

To connect remotely to the Radio app via data socket the Listening Port must be set to the desired port (default is 8400) and then the Socket Enable must be turned ON.

Once you turn on the listening port you will likely get a popup window from your Windows firewall indicating that it is blocking a feature of a program. You must select to Allow Access to this application.

S	et Listening Port then Tur	n ON Socket Enable	
Circle Dadie Control and Cast	- Ai		
LogOn	з арр.м		
Region			MCO RADIO
		DTC Dadia Control and Status Ann	
	SW 01.01.14.01	FIC Radio Control and Status App	Ver 0.2.2 Help
SS Sitb-1 B#1  → Edit Name SITB-2 Base#1 IP 102 158 1 10	Data Socket Socket Message Log Clear	Socket Enable Listening Port 🖉 8400	State Idle Connected 🥥
Port 2001 Connect Disconnect	Ī		^
State Connected Control Selector			
Status			
GPS			
RSSI			-
Log Tables			
Scheduler			
Telnet			
Message Test			
Socket			
Data Playback			
	-		-
User Level Developer		Auto Scroll ON	
Maint			
			• at

Socket Page





#### Windows Firewall Message

🔚 Single-Radio Control and Status App.vi		
LogOn		
		RADIO
	002001 Sw 01.01.14.01 PTC Radio Control and Status App ver 0.2.2	Exit
SS Sitb-1 B#1  Edit Dat	ta Socket Socket Enable Listening Port 8400 State Listening Co	nnected 🧿
Name SS Sitb-1 B#1	Socket Message Log Clear	
IP 192.168.1.10		
Port 2001	00:35:51.133 OUT Ret 0 Links.Sched Data_Merresh Add 15	^ I
	00:35:51.135 IN get 1 Status.Data ID 0	
Connect Disconnect	00:35:51.135 OUT Ret 1 Status Data 0 String 00002001	
State Connected	00:35:51:138 OUT Ret 2 Status.Data 0 String 20034	
State	00:35:51.140 IN get 3 Status.Data DSP_Mode 0	
Control Selector	00:35:51.141 OUT Ret 3 Status.Data 0 String 07:35:15	
Status	00:35:51.143 OUT Ret 4 Status.Data 0 String Base	
Link Info	00:35:51.145 IN get 5 Status.Data HostMode 0	
GPS	00:35:51.145 OUT Ret 5 Status Data 0 String 07:35:15 00:35:51.147 TN cet 6 Status Data Mode 0	
DEEL	00:35:51.148 OUT Ret 6 Status.Data 0 String 07:35:15	
K331	00:35:51.150 IN get 7 Status.Data TxPower 0	
Log Tables	00:35:51.150 00T Ket 7 Status.Jata 0 String 07:35:15 00:35:51.151 IN oet 8 Status.Jata TimeSync 0	
Maint	00:35:51.152 OUT Ret 8 Status.Data 0 String Tracking GPS Timesync	
Scheduler	00:35:51.153 IN get 9 Status Data HRX 0	
Telnet	UU:35:51.154 UUT KET 9 Status.Data U String 1	
Message Test		
Socket		
Data Playback		
<b>T</b>	<b>9</b>	
User Level Developer		
User Level Developer	Auto Scroll 📀 ON	
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Socket Page with Data



#### 8.10 **Data Playback**

The Data Playback feature is used to play back raw data files. The data will be treated as if the data was read from a real radio. This feature is useful to parse data collected from a radio into the TDMS log file of decoded messages.

The data playback is disabled when the Radio App is connected to a real radio.

When a file is played the Log Tables page is notified and the logged TDMS file is named after the raw data file. The TDMS file will be written to the Logs\Decoded Data folder.

Controls [	Disabled	Warning Message		
E Single-Radio Control and Status Ap LogOn		PTC Padia Control and Statu		
SS Sitb-1 B#1 T Edit Name SITB-2 Base#1 IP 192.168.1.10 Port 2001 Connect Disconnect State Connected Control Selector Status Link Info GPS RSSI Log Tables Maint Scheduler Telnet Message Test Socket Data Playback User Level Developer Maint	File Playback This section plays radio raw of Solution of the section of	data files and processes the data as if this applicaito jin. me path and name as the raw data file but the folio on (See below) o stop before the end of the file. the indicate reset to their initial state to be ready the initial state to be r	n were connected to a live radio. wing will be appende dot it: to run a new file. e this ents	
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Data Playback - Disabled because the Radio App is connected to a Real Radio



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LogOn		
		MCC
METEORCOMM LLC	ID • sw PTC Radio Control and Status App ver 0.2.2 Help	Exit
SS Sitb-1 B#1 Name SS Sitb-1 B#1	File Playback	
IP 192.168.1.10 Port 2201 Connect Disconnect	This section plays radio raw data files and processes the data as if this applicaiton were connected to a live radio. 1) Select a file. 2) Click "Play Log File" to begin. The output file will be the same path and name as the raw data file but the following will be appende dot it: Operator entered Description (See below)	
State Not Connected Control Selector Status	NOTE: Click the "Abort" button to stop before the end of the file. When the file is completed the indicate reset to their initial state to be ready to run a new file.	
Link Info GPS		_
RSSI Log Tables Maint	Play Abort Reset	E
Scheduler Telnet	% Complete Events	
Message Test Socket	Raw Radio Data Log File	
Data Playback		
	Parsed File Depscription (Will be appened to log file name)	
T Isor Level Enginee-	Select Playback File	
Cose Level Engineer		



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LogOn		
٠		RADIO
	ID PTC Radio Control and Status App ver 0.2.2 Help	Exit
SS Sitb-1 B#1 Name SS Sitb-1 B#1 IP 192.168.1.10 Port 2201 Connect Disconnect Status A Link Info GPS RSSI Log Tables Maint Scheduler Telnet Message Test Socket Data Playback	File Playback This section plays radio raw data files and processes the data as if this application were connected to a lwe radio. 1) Select a file. 2) Click "Play Log File" to begin: The output file will be the same path and name as the raw data file but the following will be appende dot it: Operator entered Description (See below) NOTE: Click the "Abort" button to stop before the end of the file. When the file is completed the indicate reset to their initial state to be ready to run a new file.	
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