

MONITOR TRANSFER MODULE

Version 4.1

HELP MANUAL

VABLE E

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MonitorTM

User Guide and Reference Manual

Pratt & Whitney Canada - DPHM Group

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MonitorTm Help Manual

1 MonitorTm Help Manual

1.1 Overview

MonitorTm is the Transfer Module program used to communicate with <u>FAST and</u> <u>DCTU units</u> allowing the user to

- Synchronize data with the Aircraft 2
- Synchronize data with Webserver
- View Monitor Status 2
- View Live Data 34
- View/Change Monitor Parameters
- Configure the FAST Monitor
- Retrieve Log Files 201
- Convert Log File Data alfor analysis using GBSLite al
- Retrieve Micro-Server logs
- Reset FAST box to factory

1.2 Export Classification

The MonitorTM software export classification is as per the following:

Exp	oort Control Classifi	cation	
			(X) if Applicable
Contains no Technical Data			()
Not Subject to the EAR pursua	nt to 15 CFR 734.7(a)(1) or Not	()
Subject to the ITAR pursuant to	o 22 CFR 120.11 (N	SR)	
	Location	Regula	ations
Jurisdiction and Classification		EAR	ITAR
based on Physical Location of the Item.	Outside U.S.*	NSR	NSR
* Additionally, refer to the classification under the	U.S.	9D991	NSR
local export regime where		EIPA (ECL)	DPA (CG)
the item is located, as provided in the grid	Canada	NSR	No

1.3 What's New

What's new in MonitorTM Version 4.1

- Update MonitorTM to support PC12-NGX Full flight data processing
- Update MonitorTM Graphic interface to support PC12-NGX new feature
- Update to the Graphic interface for Daher K-Factor
- Handling of invalid value all Aircraft style
- In service issue adressed

What's new in MonitorTM Version 4.0

- Updated MonitorTM with new features for DCTU
- Improvement to the manual data download time for Caravan.
- TBM940 new version supported (21.25).
- Fix Invalid value in Daher OEM file.
- In service issue adressed

What's new in MonitorTM Version 3.8

- ATR42/72 exceedances detection updated.
- TBM910/930 new Garmin versions supported (20.51, 20.87 and 20.85).
- King Air B200/B300 Full flight data processing supported.
- Pilatus PC12-47E Full flight data processing supported.

What's new in MonitorTM Version 3.7

- View/Change parameters function: current value display corrected.

What's new in MonitorTM Version 3.6

- Q400 EMU converter 1505HI detection updated.

What's new in MonitorTM Version 3.5

- Updated MonitorTM functions for DCTU (HTTP protocol).
- Support AW139 V6 configuration.
- Support Q200/Q300 with additional propeller Overtorque Events.
- Updated Q400 EMU converter for 1505HI event detection.
- Support FAST full flight data processing for King Air B200/B300.
- Support FAST full flight data processing for Pilatus PC12-47E.

What's new in MonitorTM Version 3.4

- Application updated to restore 32 bit operation systems compatibility (All functionalities except "Convert log" function)

- Updated event detection for Q200/Q300 and M600

What's new in MonitorTM Version 3.3

- Updated Q200/Q300 exceedances, trace and snapshot capture
- Improved Mission enhancements and filtering Q200/Q300.
- Support enhanced mission and filtering for Daher
- Updated filtering logic for ATR42/72
- Updated AW139 Exceedance and Fault detection
- Updated filtering logic for Q400

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- Updated filtering logic for CARAVAN
- Updated trend filtering logic for F7X
- Updated trend filtering logic for F8X
- Support FAST for PIPER .
- Support Test Monitor Transmission 3 for EPECS
- Support Wi-Fi Configuration Street EPECS
- In service issue adressed

What's new in MonitorTM Version 3.2

- Support FAST for Daher TBM.
- Upgrade MonitorTM compatibility with new SFTP Server
- New feature to change Daher A/C serial Number
- In service issue addressed
- Support Configure Unit for EPECS

What's new in MonitorTM Version 3.1

- Support DCTU for EPECS.
- Support FAST for ATR42/72 FDAU V3.
- New feature to manually check for Monitor TM version upgrade
- Application upgrade for 64 bit support and Tablet Windows 8 Pro.

What's new in MonitorTM Version 3.0

- Support FAST for ATR PBMS and RSN.
- Support FAST for ATR42/72 FDAU V2b.
- Support FAST for King Air B200/B300.

What's new in MonitorTM Version 2.9

- Support FAST for ATR Propeller Balance.
- Support FAST for King Air B200/B300 and generic ETM conversion
- Support MicroFAST Full Flight Data Conversion
- Support Q400 and ATR42/72 OOOI events
- PW150A EMU converter updated : missing traces extracted

What's new in MonitorTM Version 2.8

- Latitude conversion issues addressed
- Windows 10 compatibility

What's new in MonitorTM Version 2.7

- Support FAST for Dassault Falcon 8X conversion.
- Support FAST for Cessna Latitude 680A Phase 2 (enhanced cruise monitoring)
- Support FAST for AW139 Phase 2 (APAC)
- Support FAST for Q400 propeller vibration monitoring
- Support enhanced filtering of Q400 trend events
- Wi-Fi Configuration 51 for data offload
- Improved View Live Data Apperformance
- Improved communication for FAST Monitor communication.

What's new in MonitorTM Version 2.6

- In service issues addressed.

What's new in MonitorTM Version 2.5

- Support FAST for Cessna Latitude 680A EDU conversion.
- Support enhanced filtering of Caravan trend events
- Support new FOQA cleaning process
- Improved GUI performance, especially for Windows 8.1.

What's new in MonitorTM Version 2.4

- ATR42/72 conversion update for ARINC label decoding

What's new in MonitorTM Version 2.3

- Support FAST for AW139
- Support FAST for Q400 Phase 2 (1505HI, MTOP Monitoring, etc.)
- Enhanced <u>Retrieve Log Files Function</u> 2.

What's new in MonitorTM Version 2.2

- Support FAST for ATR42/72 aircraft.
- New "Delete Non-Transmitted Logs" password protected function.

What's new in MonitorTM Version 2.1

- Enhancements to Q400 data conversion.
- Improved communication for configuring the FAST Monitor.
- Full flight data conversion options simplified.

What's new in MonitorTM Version 2.0

- New drivers to support Windows 8.
- New <u>"FAST Factory Reset</u>" ⁴ function.
- New <u>"Get Micro Server Logs</u>" ^[4] function.
- Improved Sync to Aircraft.
- Improved data conversion.

What's new in MonitorTm Version 1.8

- Support for Cessna Caravan aircraft:

New "Retrieve Log Files" interface, New "View/change Monitor Parameter" interface to display Engine/Flight cycles and creep information.

- Improved test monitor transmission function.

What's new in MonitorTm Version 1.7

- Data conversion function for Q300 application timestamp fixed.

What's new in MonitorTm Version 1.6

- Data conversion function for Q300 application
- <u>Preference</u> Tag Data Transmitted" is not ON by default.
- Successful data conversion of files with multiple legs (error codes 17 and 18)

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What's new in MonitorTm Version 1.5

- Data conversion function for Q400 EMU and QAR files
- Support of new FAST embedded software v1.1.0
- Improve Convert Log function user interface for more flexibility

What's new in MonitorTm Version 1.3

- Data conversion function improved for LJ60 application
- Data conversion performace improved

What's new in MonitorTm Version 1.1

- Windows 7 32-bit and 64-bit support
- Updated communications to monitor
- Updated user messages
- Removed transparent function
- Added View/Change Monitor Parameters The function
- Updated F7X event list
- Updated synchronization procedure to synchronize to Webserver

What's new in MonitorTm Version 1.0

First release of the program including the following functions:

- Synchronize data with the Aircraft 2
- Synchronize data with WebECTM S
- View Monitor Status 2
- View Live Data 34
- Configure the FAST Monitor
- Retrieve Log Files 2
- Convert Log File Data for analysis using GBSLite
- Support for F7X aircraft
- Support for LJ60 aircraft

1.4 Hardware Requirements

Communicating with Monitor Functions

- For FAST Monitor, connection via GSE USB cable on J3 connector
- For DCTU Monitor, connection via GSE USB cable on J2 connector (USB mini-B)

FAST Monitor Radio frequency radiation exposure Information:

"This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation".

"Changes or modifications not expressly approved by the Pratt & Whitney Engine Services could void the user's authority to operate the equipment"

"The integrated radio modules [IC: 7830A-PLS62W & IC: 5969A-TIWI101] on this device has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this

list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device."

WiFi antenna: Single element, 50 ohms, vertical/omnidirectional, RPSMA, Dipole, Freq Rng: 2.4-2.5GHz, 1.5dB gain @ 2.4GHz or equal.

Cellular antenna: Single element, 50 ohms, Linear, omnidirectional, SMA, VSWR:2.1,

Frequency range/Gain: 698-960MHz 1.5dB, 1710-2170MHz 3.0dB, 2500-2700 4.5dB or equal.

To comply with FCC rule parts 2.1091 / ISED RSS 102 RF exposure requirements for mobile transmitting devices, this device and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 30 cm (~ 12 inches) from all persons (and must not be co-located or operating in conjunction with any other antenna or transmitter.

1.5 Software Requirements

All Installations:

- Windows 7, Windows 8, Windows 8.1, Windows 8.1 Pro or Windows 10
- Windows 64bit operation systems (All functionalities)
- Microsoft Internet Explorer 6.0 or above
- PDF Reader

Tablet Installations:

- Windows 8 Pro 64bits

Communicating with Webserver

- Internet Access

Optional:

-GBSLite Diagnostic Module for data analysis on PC

1.6 Program Installation

Initial Installation

To install MonitorTm for the first time, launch the set-up program and follow instructions.

The default location for installation is C:\GBS-PWC however; when GBSLite is already installed on the PC, the default installation location will automatically be configured to the GBSLite installation directory. If GBSLite is to be installed after MonitorTm is installed, it should be installed in the same location as MonitorTm

Automatic Updates

When the program starts, it verifies if there is a new version available. If an update exists, the program will indicate that an update is available and to perform <u>Monitor</u>

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TM Auto-Update alin the Help Menu.

Message: Software update available – Perform Monitor TM Auto-Update in Help Menu

Whenever MonitorTM synchronizes with the Web and an update is available, the user will be prompted to download the new version. If the user selects to download the new version, it will be installed at next program startup with user required to follow on screen instructions



A shortcut will be installed on the desktop



1.7 Program Version

Accessing:



Program version information displayed



1.8 Printing a hard copy of manual

Accessing:



Upon selection, the PDF Help Manual will be displayed

Adobe Acrobat is required. See <u>Software Requirements</u> for details

MonitorTm Help Manual



Accessing MonitorTm Functions

2 Accessing MonitorTm Functions

2.1 Starting and Closing the Program

To start the MonitorTm program, double click on the MonitorTm desktop icon



To close the MonitorTm program use 🗵 or



2.2 Main Program View

Functions in the MonitorTm Main Program View can be accessed in two different ways

The Side Bar: Large buttons with the most commonly used functions <u>Sync to Webserver</u>, Sync To Aircraft, Monitor Status, Live Data, <u>Live Data</u>, <u>Test Monitor Transmission</u>, <u>B</u>.



The Menu Bars: contain side bar functions as well as other functions

The File Menu has the following functions available: Print 71, Print Preview 71, Print Setup 71, Exit 15



The View Menu has the following functions available:

Session Log ², <u>Saved Monitor Status</u>, <u>Preferences</u>, <u>View Data in</u> GBSLite ⁶



The Monitor Menu has the following functions available:

Sync to Webserver (18), Sync to Aircraft (20), Monitor Status (26), Live Data (34), View/Change Parameters (40), Configure Unit (23), Retrieve Log Files (20)

File View	Monitor Expert Help
Sync to	Sync to Webserver Sync to Aircraft Monitor Status Live Data View/Change Parameters Configure Unit Configure Wi-Fi Retrieve Log Files

The Expert Menu has the following functions available:

Communication Settings (a), Expert Command Mode (47), Convert Log (61), Test Monitor Transmission (28), Get Micro Server Logs (48), FAST Factory Reset (48)

	sfer Module V3.1 B5
File View Monitor	Expert Help
	Convert Log
	Test Monitor Transmission
	Get Micro Server logs
	FAST Factory Reset
Sync to Webserv	Delete Non-Transmitted Logs
	Expert Command Mode
	Communication Settings

The Help Menu has the following functions available:

About Monitor ¹³, Monitor TM Auto-Update ¹³, Help Manual ¹³



	Test Monitor Transmission	:		
	NAME		STATUS	
стм				
aft				
us				
				Close
or	Monitor Type	COM Port	Baud Rate	

Functions are always performed in the main area

Communication settings and status messages are always displayed in the lower area

When connected to the monitor, a photo of the monitor is displayed





Communicating with the Monitor

3 Communicating with the Monitor

3.1 Sync to Aircraft Function

Accessing:

20



The Sync to Aircraft function is used to download log files from the monitor to the pc and to upload configuration files from the pc to the monitor

This function automatically performs the following 2 functions

- 1. <u>Retrieve Log Files Function</u>
- 2. Configure Unit Function 2

Refer to individual function descriptions for further details

3.2 Retrieve Log Files Function

Accessing:

File View	Monitor Expert Help
	Sync to Webserver
	Sync to Aircraft
	Monitor Status
	Live Data
Sync to	View/Change Monitor Parameters
	Configure Unit
	Retrieve Log Files

This function retrieves log files from the monitor for the purpose of analyzing the data locally on the computer or to transfer data to the P&WC Web server.

The files to be retrieved can be selected by the user and download time is indicated. The column header check box can be used to select all log files.

When the estimated retrieval time is less than a configurable limit, all files will be retrieved without requiring user selection. Refer to <u>Changing MonitorTm</u> <u>Preferences</u> \boxed{n} for details

By default, retrieving logs from the monitor does not modify their transmitted status in the monitor (i.e. the monitor will still upload them to the web via GSM cellular). Refer to Changing Monitor Tm Preferences [70] for details

For the Caravan application and all FAST serial number 45xxxx, the user can either retrieve transmitted or not transmitted log files for ETM and Full Flight data files. See the screenshot below:

POWC Monitor Tramfer	Module ¥1.8 B3 - Retrieve Log Files	
Ble Yew Monitor Expert 5	36	
	Retrieve Log File : CARAVAN	
Sync to Webserver	Retrieve Non-Transmitted Event-Trend Log files This function enables to list and retrieve selected Event-Trend Monitoring log files (ETM) not transmitted.	RETRIEVE NEW ETM
	Retrieve Transmitted Event-Trend Log files This function enables to list and retrieve Event-Trend Monitoring log files (ETM) already transmitted.	RETRIEVE ETM
Sync to Aircraft	Retrieve Non-Offloaded Full Flight Data files This function enables to list and retrieve selected Full Flight data files (FFD) not	RETRIEVE NEW FFD
Monitor Status	officaded. Retrieve Officaded Full Flight Data files This function enables to list and retrieve selected Full Flight data files (FFD) already officaded.	RETRIEVE FFD
Live Data		
Test Monitor Transmission	Monitor Type COM Port Baud Rate FAST COM 4 115200 Message: FAST Successfully Connected	

For other applications, the user can either retrieve transmitted or non transmitted log files.

Transfer	r Module ¥1.8 83 - Retrieve Log Files	
Ble Yew Monitor Dipert 6	Retrieve Log File : F7X	
Sync to Webserver	Retrieve Non-Transmitted Log files RETRIEVE NEW This function enables to list and retrieve selected FAST log files not transmitted.	
Sync to Aircraft	Retrieve Transmitted Log files RETRIEVE This function enables to list and retrieve selected FAST log files already transmitted.	
Monitor Status		
Live Data		
Test Monitor Transmission	Monitor Type COM Port Baud Rate FAST COM 4 115200 Message: FAST Successfully Connected	FAST C unime ton

After selection, the user can check boxes of desired files to be retrieved and click the start button to start the process. A retrieve progress status will be shown.

Log	g File Sele	ction:				
	SIZE(KB)	FILENAME	DATE	TIME		
	2	FAST-SYS-323981637.dtu.bz2.bfe	May 17 2010	17:53:20		
	1	FAST-SYS-315236091.dtu.bz2.bfe	Sep 11 2009	14:17:47		
	1	FAST-SYS-042983-316315114.dtu.bz2.bfe	May 28 2010	14:13:16		
	1	FAST-SYS-042983-316315094.dtu.bz2.bfe	May 28 2010	14:12:56		
	1	FAST-SYS-042983-316315057.dtu.bz2.bfe	May 28 2010	14:12:23		
	1	FAST-SYS-042983-316314928.dtu.bz2.bfe	May 28 2010	14:10:23		
-						
		1 of 4			Start	Cancel

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For FAST system containing Micro Server Software version 2.9 or higher (refer to PW_VER field in the Monitor Status Function (2)), the download time is reduced when all log files are selected for download.

To retrieve all log files, select the checkbox on the top left in the Log File Selection screen. The download process will be displayed in seconds.

Note: MonitorTM download all files packaged in a TAR format using Open Source Software Windows TAR library where distribution is managed by license terms as per link <u>http://creativecommons.org/licenses/by-sa/3.0/legalcode</u>

	20%	Start	Cancel
	III		F.
1	55CCB391-01of01-FAST-SYS-000016-938312397.dt	u.bz2.bfe	Au
2	55CCB38E-04of04-FAST-SYS-000016-938312394.dt	u.bz2.bfe	Au
/ 1	55CCB38E-03of04-FAST-Engine_3-000016-9383123	91.dtu.bz2.bfe	Au
1	55CCB38E-02of04-FAST-Engine_1-000016-9383123	87.dtu.bz2.bfe	Au
1	55CCB38E-01of04-FAST-Engine_2-000016-9383123	89.dtu.bz2.bfe	Au
1	55C10F5C-01of01-FAST-SYS-000016-946111460.dt	u.bz2.bfe	Au
7 1	55C10EE4-01of01-EAST-SVS-000016-946111338 dt	u hz? hfe	Δι
1	55C10EE6-04of04-FAST-Engine_2-000016-9461113	32 dtu bz2 bfe	AL
2	55C10EL6-02of04-LAST-5Y5-000016-946111335.dt	u.bz2.bte	At
1	55C10EE6-01of04-FAST-Engine_1-000016-9461113	28.dtu.bz2.bfe	Αι
SIZE(KB)	FILENAME		

3.3 Configure Unit Function

Accessing: File View Monitor Expert Help Sync to Webserver Sync to Aircraft Monitor Status Live Data View/Change Monitor Parameters Configure Unit Retrieve Log Files

This function is used to reconfigure the monitor settings when they need to be modified

This function uploads configuration files from the computer to the monitor

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Configuration file versions in the monitor are compared with configuration file versions on the computer

When the configuration file versions on the computer are more recent than those in the monitor, the program will proceed with the configuration of the monitor

Configuration of the Unit :
The configuration file on your laptop is a newer version than the one in the unit.
0 of 2

When the configuration file versions on the computer are the same or older than those in the monitor, the user must choose to proceed with the configuration of the monitor.



After the files are uploaded into the monitor, the monitor will reboot. This should take approximately 1 minute.

3.4 Monitor Status Function

Accessing:



This function provides an overview of the status of the monitor and the status is updated continuously as long as the function is selected.

The status can be saved to an xml file or printed via File>Menu/Print.

The saved status can be viewed via the <u>View Saved Monitor Status Function</u>

NAME	VALUE	
SERIAL NUMBER	000016	
TIME	08/13/2015 20:23:51.490	
SOURCE OF TIME	MS	
CP SOFTWARE VERSION	2.0.1	
CP_CRC	0x9510E516	
INSTALL ID	Dassault Model Falcon 7X	
CONFIGURATION VERSION	8	
NUMBER OF BOX POWER ON	357	
NUMBER OF BOX POWER ON IN SECONDS	2215649	
PW_VER	2.91	
AIRCRAFT TAIL NUMBER	F7X-128	
AIRCRAFT OPERATOR	F7X PLT5 PROD IT TEST	
AIRCRAFT OWNER	F7X	
#OF LOGS IN MEMORY	19	
% OF LOG MEMORY USED	0.000344	
UNTXD_FILES	28	
BOX SYSTEM CONDITION	NORMAL	
COMMUNICATION BETWEEN MS AND CP	YES	

The following are the possible status messages that can be seen as well as recommended actions to take

For the FAST Box :

Displayed Name	Description
Serial Number	FAST Box serial number
Time	FAST Box time of day
Source of Time	Source that FAST syncs to for time of day clock
	LOCAL : Time is synchronized to the FAST box
REMOTE : Time is synchronized to the EEC (Electronic Engine Con	
	Note: This option is not available on all applications
	MS : Time is synchronized to the ground server
CP Software	The CP (Control Processor) software version

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Version				
CP CRC	The CP (Control Processor) software CRC (Cyclic Redundancy Check)			
Install ID	Installation ID field of the FAST Box from the loaded configuration			
Configuration	The loaded configuration version			
Version	Ŭ			
Number of Box	The total cumulative number of times the box has been powered on			
Power On				
Number of Box	The total cumulative number of seconds the box has been powered on			
Power On In				
Seconds				
PW_VER	Micro server software version			
Aircraft Tail	The aircraft tail number field stored in the configuration			
Number				
Aircraft	The aircraft operator field stored in the configuration			
Operator				
Aircraft Owner	The aircraft owner field stored in the configuration			
# of Logs in	The total number of logs in memory that are pending upload to the Micro-			
Memory	Server Compact Flash			
% of Log Memory	The percentage of log memory used			
Used				
UNTXD_FILES	Number of non transmitted files			
Box System	The box system condition			
Condition	NORMAL			
	CAUTION			
	FAULT			
	If fault or caution status, please perform the Expert Commands function 47 :			
	Recent Faults to obtain a list of the last 10 faults and call P&WC Customer			
	First Center.			
	If the problem persists, download system logs using Retrieve Log Files			
	function 201			
Communication	Indicates if communication between the Micro-Server processor and Control			
Between MS and	processor is running			
CP	YES : Communication between Micro-Server Processor and Control			
	Processor is running			
	NO : not necessarily a problem and can occur during a box power up			
	- Try closing the function, wait 2 minutes; and then retry the Monitor Status			
	function			
	- If NO still displayed, call P&WC Customer First Center			

For the DCTU :

Displayed Name	Description
Serial Number	DCTU Box serial number
MFG Date	Date the DCTU was manufactured in the following format: MM/DD/YYYY
MFG Revision	Description of the revision of the hardware

1	27	7

Displayed Name	Description	
Last Repair	Date the DCTU was last repaired in the following format: MM/DD/YYYY	
PW Version	Version of the software package that was installed in the DCTU.	
MFAST-W-368-1 Version	Version of the EPECS interface software that must be controlled and not updated over the air.	
MFAST-W-368-1 MD5	32 character md5 sum of the EPECS interface software that must be controlled and not updated over the air.	
Date Time	Date/Time when the monitor_status command was issued. Current date/time in the following format: MM/DD/YYHH:MM:SSttUTC	
Config Version	where tt = AM or PM Version of the configuration file that is currently loaded for the RTD recording	
Config Status	process. Status of the configuration file that is currently loaded. See Configuration GSE section for expected status format.	
XML Version	Version of the xml file that is currently loaded.	
XML Status	Status of the xml file that is currently loaded. See Configuration GSE section for expected status format.	
Install ID	User string to identify the specific installation of the box. From the XML configuration file.	
Power On Count	Total number of times the system has been powered on.	
Current Power On Time (s)	Time in seconds for the current power on.	
Total Power On Time(s)	Total time in seconds that the box has been powered across power cycles.	
Untransmitted Files	Total number of files that are waiting to be offloaded from the DCTU.	
Memory Used	Total percentage of log memory that is used.<###>% [0100]	
Tail Number	The aircraft tail number from the XML configuration file.	
Operator	The aircraft operator from the XML configuration file.	
Owner	The aircraft owner from the XML configuration file.	
Aircraft Style	The aircraft style from the XML configuration file.	
Recording Status	Current status of the RTD Recording process. IDLE means no channels are being recorded. RECORDING means one or more channels of data are being recorded.	
RF Power	RF Power is Enabled or Disabled	
GSM Status	Current status of the cellular connection. Example: "RFDisabled" "Connected (-77dB,'310410',INT/EXT)" "No SIM card (INT/EXT)" "SIM PIN Required (INT/EXT)"	

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Displayed Name	Description
WIFI Status	Current status of the DCTU internal Access Point (AP) connection Example:
	"Not Registered (-77dB,INT/EXT)"
	"Registering (INT/EXT)"
	"Waiting for IP Conn (-77dB,INT/EXT)"
	"Unknown"
WIFI AP Status	Current status of the MicroFAST connection ("Station Mode") to a local
	Example:
	"Not Connected"
	"(-59dB) WiFi Linksys 192.168.1.198"
VPN Status	Current status of the VPN connection.
	Example :
	"Not Connected"
	"Connected [GSM-Home]" "Connected [WIFI-Wifi Linksys]" "Connected [UNKNOWN-]"
PMIC Version	This is the Software Identification field returned by the PMIC in its Status
	Response message.
Incognito Mode	Incognito mode status:
	Example:
	"Enabled"
EEC Maintenance Mode	EEC Maintenance mode status

3.5 Test Monitor Transmission Function for FAST

Accessing:



This function verifies that the monitor can transmit data to the Web server successfully

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NAME	STATUS
SYSTEM CONDITION	PASS
WEIGHT ON WHEELS CONDITION	PASS
ON GROUND TRIGGER	PASS
RECORD DATA TRIGGER	PASS
MICRO SERVER READY	PASS
GSM SIM CARD	PASS
GSM SIGNAL	PASS (-77DB)
VPN CONNECTION	PASS
UPLOAD STATUS	MOVELOGSTOGROUND 00%
TEST MONITOR TRANSMISSION STATUS	INPROGRESS

The following are the possible test status messages that can be seen as well as recommended actions to take

Displayed	Possible	Description	Recommended Action
Name	Values		
System	blank	System Condition verification	
Condition		is not yet complete	
	PASS	System Condition is OK	
	FAIL	System Condition is FAULT	Please perform the Expert Commands
		and cannot transmit through	function 47 : Recent Faults to obtain
		GSM	a list of the last 10 faults and call
			P&WC Customer First Center
Weight On	blank	Weight on Wheels verification	
Wheels		is not yet complete	
Condition	PASS	WOW discrete input is TRUE	
	FAIL	WOW discrete input is	Verify the resistance between J1
		FALSE and GSM cannot be	(harness connector) pin 15 and pin 2
		enabled	or 3. At least one of them should be <
			100 ohm.
On Ground	blank	On ground criteria verification	
Trigger		is not yet complete	
	PASS	On ground criteria is being met	
	FAIL	On ground criteria is not being	1. Ensure engines are off and wait 2
		met and GSM cannot be	minutes
		enabled	2. Repeat Test Monitor transmission.
			If FAIL remains, perform Live Data
			Function 34 to verify validity of
			parameters. If any parameters are
			invalid, correct the problem.
			3. Repeat Test Monitor transmission.
			If FAIL remains, perform Expert
			Command function 471: show config
			and save/send to P&WC Customer
			First Center for review of show config
			and live data parameter values from

30

			sten 2
			510p 2
Pogord Data	blank	Configurable data record	
Trigger	DIATIK	triggers verification is not vet	
ITTGGET		inggers vernication is not yet	
	D 4 0 0		
	PASS	Configurable data record	
		triggers are inactive. FAST is	
		not recording data	
	FAIL	Configurable data record	1. Ensure engines are off and wait 2
		triggers are active. FAST	minutes
		cannot upload log data while	2. Repeat Test Monitor transmission.
		recording	If FAIL remains, perform Live Data
			Function 34 to verify validity of
			parameters. If any parameters are
			invalid correct the problem
			3 Repeat Test Monitor Transmission
			If EAU remains perform Expert
			Command function 17 how config
			Command function 4 . show config
			and save/send to P&VVC Customer
			First Center for review of show config
			and live data parameter values from
			step 2
Micro Server	blank	Micro-Server interface	
Ready		verification is not yet	
		complete	
	InProgress	FAST waiting for Micro-Server	
	##%	interface to become ready.	
		This can be displayed for up	
		to 2 minutes	
	PASS	Micro-Server interface is	
	1 400	ready for use	
	EAU	Miero Server interface in not	Panaat toot and more time. If the toot
	FAIL		Repeat lest one more time. If the test
		ready for use	Tails again, perform Expert Command
			Tunction 4/1: Micro-Server Status and
			contact P&VVC for support
GSM Sim Card	blank	GSM SIM card verification is	
		not yet complete	
	InProgress	FAST waiting to detect and	
	##%	read the SIM card. This can	
		be displayed for up to 3	
		minutes	
	PASS	SIM card is detected and card	
		ID detected	
L	1		I

			•
	FAIL	FAST not able to read the	1. Verify that the SIM card is installed
		SIM card ID	properly, cycle box power
			2 Repeat Test Monitor Transmission
			function If EAU remains remove and
			re-insert the SIM card, cycle box
			power.
			3. Repeat Test Monitor Transmission
			function If FAIL remains remove SIM
			card and test in a collular phone of the
			same network provider (i.e. AI&I,
			Rogers, or unlocked,)
			Repeat Test Monitor Transmission
			function. If FAIL remains, contact
			P&WC Customer First Center for
			further own art
	blank	COM signal strength	
GSM Signal	piank	GSIVI signal strength	
		verification is not yet	
		complete	
	InProgress	FAST waiting to connect to a	
	##%	GSM network This can be	
		displayed for up to 5 minutes	
	DASS		Droferred to ease OEdb or greater (i.e.
	PA55 -	FAST can connect to GSM	Preferred to see -950b of greater (i.e
	###dB	network. Signal Strength	60 is good). Try relocating aircraft if
		displayed (dB)	signal strength is poor (i.e. out of
			hangar, or different airport) and repeat
			Test Monitor Transmission function.
	FAII	FAST was unable to connect	1 Verify the account is active with
		to a CSM notwork within the	notwork provider (i.e. AT&T Pegers
		expected time	
			2. Repeat Test Monitor Transmission
			function. If FAIL remains verify you
			are in cellular range by removing SIM
			card and testing in a cellular phone of
			the same network provider. (need to
			avela bay power ofter reincorting in
			FAST DOX)
			3. When in cellular range, repeat Test
			Monitor Transmission function, verify
			antenna is connected to FAST box
			(GSM connector)
			(When antenna is connected repeat
			Test Manitar Transmission function
			Test Monitor Transmission function.
			FAIL remains, contact P&WC
			Customer First Center for further
			support
VPN	blank	VPN Connection verification is	
Connection		not yet complete	
	InProgress	FAST waiting to establish	
	###0/	VPN connection to ground	
	1111 70		
		server. This can be displayed	
		for up to 5 minutes	
	PASS	FAST established VPN	
		connection to the ground	

		server	
	FAIL	FAST unable to establish VPN connection to ground server within expected time	 Verify that a data plan is activated with the cellular network provider. If no data plan, activate data plan and repeat Test Monitor Transmission function. If FAIL remains, verify GSM using GSM Signal Strength indication above (i.e. PASS -###dB). If GSM Signal Strength is too low, try to correct the problem and repeat Test Monitor Transmission function. If FAIL remains, contact P&WC Customer First Center for further support
Upload Status	blank	Upload Status verification is not yet complete	
	MoveLogsTo MS	FAST is moving log data from control processor to Micro- Server	If this message is seen for more than 5 minutes: 1. Perform Expert Command function 47): Verbosity Normal to see messages 2. If messages beginning with "Upload" seen, wait for completion. Perform Expert Command function 47): Verbosity Off and repeat Test Monitor Transmission function. 3. If this status is seen for more than 5 minutes again, or if no messages beginning with "Upload" seen, contact P&WC Customer First Center for support
	MoveLogsTo Ground ## %	FAST is moving logs from Micro-Server to Ground via GSM	If number is incrementing, wait for completion If number is not incrementing after a few minutes, contact P&WC Customer First Center for support
	PASS	FAST has moved all log files to ground server and verified	
Test Monitor	This Is The	Final Overall Status of the To	est Monitor Transmission function
Transmission Status	Stopped	There has been no test activity since the last power- on	Cycle box power and repeat Test Monitor Transmission Function
	InProgress	running each step to verify log transmission to ground server	
	PASS	Test completed and successfully transmitted data to the ground	
	Fail: <failreaso n></failreaso 	Test stopped because one of the above statuses has failed	

3.6 Test Monitor Transmission Function for DCTU



This function verifies that the monitor can transmit data to the Web server successfully by using one of the two options

Test Monitor Transmission:			
	ल्र wi₋Fi	Cellular	
	🔶 Test	Test	
	Configure	Configure	
			Close
Monitor Type DCTU VSB	Connection Type Ethernet/RNDIS Gadget	Baud Rate	
Message: Please select the	Test Transmission Mode		0

Function using Cellular

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🐨 P&WC Monitor Transfer M	odule V4.1 B4 - Test Monitor Transmission		– ø ×
File View Monitor Experi	Help		
	Test Monitor Transmission : Cellular		
	NAME	STATUS	
Sync to Webserver	Active SIM	EXTERNAL	
	RF Power	Pass	
	Incognito Mode	Pass	
	Cellular Modem	Pass	
()	SIM Card	Pass	
Supe to Aircraft	SIM Card PIN	Pass	
Sync to Aneralt	Cellular Signal	Pass	
	Cellular Registration	Pass	
	Cellular IP Connection	Pass	
	VPN Connection	Pass	
	GSM Selected for Tx	Pass	
Monitor Status	Upload Status	Pass	
	Modem CEER	none	
	TEST MONITOR TRANSMISSION STATUS	PASS	
$\left(\right)$			
Live Data			Close
Test Monitor Transmission	Monitor Type DCTU Message: Connection Type USB Ethernet/RNDIS Gad	Iget # Baud Rate	

Function using WI-FI

	Test Monitor Transmission : WiFi
	NAME STATUS
Sync to Webserver	ESS ID (-50dB) 2 WIFI R2Plus 192.168.43.187
	RF Power Pass
	WLAN Interface Pass
	WLAN IP Connection Pass
f i i i i i i i i i i i i i i i i i i i	VPN Connection Pass
Sync to Aircraft	WLAN Selected for Tx Pass
	Upload Status Pass
	TEST MONITOR TRANSMISSION STATUS PASS
Monitor Status	
Live Data	ېږي) د د د د د د د د د د د د د د د د د د د
Test Monitor Transmission	Monitor Type Connection Type USB Ethernet/RNDIS Gadget # Baud Rate USB Ethernet/RNDIS Gadget #
	Message: Test Monitor Transmission Completed

3.7 Live Data Function

Accessing:



The Live Data function allows the user to view and record live data from the monitor's available data sensors.

The user must select the sensors to display using check boxes. The column header check box can be used to select all sensors.

NAME	TYPE	INDEX	OUTPUT		
Bus	ANALOG	0	VDC		
Lithium Battery	ANALOG	1	VDC		
Battery	ANALOG	2	VDC		
Board Temp	ANALOG	3	С		
WOW	DISCRETE	4	b		
PFEN	DISCRETE	5	b		
FPGA Error	DISCRETE	6	b		
WLAN WOW Enb	DISCRETE	7	b		
LSS OC	DISCRETE	8	b		
WOW	DISCRETE	9	Ь		
				Re	rieve Selected

Click Retrieve Selected to proceed

The values and units of selected sensors are displayed.

Any invalid sensors are displayed in red.

Start and Stop Recording buttons permit recording a sequence of live data.

Refer to the Analyzing Data section for analysis



3.8 Communication Settings Function

3.8.1 Accessing

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The Communication Settings Function can be used for detecting and troubleshooting connection settings and contains two options. For troubleshooting guidelines, refer to Communication Troubleshooting 74

3.8.2 Auto-Detection

Automatically detects the Connection Type connected to the monitor by screening the available COM ports. Performed automatically prior to each function requiring communication with the Monitor.



3.8.3 Manual detection

- Find the com port via Device Manager



- _ 0 **_**X 📇 Device Manager File Action View Help 🦛 🔿 🖬 🖬 🖬 Image: Second Disk drives Display adapters DVD/CD-ROM drives Keyboards > 🖑 Mice and other pointing devices Monitors Multi-port serial adapters a 👰 Network adapters Cisco AnyConnect Secure Mobility Client Virtual Miniport Adapter for Windows x64 Dell Wireless 1506 802.11b/g/n (2.4GHz) Intel(R) Ethernet Connection I218-LM a 🖤 Ports (COM & LPT) Transfer Port (LPT1) RS-485 Port (COM6) Serial Port 1 of DSU-400 (CON Serial Port 2 of DSU-400 (COM5) Processors SD host adapters Smart card readers 5 📲 Sound, video and game controllers Storage controllers System devices 🖌 🕛 Universal Serial Bus controllers Generic USB Hub 🏮 Generic USB Hub Generic USB Hub Intel(R) 8 Series USB Enhanced Host Controller #1 - 9C26 Intel(R) USB 3.0 eXtensible Host Controller Intel(R) USB 3.0 Root Hub USB 2.0 MTT Hub USB 2.0 MTT Hub USB Root Hub USBALTAIR2 Converter Microsoft Outlook 2010
- Connect the FAST USB cable, the Ports will automatically update

Note: If the RS-485 Port (COMX) is not displayed, USB driver is not properly installed, please refer to <u>FAST USB GSE Cable Driver Installation</u> 75th.

- Open Monitor TM 🜌
 - Under Expert, select Communication Settings



• From Connection Type scrolling menu select the com port found previously (i.e : COM6)

Sync to Webserver	Auto Detection: Connect
	Note: This function is performed automatically prior to any function that communicates with the Monitor.
	Manual Connection:
Sync to Aircraft	Monitor Type Connection Type Baud Rate Connect
Click or	Connect

Communication settings are displayed in the Monitor Type, COM Port and Baud Rate fields.

Communication status is displayed in the Message field

Monitor Type FAST	~	Connection Type COM 4	Baud Rate	FAST
Message:	FAST Succe	ssfully Connected		Concertain Annual Concertain Conc

For DCTU from the Monitor Type scrolling menu select "DCTU"

Auto Detection: Connect			
Note: This function is performed	automatically prior to any function t	nat communicates with the Monitor	
Manual Connection:			
Monitor Type	Connection Type	Baud Rate	
DCTU 🗸	USB Ethernet/RNDIS Gadget 🧅	115200 🗸	Connect

From Connection Type scrolling menu select the "Ethernet/RNDIS"

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Communication status is displayed in the "Message" field.

DCTU Successfully Connected

3.9 View/Change Monitor Parameters

Accessing:

Message:



The View/Change Parameters function can be used to change parameters in your monitor.

3.9.1 View/Change Monitor Parameters for ATR42/ATR72 application

For ATR42/72 and AW139 applications, the function enables the user to view/ change the fast box time and enter the engine serial number information. For ATR42/72 only, the user can also clear the engine serial number the engine serial number is available via the ARINC 429 data.

View/change FAST box time and engine serial number information

FAST Information	Current Value	New Value
Box Date and Time (MM/DD/YYYY HH:MM:SS)	12/16/2011 12:53	:50
Engine Information	Current Value	New Value
Engine 1 Serial Number		
Engine 2 Serial Number		
Clear Engine Serial Numbers		Proceed

After you enter the new values, select the write button.



The new parameters values will be updated in the monitor and the Current Value column will be refreshed. Verify the current values are appropriately refreshed before closing.

v/Change Monitor Parameters - ATR72		
	Current Malue	Jaw Value
Rev Date and Time (MM/DD/VVV HH:MM:SS)		
	12/10/2011 12:55:50	
Engine Information	Current Value	New Value
Engine 1 Serial Number		
Engine 2 Serial Number		
Clear Engine Serial Numbers		Proceed
1		, u ,
		vvrite Clos

Click "Proceed" to clear the engine serial numbers stored in the FAST box.

Clear Engine Serial Numbers

3.9.2 View/Change Monitor Parameters for CARAVAN application

For Caravan application, the function enables the user to view/change the fast box time, engine serial number, flight/engine cycles and creep information. The user can also reset creep faults and CAS Previous Exceed messages.

View/change FAST box time, engine serial number, flight/engine cycles and creep information

FAST Information	Current Value	New Value
Box Date and Time (MM/DD/YYYY HH:MM:SS)	12/16/2011 12:59:06	
Engine Information	Current Value	New Value
Engine Serial Number (VAXXXX)	VA1234	
Cumulative Creep CT (%)	0.0000	
Cumulative Creep PT (%)	0.0000	
Cumulative Engine Run Time (hours)	0.0000	
Cumulative Engine Cycles	0	
Cumulative Flight Time (hours)	0.0000	
Cumulative Flight Cycles	0	
		\square

After you enter the new values, select the write button.



The new parameters values will be updated in the monitor and the Current Value column will be refreshed. Verify the current values are appropriately refreshed before closing.

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Proceed

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Box Date and Time (MM/DD/XXXX HH:MM:SS)	12/46/2014 42:50:06	
	12/10/2011 12:39:00	μ
Engine Information	Current Value	New Value
Engine Serial Number (VAXXXX)	VA1234	
Cumulative Creep CT (%)	0.0000	
Cumulative Creep PT (%)	0.0000	
Cumulative Engine Run Time (hours)	0.0000	
Cumulative Engine Cycles	0	
Cumulative Flight Time (hours)	0.0000	
Cumulative Flight Cycles	0	

View/Reset creep faults:

Click "View Creep Fault" to display current creep faults:

Engine Creep Information			≡
	^		
		View Creep Fault	
		Reset Creep Fault	
	÷		

A list of active creep faults is displayed, including creep fault type and date and time of occurence. To reset creep faults, click "Reset Creep Fault".

Engine Creep Information			
Creep Faults = 1 (of 75 Max), Last Update =14:16:21 03/18/2013 01:CREEP_FAULT_RUN at 18:49:43 03/22/2013	~	View Creep Fault Reset Creep Fault	

Creep faults will be cleared in the monitor and creep fault list refreshed.

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Click "Reset Prev Exceed" to reset Exceed messages from the crew-alerting system (CAS).

3.9.3 View/Change Monitor Parameters for other FAST applications

For other applications, the function enables the user to view the configuration Version and when applicable clear and enter the engine serial number information.

After you have entered the new value, select the "Write: button.

Monitor Settings Current Value New Value Configuration file version II Box Date and Time (MM/DD/YYY HH MM SS) 10192017140027 Engine Information Current Value Engine 1 Serial Number 12386 Engine 2 Serial Number 000000 Clear Engine Serial Numbers Proceed Write Close Monitor Type COM Port / Ethernet FAST COM 3 Message: Message:	View/Change Parameters	
Monitor Settings Current Value New Value Configuration file version 11 Rox Date and Time (MM/DD/YYYY HH-MM:SS) 10//// 10/// 10/// 10/// 10/// 10/// 10//// 10/// 10/// 10/// 10/// 10//// 10////// 10/// 10////////		·····
Configuration file version 11 Box Date and Time (MM/DD/YYY HH MM SS) 10/19/2017 14:00:47 Engine Information Current Value Engine 1 Serial Number 12:3456 Engine 2 Serial Number 000000 Clear Engine Serial Numbers Proceed Write Close Monitor Type COM Port / Ethernet FAST COM 3 Message: Message:	Monitor Settings Current	Value New Value
Box Date and Time (MM/DD/YYYY HHMM:SS) 1019/2017 14:00:47 Engine Information Current Value Engine 1 Serial Number 12356 Engine 2 Serial Number 00000 Clear Engine Serial Numbers Proceed Write Close Monitor Type COM Port / Ethernet FAST COM 3 Message: Message:	Configuration file version	11
Engine Information Current Value New Value Engine 1 Serial Number 123456 123456 Engine 2 Serial Number 000000 000000 Clear Engine Serial Numbers Proceed Write Close Monitor Type COM Port / Ethernet Baud Rate FAST COM 3 115200	Box Date and Time (MM/DD/YYYY HH:MM:SS)	9/2017 14:00:47
Engine 1 Serial Number 12345 Engine 2 Serial Number 00000 Clear Engine Serial Numbers Proceed Write Close Monitor Type COM Port / Ethernet FAST COM 3 Message:	Engine Information Current	Value New Value
Engine 2 Serial Number 000000 Clear Engine Serial Numbers Proceed Write Close Monitor Type COM Port / Ethernet FAST COM 2 Message: Message:	Engine 1 Serial Number	123456
Clear Engine Serial Numbers Proceed Write Close Write Close Monitor Type COM Port / Ethernet Baud Rate FAST COM 3 115200	Engine 2 Serial Number	000000
Clear Engine Serial Numbers Proceed Write Close Write Close Monitor Type COM Port / Ethernet FAST COM Port / Ethernet Baud Rate 115200 Message: Wessage:		
Monitor Type COM Port / Ethernet Baud Rate FAST COM 3 115200	Clear Engine Serial Numbers	Proceed
Monitor Type COM Port / Ethernet Baud Rate FAST COM 3 115200		
Monitor Type COM Port / Ethernet Baud Rate FAST COM 3 115200		
Monitor Type COM Port / Ethernet Baud Rate FAST COM 3 115200		
Monitor Type COM Port / Ethernet Baud Rate FAST COM 3 115200		✓
Monitor Type COM Port / Ethernet Baud Rate FAST COM 3 115200		
Monitor Type COM Port / Ethernet Baud Rate FAST COM 3 115200		Write
Monitor Type COM Port / Ethernet Baud Rate FAST COM 3 115200		Wille
Monitor Type COM Port / Ethernet Baud Rate FAST COM 3 115200 Message: Message:		
FAST COM 3 115200 Message: Code at the cod	Monitor Type COM Port / Ethernet Baud Rate	1
Message:	FAST COM 3 115200	FART
Message:		
Message:		Distance and Section
	Message:	j

The new value will be written to the monitor and the Current Value column will be updated.

To clear the Engine serial number stored in the FAST Box click "Proceed"

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View/Change Parameters				
Monitor Settings		Curre	ent Value New Value	<u>^</u>
Configuration file version			11	
Box Date and Time (MM/DD/YYYY H	IH:MM:SS)		10/19/2017 13:59:40	
Engine Information		Curre	ent Value New Value	
Engine 1 Serial Number				
Engine 2 Serial Number				
Clear Engine Serial Numbers			Proceed	· · ·
			Write	Close
Monitor Type FAST v Message:	COM Port / Ethernet COM 3	Baud Rate 115200		FAST

3.9.4 View/Change Monitor Parameters for DCTU application

For DCTU applications, the function enables the user to view/change the engine serial number information, the power section serial number, Engine Usage, the Low cycle Fatigue, Creep, Aircraft information, Engine Data plate and LRU's.

View/change parameters for DCTU main page

HOME Aircraft Information	Engine	e Data Plate	LRU	
EPECS Identification		Ch A - Current Value	Ch B - Current Value	Eng SN - New Value
Engine Serial Number (HPXXXX)		RY0861	RY0861	
EPECS Software			CCPU Value	PCPU Value
Hyperstart part number Ch A			CtlSoftwarePN	ProtSoftwarePN
Hyperstart part number Ch B			CtlSoftwarePN	ProtSoftwarePN
EPECS Power Section			Current Value	New Value
Power Section Serial Number (SNXXXX)				
TRIMS	Ch A - Current Valu	e Ch A - New Value	Ch B - Current Value	Ch B - New Value
CCPU Beta Ring calibrated PRP	5.0000		5.0000	
PCPU Beta Ring calibrated PRP	0.0000		0.0000	
ITT Trim	4.0000		4.0000	
Synchrophasing Target Delta	0.0000		0.0000	
Engine Usage and Historical Data	Ch A - Current Valu	e Ch A - New Value	Ch B - Current Value	Ch B - New Value
Engine Start Counter	C		0	
Start Abort Counter	0		0	
Flight Counter	C		0	
Engine Shutdown Counter	C		0	
Flight Time	C		0	
Engine Run Time	C		0	
EEC Run Time	C		0	
Low Cycle Fatigue	Ch A - Current Valu	e Ch A - New Value	Ch B - Current Value	Ch B - New Value
LCF Count Compressor 1st Stage	g		9	
LCF Count Compressor 2nd Stage	C		0	
LCF Count Compressor 3rd Stage	C		0	
LCF Count Compressor 4th Stage	C		0	
LCF Count Impeller	C		0	
LCF Count Compressor Turbine	C		0	
LCF Count Compressor Power Turbine 1	C		0	
LCF Count Compressor Power Turbine 2	88		88	
LCF Count Compressor Rotor Shaft	0	I	0	
Сгеер	Ch A - Current Valu	e Ch A - New Value	Ch B - Current Value	Ch B - New Value
Creep Compressor Turbine Blades	3		3	
Creep Power Turbine 1	3		3	
One and Device Turking O	0		0	

After you enter the new values, select the write button.



The new parameters values will be updated in the monitor and the Current Value column will be refreshed. Verify the current values are appropriately refreshed before closing.

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/Change Monitor Parameters - ATR72			
FAST Information	Current Value	New Value	
Box Date and Time (MM/DD/YYYY HH:MM:SS)	12/16/2011 12:53:50		
Engine Information	Current Value	New Value	
Engine 1 Serial Number			
Engine 2 Serial Number		J	
Clear Engine Serial Numbers		Proceed	
		Write	CI

Click "Proceed" to clear the engine serial numbers stored in the FAST box.

Clear Engine Serial Numbers	Proceed

3.10 Expert Command Mode Function

Accessing:



The Expert Command Mode function can be used to communicate with the monitor by sending commands and displaying monitor responses

The user can select commonly used expert commands from a menu

When the Send button is selected

- The monitor responses are displayed
- The session can be saved and printed

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Selecting the Advanced button requires entering a password for advanced troubleshooting and permits typing any command. To obtain the password, contact P&WC Customer First center.

Password Protected	
Please Enter Password	
ОК	

The program then permits writing to the actual command prior to clicking the Send button

Select Command:		
box.power_on_count	✓ Send	
livedata.type=NONE	Advanced	d
FAST> livedata.type NONE \$0147		~

3.11 Get Micro Server Logs

The Get Micro Server Logs function is used for advanced troubleshooting when instructed by P&WC personnel.

The function will automatically download all micro server logs to the users local computer.

The options are displayed as follow :

Get Micro-Server Logs:			
	LAST 30 DAYS	All	
			Close

Once the option selected the log retrieval process starts

NAME			STATUS	
MICRO SERVER RE	ADY		PASS	
MS LOG FILES REA	VDY .		IN PROGRESS	
MS LOG FILES DO	WNLOADED			
GET MICRO-SERV	ER LOGS			

To transfer the data to PWC for analysis, the user must perform the <u>Sync To</u> <u>Webserver</u> blunction.

3.12 FAST Factory Reset

The FAST Factory Reset function is to be used for advanced troubleshooting when instructed to do so by P&WC personnel.

The FAST Factory Reset will delete all non-transmitted data from your FAST box

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and configure it to the latest configuration. Once this function is started, it cannot be cancelled.

Selecting the FAST Factory Reset button requires entering a password. To obtain the password, contact P&WC Customer First center.

After the password is entered, the program will determine if the configuration files for the FAST box are located on the local computer. If the files are not available, please perform the Sync To Webserver function.

After the password is entered and the configuration files are available on the local laptop, the program will begin the reset function. During the reset it is not possible to navigate, or from the Factory Reset Screen.

NAME		STATUS	
MICRO SERVER READY		PASS	
CONFIG FILES AVAILABLE		PASS	
PRIVILEGED MODE ENTERED		PASS	
ERASING LOG DATA		PASS	
CLEARING CONFIGURATION DATA		PASS	
CLEARING COMPACT FLASH DATA		IN PROGRESS	
CONFIGURE UNIT			
FAST BOX FACTORY RESET			

At the end of the function, the program will reconfigure the box with the configuration files located on the local computer.



3.13 Delete Non-Transmitted Logs

The Delete Non-Transmitted Logs function may be used when instructed to do so by P&WC personnel. The function is used to erase all non-transmitted data in the FAST box. **Once this function is started, it cannot be cancelled.**

Selecting the Delete Non-Transmitted function requires entering a password. To obtain the password, contact P&WC Customer First center.

After the password is entered, the program will begin the erase function. During the erase function it is not possible to navigate from the Delete Non-Transmitted Logs screen.

De	ete Non-Transmitted Logs:		
	NAME	STATUS	
	MICRO SERVER READY	PASS	
	PRIVILEGED MODE ENTERED		
	ERASING LOG DATA		
	MARKING FILES TRANSMITTED		
	DELETE NON-TRANSMITTED LOGS		
			1000
	•	1	
			Close
			Close

3.14 Wi-Fi Configuration

The FAST monitor revision E or higher is capable to offload data via Wi-Fi connection. The compatibility can be verified by using the <u>Monitor Status</u> function to confirm that the MSSIM version (PW_VER) is 3.0 or higher.

NOMBER OF BOX POWER ON IN SECONDS	104004
PW_VER	3.1
ATRORAFT TATE NUMBER	F7Y-129

For FAST to automatically connect to a Wi-Fi network, it must first be configured using MonitorTM and a pc connected via the GSE cable.

Accessing:

52 MonitorTm Help Manual

P&WC M	onitor Transfer Module V2.7 B3
File View	Monitor Expert Help
	Sync to Webserver
	Sync to Aircraft
	Monitor Status
	Live Data
	View/Change Monitor Parameters
Sync to	Configure Unit
- ,	Configure Wi-Fi
	Retrieve Log Files

If the FAST is not compatible with Wi-Fi, the user will see the following error message.

1	MonitorTm
	The connected FAST system is not Wi-Fi compatible.
	ОК

Once connected the user will see a screen similar to the one below.

Already configured Wi-Fi networks are displayed with signal strength, if in range. If the FAST is already connected to a network, "Connected" will be displayed next to the appropriate configured network SSID. The user can remove (Forget) individual or all configured networks.

The passwords for already configured network SSIDs are not stored on the local computer. The user may enter a new password. Only when entering a password, the user can select the icon to view what is being entered. Only the FAST stores the network passwords. It is recommended that Forget All networks is done prior to FAST removal. If the FAST is returned to P&WC, the network passwords could be accessed by P&WC personnel.

Available networks are displayed with signal strength. Only available Wi-Fi networks that do not contain special characters or spaces will be available to connect. The user can enter a password for any available networks.

The user can manually enter a Network SSID, security and password. The user can enter one network at a time. SSID cannot contain special characters or spaces. Only networks with no security, WPA or WPA2 security are compatible.

Hold to show password when Connected network editing To forget all Forget All networks Networks already nfigured SSID configured in the WPA/WPA2 Edit To forget Monitor network e SSID UTCGUEST WPA/WPA2 Edit UTC-IP-phone WPA/WPA2 Edit Network signal UTCWLAN WPA/WPA Edit Available Networks strength Edit Location to Manually Close enter network information For Manual entry, enter Network Select Edit to enter SSID, Security and password (if information applicable)

In all cases when the Edit button is selected, the user may cancel.

3.15 WI-FI Configuration for DCTU

For DCTU to automatically connect to a Wi-Fi network, it must first be configured using MonitorTM and a pc connected via the USB (RNDIS/Ethernet Gadget) cable.

Accessing:



Once connected the user will see a screen similar to the one below.

Already configured Wi-Fi networks are displayed with signal strength, if in range. If the DCTU is already connected to a network, "Connected" will be displayed next to the appropriate configured network SSID. The user can remove (Forget) individual or all configured networks.

The passwords for already configured network SSIDs are not stored on the local computer. The user may enter a new password. Only when entering a password, the user can select the icon to view what is being entered. Only the FAST stores the network passwords. It is recommended that Forget All networks is done prior to FAST removal. If the FAST is returned to P&WC, the network passwords could be

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accessed by P&WC personnel.

Available networks are displayed with signal strength. Only available Wi-Fi networks that do not contain special characters or spaces will be available to connect. The user can enter a password for any available networks.

The user can manually enter a Network SSID, security and password. The user can enter one network at a time. SSID cannot contain special characters or spaces. Only networks with no security, WPA or WPA2 security are compatible.

In all cases when the Edit button is selected, the user may cancel.



3.16 DCTU Icognito mode

Accessing :



The Incognito Mode is to be used as an advance feature to disable the Cellular and

the Wifi connection up to a period of 14 days.



In Days, Hours, Minutes you have the capability to enter the period of time desired to disable DCTU connectivity, the overall period should be less than 14 days.

	Disable Cellular and Wifi c disabled for the pe	Cellular / Wifi onnection already rriod specified below:	
	NAME	VALUE	
	STATE	enabled	Status information of
	START TIME	Fri Oct 11 21:05:50 UTC 2019	Incognito mode
	END TIME	Thu Oct 24 21:05:50 UT 2019	
	END REASON	none	
	FORCED	true	
	START COMMENT	none	
	UPLOAD WAIT	0	
Re-Enable the Cellular and WI-FI capabilities	Re-enable	Extend Time	Extend Incognito mode

In Comment section the user can add additional information about the disabling

When Incognito Mode is active, the screen shows all the information about when the function was activated, when it will end and any additional comments. You can either re-enable the DCTU by clicking on the 'Re-enable' button or extend the time of the Incognito Mode by clicking on 'Extend Time'. The Incognito Mode can be exit at anytime by clicking on the 'Close' button.

56	MonitorTm	Help	Manual
----	-----------	------	--------

	Disal Cellular and Wi	ole Cellular / Wifi fi connection re-enabled		
	NAME	VALUE		
	STATE	disabled		
	START TIME	Fri Oct 11 21:05:50 UTC 2019		
	END TIME	Thu Oct 24 21:05:50 UTC 2019		
	END REASON	stopped	Incognito Mode	e disabled
	FORCED	true		
	START COMMENT	none	-	
	UPLOAD WAIT	0		

After re-enabling or extending the time you can click on 'Close' to exit the menu.



Communicating with Webserver

4 Communicating with Webserver

4.1 Sync to Webserver Function

Accessing:

58



This function synchronizes the computer with the P&WC Webserver

- uploads log files to Webserver
- downloads configuration files to the pc
- downloads updates of the MonitorTm program

The user must manually enter the related monitor serial numbers.

Monitor Serial Number		×
Please enter up to 5 F (6 digits)	AST Monitor Serial Numbers	
Serial Number 1 :	000014	
Serial Number 2 :		
Serial Number 3 :		
Serial Number 4 :		
Serial Number 5 :		
	ОК	

The program will then transfer

- configuration files from the Webserver to the computer
- log files from the computer to the Webserver
- MonitorTm program updates from the Webserver to the computer if available

Sync to Webserver :		
Transferring Configur	ation files from the Web to t	he laptop :
	2 of 2	
Transferring Log files	from the laptop to the Web	:
	1 of 3	