PESA
PERC3000 Main Application Software
Version 3.2

Product Functional Definition and Validation

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1.0 Introduction

The purpose of this document is to perform validation for the main software application version 3.2 of the PERC 3000 main application.

2.0 Functional Description

v3.2 of the PERC3000 controller has the following updates:

1. Modified the console code to disable the Status Best Fit and Status Table Restore calls.
2. Added a STL map to the library to store the announce data from matrices.
3. Modified the confidence code to take the router output offset into account.
4. Modified the code so that the READBACK ERROR is cleared from the status code.
5. Changed the dual code so that the standby PERC 3000 becomes active if communications is lost with the active PERC 3000 even if dual is set to Manual Mode.

2.1 System Diagram

NA

2.2 Functional Diagrams

NA

2.3 Control interfaces and protocols

P2 protocol, P1E, USP, Autopatch, and Cattrax

2.4 Electrical Interfaces

Serial and ethernet

2.5 System power

NA

3.0 Controls

Detailed description of controls

A. Matrix Status
Lists current level settings of all router outputs

B. Matrix Preset
Allows the creation and recall of matrix scenarios.

C. Panel Status
Gives the current on/off line status of all control panels assigned to PERC3000 controller.

D. Salvo Status
Lists all current system Salvo groups and allows testing

E. Info - Active/Standby
Presents information about the PERC3000 controllers, allows pairing and unpairing, and allows switching of Active/Standby controllers

Detailed description of configuration

A. System Parameters
Shows name of configuration, chop rate, and sync 1& 2. This page also gives information for setting up the serial interface and allows configuration of the eight serial ports available to the system.

B. Components
Setup page for the components which will be controlled by the PERC3000 system controller

C. Levels
Creates levels which define matrix sizes and assigns them to the components created above

D. Sources
Allows naming of sources and assignment of ports

E. Destinations
Allows naming of destinations and assignment of ports

F. Source-destination blocks
Setup screen to block specific sources from any destination

G. Reentries
This page sets up the system reentries

H. Tielines
This page is for setting up Sources/destinations between systems

I. Salvos
Allows creation and naming of system memory salvos

J. Level include lists
Creates level lists for use by panels

K. Source include lists
Creates source lists for use on panels

L. Destination include lists
Creates destination lists for use on panels

M. Salvo include lists
Creates salvo lists for use on panels

N. Categories
Allows the creation of panel shortcut keys for sources

O. Data key lists
Setup screen for creating key lists for PESA control panels

P. Panels
Allows addition and deletion of programmable panels and panel servers

Q. Button Images
Allows the selection of text or images for relegendable panels

R. Button Colors
Allows the selection of button colors for relegendable panels

3.1 GUI Controls

Cattrax.

3.2 System Controls

Interface port and detailed list of commands

3.3 Switches and Jumper settings

NA

4.0 Validation

4.1 System configuration

Complete listing of all hardware and documentation used for validation

Hardware under validation

Hardware	Part Number	Agile Revision	Agile Description
PERC3000	PERC3000	M	PERC3000 SYSTEM CONTROLLER SINGLE 1RU SERVER INTERNAL P/S

Software / FPGA code

Hardware	Part Number	Agile Revision	Agile Description
PERC3000	81905608520	P	PERC3000 MAIN APPLICATION SW V1.9

Supporting hardware

Hardware	Part Number	Agile Revision	Agile Description
PERC1000	81906527220	I	GP1000 POWER SUPPLY WITH PERC1000 CONTROLLER
PERC1500	81905608070	J	SOFTWARE DRS EDXE AND JAGUAR PERC1500 SYSTEM CONTROLLER
PMFC	81906523370	W	CHEETAH FRAME CONTROLLER CARD
Serial Interface	PERC3000-SERIAL-IF	C	PERC3000 SERIAL INTERFACE ETHERNET TO 8 SERIAL PORTS 1RU INTERNAL P/S
Panel Server	RCP-PANEL-SERVER	D	RCP-PANEL-SERVER ADAPTS RCP PANELS TO PERC3000 CONTROLLER SUPPORTS 32 PANEL
Touch 72	TOUCH72LCD	C	TOUCH72LCD 72 LCD SWITCHES WITH TOUCHSCREEN W P/S 2RU NETWORK REMOTE PANEL
Smart 32	SMART32	B	SMART32 1RU PANEL WITH 32 LCD SWITCHES AND 20 CHAR BY 2 ROW DISPLAY W/PS
MULTIBUS-XY	MULTIBUS-XY	A	MULTIBUS-XY 1RU PANEL 32 LCD SWITCHES AND 20 CHAR BY 2 ROW DISPLAY W/PS

4.2 System Power

NA

4.3 Control Verification

4.3.1 GUI Controls

Test results for all listed GUI controls.

Equipment used

type	Serial Number	MAC Address	Main App	SW Boot	CPLD
PERC1000	652722b06490023	00-50-C2-1A-F7-F8	3.4	1.0	0.24
PERC1000	652722b07040068	00-50-C2-1A-F3-38	3.4	1.0	0.24
PERC1500	65331614450162	00-0B-3A-00-1F-D0	2.5	1.0	2.0
PERC1500	653316H14450117	00-0B-3A-00-1D-47	2.5	1.0	2.0
PERC3000	LAB Imagaging R210	D4-AE-52-C2-40-F5	3.2	6.10	
PERC3000	LAB Imaging R220	54-9F-35-00-90-5E	3.2	6.08	
PMFC	652397R15441619	00-0B-3A-00-20-A8	6.2	1.4	1.2
PMFC	652397T06040325	00-50-C2-1A-F1-E7	6.2	1.4	1.2
PMFC	652397R15441611	00-0B-3A-00-20-A2	6.2	1.4	1.2
PMFC	652397R15441609	00-0B-3A-00-20-A0	6.2	1.4	1.2
PMFC	652397R15441610	00-0B-3A-00-20-A1	6.2	1.4	1.2
PERC3000-SERIAL-IF	2964	00:90:E8:2D:28:DB	Firmware version 3.5 Build 11080114		
RCP-PANEL-SERVER	653343C14030084	00-0B-3A-00-14-19	2.2	0.1	1.5
TOUCH72	653329B15160135	00-0B-3A-00-1D-E0	1.6	1.0	4.0
Smart 32	653372B15330204	00-0B-3A-00-1F-82	1.6	1.0	3.0
MultibusXY	653372B15330201	00-0B-3A-00-20-91	1.1	1.0	3.0

Control panels used

Panel type	Status
RCP-64X	**Verified OK**
RCP-CSD	**Verified OK**
RCP-MLDT	**Verified OK**
RCP-MLTP	**Verified OK**
RCP-MP32D	**Verified OK**
RCP-STAT1	**Verified OK**
RCP-STAT2	**Verified OK**
RCP-EXP64	**Verified OK**

4.3.2 System Controls

System Controller

Matrix Status

Tab	Function	Status
Matrix Status	Status/Confidence	**Verified OK**
Matrix Status	Take	**Verified OK**
Matrix Status	Lock	**Verified OK**
Matrix Status	Unlock	**Verified OK**
Matrix Status	Refresh	**Verified OK**

Matrix Preset

Tab	Function	Status
Matrix Preset	Get Matrix Current	**Verified OK**
Matrix Preset	Take All	**Verified OK**
Matrix Preset	Take Selected	**Verified OK**
Matrix Preset	Clear All	**Verified OK**
Matrix Preset	Clear Selected	**Verified OK**
Matrix Preset	Override Current Lock	**Verified OK**
Matrix Preset	Save	**Verified OK**
Matrix Preset	Load	**Verified OK**

Panel Status

Tab	Function	Status
Panel Status	Status	**Verified OK**
Panel Status	Reset individually	**Verified OK**
Panel Status	Reset All Panels	**Verified OK**
Panel Status	Refresh	**Verified OK**

Salvo Status

Tab	Function	Status
Salvo Status	Groups list	**Verified OK**
Salvo Status	Fire Salvo	**Verified OK**
Salvo Status	Undo Salvo	**Verified OK**

Info Active Standby

Tab	Function	Status
Info-Active/Standby	Status	**Verified OK**
Info-Active/Standby	Power Off	**Verified OK**
Info-Active/Standby	Pair Controllers	**Verified OK**
Info-Active/Standby	Set Mode	**Verified OK**
Info-Active/Standby	Unpair Controllers	**Verified OK**
Info-Active Standby	Change Over Mode	**Verified OK**

Configuration Menus

System Parameters

Tab	Function	Status
System Parameters	Configuration Name	**Verified OK**
System Parameters	Sync Reference 1	**Verified OK**
System Parameters	Sync Reference 2	**Verified OK**
System Parameters	Panel Chop Rate	**Verified OK**
System Parameters	Serial Interface IP	**Verified OK**
System Parameters	Serial Port Configuration	**Verified OK**

Components

Tab	Function	Status
Components	Add	**Verified OK**
Components	Delete	**Verified OK**
Components	Nickname	**Verified OK**
Components	Name	**Verified OK**
Components	IP Address	**Verified OK**
Components	Component Type	**Verified OK**
Components	Strobe	**Verified OK**
Components	Input Offset	**Verified OK**
Components	Output Offset	**Verified OK**
Components	Description	**Verified OK**

Levels

Tab	Function	Status
Levels	Add	**Verified OK**
Levels	Delete	**Verified OK**
Levels	Nickname	**Verified OK**
Levels	Name	**Verified OK**
Levels	Number	**Verified OK**
Levels	Number of Outputs	**Verified OK**
Levels	Number of Inputs	**Verified OK**
Levels	Chop Mode	**Verified OK**
Levels	Port Level	**Verified OK**
Levels	Selected Component	**Verified OK**
Levels	Available Component	**Verified OK**
Levels	Description	**Verified OK**

Sources

Tab	Function	Status
Sources	Definitions	**Verified OK**
Sources	Copy	**Verified OK**
Sources	Cut	**Verified OK**
Sources	Delete	**Verified OK**
Sources	Select All	**Verified OK**
Sources	Copy & Increment	**Verified OK**
Sources	Add Range	**Verified OK**
Sources	Auto Increment	**Verified OK**
Sources	Auto Increment Block	**Verified OK**
Sources	Fill Down	**Verified OK**
Sources	Fill Up	**Verified OK**
Sources	Fill Right	**Verified OK**
Sources	Fill Left	**Verified OK**
Sources	Set Tieline Source	**Verified OK**

Destinations

Tab	Function	Status
Destinations	Definitions	**Verified OK**
Destinations	Copy	**Verified OK**
Destinations	Cut	**Verified OK**
Destinations	Delete	**Verified OK**
Destinations	Select All	**Verified OK**
Destinations	Copy & Increment	**Verified OK**
Destinations	Add Range	**Verified OK**
Destinations	Auto Increment	**Verified OK**
Destinations	Auto Increment Block	**Verified OK**
Destinations	Fill Right	**Verified OK**
Destinations	Fill Left	**Verified OK**
Destinations	Set Sync Reference	**Verified OK**

Source – Destination Blocks

Tab	Function	Status
Source-Dest Blocks	Destination Name	**Verified OK**
Source-Dest Blocks	Add	**Verified OK**
Source-Dest Blocks	Edit	**Verified OK**
Source-Dest Blocks	Clear All Blocked Sources	**Verified OK**

Reentries

Tab	Function	Status
Reentries	Add	**Verified OK**
Reentries	Edit	**Verified OK**
Reentries	Delete	**Verified OK**

Tielines

Tab	Function	Status
Tielines	Add	**Verified OK**
Tielines	Edit	**Verified OK**
Tielines	Delete	**Verified OK**

Salvos

Tab	Function	Status
Salvos	Add	**Verified OK**
Salvos	Edit	**Verified OK**
Salvos	Delete	**Verified OK**

Level Include Lists

Tab	Function	Status
Level Include Lists	Add	**Verified OK**
Level Include Lists	Edit	**Verified OK**
Level Include Lists	Delete	**Verified OK**

Source Include Lists

Tab	Function	Status
Source Include Lists	Add	**Verified OK**
Source Include Lists	Edit	**Verified OK**
Source Include Lists	Delete	**Verified OK**

Destination Include Lists

Tab	Function	Status
Destination Include Lists	Add	**Verified OK**
Destination Include Lists	Edit	**Verified OK**
Destination Include Lists	Delete	**Verified OK**

Catagories

Tab	Function	Status
Categories	Add	**Verified OK**
Categories	Edit	**Verified OK**
Categories	Delete	**Verified OK**

Panel Key Lists

Tab	Function	Status
Panel Key Lists	Add	**Verified OK**
Panel Key Lists	Edit	**Verified OK**
Panel Key Lists	Clone	**Verified OK**
Panel Key Lists	Delete	**Verified OK**

Panels

Tab	Function	Status
Panels	Add	**Verified OK**
Panels	Edit	**Verified OK**
Panels	Delete	**Verified OK**

Button Images

Tab	Function	Status
Button Images	Button Status	**Verified OK**
Button Images	Panel Name	**Verified OK**
Button Images	Custom Text	**Verified OK**
Button Images	Predefined Image	**Verified OK**
Button Images	Custom Image	**Verified OK**
Button Images	Submit key	**Verified OK**
Button Images	Shift + Submit key	**Verified OK**

Button Colors

Tab	Function	Status
Button Colors	Modify	**Verified OK**
Button Colors	Reset	**Verified OK**

Notes:

1. All tests performed using Cattrax version 3.6.2 build 7345 and Cattrax version 3.6.3 build 7669.

4.3.3 Switches and Jumper settings

NA

4.4 Electrical verification

NA

4.5 Mechanical verification

NA

4.6 Thermal verification

NA

4.7 Agency verification

NA