June 11, 2015 Release Notes PERC3000 v2.2

v2.2 of the PERC3000 controller has the following updates:

1. Modified the PAIR / UNPAIR operation to prevent back to back changes (PAIR to UNPAIR; UNPAIR to PAIR) from happening in less than 60 seconds.

2. Added routines to turn off and turn on the PRC ports when the network settings change.

3. Added mutex protection for client sockets and shutdown flags.

April 15, 2015 Release Notes PERC3000 v2.1

v2.1 of the PERC3000 controller has the following updates:

- 1. Added mutex protection for dual variables.
- 2. Added routines to shutdown and restart TCP connections when changing the network settings.
- 3. Modified the TCP sockets to allow socket reuse.
- 4. Updated the lcd button justification e enumerations to include italic.
- 5. Added the routine init_network_cfg to initialize a semaphore and thread for network configuration.
- 6. Added a routine to clear the inquire list after changing the network settings.
- 7. Updated the enumerations, definitions, and structures in p2 v1 0.h.
- 8. Added a check for zero data length in the perc_nv_read and perv_nv_write routines.
- 9. Added code to drop Multicast membership when shutting down the PNET sockets.
- 10. Added routines to stop and restart protocols when changing the network settings.
- 11. Modified the heartbeat thread to pause during the processing of received dual messages.

12. Modified the dual threads and routines to prevent changing the dual status when the PERC 3000 is in single mode.

13. Modified dual communications routines to include host-to-network and network-to-host conversions of data. 14. Modified p3k_set_addr file to include updating the route table when the network address is changed.

15. Corrected the routine that handles status error events for the USP Protocol by searching for reentries as well as sources and destinations.

December 15, 2014 REVISED Jan. 14, 2015 to add item 7 Release Notes PERC3000 v2.0 v2.0 of the PERC3000 controller has the following updates: 1. Modified the user protocols (USP, P1, P1E, P1N, AutoPatch, and GVG) so that the number field instead of the ID field is used for levels, sources, destinations, reentry sources, and reentry destinations. Cattrax displays the number field to the user. 2. Modified the AutoPatch code so that taking or disconnecting switches over a range (levels or destinations) will occur over the full range. A missing level or destination will not cause the process of taking or disconnecting the other switches to stop. Also if a destination is locked will not cause the process of taking or disconnecting the other switches to stop. 3. Added the host to network translation of the data length of messages that are supposed to be sent to the other PERC 3000. The partnered PERC 3000 handles the translation from the network to the host. This change corrects a situation where the standby PERC 3000 was becoming active due to an incorrect data length value. 4. Removed the npreal2d.cf file from usr/lib/npreal2/driver directory so that it gets regenerated when the PERC 3000 is built. 5. Fully opened the p3k and p3k/bin directories (changed the access to read, write, and execute). 6. Added mutex protection for three variables used by the PRC driver. 7. Added in support for P1N - V1.1 control protocol, 81906206100 Rev C in Agile, which allows explicit query of the system controllers in a dual configuration to determine whether a controller is currently in the "ACTIVE" or "STANDBY" state. August 22, 2014 Release Notes PERC3000 v1.10 v1.10 Added improved control over serial ports and settings in the setSerial.sh script file added checksum and terminators Added the following variables to the startup script: case 'c': confidence loop delay- default 1 S case 'p': prc receive timeout - default per config 75mS case 'P':prc wait after receive before sending - default none

July 25,2014 Release Notes PERC3000 v1.9

v1.9 of the PERC3000 controller has the following updates:

1. Adds support for port 18005 to communicate with the Cheetah Matrix frame controller to insure that the system controller always has a connection even if there are multiple connections to the frame controller with Cattrax. This version will communicate with both the version which uses port 18005 and older versions which do not.

2. This version also corrects an issue with serial ports where a port can only be addressed once. Once the port is selected it could not be closed to reset or change its settings.

May 14, 2014 Release Notes PERC3000 v1.8

- v1.8 of the PERC3000 controller has the following updates:
- 1. Adds support for the new Smart32 panel.
- 2. Sends Touch72 configurations more quickly.
- 3. corrected handling of base config on backup machine
- 4. set the pthread_create attribute to NULL (as suggested by Bill)
- 5. Do not turn SO BROADCAST on the socket
- 6. bind to the address of eth0 rather than INADDR ANY
- 7. IP ADD MEMBERSHIP to the address of eth0 rather than INADDR ANY

Apr 15, 2014 Release Notes PERC3000 v1.7

v1.7 removes the MTA system call during boot-up to decrease system boot time. Sets timeouts on dual sockets to handle disconnects quickly and applies timers on panel conntections. Add smart32 and handle max length strings in config (not enabled in config). Smart32 support is in the code but downloading config with Smart32 panels is blocked in this release. Corrected Touch72 not updating configurations when updates are received by P3K. Now updates CRC after configuration update on standby controller. Handle maximum length names for all configuration items. Increment minor versions when building debug versions. Set socket timeouts for dual sockets to avoid blocking or broken sockets. updated panel timeout if not active P3K. Suppress sending configuration from standby controller when it becomes active during a dual transition. Extended panel timeouts when

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sending configuration. Found uninitialized values in P1K. Modified P3K manufacturing instructions to disable MBA to decrease system boot-up time.

Feb 24, 2014 Release Notes PERC3000 Software v1.6

v1.6 Changes the way that panel servers log into the system, panel servers prior to revision 2.0 can still log in and properly function. there are also corrective actions for tie-lines and reentries as a default destination.

Jan 28, 2014 Release Notes PERC3000 Software V1.5

v1.5 Corrected an issue in which a system with multiple RCP panel servers can have panel servers reconnecting when not being actively used. The panel servers will send a ping request every 10 seconds if there is no activity from the controller, but as long as there is activity from a panel attached to a panel server the controller sends out status updates which resets the timer to send the pings and therefore the panel server not being used sends no messages. After 40 seconds of inactivity from the panel server the PERC3000 would close the connection and the panel port server would go through the login process again. In this release, the PERC3000 sends a ping request prior to closing the connection, resolving the panel server logoff/logon issue.

Jan 15, 2014 Release Notes PERC3000 Software V1.4

V1.4 Added software to clear current configuration files when upgrading the software application code. V1.4 also put in a check on certain notification messages to insure the message didn't cause an out of range memory access resulting in P3K crash. This particular problem was manifest when a configuration from China Lake was loaded into a P3K unit here. The China Lake configuration had a DRS64 element with the same IP address as a unit on the factory floor which had a larger size with the same IP address configured as the China Lake device. A notification from the DRS unit on the factory floor caused the P3K with the China Lake configuration to crash. This version also does not permit an invalid IP, Netmask and Gateway (0.0.0.0) to be used in the P3K.

Keith Bond