

## Project Title: Advanced Power System

Software Released by: Gary Pritchard  
Created: 29 October 2013  
Last Modified: 11 August 2023

This document is a cumulative list of bug fixes and feature enhancements for Advanced Power System (APS) family of products.

### Reporting Bugs

If you find a bug or feel that we could improve the APS, then please let us know. If you find a bug that affects operation or crashes the unit then could you let us know ASAP!!

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## Installation procedure

This task requires a full size SDcard of 16GB (or less) in capacity, formatted as FAT32.

To install a software update, perform the following steps:

- 1) Extract the two update files (APS\_vnnn.bin and ApsTm\_vnnn.upd) - where nnn is the software version number) from the ZIP file into the root directory of the SD Card. The CPU card will automatically select and use the correct version of software.
- 2) Insert the SD Card into the unit.
- 3) Tap the touchscreen to activate the menu system. Go to '**System :: Code Upgrade**'.
- 4) The unit will reset (note that all outputs will be turned off) and the upgrade will start automatically.
- 5) Once complete, the unit will start automatically.
- 6) Remove the SDcard.
- 7) N.B. The .upd upgrade file on the SDcard is renamed to a .IMG file after a successful upgrade. This is to prevent repeated upgrades if the SDcard is left in the APS. To reuse the SDcard in another unit, change the file extension back to .UPG  
Alternatively, LOCK the SDcard to prevent the name being changed.

## **Release: v4.03 Date: 11-Aug-2023**

**Reason for the Release:** New Features and bug fixes.

### **New Features:**

- Reworked Lock screen UI. It is now possible to set the Lock code independently of the Lock function.
- Software upgrades via RDM are now supported, but only on dimmers running Bootloader v2.05 or later (Ti only).
- Buzzer and fan test added to service menu

### **Bug Fixes:**

- Setting a stagger start time of 0.09 seconds caused weird behaviour. Minimum stagger time is now 0.1s.
- Fan did not operate correctly at <200v
- Setting a manual fan speed worked, but the setting was forgotten after a power cycle.
- Owners name did not save correctly (Ti only)
- The voltage/current measurement could stop responding in some environments where there was very large EMC noise present.

### **Known Problems:**

- None.

### **Components:**

- ApsTm\_v4.03.upd (for Ti CPU cards)
- APS\_v4.03.img (for NXP CPU cards)

## **Release: v4.02 Date: 30-Aug-2022**

**Reason for the Release:** New Features and internal changes.

### **New Features:**

- The Owners Name can now accept numeric characters.
- Fan speed now set to a minimum of 30%.

### **Known Problems:**

- None.

### **Components:**

- ApsTm\_v4.02.upd (for Ti CPU cards)
- APS\_v4.02.img (for NXP CPU cards)

## **Release: v4.01      Date: 3-December-2021**

**Reason for the Release:**      Unified Code, New Features and Bug Fixes.

### **Unified Code:**

Due to our policy of continual product improvements the APS now has a new CPU card based on the Ti family of microprocessors. The new CPU card requires different software to the original NXP based cards. This is the first version of APS software that is available for both CPU variants and has all software features and GUI updates implemented in both versions.

The unified code is based on our new v4 platform, hence the major version number jump from 3.xx to 4.xx

Some bug fixes apply to both CPU types and others are specific to one CPU type only, this is notated by the CPU type in brackets (eg. Ti + NXP).

### **New Features:**

- The unit now fully supports Houston X (Ti + NXP).
- The new CPU card now supports firmware upgrades via Houston X (Ti).
- The access levels for the menu system have been overhauled. The User and Owner Login levels are now redundant and have therefore been removed from the Login screen (Ti + NXP).

### **Bug Fixes:**

- The cursor in the Owners Text entry screen did not change position correctly making it impossible to add text of more than one character (Ti).
- Importing a custom logo could cause the unit to reset (Ti).
- Once a minimum voltage was set, it was not possible to clear it in the Limits menu (Ti + NXP).
- The Sequential Start time displayed could contain a rounding error.  
e.g. Entering a time of 3.0 seconds would be displayed as 3.1 seconds (Ti + NXP).
- Some RDM commands were not working correctly (Ti).
- Large amounts of RDM data could be misinterpreted as the DMX source no longer being active, causing the APS to commence the shutdown procedure. The first action of the shutdown is to disconnect the DMX thru connector, thus disconnecting DMX from any downstream devices, causing them to momentarily lose DMX data (Ti).

### **Known Existing Problems:**

- None.

### **Components:**

- ApsTm\_v4.01.upd      (for Ti CPU cards)
- APS\_v4.01.img      (for NXP CPU cards)

**Release: v4.00**      **Date: 14-May-2021** *(for Ti CPU cards only)*

**Reason for the Release:**      First Public Release for Ti CPU cards.  
Note that the software release version has purposely been set to V4 to distinguish it from previous version of code meant for the older CPU card.

**Known Existing Problems:**

- This version does not fully support HOUSTON X.

**Components:**

- ApsTm\_v4.0.upd

## **All versions below are for NXP CPU only**

**Release: v3.10      Date: 19-June-2020**

**Reason for the Release:**      Enhancements and bug fixes.

**Enhancements:**

- The fan is now controlled by total load on unit. Fans will go to full speed when the unit is fully loaded to 16A per channel for more than 60 seconds. Total Load is calculated once every second and the average taken over the last 60 seconds and then converted to a percentage of full load and this value is applied to the fans.
- RDM has been improved and enhanced to operate with HOUSTON X.
- Unit now powers up in Manual Mode by default.
- A user logo can now be uploaded to the APS, as per the GEN VI.
- The owners name security handling has been improved, to match that of the GEN VI.

**Bug Fixes:**

- There were several issues with the 6 channel APS units.  
Some configuration menus showed outputs 1-12 instead of 1-6;  
DMX control of 6 channel units could leave a channel on when it should have been off;  
A few small screen layout issues were resolved.

**Release: v3.02      Date: 1-August-2018**

**Reason for the Release:**      Bug fixes.

**Bug Fixes:**

- Channels controlled by DMX turned on but didn't turn off.
- Although not a bug, the selection of LCD by touching the screen on power up has been removed.
- Further fixes to RDM messages.
- The touch screen may have locked up randomly and very rarely.
- The lock on an SD card was ignored (V2.0+).
- Export of files didn't work (V3.0+).
- Inserting or removing an SD card in the Import/Export menu would cause the outputs to glitch (V3.0+).
- Infinite loss time wasn't. It would take many hours but it would time out.
- The stagger start-up was irregular when very low Stagger times were used.
- When entering some values, no limit was set and with sufficient numbers it could cause the system to restart.
- If there was no high limit set on a phase, it was possible to set an invalid low limit.
- Setting DMX hold time could sometimes add extra seconds.

**Release: v3.01      Date: 28-May-2018**

**Reason for the Release:**      Bug fix.

**Bug Fixes:**

- The buzzer doesn't work in the final release of version 3.00. This is corrected here.

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## **Release: v3.0**      **Date: 22-May-2018**

**Reason for the Release:**      Improvements in switching, changes in control and bug fixes.

### **New Features:**

- The timing of circuit switching has been changed to further minimise inrush current.
- The minimum timeout for lost DMX or contact closures has been changed to include zero.
- When updating code, the SD card is first checked for a valid file and a button now allows the user to choose whether to update or not. Previously neither of these things was checked for.
- Channel OFF and channel ON functionality has been added. It is now possible to park a channel in either the OFF or ON state. All control of the channel is ignored except that any ON channels will still turn off if the supply volts are outside the set limits.

### **Bug Fixes:**

- On initialisation, some circuits may have come on randomly if there was no DMX present.
- On power up, it took some time before voltage limit checking occurred. This meant that it may be possible for some circuits to activate briefly before then turning off.
- If there was no SD card present when going into update, the system could white screen.
- Calibration data is now stored in E2PROM and not on the SD card. In very rare occasions if the SD card got corrupted the calibration would reset to the default values which may be inaccurate for any given device.
- If the system shutdown due to over-voltage, the fan turned off but never turned on again.
- Multiple Alarms on RDM could cause the unit to crash.
- Many RDM messages replied incorrectly (improved now that better testing tools are available).

## **Release: v2.0**      **Date: 01-Sep-2016**

**Reason for the Release:**      Addition of DMX controlled circuits.

### **New Features:**

- Each output circuit can now be controlled by a DMX slot directly. This is the equivalent of a DMX controlled switch.

### **Bug Fixes:**

- None.

**Release: v1.03      Date: 26-Mar-2014**

**Reason for the Release:**      GPO Signal logic correction.

**Bug Fixes:**

- GPO signal logic (high/low) was incorrect in previous software releases.
- GPI state detection has been improved.
- Improved touch-screen accuracy.
- Increased current calibration precision.

**Release: v1.02      Date: 18-Mar-2014**

**Reason for the Release:**      Support for revision 2 hardware (including Fan and Beeper).

**New Features:**

- Fan Speed Control implemented.
- If enabled, beeper sounds whenever Shutdown warning is active. Enabled by default.
- Power Off delay can now be set to 'Infinite'

**Bug Fixes:**

- In order to prevent accidental confirmation by a finger bouncing on the touchscreen swapped the following button positions:
  - 'Yes' and 'No' on the confirmation dialog ('Manual Off' and 'Reset to defaults')
  - 'Restart' and 'Reset to defaults' buttons on the Reset dialog.

**Release: v1.01      Date: 08-Jan-2014**

**Reason for the Release:**      Minor bug fixes.

**Bug Fixes:**

- DMX View page: '<' and '>' buttons now work as expected (Mantis #1319).
- Overvoltage alarm now does not stop touch events being acted upon (Mantis #1318).
- Relay card detection improved.

**Release: v1.00      Date: 29-Oct-2013**

**Reason for the Release:**

First Public Release.

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