SOFTWARE UPDATE PROCEDURES

UPDATE OVERVIEW

The NetThings Universal Display can be updated to take advantage of new features and improvements. Using one of the following 3 methods documented below, it is quick and easy to update the display.
Details of software releases can be found at www.netthings.co.uk/softwareupdates

Prerequisites

- The existing software version loaded needs to be version 2.1.6 or later. Earlier versions(2.1.2 to 2.1.5) will not update via the methods described here.
- The file *NetThingsUniversalDisplay.pkg* is required for the following procedures. This generated and supplied by NetThings and should not be re-named.
- The update process will only complete if there is a newer version available compared to the existing version. Attempting to install an older version or the same version will be unsuccessful.

PROCEDURE using USB

- Copy the *NetThingsUniversalDisplay.pkg* file into the root directory of a USB Flash Disk. It must have this file name and be in the root directory for it to be collected.
- On the display, disconnect the Ethernet dongle and replace it with the USB Flash Disk that has been prepared. This can be done at any point when the display is powered, although if present during the Android booting sequence it will only be available after this is complete.
- After a few seconds the display will show a brief message indicating an update is in progress. It will then reboot when the update is complete.
- During rebooting, the USB Flash Disk can be removed and the Ethernet dongle reconnected.
- The display will now be updated to the new version and this can be noted in the top right hand corner when the NetThings application starts.
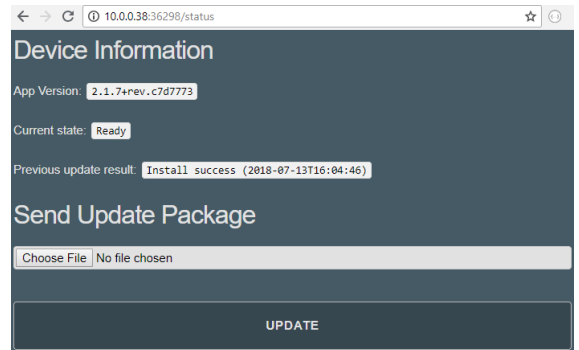

USB Flash Disk

PROCEDURE using Micro-SD card

- Follow the same process as the USB Flash Drive, inserting the SD-card into the slot on the back of the display. Remove the SD card when complete.

SD card slot

PROCEDURE using Local Network

Browser Option

- Browse to http://*<ip address of the display>:36298*/status (replace *<ip address of the display>* with the IP address of the display, but keep the :36298 part as is).
- Select the NetThingsUniversalDisplay.pkg file in the file chooser and then click *UPDATE*.
- The display should apply the update and reboot.
- Check the status page again to verify the update was successful. (Note: The IP address of the display may change after a reboot if using DHCP)

UNIX Command Line Option

- To get the state of the display. (Replace the IP address in the example below with the IP address of the display, leaving the :36298 part. The time is based on the local time zone configured within the display)

```
$> curl http://192.0.2.100:36298/status.json
{"lastUpdateDate":"2018-02-06T15:44:59","lastUpdateStatus":"SUCCESSFULLY_INSTALLED","displayVersion":"2.1.6","displayState":"READY"}
```

- To send an update package

```
$> curl -X POST -F "package=@NetThingsUniversalDisplay.pkg" http://192.0.2.100:36298/upload-update-package
Package received successfully. Now check if update has been successful on the status page.
```

- Query *status.json* again to ensure the update package has been installed correctly. (Note: The IP address of the display may change after a reboot if using DHCP)

HTTP Transfer Errors

- During the HTTP transfer of the update file, errors can occur. They are a combination of a status code (not visible in a browser) and a short English status text defined by the HTTP standards.
- Here are the error codes that can be returned by the display:

Code	Text	Reason
400	Bad Request	Could not find the data of the update package in the received HTTP request. This should never happen with a standard browser. If using a command line, make sure that 'package' is spelled properly.
409	Conflict	Another update file upload is already in progress on this display.
413	Payload Too Large	The update file is too big: current limit is 500MB. If the update package has genuinely been issued by NetThings, use an SD Card or a Flash Disk to update the display instead.
422	Unprocessable Entity	Data has been received in the wrong format (content type is not multipart/form-data). This should never happen with a standard browser. If using a command line, make sure to enable the multipart content type (-F argument of curl for example)
500	Internal Server Error	This is probably a disk space problem on the display - It cannot be updated. Please contact NetThings if this persists after a reboot. This may also be displayed after the package has been sent, whilst the files are being installed.

For further information please contact *support@netthings.co.uk*