

LED

PLANNING AND
BUILDING CONTROL
09 MAR 2020

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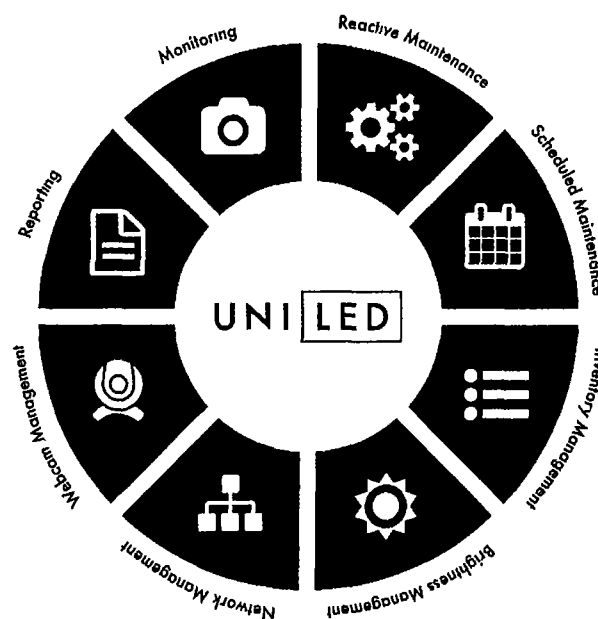
- Broadsign™ Content Manager
- Complete Remote Access
- Automatic Failover in the event of a complete PC power Failure
- Back Up 4G in the event of Internet Failure
- Local Playback Override Solution
- Dedicated Network server
- Playback Audit Reports – Post-Campaign Reporting
- Immediate Failure Reporting
- Live Webcam Video Feeds (IF APPLICABLE)



MAINTENANCE OVERVIEW

UniLED Solutions has a dedicated maintenance team who are on call and available 24 Hours a day, 7 Days a week, all working and non-working days throughout the year to fulfil both reactive and scheduled maintenance activities

Our technicians will arrive on site and resolve any issue affecting the screen within a contractually agreed SLA (normally ranging between 4-6 hours), ensuring issues are fixed very quickly. For issues which can be resolved remotely, the fix time is often less than an hour.



Our operations support team have a combined experience of over 35 years supporting and maintaining a variety of different LED and LCD display technology as well as associated coms, networking and electrics. Our remote support and content teams are experts in network management and have a high level of proficiency with a variety of CMS platforms. All UniLED personnel are full time and exclusively dedicated to the support and maintenance of digital signage networks. The combination of training and years of field experience mean that our workforce is amongst the most competent in the marketplace and are able to diagnose and repair faults accurately and efficiently.

LED screens require constant, around-the-clock maintenance from expert screen professionals who have many years of experience working with the technology. The screens will typically experience a range of faults that affect the main visual display, for example, a faulty tile/module,

a power supply or a break in the data feed circulating around the screen, which results in a section of the screen displaying no content (dropped link). However, there may also be several issues which are non-visual and resolvable remotely, for example, a loss of router connectivity

In addition, these screens require periodic, scheduled visits (quarterly, bi-annual or annual) to carry out all necessary preventative maintenance tasks which ensures the asset always looks visually stunning and operates at its maximum potential. These visits will normally cover off the below tasks:

- Screen Hardware Inspection (Modules, Shaders, PSU's, Data & Power Connections, Fans, Internal Connections)
- Comms Equipment Inspection (Processor, Media Player, Control Player, Network Router, Network Switch, PDU, T2R Device)
- Physical Cabinet Inspection
- Test all Network Connections
- Test all Remote Management Software (Including Alert functionality)
- Full Power Cycle
- Monitoring Webcam (Including Cleaning)
- Brightness Readings (1% - 80%)
- Electrical Distribution Board Inspection
- Inventory Audit
- Screen Cleaning (Internal and External)
- Record Health & Safety Observations and Recommended Remedial Action
- Record General Site Observations

MONITORING OVERVIEW

UniLED Solutions proactively monitors all digital assets 24 hours a day, 7 days a week, all working and non-working days throughout the year.

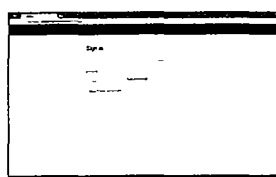
All screens are installed with a robust monitoring infrastructure, which includes Remote Management Software (RMS) and an On-Site Webcam (streaming a live feed)

The RMS allows remote login to the on-site PC from anywhere in the world. Time specific email notification alerts can be set-up to trigger connectivity and network status updates, instantly informing our maintenance team of critical events such as a drop in, or loss of, connectivity or a power disruption. Other relevant diagnostic information can be generated from the RMS which assists our maintenance team in proactively managing the digital asset.

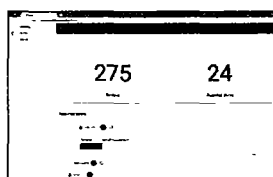
UniLED will also install an on-site webcam directly facing the digital screen. After installation, the camera feed is added to UniLED's bespoke camera application as part of our portfolio of IP webcams. The portal is available on desktop, tablet and mobile devices with the app available on both Apple (*iTunes Store*) and Android (*Google Play*) devices.

All camera feeds are monitored by our in-house Service Desk 24 hours a day, 7 days a week, all working and non-working days throughout the year, allowing us to identify and diagnose screen hardware issues in real time. Amongst the multitude of features offered by the live camera feed is a fortnightly archive of historic screenshots (housing snapshots taken every 10 minutes) which gives our clients full accountability and our monitoring team the ability to pin point when issues occurred should a query arise from any third party.

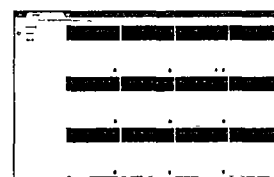
BRIGHTNESS MANAGEMENT



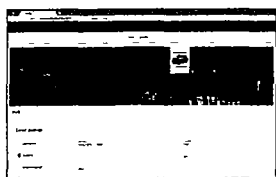
Step 1. Brightness Management Login



Step 2. Reported Errors



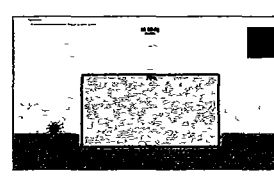
Step 3. Screen List



Step 4. Screen Specific Readings



Step 5. Screen Specific Configuration



Step 6. 24 Hour Demo

UniLED manage all LED screen brightness levels using our proprietary brightness management application, built by our in-house development team.

The software automatically updates the screens' daily brightness schedule based on the sunrise and sunset times in accordance with the screens' longitude and latitude mapped location.

In order to ensure that brightness levels remain within the agreed levels contained on any planning consent documentation, minimum and maximum parameters can be implemented at a screen level and automatic email notifications will be sent to our maintenance team if and when these parameters are breached or the processor stops responding to brightness commands.

We have integrated the tool with most of the major LED screen processors across a broad range of manufacturers and products and we would ensure that the tool is deployed and operational at this site

It's worth highlighting that, in addition to the use of software, which we strongly believe provides a fail-safe solution to most brightness management challenges, UniLED also carries out brightness readings during its preventative maintenance visits. These readings are carried out using industry standard brightness measuring equipment and are recorded on the subsequent reporting documentation produced on completion of any visit. The readings will confirm whether screen brightness is set at the agreed parameters in line with planning consent. However, UniLED can also arrange ad hoc site visits (outside of these periodic visits) to produce more detailed brightness reports, which can further confirm that brightness is at the agreed levels during both night time and daylight hours.

In summary, UniLED is fully aware of the importance involved in controlling LED screen brightness levels, especially in high traffic and high footfall locations. However, we are confident that the combination of our proprietary software application tool and our maintenance activities (which involve the measurement of brightness levels) provide a robust platform to deal with any planning concerns which may be raised by either Local Authorities or the Highways Agency

CONTENT MANAGEMENT SYSTEM

For the management of content on screen we will be using a program called Broadsign, which is the number 1 CMS platform for the Digital Out of Home industry and is utilised across hundreds of thousands of panels across the world.

By default, we apply a one second cross-fade to ensure a slow and smooth transition between adverts. We believe this transition to be the optimal choice and least distracting to passers-by.

Like the CMS itself this is a very common transition applied across the UK digital advertising hoardings industry