Remote monitoring

Internal Battery Support

An expanded power management board is fitted, together with an internal 10V 600mAh rechargeable NiMH battery. In the event that mains power to the site is lost, the NASBox processor, modem and Wi-Fi modules are powered from the battery typically for 15 minutes.

Power Fail Alert

On detecting loss of power, a "special" plate read (e.g. QQQQQP0) is transmitted to the Management Server or BOF. In the QRO Management Server (CSGS), the "special" plate is detected and generates a system alert which is immediately emailed to the relevant addressees to convey that the site has gone offline. Similarly, a BOF can usually be configured to raise an alert when the "special" plate is received. When incoming power is restored, a second "special" plate read (e.g. QQQQQP1) is transmitted which triggers a further system alert to indicate that the site is back on line.

Timed Power Disconnection

The power management board also incorporates a timed power disconnection circuit which, when triggered, disconnects the incoming +48Vdc power supply at the input to the NASBox for a period of 15 seconds. This enables the entire NASBox to be power cycled under software control (the power disconnection circuit is supplied by the battery so remains functional).

Watchdog Power Cycle

If the NASBox software determines that there may be a hardware issue (for example with the modem) which it has not been able to resolve by an appropriate soft reset, then it will trigger the power disconnection circuit to power cycle the NASBox. Additionally, there is a hardware watchdog circuit which is kicked periodically by the software to indicate that the program is running normally. In the unlikely event that the software ceases operating normally, the watchdog will time out and will trigger a timed power disconnection causing a power-on reset of the software.