

# Reports

## • Reports pt. 3

LeafNut Login

Please login to continue

Username:

Password:



The Report Summary provides a quick and easy summary of yesterdays events and a quick copy of Hit list and Day Scout reports.

Home Report Summary System Summary Your Profile Preferences About

Hit List Report Current Events

Search | Find N

Current Events

Events listed on this Trunk: 202

- Events (202)
  - Wimac - 65 event(s) on 35 node(s)
    - Lamp strike failed - 6 event(s)
      - 16784903 1 Thomas Street
      - 16784825 5 Road to rear of 5-107 Thorne Road
      - 16784765 2 Access to Rear of 7-83 Springdale Avenue
      - 16784743 14 Moorbottom Road
      - 16784723 2 Springdale Street
      - 16784708 1 Hall Avenue
    - Lamp aged lamp shutdown - 35 event(s) on 23 node(s)
    - Node time reset - 24 event(s) on 12 nodes
    - Nema - 0 event(s) on 0 nodes
    - Wimac Common - 137 events

Selecting a node will display an entire history for that node to easily see if the event is a recurring problem.

Selecting an event type will automatically go to the Health Check and select all the nodes which experienced that event on the previous day.

# Reports

- Reports pt. 4

The screenshot shows a software interface with a top navigation bar containing 'Home', 'Report Summary' (which is highlighted in blue), and 'System Summary'. Below this is a sub-menu with 'Hit List Report' (circled in red), 'Current Events', and 'Historical Events'. The main content area is titled 'Hit List and Day Scout Events' and contains a tree view of event categories:

- Events (132)
  - Hit List - 0 event(s)
  - Day Scout - 132 event(s)
  - Out of Communication - 114 node(s)
  - Day Burners - 18 node(s)
    - 16793175 2 Unna Way
    - 16793211 3 Unna Way
    - 16792933 4 Unna Way
    - 16793199 5 Unna Way
    - 16786901 6 Unna Way
    - 16786985 7 Unna Way
    - 16792942 8 Unna Way
    - 16793086 9 Unna Way
    - 16786778 10 Unna Way
    - 16793008 11 Unna Way
    - 16793120 12 Unna Way
    - 16789913 13 Unna Way
    - 16789916 14 Unna Way
    - 16793289 15 Unna Way
    - 16793059 16 Unna Way
    - 16786983 17 Unna Way
    - 16789903 18 Unna Way
    - 2213 1 Unna Way

The Hit List report summary shows the Hit List and Day Scout reports for your trunk. The day scout checks every ballast status on Sunday afternoon and reports ballasts which are not off, and ballasts which it cannot talk to.

Selecting a node will display daytime status report for that node.

# Reports

## • Event Report E-mail

From: admin-do-not-reply@leafnut-host.net  
To:  
Cc:  
Subject: UHF Event Report: Staging: 14/08/2010

**UHF Event Report E-mail deliver  
yesterdays UHF communication  
failure tallies direct to your inbox  
for easy viewing.**

| Node Id  | Branch Id | Column Id            | Location         | Event Count | Occurred          |
|----------|-----------|----------------------|------------------|-------------|-------------------|
| 16824937 | 2239      | 3                    | Marshall Street, | 2           | 00:55 26/Jul/2010 |
| 16824445 | 2070      | No # Opposite Chippy | Leeds Road       | 4           | 18:45 25/Jul/2010 |
| 16816248 | 2050      | 1                    | Hernies Street,  | 4           | 22:55 25/Jul/2010 |
| 16816617 | 2012      | 4                    | Leeds Road       | 4           | 00:26 26/Jul/2010 |

## • UHF Event Report E-mail

From: admin-do-not-reply@leafnut-host.net  
To:  
Cc:  
Subject: Event Report: Sales: 16/09/2010

**Event Report E-mail deliver  
yesterdays lamp events  
direct to your inbox for  
easy viewing.**

| Node Id  | Column Id | Location       | Event              | Occurred          |
|----------|-----------|----------------|--------------------|-------------------|
| 16824937 | Furyo - 2 | Harvard House, | Lamp strike failed | 10:16 24/Mar/2010 |
| 16824937 | Furyo - 2 | Harvard House, | Lamp Strike Ok     | 10:15 24/Mar/2010 |
| 16824937 | Furyo - 2 | Harvard House, | Lamp strike failed | 10:05 24/Mar/2010 |
| 16824937 | Furyo - 2 | Harvard House, | Lamp Strike Ok     | 10:04 24/Mar/2010 |
| 16824937 | Furyo - 2 | Harvard House, | Lamp strike failed | 09:54 24/Mar/2010 |
| 16824445 | Column 99 | Westland road, | Ballast timeout    | 09:56 15/Sep/2010 |
| 16810565 | bb1       | barry,         | Node time reset    | 09:58 15/Sep/2010 |



# Notes



# Troubleshooting

## • 0% Communication Statistics

| When   | Why   | Action   |
|--|---|--|
| Column is reporting 0% communication on E-mail or Trunk Reports. | Incorrect Leaf-Node ID.<br><br>Out of radio communication range or in radio black spot.<br><br>No power to the column or Leaf-Node. | Check the Leaf-Node ID.<br><br>Deploy a suitable SDP or relocate BranchNode.<br><br>Check supply to column and connections in lantern. |
|  | BranchNode has not synchronised.  | Perform Branch-Node Update using the Branch-Node Manager.  |



Use a WiMac Sniffer as a quick way to check ID numbers and test node to ballast connections

Harvard  
LeafNut

Harvard  
LeafNut

# Troubleshooting

- **0% communication Reports but lantern still switches on at dusk.**

| When  | Why  | Action  |
|---|--|---|
| Column is lighting at dusk, but is reporting no communications. | Node has lost communication with the branch but has had communication in the past. | Deploy an SDP or relocate BranchNode.<br><br>Check Node has not become obscured by tree growth etc. |

Using the Communications section in Reports! Identify the ones that have communication problems and check them with the rest of LeafNodes on the street.



# Troubleshooting

## • Day Burners

| When   | Why  | Action   |
|--|--|--|
| Column is lit during the day.<br><br>(Can be found in the day scout report created every Sunday) | Incorrect LeafNode ID input into Trunk.<br><br>Out of RF range or in a radio black spot.<br><br>Incorrect Time Profile input into Trunk.<br><br>Light pollution to the BranchNode photocell.<br><br>BranchNode has not synchronised. | Input correct ID on trunk and run Branch update.<br><br>Deploy SDP or relocate BranchNode.<br><br>Check Time Profile settings and Seven Day Profile activation type.<br><br>Ensure Branch-Node is in suitable location.<br><br>Perform an update from the Branch-Node Manager. |

Use a WiMac Sniffer as a quick way to check ID numbers!



# Troubleshooting

## • Unable to Connect to BranchNode

| When  | Why  | Action  |
|---|--|---|
| When using the Interactive Monitor or updating the Branch using the BranchNode Manager. | Branch Column has no supply.                           | Check power to BranchLamp.  |
|   | Branch Is set to inactive on the Trunk.                | Check Branch in Administration on Trunk. Set to active and update.          |
|   | GSM signal is poor or network is experiencing outages. | Relocate Branch if persistent. Try again in 30 minutes if outage suspected. |
|   | Someone else is connected to the branch.               | Wait for other users to disconnect.   |

If you have any significant problems with connecting to a branch, contact your LeafNut Support Account Manager who will be able to perform additional checks and further assist you.



# Troubleshooting

## Other Events

### Node Time Resets

| When  | Why  | Action   |
|---|--|--|
| <b>A LeafNode will report this every time it comes back into power.</b> | <b>The cause is usually intermittent power supply to the column.</b> | <b>No action required in the first instance.</b><br><br><b>Regular occurrence may warrant investigation of the supply stability.</b> |
| <b>When being serviced by a contractor.</b>                             | <b>Power has been intentionally removed.</b>                         | <b>Ensure power is restored after work is complete.</b>  |

# Troubleshooting

## Other Events pt. 2

### Lamp Aged Lamp Shutdown

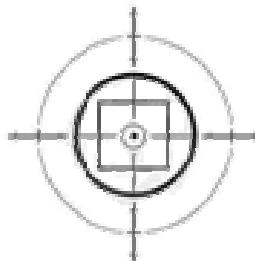
| When   | Why   | Action   |
|--|---|--|
| During normal operation.   | Ballast has failed to maintain an arc in the lamp.  | No action required in the first instance.  |
| If possible, ballast will operate lamp at reduced power and reports as such. | The lamp needs replacing or the ballast is unable to create a high enough voltage to maintain an arc. | Multiple occurrences means lamp needs replacing or supply voltage needs checking. Can be caused by ballast or wiring faults. |

# BranchNode Optimum Placement Guide

## Remember the 3 rules of radio

### 1. Sight

UHF communication works best if the BranchNode has line-of-sight communication with its nodes. This is aided by the branch being on a good tall column. Try to place a branch where it will get a good “view” of as many nodes as possible. Don’t worry though, full line of sight not a requirement.



### 2. Signal

BranchNodes require GSM signal to communicate with the trunk. Check an area has O2 signal if in doubt, before installing your Branch.



### 3. Surroundings

The operation of a BranchNode will be affected by its surroundings. Trees, tall buildings, metal structures etc. Will all affect operation as they absorb or reflect or break up radio signals. Choose a tall, clear column on which to place your BranchNode. Don’t place it under a bridge.



# BranchNode Optimum Placement Guide pt. 2

## Basic Requirements

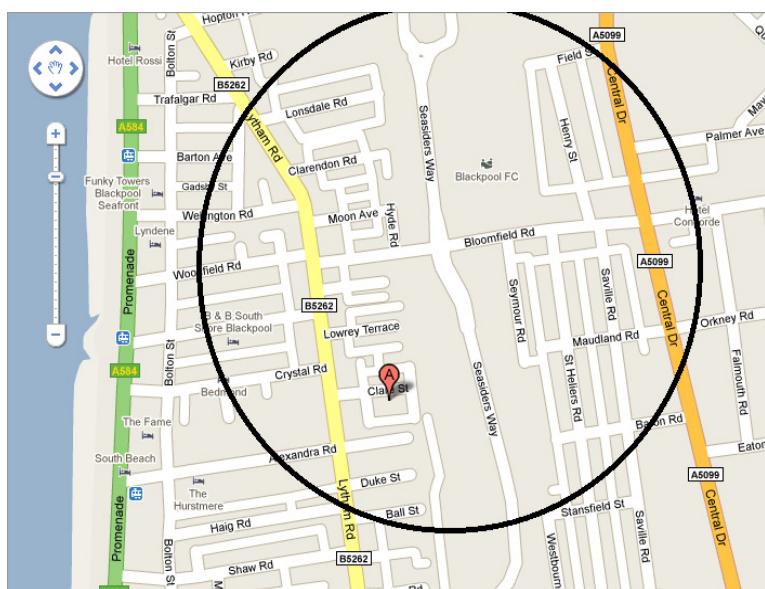
A BranchNode must be mounted vertically on a column, with a clear sky view. It must also be mounted in an area with reasonable GSM signal (On 02 in the UK.) The BranchNode must have a constant supply 24/7.

## Choosing a Slot

A branch must be on a different slot number to any other branches within a minimum 3km radius, to prevent branches interfering with each other. If you have the mapping tools, these will help to identify unused slot number in the area. Be strategic, and consider future deployments. Two branches 5km apart can't have another branch on the same slot in between. Two nodes 6km apart can.

## Choosing a column

A Branch should be added in the centre of a deployment, with nodes placed all around it. As nodes communicate best with line-of-sight communication with their branch, junctions of two long straight roads often make great branch locations. Choose a tall column, in a clear area. Avoid columns which are very close to buildings or trees. The column **MUST** have a constant supply to it. This is important for a LeafNode and VITAL for a BranchNode.



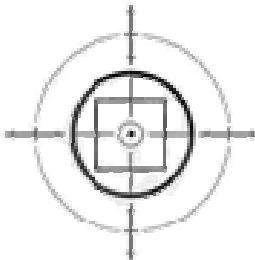
Assuming the branch is currently at point A and all nodes lie within the black circle, where would you relocate this branch to?

# Adding a Spatial Diversity Provider to improve communication black spots.

## Remember the 3 rules of radio

### 1. Sight

SDP's will work best if they have line-of-sight communication with nodes in a black-spot. When selecting a node to use as an SDP, choose one which has a good sight of the majority of nodes with communication issues. Don't worry though, full line of sight not a requirement.



### 2. Signal

SDP's require good signal to operate. They cannot "pass on" a message which they didn't "hear".



### 3. Surroundings

SDP's operation, as BranchNodes, will be affected by their surroundings. Trees, tall buildings, metal structures etc. Will all affect the operation of an SDP as they absorb or reflect or break up radio signals. Choose a tall, clear column.



# Adding a Spatial Diversity Provider to improve communication black spots Pt. 2.

## Identifying a need

Before adding an SDP, ensure that it is actually required. As the number of SDP's is limited, do not waste one trying to communicate with nodes which have no power, or which are very near to a branch. By all means use one as a test to ensure that signal is a problem, but nodes near a branch with comms issues may benefit more from having the branch relocated by a few columns, hence still allowing you to add more nodes around the perimeter of the coverage area using an SDP to communicate. SDP's should not be used to resolve problems caused by poorly located branches.

## Choosing a Node

The IM is a good starting point when choosing an SDP. If there is a whole street with low comms, look for a node on an adjacent or joining road, near the junction, with good comms which is not already using an SDP to communicate. Make a list of a few options.

Go to the reports section and check the “communication by node” history for the shortlisted nodes. The graph tab at the top of the report will give you a good visual representation to ensure that the node has consistently good communication.



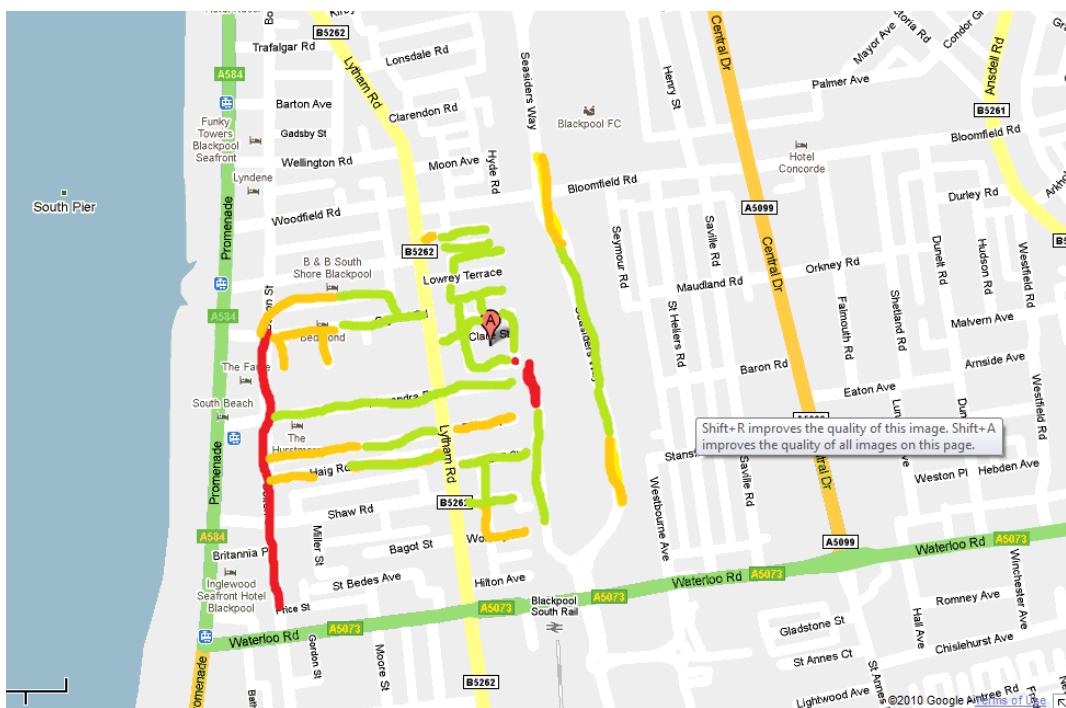
# Adding a Spatial Diversity Provider to improve communication black spots Pt. 3.

## Enabling the SDP

Once the Node has been chosen to be an SDP, go back to the IM, and check the box next to the appropriate node in the Manage SDP's section. Leave the trunk for about 36-48 hours, until it has synced twice, to ensure that communications have settled down, then go back to the IM and check that the change has been successful. If not, try one of the other shortlisted nodes and repeat the process. This follow-up is important to ensure the changes have been worthwhile. Remember that if you leave an ineffective SDP active, it will not be available for use elsewhere.

## Larger branches and keeping a fluid process

As more nodes are added to a branch, you may find it worthwhile going back and removing SDP's added early on in installation, to place them somewhere with greater efficacy. For larger branches, it is often worth removing all SDP's, then colour coding streets on a printed map, red for no comms, orange for poor comms, and green for ok or good comms. You can then visually see where the most black spots are and choose an optimum position for an SDP.



# Events Explanations

## Node time reset

Occurs when the node is power cycled. This fault can indicate there are supply problems, glitches, brownouts, surges etc. If a node time reset occurs every day around dusk then it is likely the column is on a switched supply. This is usually accompanied by several UHF fails during the day. It is recommended that nodes are connected to a constant 24/7 supply.

## Strike Fails

Occur when the ballast cannot “see” the correct voltage at the lamp terminals. This can be caused by a missing/broken lamp, bad wiring, ballast fault or a hot lamp. A hot lamp can occur if the column is power cycled shortly before dusk, gets turned off by the BranchNode (whilst still light) then subsequently is told it is dark and will try to re-strike a hot lamp. The hot lamp situation will correct itself when the ballast tries to successfully re-strike, so there will be a matching “Strike OK” in the events report some minutes later. The other causes of strike failure can only be ascertained by opening the luminaire.

## Aged Lamp Shut-downs

Occur when the arc fails in the strike tube, this is usually due to the lamp being old and the voltage required to keep the arc running is higher than the ballast’s capability. It can also occur with faulty wiring or lamp socket. The ballast will attempt to re-strike the lamp after a cool down period. If successful will run at reduced power (The ballast assumes it is an aged lamp and therefore may run happily for many hours at 75%). If the lamp is known to be good then it is more likely a wiring or ballast fault.

## Ballast Comms Fail

Occurs when the node has power but the node cannot communicate with the ballast. This is usually due to the connector not being pushed home fully or one of the pins being loose. There are ballast and node faults that also cause this event, and are usually caused by a node being plugged into a live ballast. It is difficult to ascertain whether it is the node or ballast that is faulty.

## UHF Comms Fail

Occurs when a BranchNode cannot contact a node in it’s database. The obvious problems are node fault, range, column power, incorrect serial number, ballast fault (even if a ballast is day burning it does not necessarily mean power is being supplied to the node). If there are corresponding UHF OK events in the event report then the node can communicate sometimes. This indicates a range problem or a supply problem to the column (in which case there should also be a corresponding “Node Time Reset” event.)

## Ballast Strike Fail Shutdown

This event occurs when a lamp has repeatedly failed to strike. Rather than continuously cycling the lamp after several failed attempts, the ballast shuts down and will try to re-strike the lamp again the next night. For more information, see Strike Fails.



For more events information  
see the WiMAC manual





### FCC warning statement:

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment



