



## Highgate Park Sectors

Air-Stream Highgate Park has once again had another birthday, and so soon after the last one. Building on top of the recent recable of the site the Network team has installed two brand new 5GHz sectors to replace the existing 2.4GHz sectors which had been offline for quite some time.

The installation saw the removal of the existing 2.4GHz horizontal polarised sectors and the removal of the poor performing HGP-Valley View backbone. The removal of these made way for two brand new Ubiquiti 5GHz dual-pol sectors and Rocket M5. The network team has also used this opportunity to test out the RF Armor sector shields. The physical installation was carried out in a few hours by Tanuki , Justo and Tomeyer.

This project like all core node projects run by the Network team

followed the standard process of approvals and reviews by the Network Team and Committee. The process starts with a initial project proposal which is traditionally written by a single member of the network team, in this case, DrGeforce3. The proposal can also be written by a multiple people. A project proposal includes sections like:

- Benefit to Members
- Various Hardware Options
- Cost Breakdown
- Feature Trade-Off Analysis
- Safety Concerns
- Dependencies on other projects

Once the initial project proposal has been submitted to the network team, it is then reviewed and updated with input from the whole team. A final version of the proposal is submitted to the committee for review.

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## Upcoming events

- No Members Meeting in December
- Bunnings BBQ - 26th December
- Members Meeting - 28/1/2015
- Members Meeting - 25/2/2015

Have an event that should be listed here?  
Email [committee@air-stream.org](mailto:committee@air-stream.org)

**Air-Stream**

# Network Update

## Ingle Farm

Air-Stream Ingle Farm recently had a minor packet loss issue resulting in degraded performance, this issue was highlighted by a member reporting a fault through the Air-Stream Tracker regarding poor performance on a point to point link to an independent node. This was investigated with a potential source of the performance loss identified and resolved. This is a great example of how members reporting issues in the network helps to build a stronger more reliable network.

In addition recent work has been undertaken to upgrade the core routers at Ingle Farm to RouterOS V6. Recent discoveries regarding BGP settings now makes RouterOS V6 available to use on larger nodes such as Ingle Farm.

## Cement Hill

Cement Hill is still scheduled to have some major work completed, the as largely been delayed due to poor weather.

This is currently scheduled for late January pending weather and equipment availability.

## Parkside

Parkside has been approved by the Network Team and Committee for a much needed upgrade. This will involve the installation of a new backbone to the Highgate Park 5ghz sectors and a new omni. Currently the Network Team is going through the procurement phase and is planning the deployment of the new hardware. This upgrade will allow members to once again connect to the Network during monthly members meetings held at Parkside.

## Sheidow Park

Currently going through the approvals process is a brand new southern site called Sheidow Park. This will be a new Core Node managed by the network team and fully funded by Air-Stream. Sheidow Park will include multiple sectors an omni and backbone connections. This will provide much needed coverage currently a sparsley covered southern network.

Several options are currently being investigate by the network team regarding masting and a decision is due in the very near future.

This work is scheduled to happen by the end 2014.

## UniSA

The trial Ubiquiti Nanobeam has been installed at UniSA connecting to Ingle Farm. This is being closely monitored and so far it is looking like there is an improvement in the overall reliability of this link. The Ubiquiti Nanobeam has become the standard device for point to point connections throughout the network. This is based both on the testing performed on this and other sites as well as the discontinuation of the Ubiquiti Nanobridge that the Nanobeam has replaced.

## 802.11ac Tests

There are now some 802.11ac devices operating in the network, at this stage the results are looking excellent with the ability to reduce the channel bandwidth and maintaining high throughput the major advantage. Currently the Network Team is looking at options for further trials of 802.11ac equipment on core nodes. It is expected that over the coming year more 802.11ac equipment will be deployed within the network.

Have you got a project to list here? Contact [committee@air-stream.org](mailto:committee@air-stream.org) and it will be included in the coming issues of Air-Zine.



# Highgate Park sector continued

From Pg.1

The committee may then approve the proposal as given by the Network Team, assuming that funding is available and it is in the best interests of the membership.

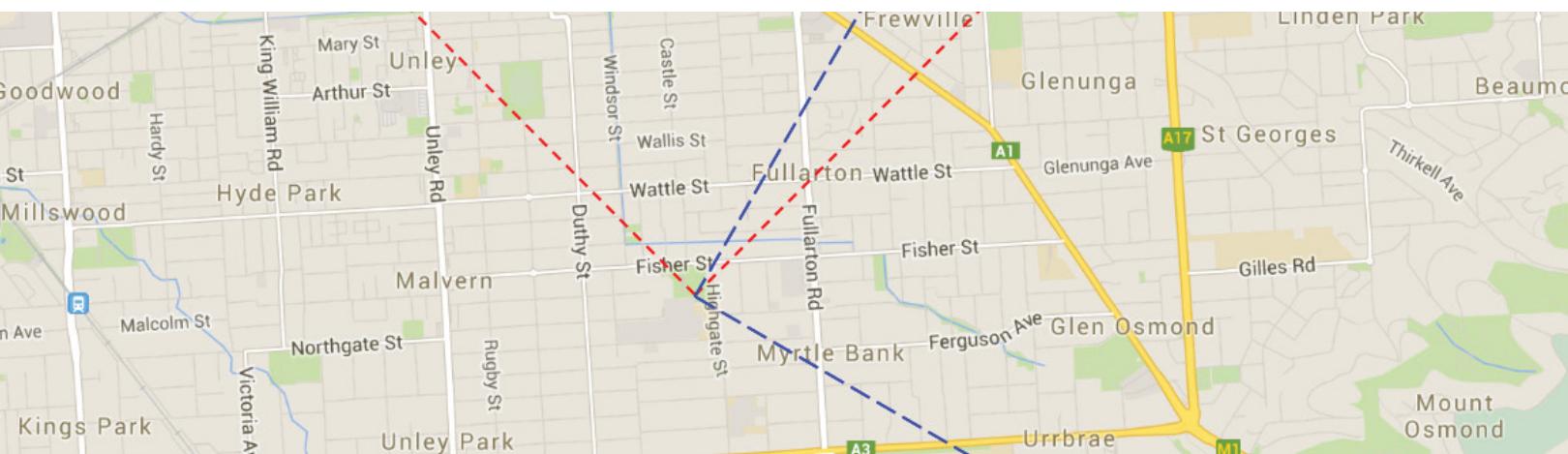
The turnaround time for a project to progress from initial conception to approval in anywhere from a few weeks to 6 months depending on the scale of the project.

Now that the new sectors are installed the network has much better coverage of the Parkside/Fullarton areas (northern facing sector). The second sector covers the Burnside and Glen Osmond Areas (eastern facing sector).

This latest upgrade now clears the way for a upgrade on our Parkside Primary School node which is scheduled to be done on the 10th of December.

Many thanks to Justo, Tanuki and Tomeyer for taking time out of their day to get to the site during office hours and DrGeforce3 for developing the project proposal. The network team as a whole has worked quite hard to see this project come to fruition.

-Nekron

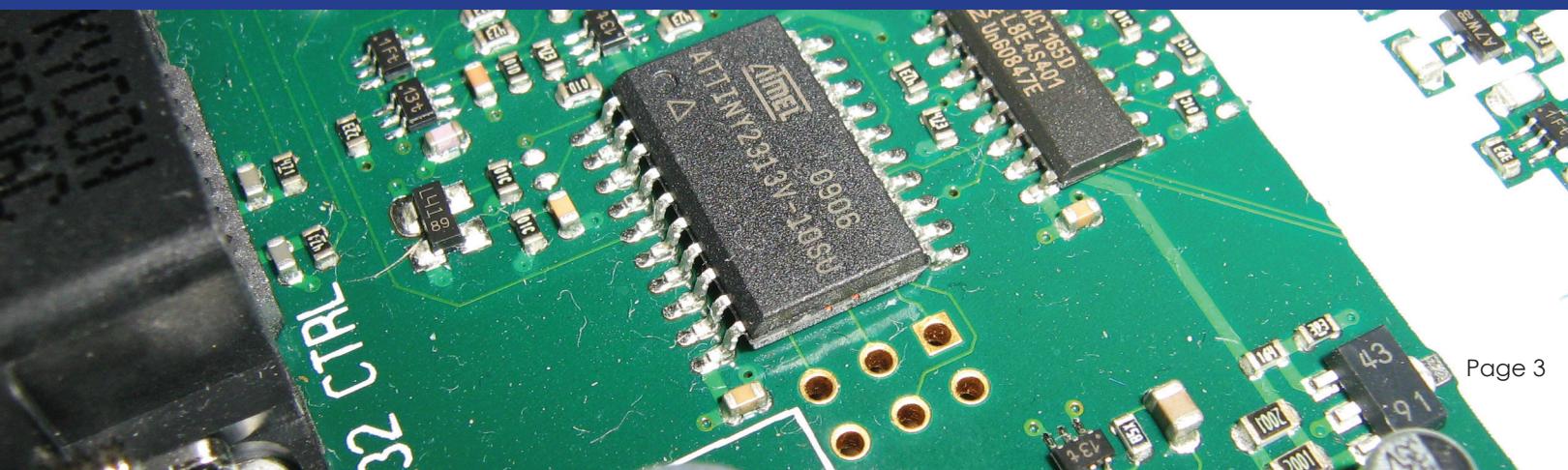


## DC-DC UPS Update

Hi All, A quick update on the progress of the DC-DC UPS that a few of us are designing. The schematic design is well under way with the bulk of the actual UPS module design now captured.

From here refinements to the UPS module will be done including finalising component selection to ensure we meet our design specifications. Then we will start looking at the monitoring section of the UPS. This will include all the sensors and the embedded computer module.

We are evaluating a number of low cost embedded computer modules that utilize system-on-chips (SoC) which will dramatically reduce the development time of the product. Modules such as the Beaglebone Black, Raspberry Pi Compute Module and various other modules are on the list for consideration. - Nekron



# Air-Stream Southern Area story

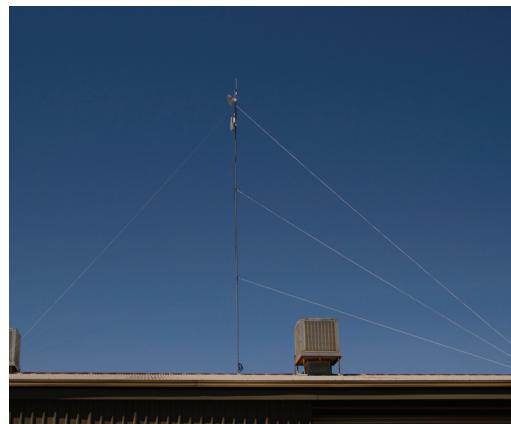
Air-stream is now in its 13th year and whilst it is one of the largest community network in Australia its mainly covering the metro area from Darlington to Elizabeth. This is the story about our expansion towards the southern areas of Adelaide.

The story began when an association was formed with the S.A.Lifesavers through James Nobes (stormshaker). Like many other arrangements we have made during our expansion of the network it was of mutual benefit for all.

The first core node was completed in late 2012 on the Cement Hill Site using the existing mast.



The next core node was established on the SLS shed in Lonsdale in Feb 2013. With this, a gateway was finally created beyond Darlington.



My connection was established in March 2013 as a client to Cement Hill, I can also potentially connect to Lonsdale in the future as a redundancy.



We have made several overtures to SCARC a Wireless club based in the southern area to join us. To date it's still in progress.

My drive to extend our network south has fired up our committee and network team as such that a mission statement for 2014 was to concentrate on expansion of the southern area.

A Stumble Kit was kindly provided by Daryl Collins(Daz\_) for that purpose.

The first step is a new site possibly destined to become a fully funded core node on Education road namely Happy Acres. Kindly provided BY Bill Christo of Hilltop Radiators and Mechanical repairs



Another site has more recently become available named Chandlers Hill ap to be built on a house owned by my daughter Belinda and husband Phill. This site promises to be an equally if not a better node.



My mission is to not only extend our network southwards but eventually overcome the Adelaide Hills barrier and go Eastward.

This is a continuing story and further updates and announcements will be made in the future articles.

-Tomeyer



As a minimum there are three roles, Chairman, Treasurer and Secretary.

Who is on the committee? The current committee members include:

- Troy Vodopivec (hat)
- Justin Piro (Justo)
- Dior Freeman (Didz)
- Joseph Burford (Josephb)
- Shawn Zeppel (DJ\_HIP)
- Sam Greenwood (dragoon)
- Tony Dalmeyer (tomeyer)
- Jan Tomczyk (jan)

These people were voted in by the members at the 2014 AGM and will hold their positions until the following AGM in November 2015.

The committee is comprised of people with a diverse range of skills including IT technicians, Programmers, a Small Business owner and a managers.

It is a common misconception that committee members need to have networking knowledge, often being detached from technical aspects of the network makes for better committee members.

All committee members share the same weight when making decisions as any other committee member. The various roles have no more power than any other role. A committee member has no more rights than any other member of the club.

The committee is here to serve the members and progress the club as whole.

If you have any questions or suggestions for the club in any aspect you can contact the committee by emailing us on:

[committee@air-stream.org](mailto:committee@air-stream.org)

Or by attending one of our monthly members meetings.

# Who is the “Committee?”

The Air-Stream committee consists of eight people voted in every year by the members at the Annual General Meeting. The committee is made up of people that are dedicated to progressing Air-Stream as a community and who manage the day to day administration of the organization on behalf of the members

It is often misunderstood what the committee actually does. The committee are the group of people that look after all aspects of administration of the club including, membership, equipment ordering, insurance, peering agreements, site access agreement, procedures and documentation as well as funding allocation.

What makes a good committee members?

A committee members shall be a natural person who is focused on improving Air-Stream as a community and make decisions on behalf of the members as a whole.

The committee looks after all these and many more aspects of the club to keep it running and ensure it will continue operating into the future.

What about the network infrastructure? The committee does not directly manage the network. This is the role of the network team. The committee does however provide consultation and recommendations to the network team and has the final say when allocating funding to projects.

How does one become a committee member? Becoming a committee member is the easy part, all committee members are nominated by a fellow member and then the membership votes in their 8 committee members at the AGM. After the AGM the initial meeting (generally in January) the committee nominates the roles and specific responsibilities of the individual members.



# AGM review

Our Annual General Meeting event marks the end of another successful year for the club as we look back and marvel at the achievements of our community.



This year saw the completion of some much needed improvements to core network infrastructure as well as the continued development of several new sites around SA.

With the event once again taking place in the Parkside PS gymnasium, there was plenty of room for members to move about and catch up with others on recent happenings around the network. Attendance was quite good with around 25 members in person and more watching via the live video stream.

The AGM proceedings included a comprehensive review of key events from the past year by Troy and reports from committee members Shawn and Sam on club memberships and the network team. Our fundraising officer Tony reminded everyone about the upcoming Bunnings BBQ event on Boxing Day and called for

volunteers.

Following the official business, nominees for the 2015 committee were given a few moments to introduce themselves and speak about their vision for the coming year. Daryl kindly took over for the election proceedings, with Sam and Tom volunteering to manage the voting process. Thanks go to everyone involved in getting through the official business smoothly.

We thank our outgoing committee members for their service to the club this past year; Sam B, Nathan C, James N, Michael K, and welcome onboard the new electees for 2015; Justin P, Dior F, Jan T and Joseph B. You will no doubt be hearing more from them in the new year as they settle into their new roles. We thank our continuing committee members Troy V, Sam G, Shawn Z and Tony D, and look forward to another exciting year.

Also joining us, Brenton from the WA wireless

network (WACAN) made a special trip to meet some of our members in person after many months of online chat. We have an ongoing relationship with WACAN and are actively developing a peering link between the two networks via the internet. It was great to chat about the many similarities between our organisations and wireless networking tech in general.

Of course no AGM would be complete without some form of gastronomic indulgence and this year we enjoyed a succulent post-meeting BBQ kindly organised by Tony, Shawn and John which was a huge hit! Thanks to everyone who made it on the day and helped making it an enjoyable event, have a great Christmas and we'll see you in the new year!

-Troy

# Safety Update

Hi Members,

Please note if you are planning to do any work on your site or together on another you are eligible to use any equipment from the Air-Stream safety box.

Included in the box are items like face-shields for cutting and grinding, gloves for rope work, ear protection. Most importantly included in the box is Height Safety Equipment including, Harnesses, Lanyards and Hard Hats.

If you would like to use the PPE safety box, please contact Firefox or the committee to arrange to borrow the box or just a few things from it.

All current members are eligible to use the equipment.

## Safety side tip

When using a fold up/step ladder check a few things before using it:

1. Ensure a solid level footing on the ground, (good ladders should have rubberized feet)
2. Rest the ladder on a good surface, preferably not a rusty gutter.
3. Position the ladder with a good angle of 70 degree's to the ground, have friend check if not sure.
4. Check condition of fitted ropes, and latches if fitted.
5. Always have someone hold the ladder at the base to prevent it pulling out, when load is on the ladder.

6. Get the correct sized ladder for the job.

7. Only climb a ladder front facing; never with your back down the ladder.

8. Always use three-points of contact when using a ladder. Get the correct sized ladder for the task.

If you do not have the correct equipment for the job, jump on IRC or email the Members list as there are always people willing to help out that may have the right equipment.

Always remember don't compromise when it comes to safety as you only get one chance at it.

- Firefox





# What is "Air-Stream?"

Air-Stream Wireless was established by a handful of dedicated wireless enthusiasts in 2001 and became an Incorporated Association in September 2002. It is the first and largest Community Wireless Network (CWN) in South Australia to successfully build a Wide Area Network (WAN) using wireless technologies.

With hundreds of active members the network now forms part of the largest community wireless network in Australia and is continuing to grow with the help of wireless enthusiasts and radio amateurs across Adelaide and Australia.

## Our Mission:

Air-Stream Wireless is a non-profit community group who use Wireless LAN in combination with software and other technologies to deploy a Wide Area Network (WAN) that supports community participation, local content and communications.

### Strategic Plan:

For this mission to become reality members of Air-Stream Wireless shall work together to achieve the following goals:

Maintain and develop Core Router Nodes, Network and Member management systems to ensure continuity and reliability for all members.

Continued to grow the network and promote the benefits of Community Wireless Networks in Australia.

Continue to provide education on the regulatory framework for running a Community Wireless Network such as the "Public Park Concept"

Provide an open platform for members, developers and other community groups to discuss and share information on the effective use of wireless technologies.

Develop tools that allow members to easily access distribute and create local content. Deploy numerous free community hotspots

in public spaces, to garner broader community awareness, participation and sponsorship for Air-Stream Wireless.

Promote the benefits of community participation, support the production and distribution of local content and communication systems.

Air-Stream Wireless supports Free and Open Source Software (FOSS) which is widely used across the network to host essential services such as the Members Database, DNS and Email which have all been developed voluntarily by members.

Similarly, the wireless equipment deployed uses a part of the radio spectrum which is also free to be used by anyone, provided the radiated power is kept down. Called the "Public Park Concept" it is relatively unregulated by the Australian Communications & Media Authority (ACMA) who allow all users the same rights regardless of who they are - business, telecommunications carriers, government departments or private citizens.

## Have a suggestion?

Do you have a suggestion for AirZine? Are you interested in writing an article? Or even have some cool pictures that you think followers of Air-Stream may enjoy. We want to hear from you.

Currently there are a few dedicated members that prepare content for AirZine.

Doing this is a very time consuming process, we are currently on the look out for anyone that is interested in submitting content for upcoming issues. If you are interested in writing a regular column or providing regular content we would love to publish it.

Content is not just limited directly to Air-Stream related activities, we are interested in all aspects of Wireless, including Amateur

Radio, Electronics, Hardware Hacking, Linux and Open Source Software and many more fields.

If you are interested in contributing to AirZine.

Send us an email at:

[committee@air-stream.org](mailto:committee@air-stream.org)