

The PROPAGATOR



Issue 1 – Volume 12
March 2008

IT'S BIRTHDAY TIME

WAHOO !

It's time for a party, Wahoo! The Illawarra Amateur Radio Society turns sixty this year. As with all important birthdays, you need a birthday party. Our clubs birthday party will be held at the Illawarra Master Builders Club, starting at 6.30pm. There will be a Buffet dinner, the menu to include lots of hot and cold seafood, delicious roasts, salads, roasted seasonal vegetables and delicious desserts. The cost of the dinner will be \$35.00 per head and there is a discount for those IARS members on a concession. Drinks are at your expense but a wonderful night can be expected by all those who attend.

We have booked for 50, so it's a first come and paid time line. There will be displays, lucky door prizes and the drawing of our monster raffle.

VK2AMW

On the 10th June 1948 the Postmaster-Generals Department issued the Experimental Licence VK2AMW, and Illawarra Amateur Radio Club is going to celebrate this special time with a special Club call sign, VIZAMW60. June is the 60th Birthday month with lots of activities for members and non members to join in, have fun and celebrate 60 years of amateur radio in the Illawarra.



The New Look Propagator

Well it's back!

The prestigious Propagator is here again, but for how long depends on you.

We still need an editor or combined editorial team, why not give it a go, it's not too difficult.

All you have to do is let one of the committee people know, and we'll set you up and get you on your way.

In this Issue

IARS 60th Birthday	1
D-Star Update	1
D-Star Update (Pt2)	2
Inter. Lighthouse	2
Workshops	3
Project Workshop	4
Contact Details	8

Acting Editor:

Ross Masterson VK2VVV

I.A.R.S. Club Repeater Frequencies

2 Metres
146.850 MHz }
146.975 MHz } Linked
146.675 MHz }
147.300 MHz

70 cm
438.725 MHz
438.225 MHz

6 Metre
53.650 MHz

10 Metres
29.620 MHz

D – STAR PROJECT – ON THE MOVE

Well things have been happening behind the scenes with the IARS D-Star project. As usual we don't do things by halves, and the system promises to be of a world class standard. I thought it was about time we let you all know about our progress.

The two 2 Metre / 70 Centimetre / 23 Centimetre Tri-band Hi-Gain Diamond Collinear Antenna Arrays were put in place on the Easter Weekend at a D-Star working bee at the Maddens Plane site. This was a very successful day and also an opportunity for a

think tank with all the IARS members involved. I can't remember how many times our guys aloft disappeared behind the thick cumulous clouds at the end of a 100 metre length of Nylon rope used to hoist everything including their barbecued lunch and drinks

D – STAR PROJECT

Continued from page 1

that they whole heartedly enjoyed after about four hours in the clouds.

Thanks must go to the D-star project team. Steve VK2TSB Ross VK2VVV, Rob VK2MT, Neil VK2VNJ, Simon

VK2XQX

and of course

Tony

VK2TS .

Since that day Steve

VK2TSB

and Rob

VK2MT have worked until darkness and Ross VK2VVV has also been to site numerous times liaising with Telstra for the data link, and he has performed extensive tidying up of the Communications cabinet and installation of cable tray to provide a much more professional and serviceable sys-

tem to be realised.

Our next step is the application for the 512K/512K SDSL Line - Fingers crossed.

We are currently awaiting the licence

application that is being processed by the WIA via the ACMA and also

delivery of the 4 x Repeaters and the repeater controller.

Once again the IARS is well ahead of others and hope that we can soon put some RF into the antennas.

Will keep you all posted on the latest developments.

Cheers

Tony



Decoding signals from weather satellites

One radio interest that has a small but enthusiastic following is decoding weather maps from satellites.

It's done by connecting a special receiver to a computer and watching the displayed images.

A considerable amount of information on this has been published in back issues of *Radio and Communications* magazine.

Dick Smith Electronics currently have a Weather Satellite Receiver available in kit form.

INTERNATIONAL LIGHTHOUSE OR LIGHTSHIP WEEKEND

The International Lighthouse/Lightship Weekend came into being in 1997 from the Scottish Northern Lighthouses award weekend by Mike Dalrymple, GM4SUC, a member of the Ayr Amateur Radio Group, see also this web site for further history and this page for the event's first web site. Over the years it has grown to over 380 lighthouses in some 51 countries around the world participating in the event. The event is always held on the 3rd full weekend in August starting at 0001 UTC on Saturday and finishing at 2359 UTC on Sunday.

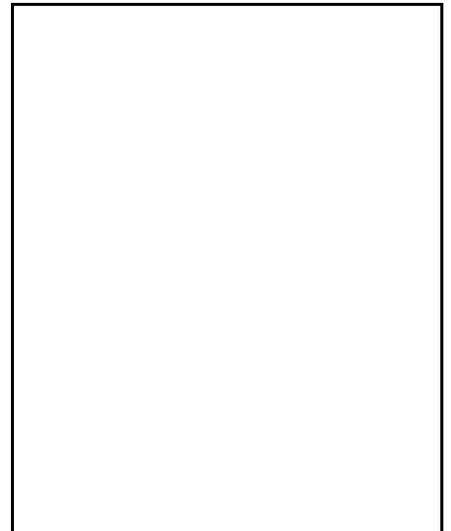
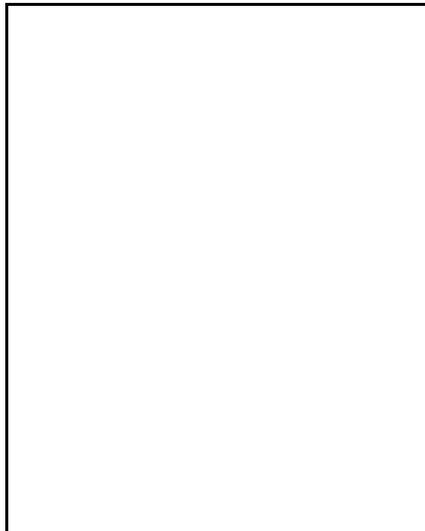
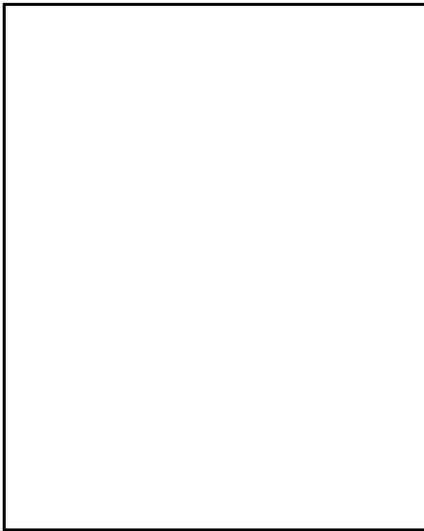
For more information:-
<http://illw.net>

*Over the years it's
grown to over 380
Lighthouses.!*

The basic objective of the event is to promote public awareness of lighthouses and lightships and their need for preservation and restoration, to promote amateur radio and to foster International goodwill.

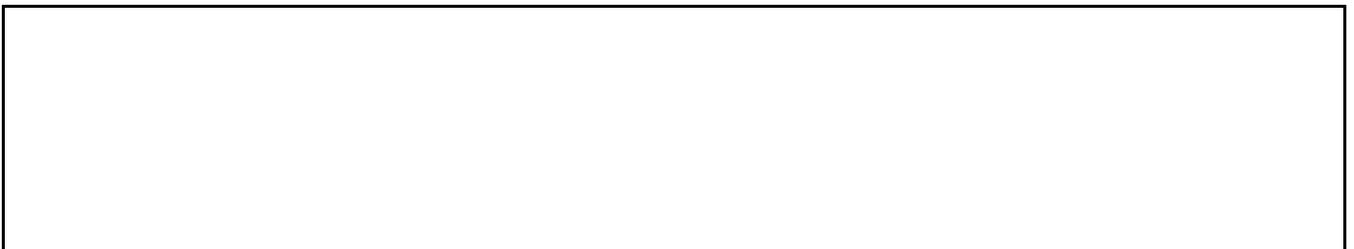
The event is NOT a contest, each station's operators decide how they will operate their station regards modes and bands. Participants are not committed to being on the air during the entire period - only as much as they can. There are no restrictions on aerials or power. We wish operators to enjoy themselves and have fun whilst making contact with as many amateur radio stations as possible. We request that stations take time to work other lighthouses or lightships as well as the slow operator, or the newly-licensed or QRP stations.

WHY IS THIS SPACE BLANK ???



Because stories don't write themselves.

If you have an amateur radio related story, or project or any thing that will interest club members, Please, Please, Please, let the editor know.



AMATEUR RADIO WORKSHOPS

During April, May and June there will be several amateur radio workshops held by the club. Come along and build yourself a tape measure Radio direction finding antenna, a radio direction finding unit, a CTCSS encoder/decoder and many more projects.

*Feel like getting back to some grass roots amateur radio stuff?
Have we got some projects for you.*

Thanks to Paul VK2FE, these workshops will be tailored for the beginner and the advanced enthusi-

ast alike, there will be workshops teaching basic soldering skills, PCB production and component identification. Listen to the clubs broadcast on Tuesday evening for times and dates for the workshops. Parts will be provided in kit form at a subsidised club price for members.

PROJECT SPOT

While browsing the net I came across this nifty little 'Afternoon project', in an online car magazine called, Autospeed. My thanks to the editor Julian Edgar, for permission to reprint this article in our journal. (www.autospeed.com)

Converting an old mobile phone car charger into a Luxeon Light PSU.

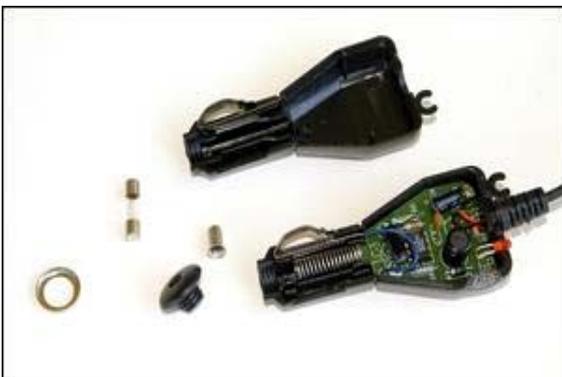
If you're moderately handy with a soldering iron, you can now modify a phone charger to become a 1W Luxeon power supply for a grand total of about 15 cents! You'll need a discarded cigarette lighter plug-in phone charger of the sort that gets thrown away whenever anyone buys a new phone. (In fact, have you got one tucked away?) If you haven't, you'll find them at garage sales, secondhand stores, out the back of phone retailers – even at the tip.



When you've got the Luxeon (they're available from electronics retailers like Newteck Electronics) and the phone charger, you'll need just one more component – a 3.9 ohm, 1 watt resistor. So how do you do it?

Step by Step

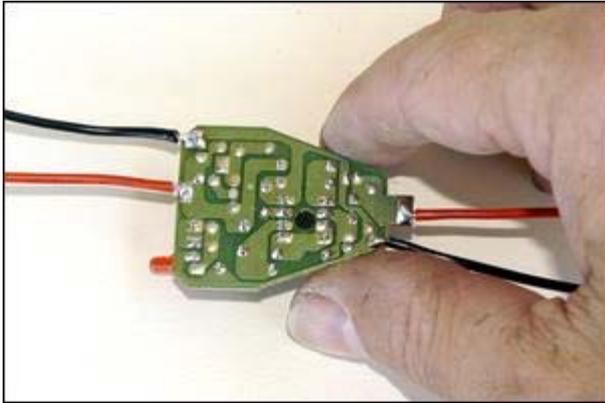
Here's the starting point – old phone chargers. Don't worry: you don't need the five shown here – just one will do.



The charger pulls apart really easily – just undo the threaded collar at the pointy end of the plug and then separate the two halves. A fuse will fall out – you can put that in your spare parts drawer and the rest of the housing in the bin.

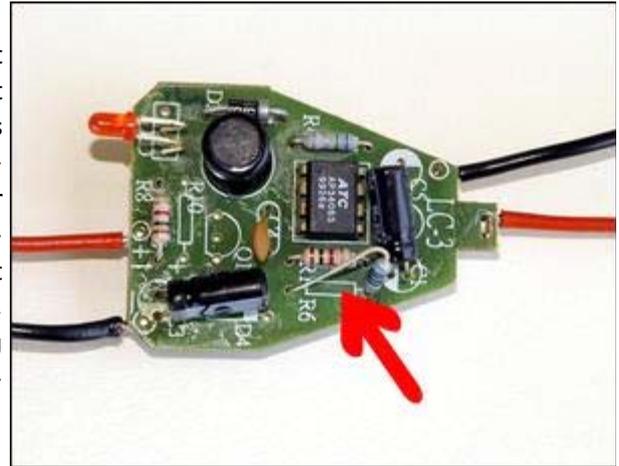


Here's what the bare guts look like. Note the red and black wires on the left – they're the positive and negative (respectively) power outputs. The inputs are on the right – the spring that connected to the tip of the plug is positive and the other wire, negative.

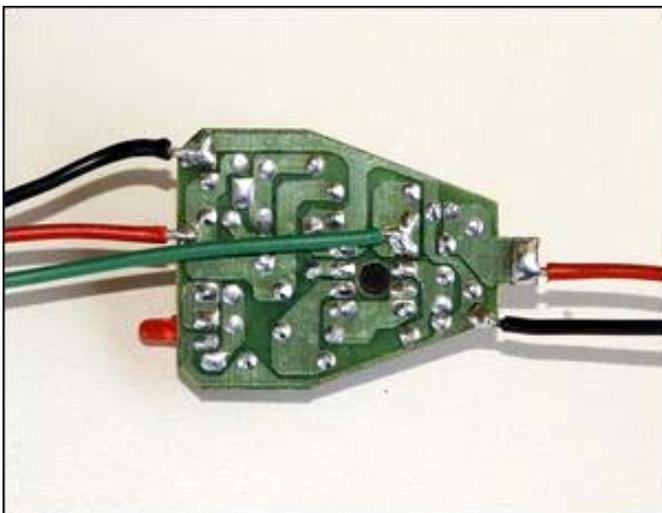


The first step is to solder on new input and output wires. Solder directly to the Printed Circuit Board (PCB) pads, rather than trying to thread wires through the holes. Keep the correct colour coding – red for positive and black for negative (ground). Remember, the pointy end of the PCB is the input power end.

The next step is to locate two specific resistors on the PCB. Somewhere on the board there will be two resistors that join to a common track at one end but go to different tracks at their other ends. The track that both resistors join to will also connect to pin 5 of the IC (see diagram below). Given that there will only be three or (at most) four resistors on the board, it isn't all that hard to find the resistor pair in question. Also, the two resistors are almost always physically located near to one another. (In fact, truth be known, that's usually all I use as the locating guide!) Using small diagonal cutters, cut off the two resistors and discard them.

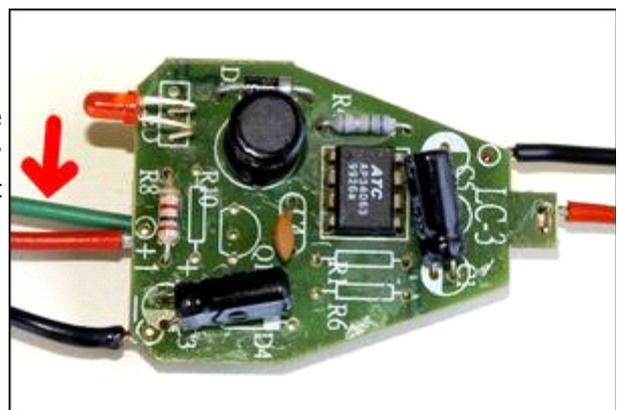


The next step is to locate pin 5 of the IC. Locate Pin 5 on top then very carefully turn the PCB over so that you have the same pin identified from underneath.



As shown here, solder a new wire to Pin 5 of the chip. I used wire with green insulation. Don't overheat the chip when you're doing this and remember that you can solder anywhere along the track that connects to pin 5 – it doesn't have to be actually at the pin itself.

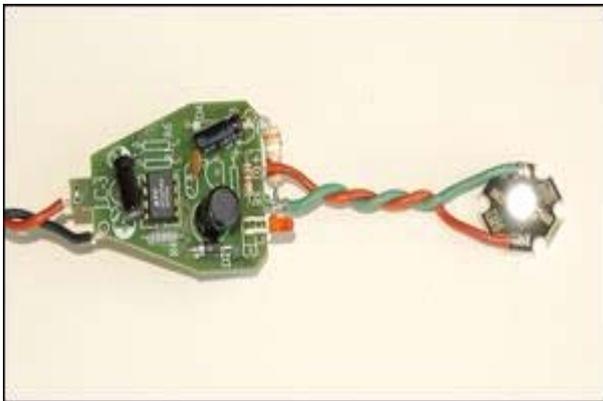
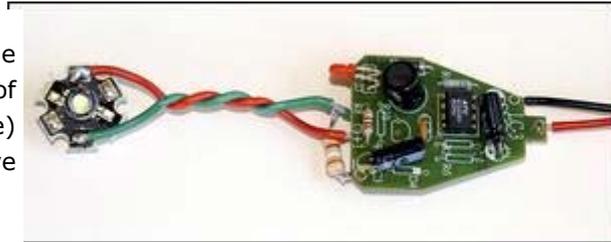
When you turn the PCB back over, the view should be like this. That pair of resistors is gone and the new green wire (arrowed) connecting to Pin 5 comes out from under the PCB.





Making sure that you're working on the output side of the module (that's the non-pointy end), solder the new 3.9 ohm 1 watt resistor between the green wire (the new one that connects to Pin 5) and the negative output (black). In this view the negative wire got so short it's lost its black insulation.

Finally, solder the positive output (red) to the positive terminal of the Luxeon (there's lots of positive terminals on a Luxeon - just pick one) and the green (Pin 5) wire to one of the negative terminals of the Luxeon.



Apply power to the input (anything from about 7-24V!) and the Luxeon should come to life. If you have a multimeter, it's wise to unsolder one wire from the Luxeon and insert the meter to measure the actual current flowing through the LED. It should be about 315 milliamps. Then, when all appears to be working well, run the Luxeon for 15 minutes or so. No component should get really hot (ie too hot to touch) although a number of components may grow quite warm.

Uses

So, what use do you make of the Luxeon? (Or Luxeons - once you've done one power supply conversion, another will take you half the time.)

One really good use is to replace the interior light bulb. The interior will be better illuminated, leaving the interior light on will be much less likely to flatten the battery, and the colour of the light will be improved. Make sure you measure the polarity of the light connections and then solder the Luxeon power supply feed wiring straight to the light bulb terminals. In most interior lights there will be plenty of room for both the circuit board and the LED, perhaps held in place with a few dabs of silicone.

Boot lights can also be upgraded in the same way, you can add an underbonnet light, or (with a red Luxeon) a light on the inside of the door that shows passing drivers that your doors are open. If you want a shiftlight you will NEVER miss, use a Luxeon - you can get them in red, orange, green or white.



Conclusion

Luxeon LED prices will continue to fall as they become more and more popular, and with the near zero price of a modified phone charger power supply, their in-car use becomes quite viable. Sophisticated LED lighting in your car? Easy!

NEWTEK ELECTRONICS

ABN: 24 092 364 120

Now Incorporating RJ & US Imports

**Suppliers of ferromagnetic cores
for all electronic and RF applications.**

Ph/Fax: (02) 4227 1620

**345 Keira St Wollongong NSW 2500
Australia**

**THIS IS THE OFFICIAL JOURNAL OF THE
ILLAWARRA AMATEUR RADIO SOCIETY INC.**

Postal Address

P.O. Box 1838
Wollongong NSW 2500

Email: iars@iars.org.au

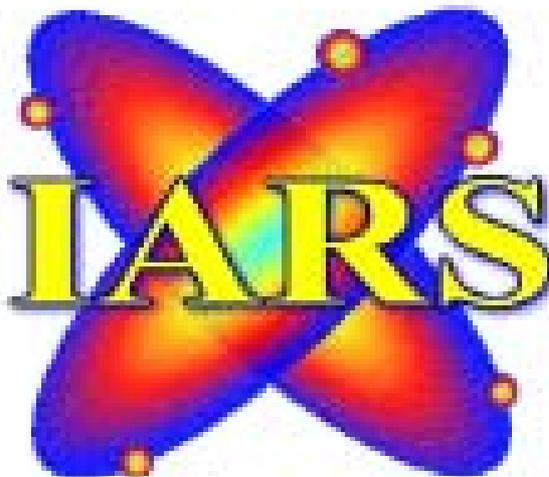
*'The Illawarra Amateur Radio Society'
The progressive amateur radio club.*

**I.A.R.S. www site:-
www.iars.com.au**



The Illawarra Amateur
Radio Society Inc, is an
affiliate of the
Wireless Institute of
Australia.

President:	Tony Stone	VK2TS
Vice President:	Rob McKnight	VK2MT
Treasurer:	John Lawer	VK2KEJ
Secretary:	Steve Benko	VK2TSB
Assistant Secretary:	Ross Masterson	VK2VVV
Committee:		
	Jack De Cesco	VK2XGD
	Borris Rewark	VK2JJJ
	Peter Reid	VK2NRL
Repeater Committee:	John Bennett	VK2AAL
	Rob McKnight	VK2MT
Education Committee:	Ted Thrift	VK2ARA
	Brian Farrer	VK2AH
Librarian:	Neil Justusson	VK2VNJ
Web Master:	Neil Justusson	VK2VNJ
Fund Raising Committee:		
	Peter Reid	VK2NRL
	Jack De Cesco	VK2XGD
Broadcast Officer:	Jack De Cesco	VK2XGD
Call Back Co-ord:	Jeff Howell	VK2NSW
D-Star Committee:		
	Tony Stone	VK2TS
	Rob McKnight	VK2MT
	Steve Benko	VK2TSB
	Ross Masterson	VK2VVV
	John Bennett	VK2AAL
	Neil Justusson	VK2VNJ



Issue 1 – Volume 12
March 2008