

MARS NEWSLETTER

(STRICTLY FOR PRIVATE CIRCULATION AMONG MEMBERS ONLY)



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(co-opted)

From the President's desk

Dear members and friends,

At the outset, I would like to congratulate our editorial team for meticulously working in bringing out the second newsletter for the period Jan-Mar 2024.



Similar to last year this year too we had a good mix of technical sessions and outdoor events and it was heartening to witness a good response for all the activities.

The Fox hunt in particular was welcomed with a lot of enthusiasm. Everyone liked the location, food and prizes. Kudos to OM Das - VU2DH and OM - Deepan VU2DPN for conducting such a fun-filled event in a fitting manner. I am sure all the members would have enjoyed the event immensely.

The technical session by OM Divakar - VU2FFW on 'Tiny Ground Station for LORA Satellites', held on 20th Jan, was very informative.

During the month of Mar'24, the presentation on 'Software Defined Radio' by OM Rajesh Kannan - VU2OW was educative and well attended.

Both speakers put in lot of efforts in preparing wonderful power point presentations.

In view of the good responses received for all the events, the committee is trying to organise an event almost every month. In the months to come, we are planning to organise a trip to Meenambakkam Airport to see the Air Traffic Control Tower live operation.

A visit to a PCB manufacturing unit in Chennai is also in the pipeline. Apart from these programmes, a field day event and a workshop on homebrewing are also being worked out.

.....2

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From the President's desk

.....The MARS Amateur Radio Society Web site is also getting ready and it will be launched at the earliest.

The committee is planning to form teams to help members to install antennas for HF/VHF transmissions and to assist in HAM licence renewal.

Members who are interested to volunteer in helping the committee in these areas are most welcome to indicate their willingness.

As we have come to the end of the financial year, the committee is working on bringing useful and interesting programmes in the coming months.

Finally, Happy Ugadi, Gudi Padwa, Tamil New Year and Eid-us-Fitr to all members.

With best wishes to all.

73s

Thyagu

(VU2PTR)



Illustration: paarc.net



Members eyeball QSO

The year began with the very first members' meeting of MARS Amateur Radio Society which was held on Saturday, 20th Jan, 2024 at 6.15 pm IST (1815hrs) in "The Hall of 1960", Department of Chemistry, College of Engineering, Guindy campus (CEG), Anna University, Chennai.



A gathering of 35 members graced the occasion. It was heartwarming to see many senior HAMs gather together keeping up the spirit of the hobby despite their waning years. Of course, the younger generation was also represented but not as much as one might expect. Nevertheless, any HAM is always young at heart!



After the initial pleasantries and light refreshments, the meeting commenced but on a solemn note. The Secretary, OM N.Deepan - VU2DPN, requested Dr Shanmugham - VU2CSM to read out the condolence message for OM N.T.Balasubramanian – VU2DZD, who became silent key on 12th January 2024. Later, all the members stood up to observe a minutes' silence as a mark of respect.



Following this, the secretary called the President, OM Thyagu - VU2PTR, to preside over the meeting. The President greeted all the members and gave a brief detail of the programmes and events in the pipe line. Then he welcomed all the new life members and requested them to give a self-introduction. Subsequently, mementos were handed over to all the new members by the Vice President, OM Rajesh Kannan – VU2OW.



It was now time for the main event. OM Arun Kumar - VU2BBF introduced the speaker of the evening, OM Divakar – VU2FFW.



What followed was a splendid presentation on “Tiny GS - Ground Station for LORA Satellites”. It was a very detailed power point presentation followed by an equally interesting demonstration including the antenna set up. At the end of the presentation, as a gesture of thanks, a memento was presented to OM Diwakar.



Then the President informed the members about the proposed FOX HUNT event scheduled for 11th February. He elaborated on the rules and regulations to be followed and also spoke of the pre-event briefing meeting that would be conducted through ZOOM for the benefit of all.

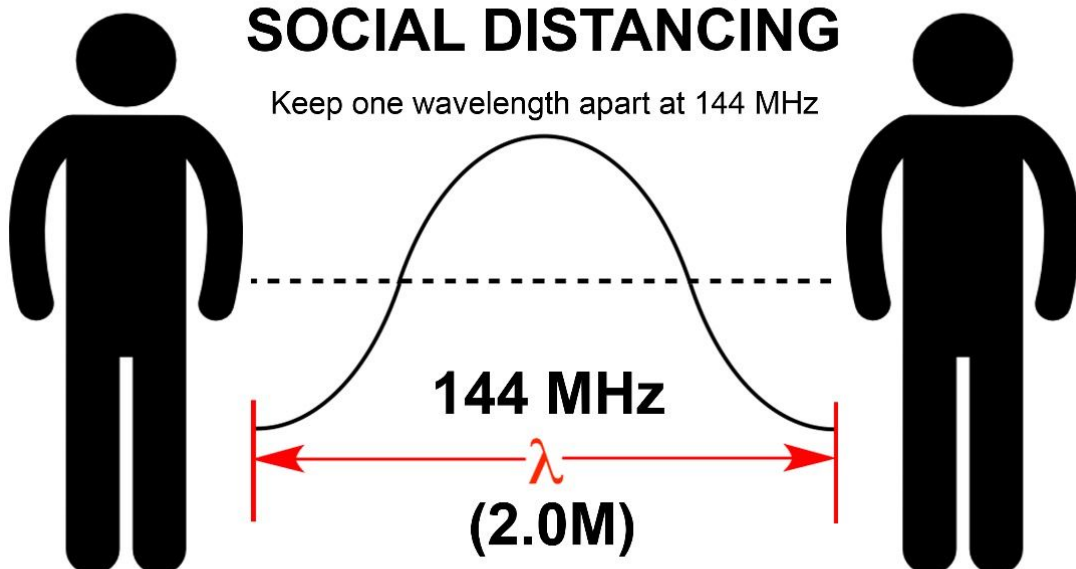
Later, OM Clement - VU2CWO invited everyone for the MAHAMEET Eye ball meet scheduled for 10th February, the 2nd Saturday, at Sowmiyaa Mahal, TKM Salai, Mahabalipuram and gave details of programme and process of registration.

The meeting wound up finally with the Vote of Thanks delivered by OM Deepan – VU2DPN.



Amateur radio enthusiast guide to **SOCIAL DISTANCING**

Keep one wavelength apart at 144 MHz



VHF FOX HUNT 2024

**1st prize winners: (team)**

- VU2RJD - Brigadier Rajaram
- VU2VWR - Raghav
- VU2FFW - Diwakar
- VU3IXO - Lokeshwar
- VU2FFV - Karthikraj

2nd prize winners (team):

- VU3GHB - Hari

3rd prize winners (team):

- VU2OW - Rajesh
- VU2 - Sudarshan
- VU2AIV - Abid Ansari



Illustration: hamradio360.com

Illustration: part.org.au



VHF FOX HUNT 2024!

The Fox Hunt - After months of planning and coordination the much awaited FOX HUNT was held on 11th Feb, Sunday.

One of our longtime members who has a reputation of being an excellent fox hunter himself and an avid participant in every event was the designated Fox.

The Fox howl was heard for 60 sec every 240 sec on the VHF frequency 145.000 MHz. The timings followed and power used for transmission were like this: (All times are in IST)

08:00 to 08:25 @ 25W

08:30 to 09:30 @ 25W / 5W

09:30 to 11:30 @ 500mW

So, came the day and many HAMs were on the roads of Chennai. They had formed teams to find this fox. Cars and SUVs were loaded with different types of home-brewed antennae, signal attenuators, trackers, handies, maps and what-have-you's.

After a quick breakfast at some roadside eatery and a fresh cup of coffee, the search began earnestly. Many started off from the outskirts of the city,

Though the actual event officially started at 08:00am (0800hrs), the participants were on the road from the break of dawn. In fact, the outstation team from Bengaluru stayed overnight at a hotel and started hunting before even the fox had had his morning breakfast!

The location provided was within a radius of 30km from the 'Zero Stone' of Chennai city.

Just imagine this scene - A car dashes through the morning traffic and suddenly halts on the side of the road. A few men come tumbling out of it holding what looked like cloth hangars - which in fact were antennas and direction finders - in one hand and a walkie talkie in the other. These men would jump out from the vehicle, point their strange devices here and there and then excitedly jump back into the car and drive away!

People on the roads must have been intrigued and amused to see random men in civil clothes perform such actions which must have really looked silly to some and mysterious.

What they didn't realise was that these gadget holding men were HAMs searching for the elusive fox and listening to its howl.



VHF FOX HUNT 2024

Nevertheless, after some hours of cross country driving, seven teams arrived at the fox location before 11:30am (1130hrs).

But the hunt was not over yet. Now they had to find the pups of the fox! Three of them were lost among the fields. The HAMs were once again on the hunt, some using imaginative and homebrewed searching devices to finally bring the pups to their mother.

Finally, three teams managed to locate all the pups and the hunt was over.

A well deserved prize distribution ceremony was held and plenty of memories were captured on digital frames.

VU3VWR also managed to get some great aerial videos using his drone.



Hearty Congratulations to all the prize winners!

...and many thanks to all those who organised the event:

- the Event Coordinator: VU2DPN - Deepan,
- the Fox - VU2DH Das,
- the president VU2PTR Thyagarajan.

There were many who worked behind the scenes to make the event a success. These included:

- VU3NKQ Vipin, who got the necessary permissions,
- SWL Arun, harmonic of VU2DH, who was everywhere doing everything,



VHF FOX HUNT 2024



Know your Rig

The story of every new HAM goes something like this.....

Get inspired by some other HAM.....clear the WPC exams.....get a licence.....then build a HAM radio. If you don't have the inclination or patience, then.....buy a radio! And here's where it gets interesting.

9 out of 10 new HAMs who are interested in owning a handheld transceiver end up buying the Baofeng UV-5R.

So let's take a look at it.

The Baofeng UV-5R is a handheld transceiver developed by the Chinese company Baofeng. It was first introduced around 2012 and gained popularity for its affordability, functionality and features. It is a popular and versatile two-way radio that has gained widespread recognition. With a frequency range spanning from 136 to 174 MHz and 400 to 520 MHz, this dual-band radio allows users to communicate on both VHF and UHF frequencies, making it suitable for various applications such as amateur radio, emergency communication, and outdoor activities.

One notable feature of the UV-5R is its programmability, enabling users to manually input frequencies and customize settings. This flexibility makes it a favorite among radio enthusiasts and emergency responders who appreciate the ability to adapt the device to their specific needs. Additionally, the radio's dual-watch and dual-standby functions enable users to monitor two channels simultaneously, enhancing situational awareness.



The UV-5R comes equipped with a backlit LCD screen, facilitating easy navigation through its menu system, which includes options for adjusting volume, squelch, and various other parameters. Its compact design, coupled with a built-in flashlight, makes it a practical choice for outdoor activities such as camping or hiking. It also supports CTCSS/DCS tones, has a VOX (Voice Operated Transmit) function, and allows for programming via computer software.



The Baofeng UV-5R handheld radio has some drawbacks though, including its complex menu system which can be challenging for beginners. Additionally, its build quality is relatively basic, and it may not be as durable as higher-end models. There are other alternative handheld radios within the same genre that offer comparable or better features, performance and quality. Notable among these are the Wouxun KG-UV8D, TYT TH-UV8000D, and the BTECH UV-5X3.

Nevertheless, the Baofeng UV-5R is the goto handy that many new HAMs end up buying because of its compact size. It would not be uncommon to find this radio in every HAM operator's shack! So, what are you waiting for? If you haven't got one yet then go get one.

Compiled by VU2AIV Abid

For the benefit of our readers a complete guide to understanding the abbreviations of the Baofeng series of transreceivers is posted below. This would also be useful when programming your handheld radio.

BaoFeng UV5R series (UV5R, GT3, BFF8, F8HP, F9V2+, etc) Menu Definitions

Menu #	Description	Options
0 SQL	Squelch Level - Squelch silences the receiver when there is no signal. - UHF Sensitivity can be varied from .1 to .3 mV - VHF Sensitivity is constant. 1 - 9 = .1 mV - Level 0 = Open Squelch - There is little difference between settings. Level 5 is recommended.	0 - 9
1 STEP	Frequency Step - Amount of frequency change when using Up/Down arrows or when scanning in VFO Mode.	2.5 / 5 / 6.25 / 10 / 12.5 / 25 kHz 2.5 / 5 / 6.25 / 10 / 12.5 / 20 / 25 / 50 kHz
2 TXP	Transmit Power - Std UV5R - High = 4W Low = 1W - F8HP only - High = 8W Mid = 4W Low = 1W - Use Low power unless necessary. - Power can be toggled Hi/Lo by pressing the [#] key.	UV5R - High / Low F8HP - High / Mid / Low
3 SAVE	Battery Save - Sleep Ratio to acknowledge an RX signal. - The higher number increases the RX sleep cycle, but you may miss the first few syllables before the RX opens. 1=1:1 2=1:2 3=1:3 4=1:4	OFF / 1 / 2 / 3 / 4
4 VOX	Voice Operated Xmt - Allows transmitter activation by talking only. - Adjust VOX gain to allow smooth operation. - Level 10 requires the strongest voice.	OFF / 1, 2 - 10
5 WN	Wideband / Narrowband - Wide = 5 KHz Narrow = 2.5 KHz - For Ham use, start with selecting Wide.	WIDE / NARR
6 ABR	Display Illumination Time - Time the display stays illuminated.	OFF / 1 - 5 secs OFF / 1 - 10 secs Depending on model 1 - 24 secs with CHIRP
7 TDR	Dual Watch / Dual Reception - Allows monitoring of 2 channels, toggling between Freq A and Freq B. - If a signal is received, the RX remains on that channel until the signal is gone.	OFF / ON
8 BEEP	Keypad Beep - Allows audible confirmation of a key press.	OFF / ON
9 TOT	Transmission Time Out Timer - Transmit Times Out after pre-selected time. - Radio will alert you when the time is up. - This helps prevent overheating.	15 / 30 / 45 / 60 - 600 seconds

BaoFeng UV5R series (UV5R, GT3, BFF8, F8HP, F9V2+, etc) Menu Definitions

Menu #	Description	Options
19 PTT-ID	When to send the PTT ID signal code OFF - No ID is sent. BOT - An ID is sent at Beginning of Transmission END - An ID is sent at the End of Transmission. BOTH - An ID is sent at BOT and EOT - This tells a dispatcher which field radio was keyed. - Not Applicable for Ham use. Set to OFF.	OFF / BOT / EOT / BOTH
20 PTT-LT	Signal Code sending delay - Not Applicable for Ham use. Set to 0 (zero).	0 - 30 ms or 0 - 50 ms
21 MDF-A	Channel Mode A Display (upper display) FREQ - Displays programmed Frequency CHAN - Displays Channel Number NAME - Displays Channel Name programmed via software. - If no name is programmed, CHAN will display.	FREQ / CHAN / NAME
22 MDF-B	Channel Mode B Display (lower display) FREQ - Displays programmed Frequency CHAN - Displays Channel Number NAME - Displays Channel Name programmed via software. - If no name is programmed, CHAN will display.	FREQ / CHAN / NAME
23 BCL	Busy Channel Lockout - Prevents transmitting on a busy frequency. - If another repeater or signal is present using a different CTCSS or DCS code, your transmitter will be 'locked out' to prevent interference. When PTT is keyed, radio will sound a Beep Tone through the speaker only.	OFF / ON
24 AUTOLK	Automatic Keypad Lock - When ON, keypad will be locked if not used in 8 seconds. - Pressing the [#] key for 2 seconds will Lock/Unlock the keys on the keypad.	OFF / ON
25 SFT-D	Frequency shift direction - Enables access of repeaters in VFO/FREQ mode. OFF TX = RX (simplex) + (plus) TX shifted Higher in freq than RX - (minus) TX shifted Lower in freq than RX	OFF / + / -
26 OFFSET	Frequency shift amount - Specifies frequency difference between TX and RX. - Used with Menu 25 for repeater access in VFO/FREQ mode. - Offset is not required when storing repeater frequencies into channels.	00.000 - 69.990 MHz in 10 kHz steps
27 MEM-CH	Store a memory channel - Stores channel information in memory slot 0 - 127 - For a detailed examples of the programming process, please visit: https://www.miklor.com/COM/UV_ProgMem.php	000 - 127
28 DEL-CH	Delete a memory channel - Deletes information stored in memory slot 0 - 127	000 - 127

Menu #	Description	Options
10 R-DCS	Rec - Digital Coded Squelch - Prevents interference from signals on the same frequency. - The squelch will open only if the incoming signal is coded with the same tone required by your receiver. - Note: Not all repeaters requiring a tone for access transmit a tone back to you. Leave this function turned OFF unless you are absolutely sure it is needed.	OFF / D023N - D754I
11 R-CTCS	Rec - Continuous Tone Coded Squelch - Prevents interference from signals on the same frequency. - The squelch will open only if the incoming signal is coded with the same tone required by your receiver. - Note: Not all repeaters requiring a tone for access transmit a tone back to you. Leave this function turned OFF unless you are absolutely sure it is needed.	OFF / 67.0 - 254.1 Hz
12 T-DCS	Trans - Digital Coded Squelch - Required by some networks to limit access and interference.	OFF / D023N - D754I
13 T-CTCS	Trans - Continuous Tone Coded Squelch - Required by some networks to limit access and interference.	OFF / 67.0 Hz - 254.1 Hz
14 VOICE	Voice Prompt - Audible confirmation of a keypad entry.	OFF / ON or OFF / ENG / CHI
15 ANI-ID	Automatic Number ID of Radio (set with S/W) - Sent when PTT is pressed and/or released. - Used to alert dispatcher which field radio was keyed. - Used primarily for commercial applications.	
16 DTMFST	DTMF Tone of transmit - Determines when DTMF codes are heard through speaker. OFF No tones heard DT-ST Only manually keyed DTMF codes are heard ANI-ST Only automatically keyed DTMF codes are heard DT+ANI * All DTMF codes are heard	OFF / DT-ST / ANI-ST / DT+ANI
17 S-CODE	Signal Code - PTT-ID DTMF Code Selection (set with S/W) - Selects one of 15 DTMF codes. - Set with software and are up to 5 digits each. - Enabled by using Menu 19.	1 - 15 groups
18 SC-REV	Scan Resume Method -- TO (Time Operation) Scan stops when signal detected. Scan resumes after approximately 5 seconds (even if the channel is still active). -- CO (Carrier Operation) Scan stops when signal detected. Scan resumes when signal disappears. -- SE (Search Operation) Scan stops when signal detected. Scanning will not resume.	TO / CO / SE

Menu #	Description	Options
29 WT-LED	Illumination / Display Color - Standby - Screen illumination color in Standby Mode	OFF / BLUE / ORANGE / PURPLE
30 RX-LED	Illumination / Display Color - Receive - Screen illumination color in Receive Mode	OFF / BLUE / ORANGE / PURPLE
31 TX-LED	Illumination / Display Color - Transmit - Screen illumination color in Transmit Mode	OFF / BLUE / ORANGE / PURPLE
32 AL-MOD	Alarm Mode SITE - Sounds alarm through your radio speaker only. TONE - Transmits a cycling tone over the air. CODE - Transmits '119' followed by ANI code over the air.	SITE / TONE / CODE
33 BAND	Band Selection - In VFO/FREQ mode, sets VFO A or B to VHF or UHF band. - This is similar to the [BAND] button. Newer releases of radio eliminate the need for a Band Button.	VHF / UHF
34 TDR-AB	Transmit selection while in Dual Watch / Dual Reception - While in Dual Watch mode, this forces the selection of which transmit frequency is selected.	OFF / A / B
35 STE	Squelch Tail Elimination - Eliminates the squelch tail at the end of a transmission. - Only works when other radios turn on their Tail function. * For Ham use, set to OFF.	OFF / ON
36 RP-STE	Repeater Squelch Tail Elimination - Requires a repeater using this function. * For Ham use, set to OFF.	OFF / 1, 2, 3 - 10
37 RPT-RL	Delay the squelch tail of repeater * For Ham use, set to OFF.	OFF / 1, 2, 3 - 10
38 PONMSG	Boot / Power On Display FULL - Displays the entire LCD screen. MGS - Displays a 2 line Power On message.	FULL / MGS
39 ROGER	Tone at end of transmission - Sends a Tone at the end of each transmission. * For Ham use, set to OFF.	OFF / ON
40 RESET	Restore to default settings - VFO - Resets all menus to factory default. Resets VFO [A] and [B] frequencies to factory default. - ALL - Same as above. Erases all channels. Resets chan 0 to 136.025 MHz / chan 127 to 470.625 MHz	VFO / ALL
	source: https://www.miklor.com/uv5r/UV5R-MenuDef.php reformatted by: @fuji_the_4Runner	

Every HAM wants to build something, something related to the world of *electrics* and Radio. That simple desire turns into a lifelong passion for many.

In this section of our newsletter we would like to showcase projects that have been developed by HAMs. This time we have OM S.Sankar - VU2SW who provides his take on a PC SMPS. Read on

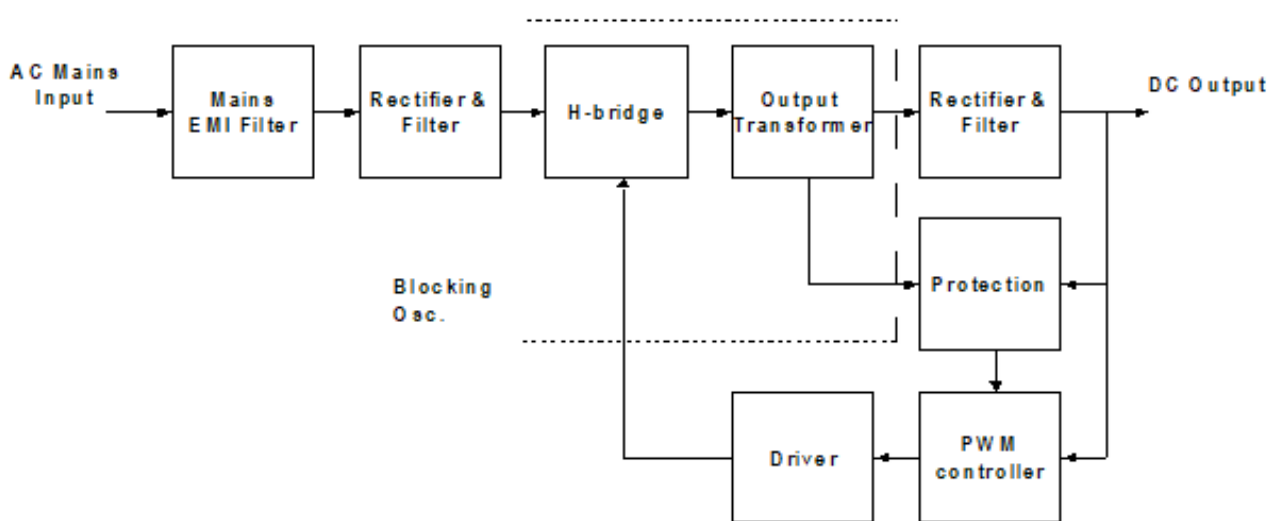
13.8V, 15A from a PC SMPS

- by OM S.SANKAR - VU2SW

PC SMPS Overview

The AT PC SMPS are rated anywhere between 150 and 240 W. PC SMPS have four different output voltages of +5V, +12V, -12V and -5V. The PC SMPS is generally in half-bridge configuration. The outputs are rated at 20A (+5V), 8A (+12V) and 0.5A (-12V, -5V). PC SMPS have a typical efficiency of 75%, this means a dissipation of 67W for a 200W SMPS. A linear power supply with 15A output current will dissipate around 150W in the series pass transistors itself considering a 10V dropout. A modified PC SMPS is efficient and compact compared to linear power supply.

In SMPS, the mains power is fed to a EMI filter. The filtered mains power is rectified and is around 325VDC. The Half-bridge power stage is configured as a free-running blocking oscillator, by a feedback winding at the driver transformer. At startup the blocking oscillator generates the auxiliary voltage to power the Pulse Width Modulator IC TL494. The PWM takes control of the blocking oscillator and adjusts the duty cycle to maintain the output voltage.



PC SMPS BLOCK DIAGRAM

The error amplifier in the TL494 compares the voltage at the +5V output and +12V output with a reference voltage, and adjusts the PWM duty cycle. Increasing loading on the +5V output or +12V increases the duty cycle. The PWM has a finite minimum pulse width and hence a minimum load is required to achieve the load regulation. The switching frequency is generally above audio frequency, approx. 33 kHz as usual for PC power supplies. It is defined by a resistor and a capacitor located at pin 5 and 6 of TL494. KA7500, IR3MO2 are drop in replacements for TL494.

Over voltage protection is provided by monitoring the output voltage and comparing it with a reference. If the output voltage exceeds the reference, the duty cycle is reduced to protect against over voltage at the output.

Over load protection is provided by monitoring the main transformer primary current and comparing it with a reference. If the current exceeds the reference, the duty cycle is reduced to protect against over load.

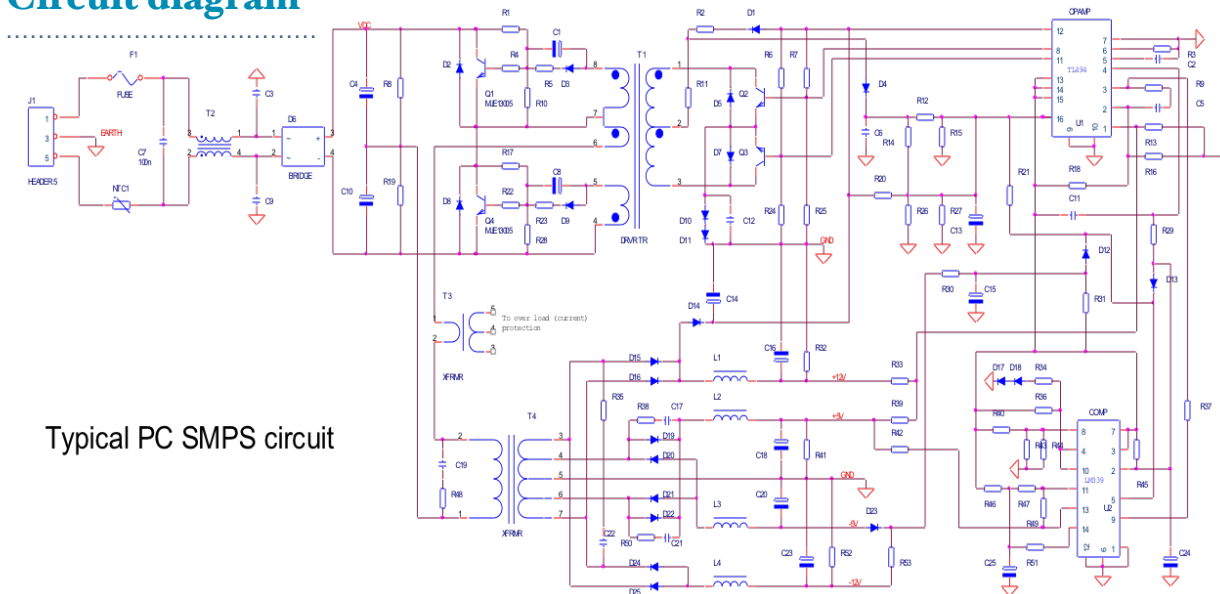
Making the Modification

1. The 12V output is modified to 13.8V changing two resistors.
2. Remove the components in the other outputs (-5V, -12V and +5V).
3. The 1st change results in a maximum load current of 8A, since the diodes at the 12V output are rated for 8A. The diode have to be changed to higher rating to support 15A output. The two diodes can be replaced by a single package dual diode BYV32–200.
4. Modify the toroidal core choke by removing the windings. While removing the 12V winding, carefully count the number of turns. Replace the 12V winding with thicker wire (double the original thickness) and same number of turns.
5. Two 2200 μ F/35V capacitors can be added at the 13.8V output.

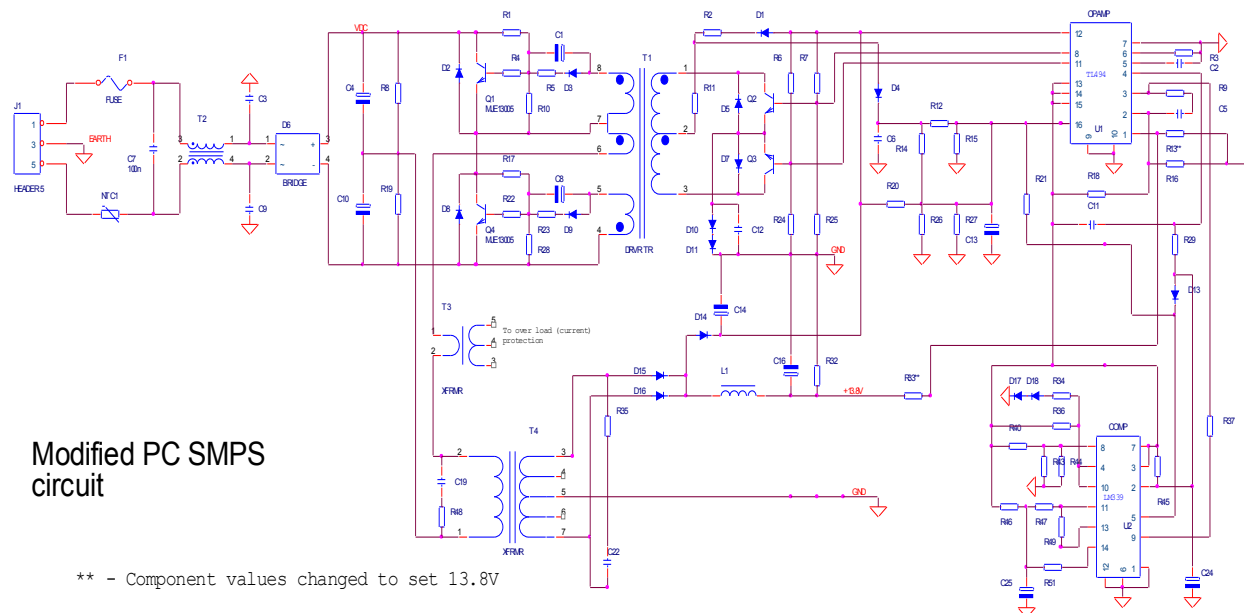
Testing the SMPS

1. Check if there is any short in the mains input. Also check if there is any short at the 13.8V output.
2. Connect a 230V, 60W bulb in series with the mains input to start the testing. Connecting the bulb in series gives added protection.
3. Power on the SMPS. You should be seeing a dim glow in the bulb. Measure the output voltage, it should be around 13.8V.
4. If there is no problems in step 3, remove the bulb and connect the SMPS directly to mains. Measure the output voltage. Power off the SMPS and check if any component is hot.
5. The heating element of the electric heater (Nichrome wire) can be used as the load for the SMPS. A 1500W heating element wire will have $\approx 35\Omega$ resistance. This will result in 0.4A load current. Connect the load and check the load current and voltage, should be 0.4A and 13.8V.
6. Now, the nichrome wire should be two-folded in such a way that two ends are joined together and length is reduced to half. This results in $\frac{1}{4}$ the resistance, i.e., $35/4 = 8.75\Omega$. This results in a current of 1.5A.
7. Now, the nichrome wire should be four-folded in such a way that length is reduced to $\frac{1}{4}$. This results in $1/16$ the resistance, i.e., $35/16 \approx 2.2\Omega$. This results in a current of ≈ 6.3 A.
8. Now, if the one of the leads connected to the load is moved midway, the current should be 12.6A. This will act as a high power rheostat.
9. Move the lead on the load for 15A current. Check the voltage, should be around 13.8V
10. Now, power of the SMPS, short the output and power on the SMPS. You should be able to hear the power-up hiccups.

Circuit diagram

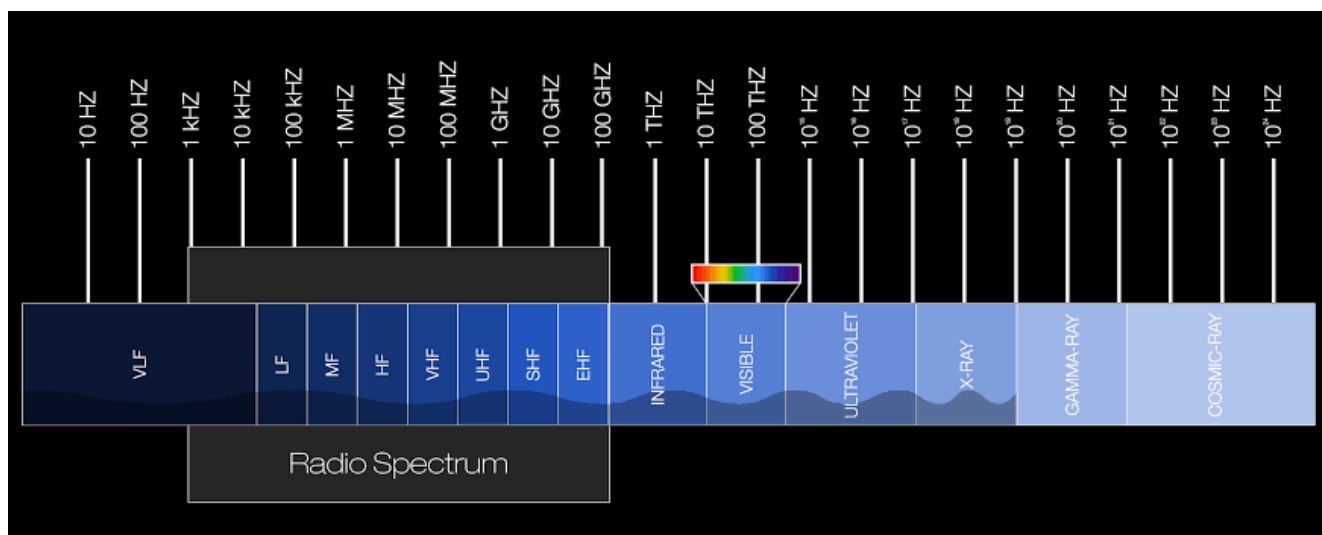


Typical PC SMPS circuit



Modified PC SMPS circuit

** - Component values changed to set 13.8V



Members Monthly Meeting

The monthly members' meeting of MARS Amateur Radio Society for the month of Mar'24 was held on Saturday, 16th Mar, 2024 at 6.00 pm IST (1800hrs) in "The Hall of 1960", Department of Chemistry, College of Engineering, Guindy campus (CEG), Anna University, Chennai.

The meeting began solemnly as a 'One minute silence' was observed as a mark of respect to OM Dr.Venkatachalapathy - VU2PQ who became silent key on 11th Feb'24.



Then the President OM PThyagarajan - VU2PTR presided over the meeting and welcomed the gathering. In his welcome address he mentioned about the forthcoming events in the pipeline. A visit to the Air Traffic Control Tower of the Meenambakkam Airport and witnessing the live operations going on in there figured in his speech. OM Vijaya Rangan - VU2AIR shall be coordinating the programme and the exact date of visit shall be announced later. Another visit to a PCB manufacturing unit also figured in his address wherein members of MARS Amateur Radio Society will have an opportunity to witness the complete processing from cutting the PCB sheet to the shaping of a finished PCB right from its raw stage.



This was followed by a formal self-introduction by the newbie HAMs/SWLs.

The event of the day was a talk on 'Software Defined Radio'. OM Dr Shanmugham - VU2CSM called upon OM Rajesh Kannan - VU2OW who presented it. Contrary to the conventional power point presentations that are normally staged in a gathering, this was an extempore by Rajesh, though a few slides too found their place.



Tracing down the evolution of the SDR first, Rajesh then moved on to the application of SDR with special reference to QO-100 satellite and very elaborately explained their technical nuances. The rich experience he has gained in its operations reflected in his delivery. The format adopted might have triggered the minds of the audience and therefore many questions came up and Rajesh very convincingly answered all of them. At the end of the presentation, the Joint Secretary, OM Balashanmugham alias Anand - VU3UBS handed over a memento to Rajesh.

As an addendum, the participant cup for the Fox hunt event was presented to OM Lakshmanan - VU2LF, as he could not collect it earlier.

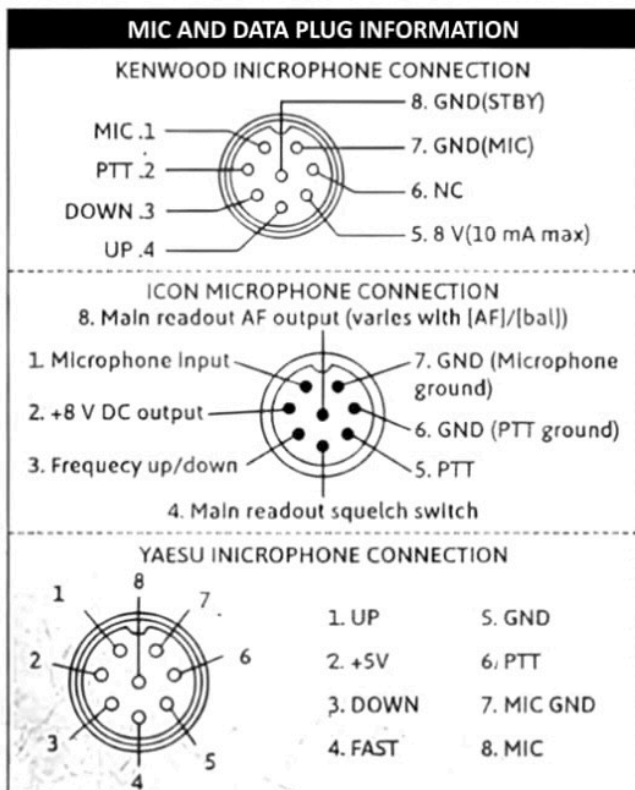
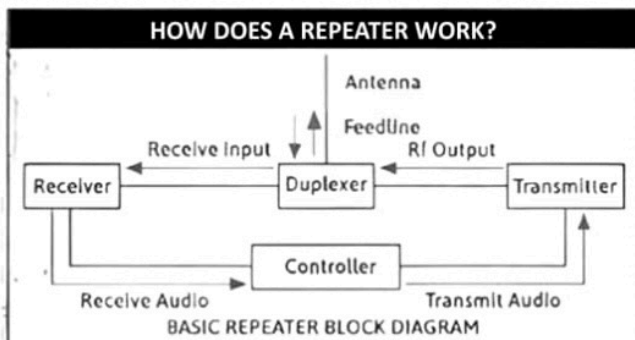
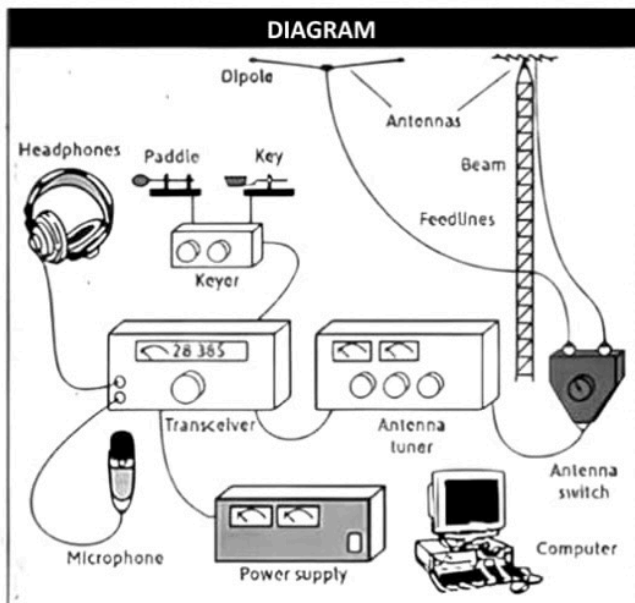
OM Vivek - VU3CDV handed over the cup to Lakshmanan on behalf of his team with OM Ravi - VU2ETO.

Finally, vote of thanks was delivered by the Secretary, OM Deepan - VU2DPN.



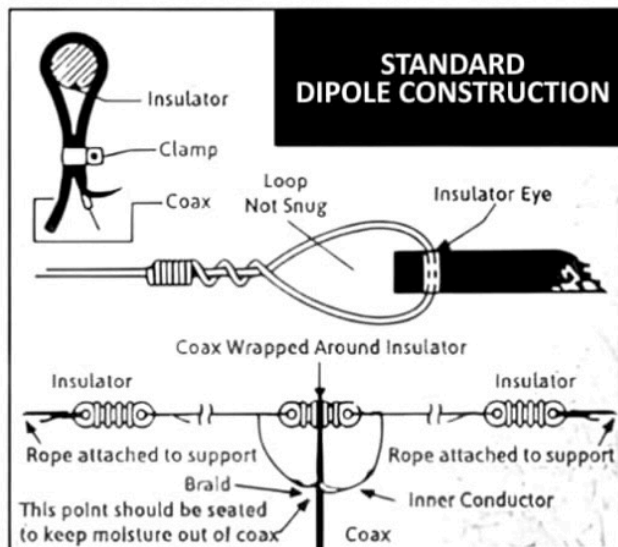
Contributed by OM Christy - VU3USI

AMATEUR RADIO KNOWLEDGE



ANTENNA LENGTH CHART

	FREQUENCY (Mhz)	1/4 λ (Feet)	1/2 λ (Feet)	1 λ (Feet)	1/2 λ Inv Vee 90° (Feet)
	1.800	130' 0"	260' 0"	558' 4"	257' 5"
	1.850	126' 6"	253' 0"	543' 3"	250' 5"
160 METERS	1.900	123' 2"	246' 4"	528' 11"	243' 10"
	2.000	117' 0"	234' 0"	502' 6"	231' 8"
	3.500	66' 10"	133' 9"	287' 2"	132' 5"
	3.750	62' 5"	124' 10"	268' 0"	123' 7"
80 METERS	3.900	60' 0"	120' 0"	257' 8"	118' 10"
	4.000	58' 6"	117' 0"	251' 3"	115' 10"
	7.000	33' 5"	66' 10"	143' 7"	66' 2"
40 METERS	7.150	32' 9"	65' 5"	140' 7"	64' 10"
	7.300	32' 2"	64' 1"	137' 8"	63' 6"
30 METERS	10.100	23' 2"	46' 4"	99' 6"	45' 10"
	10.150	23' 1"	46' 1"	99' 0"	45' 8"
	14.000	16' 9"	33' 5"	71' 9"	33' 1"
	14.150	16' 6"	33' 1"	71' 0"	32' 9"
20 METERS	14.300	16' 4"	32' 9"	70' 3"	32' 5"
	14.350	16' 4"	32' 7"	70' 0"	32' 3"
17 METERS	18.068	12' 11"	25' 11"	55' 7"	25' 8"
	18.168	12' 11"	25' 9"	55' 4"	25' 6"
	21.000	11' 2"	22' 3"	47' 10"	22' 1"
15 METERS	21.200	11' 0"	22' 1"	47' 5"	21' 10"
	21.450	10' 11"	21' 10"	46' 10"	21' 7"
12 METERS	24.890	9' 5"	18' 10"	40' 5"	18' 7"
	24.990	9' 4"	18' 9"	40' 3"	18' 6"
	28.000	8' 4"	16' 9"	35' 10"	16' 7"
10 METERS	28.500	8' 3"	16' 5"	35' 3"	16' 3"
	29.700	7' 11"	15' 9"	33' 10"	15' 7"
6 METERS	50.000	4' 8"	9' 4"	20' 1"	9' 3"
	54.000	4' 4"	8' 8"	18' 7"	8' 7"
2 METERS	144.000	1' 8"	3' 3"	7' 0"	3' 3"
	148.000	1' 7"	3' 2"	6' 9"	3' 2"



In this quarter, we shall celebrate many birthdays and wedding anniversaries. Our best wishes to all. May they continue to celebrate many more years of happiness.



Birthdays

APRIL - 2024

1st April - VU2CRN
5th April - VU3MOA
5th April - VU3DNG
6th April - VU3SPA
6th April - VU3INS
9th April - VU3VRV
12th April - VU2ZQJ
12th April - VU2GPS
14th April - VU2LSW
14th April - VU2OLA
15th April - VU2DVG
16th April - VU2AIV
18th April - VU2GRM
22nd April - VU3NKG
22nd April - VU3RZK
22nd April - VU3CDV
26th April - VU2GJR
27th April - VU3SAM
27th April - VU2MTS
29th April - VU2ISR

MAY - 2024

5th May - VU2HSJ
8th May - VU3FTN
10th May - VU3NDP
15th May - VU2JKJ
15th May - VU3WIG
16th May - VU2YFS
16th May - VU2BRM
17th May - VU3EYD
18th May - VU3FTN
20th May - VU2EAI
21st May - VU2AIR
21st May - VU2YNT
22nd May - VU2HMN
23rd May - VU2ETO
25th May - VU2UAV
27th May - VU2AB
28th May - VU2SW



JUNE - 2024

6th June - VU2VAU
6th June - VU2KLS
14th June - VU3HXI
16th June - VU2TSF
21st June - VU2YNT
21st June - VU3UOM
22nd June - VU2LF
23rd June - VU3MOJ
24th June - VU2RJV
25th June - VU2SEK
30th June x VU2GMN



MAY - 2024

3rd June - VU3ISR
 5th June - VU2LTX
 7th June - VU2RAI +
 - VU2RJJ
 7th June - VU3HXI
 9th June - VU2CRN
 10th June - VU2AKW+
 - VU3ASI
 11th June - VU3ISJ
 11th June - VU2UAV
 12th June - VU2JKX
 12th June - VU2RJV
 13th June - VU3GSL
 16th June - VU2OAR
 17th June - VU2AB +
 - VU2BB
 21st June - VU3VRP +
 - VU3VAP
 24th June - VU3LLL
 27th June - VU2AIR
 28th June - VU2DH +
 - VU3OEL
 28th June - VU2DNY
 28th June - VU2IKX



Wedding Anniversaries

APRIL - 2024

14th April - VU3OVK
 14th April - VU3MOJ
 3rd April - VU3DNG

MAY - 2024

2nd May - VU2MSS +
 - VU
 3rd May - VU2SDU
 4th May - VU2IKK +
 - VU3ANU
 9th May - VU2ABS
 19th May - VU2SBU
 21st May - VU3RQX
 22nd May - VU2MTS +
 - VU2GMK
 23rd May - VU3RZN
 25th May - VU2CSM +
 - VU3SSI
 26th May - VU2HMN
 28th May - VU3WAW

Silent Key

Silent Key is a term of respect for a deceased amateur radio operator. The key in the term refers to a telegraph key, the instrument that all early amateur radio operators, as well as many contemporary amateur radio operators, have used to send Morse code. The term SK is used in telegraphy to indicate an end of transmission.

Today, the term is commonly used within the radio community as a sign of respect and condolence regardless of whether the deceased was an amateur radio operator.

In this quarter, we were unfortunate to have some of our members become Silent Keys. In memorium.....

(Radio club of America)

VU2DZD - N.T.Balasubramanian



How often have we heard a gentle voice on the air saying 'De VU2DZD'. Alas, we shall hear that voice no more.

On 12th Jan 2024, OM Balu - VU2DZD rode on the back of a carrier wave into eternity and became a 'Silent Key'.

A member of the old society almost right from the inception, he had served as a Treasurer in different committees. HAMS have known him to be a calm person with an ever smiling face. We shall miss his distinct Delta-Zulu-Delta intonation during the daily check-ins. May his soul rest in peace.

P.S.: As a mark of remembrance, the rolling trophy for the Fox hunts is being named as the "VU2DZD Memorial Rolling trophy".

VU2PQ - Dr.Venkatachalapathy (Pathy)



HAM radio enthusiasts come from diverse backgrounds and VU2PQ - OM Dr.Venkatachalapathy was a shining example. A cardiologist by profession, his knowledge and passion in Ham Radio were beyond comparison.

He had helped many hams to get their licences and also in their medical treatments. He was much interested in EME operation.

His passing away is a great loss to Ham community which has lost one of its oldest HAMS.

Silent Keys

Their tubes may glow no longer,
and their transmitters no longer send;
Their keys are still and silent now,
but their signals will never end.

Ham shacks now are silent and lonely,
their letters are no longer aired;
So let us not forget their calls,
nor the time together we shared.

Their souls are now of the stars,
as are the signals they did send;
Their CQ's are traveling the heavens,
on and on they go for time without end.

Over the Radio waves

VHF nets

Frequency:

145.775 MHz -ve 0.6 MHz shift

Morning net:

07:00 AM to 07:15 AM

Goodnight net:

21:00 PM to 21:15 PM

Vandu net:

145.550 MHz -ve 0.6 MHz shift

21:15 PM to 21:30 PM

DMR UHF net

Activity: Singara Chennai

Location: Chennai

Frequency:

435.800 MHz -ve 1.7 MHz shift

Time Slot: TS1

Colour Code: 1

Channel number on Chennai

CodePlug: CH-37

Morning net:

06:45 AM to 06:55 AM



Website:

<https://mars-ars.org/>



Email :

info@mars-ars.org



Image sourced from: newhams.info

Ragchew -

MARS newsletter would be happy to publish articles written by Amateur Radio enthusiasts in its forthcoming issues. We invite all HAMs to send in their manuscripts in Word format to the email id mentioned below. Please also send photos if possible in jpeg or png format.

Additionally, we invite your comments and critiques on the new look and feel of the MARS newsletter. We are open to suggestions for improvements.

In keeping with the times, this newsletter shall be available as an e-magazine only. We shall endeavour to provide future issues in a mobile friendly format too.

For sponsorship and advertisements please contact the President.

Any HAM interested in conducting workshops in Amateur Radio technology or communications related matters may contact the Executive committee for assistance.

If you want to demonstrate your homebrew kits or present a technical seminar on your experiments and expertise, you are most welcome.

We welcome HAMs who are interested in volunteering for the various activities that the club intends to conduct in future.



Image sourced from: [spreadshirt](#)