

MARS NEWSLETTER

(STRICTLY FOR PRIVATE CIRCULATION AMONG MEMBERS ONLY)



Regd.no.: 346/2023 | Regd.Office: Plot #85, Part-1, 1st Main Road, Golden Sea View Layout, Palavakkam, Chennai 600041

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C.Shanmugham - VU2CSM

Arun Kumar - VU2BBF

Abid Ansari - VU2AIV.
(co-opted)

From the President's desk

Dear members and friends,

I am extremely happy to note that our editorial team is bringing out the first news letter for the period Oct-Dec 2023. During this quarter many interesting programmes and events were organised.



The Net-check in contest was conducted during the month of August 2023. Many participated in the contest actively. This event will be conducted every year during the month of August.

The first Members' meet was held on 4th November 2023 at "Vivekananda Hall" P.S. High School Campus, Mylapore, Chennai. This meet provided members to have an eye ball QSO, greet and chat with others.

The technical presentation on "Communication during Space Missions" by OM Dr.Kaviyarasu - VU2UAV was very informative. He took pains in preparing a wonderful power point presentation containing rare slides. Members were benefitted by the in-depth information presented. Based on the interest shown by members, the committee organised a visit to ISRO SrihariKota facilities.

OM Balasubramanian (Bala) - VU3TBR made a presentation in digital communication area. He gave an insight of the Magic box developed by him and explained its advantages. Members actively participated in the question-and-answer session and got their doubts clarified.

Followed by the tech talk programme prizes were distributed to all winners of VHF Net-check in contest of various categories. My hearty congratulations to all prize winners.

....From the President's desk

The visit to ISRO, Sriharikota was a successful programme. The committee was very much pleased to note that all the participants were extremely happy with the arrangements of travel, food and other pre planning. The excitement of the participants was visible from the feed backs received. Everyone felt the trip was very useful and educative. From ISRO end every official took personal interest in explaining the various facilities like Mission control center, Launch pad, vehicle assembly building, integration section and so on. All liked and enjoyed the buffet lunch served at their guest house dining hall. After the visit inside the facilities, every one visited the museum and took pics to their hearts content. The participants expressed their desire for many more events.

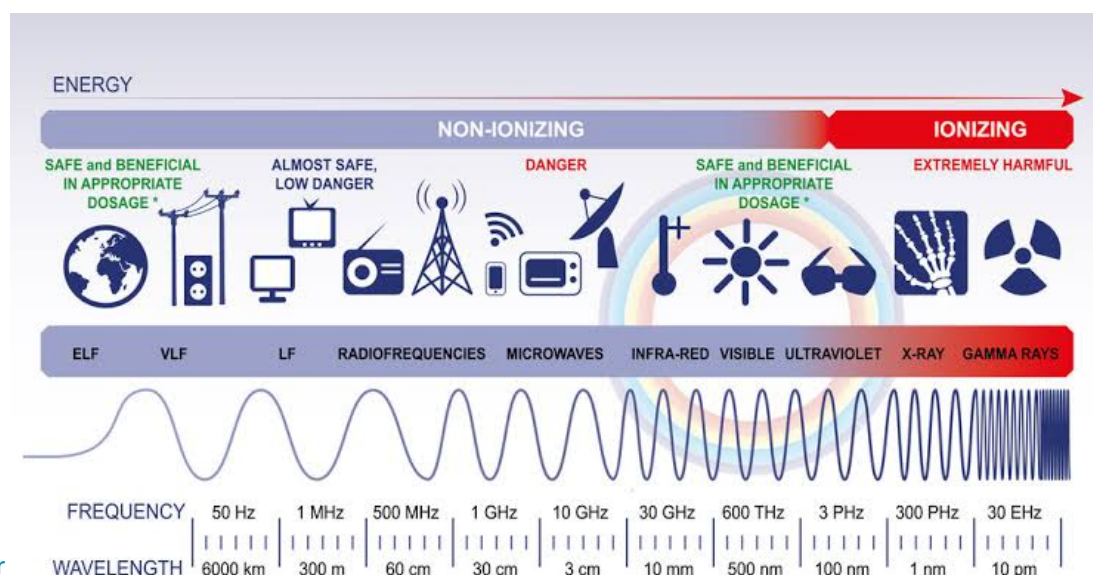
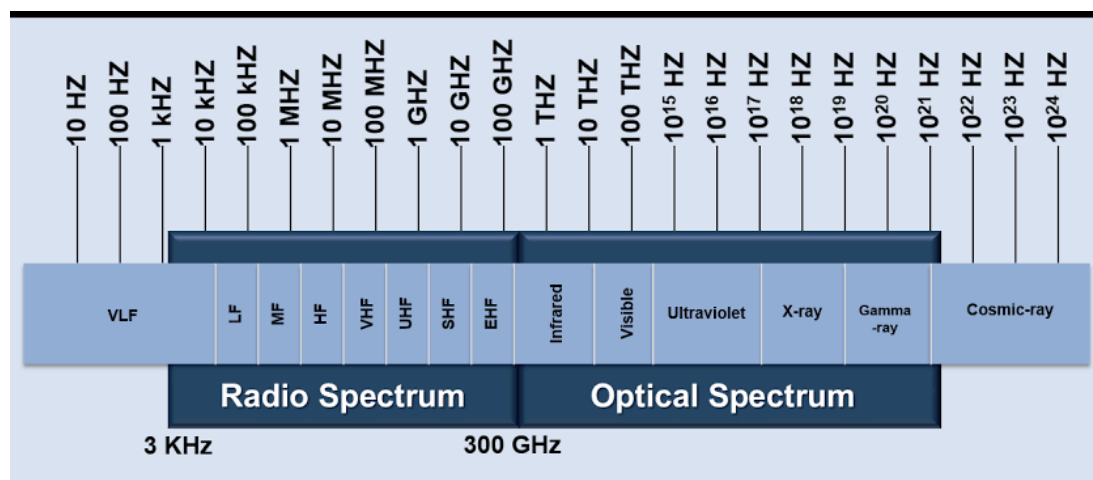
In the coming months the committee is planning for a tech talk during January and the most popular "Fox hunt" event during February 2024. Hope members will take part in these programmes in large numbers. I wish all members and their family a very happy and prosperous new year 2024. I like to assure that the year 2024 will be an eventful year. With best wishes to all.

73

Thyagu

(VU2PTR)

31-Dec-2023



VHF Net check-in Contest**Overall 1st prize winners:**

- VU2FFW
- VU3HXL
- VU2JA
- VU2PTR
- VU3UKN
- VU3USI
- VU3VVS
- VU3WAW

Overall 2nd prize winners:

- VU3MOJ
- VU2RDX

Morning 1st prize winners:

- VU2AB
- VU2AIV
- VU2BBF
- VU2DA
- VU2DZD
- VU2IKX
- VU2MSS
- VU2OLA
- VU2RJV
- VU3TBR
- VU3VWR

Morning 2nd prize winners:

- VU2BOA
- VU2DRK
- VU2EMB
- VU2GMN
- VU2GPS
- VU2OAR
- VU2OW
- VU2PGM
- VU2SBU

Night 1st prize winners:

- VU3BWV
- VU3JJT

Night 2nd prize winners:

- VU2AKW
- VU2CWO
- VU2INA
- VU3KVQ
- VU2MTS
- VU2NYT

VHF Net Check-in Contest

We started off this quarter Oct-Dec'23 with a key event in the month of August - the VHF Net Check-in Contest. The contest was ably managed by our omnipresent VU2DPN and assisted by the evergreen VU2JSM.

An overwhelming 63 stations actively participated and checked in with competitive spirit every morning and evening.

Eight stations bagged the overall 1st prize and two bagged the overall 2nd prize.

In the morning check-in 11 stations carried home the 1st prize and 9 stations took the 2nd.

The evening check-in prizes for the 1st and 2nd places were awarded to 6 stations each.

Hearty Congratulations to all the prize winners!

...and many thanks to VU2DPN & VU2JSM

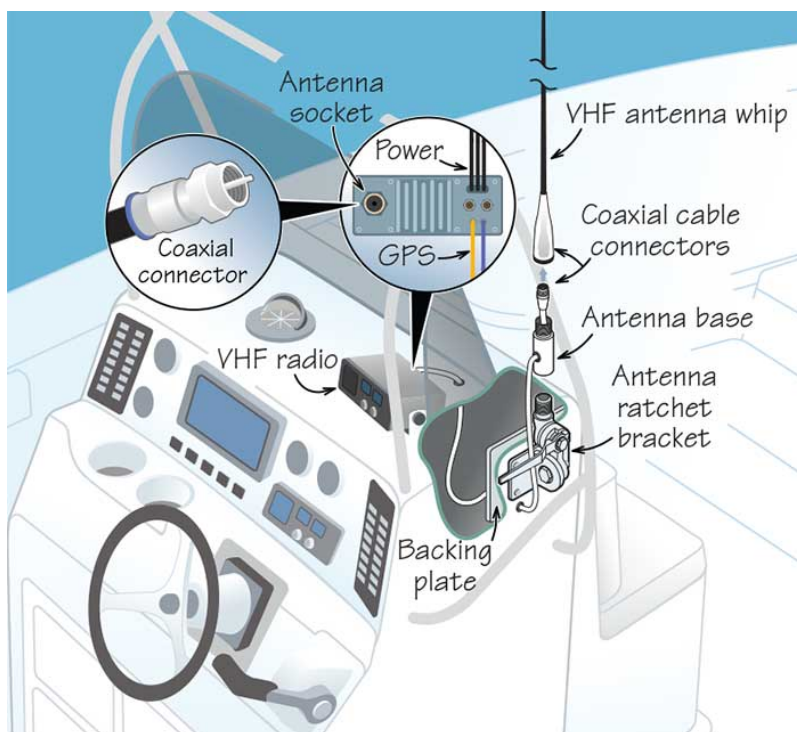


Illustration: ©2015 Mirto Art Studios

Photos of the meeting



Members eyeball QSO

The second important event in the quarter was the members' meeting of MARS Amateur Radio Society which was held on Saturday, 4th Nov, 2023 at 6.30 pm IST (1830hrs) in the "Vivekananda Hall" of the P.S.High School Campus, Mylapore, Chennai.

It was an august gathering that enabled many of the members to have an eye ball QSO amongst themselves and to exchange pleasantries with fellowship.

The President, OM P.Thyagarajan - VU2PTR, welcomed the gathering and expressed his pleasure at the enthusiasm shown by the members in attending the very first meeting of the newly formed club.

Subsequently, OM N.Deepan - VU2DPN requested all the members to observe a minutes' silence as a mark of respect to OM Parthasarathy - VU2DQP and OM Durai Raj - VU2NDR who became silent key.

The technical session followed and OM Dr. Kaviyarasu - VU2UAV gave an excellent presentation on "*Communication during Space Missions*" with special reference to Chandrayaan 3 mission. The vital role played by electronic communication in space missions and the technicalities associated with it were elegantly presented. It would not be an exaggeration to say that the talk was very pleasant and Dr Kaviyarasu carved a niche for himself as an able communicator and it was further proved by his polite and patient answering to questions from the members.

Another technical session followed soon after by none other than the Digital doyen OM Balasubramanian (Bala) - VU3TBR. He had chosen the digital communication theme and also presented the "MAGIC BOX" developed by him. The deceptively simple looking gadget was demonstrated and all its capabilities were explained. From his presentation, it became clear that this gadget was a cost effective solution that would allow more HAMs to come on air especially those who could not afford expensive TRXs!

Acknowledgment and appreciation always result in encouraging an individual's involvement. So it was not surprising to note that what followed next was probably the most eagerly awaited session - the Prize Distribution for the VHF Net Check-In contest! All the winners of all categories received their Prizes.

Finally, the memorable meeting came to an end with the Vote of Thanks delivered by the Secretary VU2DPN.

SDSC visit photos



Visit to ISRO - SDSC - Satish Dhawan Space Centre

The quarter ended with a spectacular and memorable event - the one day field trip to the Sathish Dhawan Space Centre at Sriharikota on 18th December.

Thirty-six members of MARS Amateur Radio Society got a once-in-a-lifetime opportunity to witness the pride of our country's Space programme!

And it was all possible because of the immeasurable efforts and perseverance of our President VU2PTR, ably coordinated by VU2DPN and VU2OW.

The bus trip was well arranged; it was amusing to see a bunch of grown up men - some of whom were vintage class - act like schoolboys on a picnic. A brief halt at Adyar Ananda Bhavan filled our bellies with some much needed breakfast. After an hour or so, as the Space centre came into view, we were barely able to contain our excitement.

After clearing the security formalities, we met Mr.PGopikrishna, Group Director from ISRO who welcomed us followed by Mr.Janardhan who introduced to us the whole setup. Then he took us into the MCC - Mission Control Centre!

No words can describe our experience - it was awesome, jaw-dropping and mesmerising! We were allowed to sit in the chairs where the scientists, mission directors and the superstars of the Indian Space programme would sit during the launch of any satellite. We all experienced a vicarious thrill reminiscent of the time when Chandrayaan-II touched down on the moon.

Later, we were taken around the immensely huge campus and its facilities. We were allowed to see the launch pads of the PSLVs and GSLVs. We even visited the facility where the rockets were assembled.

Finally, after a sumptuous lunch provided by SDSC and an exchange of mementos, with a heavy heart filled with unforgettable memories we all took the bus back to our homes.

Many thanks to the organisers from the MARS Amateur Radio Society and the ISRO staff for making this dream come true.

SDSC visit photos



The Homebrewers page

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. And who could be a better HAM to start off with than our very own President - the genial OM PThyagarajan - VU2PTR, who as we all know, is a dedicated homebrewer and Radio enthusiast.

Here he presents his project on ELECTRONIC LOAD”.

Read on

ELECTRONIC LOAD

A Homebrew Project by Thyagu (VU2PTR):

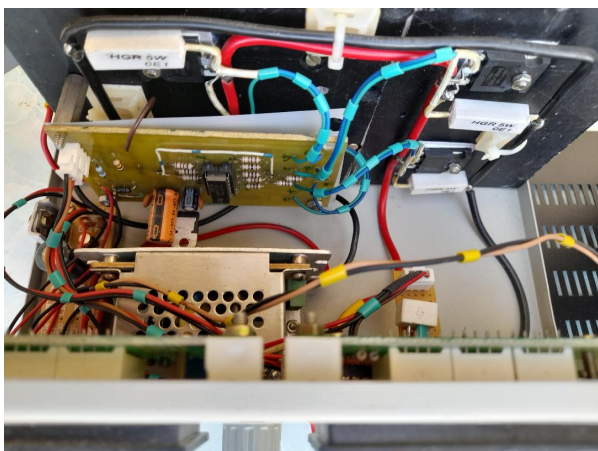
Introduction

To test Power supply units at various current levels we normally use automobile bulbs, heater wires, heater of Diesel engine , nichrome wires, etc. One has to be very careful while using heaters to avoid burns. Also, bulbs give out enormous dazzling bright light which is not good for the eyes. Therefore, in order to have a very safe testing method, I have designed and brewed an ‘Electronic Load’ using IRF MOSFETs.

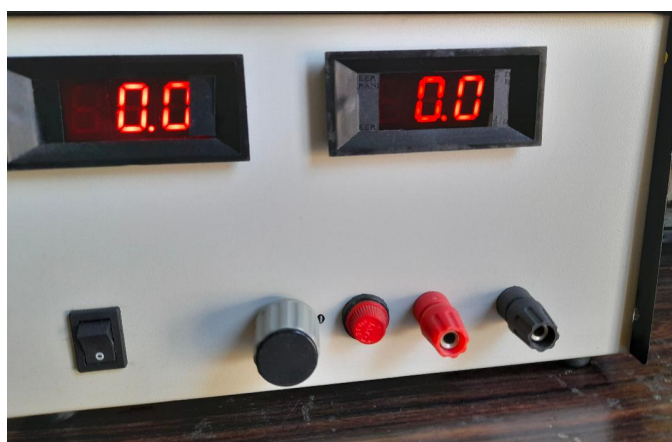
Principle of Operation:

When an IRF MOSFET is biased, it starts drawing current. If the bias voltage is increased the IRF MOSFET draws more current. This principle is employed here. There are 6 numbers of IRF P 150 MOSFETs used so that each IRF can handle 5 amps. Power supply units at 13.8V can be checked up to 30 amperes. If higher current power supplies are to be tested then the number of IRF P150 can be increased. If power supply units of higher voltage are to be tested then higher current handling capacity MOSFETs like IRF P250 can be used retaining rest of the circuit same.

Internal view



Front view



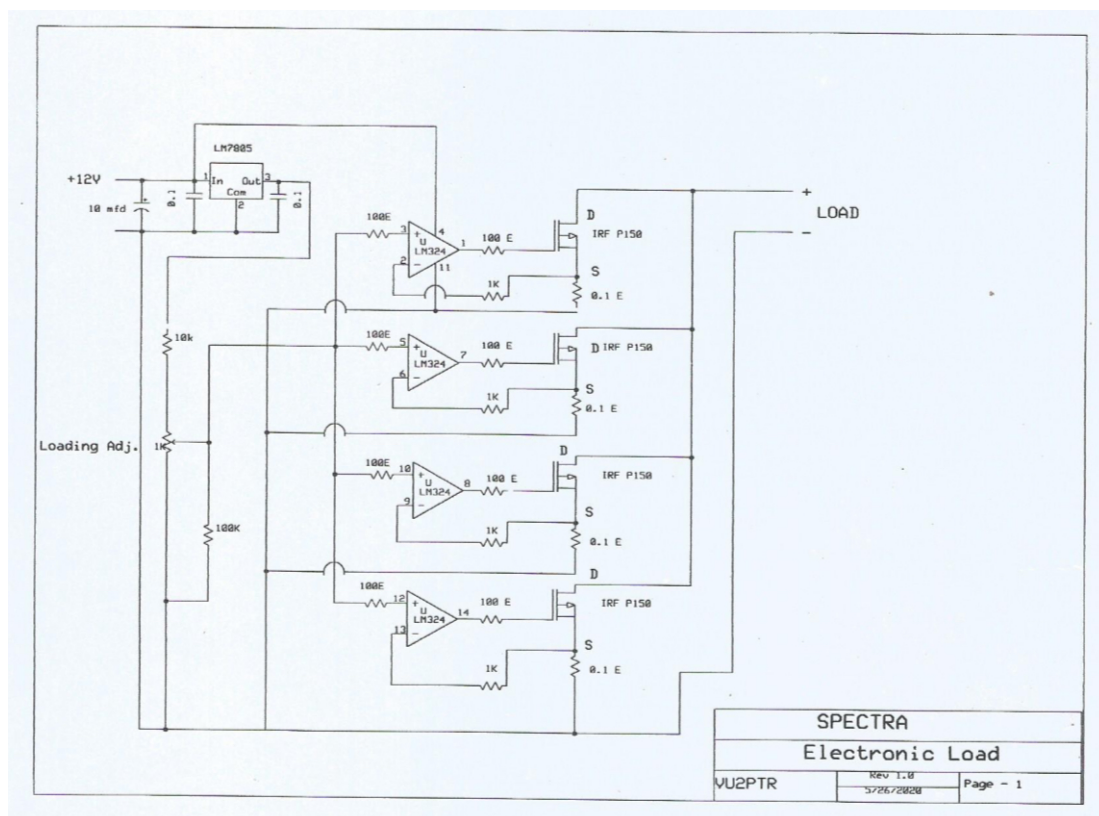
The Homebrewers page

Construction:

All the IRF P150 MOSFETs are mounted on a heavy heat sink to handle generated heat. A 12V high speed fan has been provided to cool the heat sink. There is an internal mini SMPS which provides 12V for entire operation of the tester. Rear side has the 230V power socket. Through a switch, power is fed to the Mini SMPS. In the front panel two digital panel meters have been provided to indicate the applied voltage and the current drawn by the electronic load from the power supply under test. From a constant voltage source, variable voltage is obtained using a resistive divider network and a variable resistor. The variable resistor is mounted on the front panel with suitable knob for adjusting the current. The entire circuit PCB (home brewed) and heat sink are housed in a metal enclosure for safety reasons. A pair of 30 Amps. red and black power sockets have been provided in the front panel for connecting the test unit with wires rated for 30 amperes.

Testing procedure:

The output of the Power supply under test has to be connected to the input terminals of the electronic load. First, the electronic load tester is switched ON keeping the current adjustment control in minimum position. Then the test PSU is be switched ON. The digital voltmeter will indicate the PSU output voltage. Now the current adjustment control has to be slowly rotated clockwise to increase gradually the current, watching the current reading on the meter. The current adjuster will be increased to the maximum required current level. If the PSU is inadequate to handle current the output voltage will drop. One can also find out the output voltage at given current level. The entire operation has to be done as quickly as possible especially at higher current levels to avoid over heating of the devices, heat sink etc. It will be a very useful gadget.



Over the Radio waves

VHF net

Frequency:
145.775 MHz -ve 0.6 MHz shift

Morning net:
07:00 AM to 07:15 AM

Evening net:
21:00 PM to 21:15 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](#)