

# ARSI Hilltop Contest 2023

Kulamavu, Idukki - Grid MJ 89 KT



## A telephone call started it all...

Post the long Covid lockdowns, the ARSI Hill top contest was a relief and a unique opportunity for experimenting & eyeballs.

It all started with a call from VU2ADV (Jacob Elias) to VU2KGB (Girish Babu) with an idea to participate in the ARSI Hilltop contest 2023. Girish, who enjoys taking challenges, immediately supported the idea. Multiple phone calls later, a team was formed inclusive of VU2DTH (Manoj T R), VU3GNL (Saju Gopal), VU2PJP (Peter), VU2ACT (Dr Easwaran), VU2OJ (Dr Abraham) and VU3FWR (Rejeesh).

1

2 ELEMENT CUBICAL  
QUAD FOR HF  
& RGO ONE HF RIG

2

7 ELEMENT X 2  
STACKED ARRAY FOR  
VHF & TS 2000

3

10 ELEMENT YAGI  
FOR UHF WITH  
KENWOOD TS 2000



**OM Manoj  
Ramawarrier  
(VU2CPL)**

Manoj, VU2CPL was the lead operator for the contest



**Dr Abraham  
(VU2OJ)**

Abraham handled another 7 MHz HF station.



**OM Rejeesh  
(VU3FWR)**

Rejeesh handled majority of the VHF and UHF operations.

Right from day one, Girish was hunting out for Manoj, VU2CPL to be the lead operator. In spite of being a Commercial Pilot with a packed work schedule, on February 12th, VU2CPL decided to join the team and from the very same day started attending the group audio meetings. The team fully got charged by this development and it was decided to use VU2CPL as the team callsign. Time was too short to get a special call sign for the event.

The next challenge was to select a location for operations. Based on quick studies on VHF/UHF propagation, “Thrishangu” resort in Kuttikanam was initially short-listed for the venue.

On February 13th, Saju Gopal VU3GNL and Manoj VU2DTH visited the proposed site at Vagathanam. Altitude was good, but they found vegetation all around, which could physically obstruct a rotating HF antenna. They also found that there is a hillock towards one side. After some deliberations with Girish, Jacob and others it was decided to look for another location.

Manoj, VU2DTH had been suggesting the location of Idukki repeater. Downhill, there was a place to stay, but it was difficult to get food there. Going uphill for VHF and UHF operation was not so easy. We dropped the idea when we also heard that there was a hungry tiger roaming around in the wilderness. That was not a good situation during a contest.



## THE KANANAM RETREAT

With Manoj (VU2DTH) having some local contacts and Girish having visited and made many VHF trials, the idea of conducting the event at a resort located in Kulamavu, was put forward. Jacob also seconded the location. Without further delay, it was decided to choose the operating location as Kananam resort, Kulamavu, Idukki with grid MJ89KT. This message was soon given to ARSI contest manager.

The resort management was friendly and they allocated the highest located cottages to us and all the freedom to install the antennae.



## MAJOR EFFORT WAS TO ASSEMBLE AND PUT UP THE HF QUAD

The chosen location was 880 m above the sea level, on top of a hill. We had a 360 degree view around. The distance to the forest land was just 3 meters from the cottage wall. The wind velocity was high on the roof top. It was very tricky to assemble the 5m x 5m structure which was prone to high wind resistance. The standard step ladders were not suitable. We managed to get a broken iron ladder (see photo) and got it welded and repaired at the site. Without the strong will and muscle power of VU2DTH and his friends, this monster would not have been up.



Antennae were being built by Saju Gopal, VU3GNL. VU2ADV made a few visits to Saju's QTH & every other member in the team kept motivating Saju to ensure that nothing was left out. Daily calls on the WhatsApp group at 9:00 pm ensured the right follow ups and status tracking. VU2CPL shared a list of hardware and tools that he is planning to carry. VU2KGB followed this model with actual photos of items that he was planning to carry. This minimised duplication and omissions.

By 14th Feb, the VHF antennas were almost ready and by 15th, it was completed along with a cross boom for stacking. Saju made a splitter also for VHF stacking.

Manoj VU2CPL had a new Diamond 10 element UHF yagi which was lying idle and it was decided to be carried. This proved to be an excellent backup for the team on UHF later.

Saju was not happy with the Alpha Spid AZ-EL rotator given by Girish. He felt it was an over kill for the cubical quad. Dr Abraham VU2OJ came to our help and he sent his Yaesu rotator and control through his son (VU3FRS, Francis) by train to Trichur. Maya VU2CIA collected and brought the rotator to Kochi. Manoj VU2CPL couriered the rotator control cable to Girish and he assembled and tested the rotator.

During the group calls on 14th & 15th February, the details of the entire equipment, hardware and tools were selected, logistics were discussed and finalised. Manoj VU2CPL wanted to ensure that all equipment gets tested and ready to go at least by 08:00 hrs on 25th February, i.e, an hour before the start of the contest.

Due to a last minute change in the QTH, rooms at the venue was only available on 25th and 26th. This meant that operations can commence only by 2 pm on contest date. This meant 6 hours lost from contest time. This was not acceptable to the team and the solution was to rent one cottage on



22nd night, install all antennae, and leave everything ready to use. Then a temporary camping gear was planned to be erected on the day of contest to start operation with limited capability and then shift to the cottages when they become available post which, installation & operations go as planned for the rest of the contest. This was not an ideal solution, but was the only one at hand. A hotel around 27 km from Kulamavu was chosen for the team's stay on 24th February night.

Antenna installation team consisting of Girish, Jacob, Manoj (VU2DTH) and Saju got together at the venue on 22nd morning itself and started surveying the site for suitable locations for installing various antennas. The management of the resort informed that the open yard that was proposed to raise the cubical quad did not belong to them and they informed that it is not feasible to put it up there. However they permitted us to put up all the antennae on top of the cottage building. This upset all the plans, but a quick rework with the help of Kalesh and Tomy, two friends of Manoj (VU2DTH), temporary masts and supports were installed by the side of the cottage/building as telescopic masts. Guy wires were tied up on the terrace and to the nearby tree trunks. VHF stacked array was tuned to perfection with the SWR of 1.1.08. HF quad, though not perfectly tuned, there was no time left to fine tune, since it was already late night.



On 24th February, the team members started from various locations in Kerala. During the drive towards Kulamavu, Girish got a call from Kananam resort manager who informed him that one cottage where antenna was installed, was vacant for 24th and this was the best news we could have expected! The team of Manoj VU2CPL, Girish VU2KGB and Rahul VU2KKG drove straight to Kulamavu to setup the stations as planned and got everything ready to go 24th February night itself.

On 25th early morning, VU2CPL and VU3GNL got engaged in tuning the cubical quad. This was not easy without the support from VU2DTH and

others. The tall, but broken iron ladder borrowed from a shop near Cheruthoni helped us a lot. We had all the tools including powered angle cutter and a welding set. Though not to perfect levels, we brought down the SWR within acceptable levels on 20m, 15m and 10m. Straight away on checking the HF quad, we noticed some RFI during higher power levels (anything over and above 25 watts). This was disconnecting the sound interface during the data operations. It was decided to use only 25 watts for data and use the amplifier only for CW and SSB. M/s EPTRIC, Thiruvalla had given us a power conditioner to handle the power fluctuations. The final station line up was the following:

#### **HF STATION 1**

**RG0 ONE TRANSCEIVER.  
SPE EXPERT 1.5 KFA AMPLIFIER  
MACBOOK AIR, WINKEYER  
5B4AGN 6 band HF BPF  
3 BAND 2 ele CUBICAL QUAD  
VERTICAL Ant with elevated radials for 40m.  
EPTRIC Power Conditioner**

#### **HF STATION 2**

**ICOM IC7000  
INVERTED V for 40m.  
SMPS  
5B4AGN  
6 band HF Band Pass Filter**

#### **PORTABLE STATION**

**BARRETT MANPACK.  
LONG WIRE ANTENNA  
SOLAR PANELS.  
VHF/ UHF  
Kenwood TS2000  
2x7 element stack for VHF  
10 elements UHF YAGI  
150 AH Batteries**



Efforts to install omni directional antennae for VHF and UHF were not fully successful due to logistical limitations. This proved to be a handicap and affected the final numbers. The stacked array was too directional and we would have lost at least a few calls from the sides and rear of the array.

Contest started exactly at 09:00 hrs IST on 25th February on both HF and VHF.

VHF QSOs trickled in and HF ran dry on 40m very soon and operations shifted to higher bands mostly on FT8. This mode was chosen so that all members can see and get a feel of how this very popular mode can be operated. SSB and CW required some dedicated and focused efforts to ensure good QSO rates under marginal band conditions. As soon as conditions were found to be favourable, we switched to CW or SSB. Highlight of the operation was the sustained QSO rates that was possible on higher bands 10m and 15m owing to higher sunspot numbers.

40m SSB QSOs were handled by VU2OJ from the HF station 2 from a separate cottage within the same premises. HF Band Pass Filters ensured nil QRM between the two HF stations.

VHF operations gave some exciting moments with a few stray calls from A45 land which made everyone jump towards the VHF radio. Unfortunately despite many calls, we couldn't get the QSO in log.

As the contest operations closed at 18:00 hrs IST on 26th February, the final QSO numbers looked like below:

<div> <div>CW</div> <div>RTTY</div> <div>Data</div> <div>Phone</div> </div>					
All modes					QSOs
Band	CW	Data	Phone	Total	%
160m:	0	0	0	0	0.0%
80m:	0	0	0	0	0.0%
40m:	2	7	117	126	10.7%
30m:	0	0	0	0	0.0%
20m:	0	236	4	240	20.4%
17m:	0	0	0	0	0.0%
15m:	2	30	0	32	2.7%
12m:	0	0	0	0	0.0%
10m:	214	458	0	672	57.2%
6m:	0	0	0	0	0.0%
2m:	0	0	75	75	6.4%
70cm:	0	0	29	29	2.5%
Total:	218	731	225	1,174	
<div> <div>All stations</div> <div>All OPs</div> <div>All bands</div> </div>					



**We had a portable QRP HF station which worked on solar power**





## We enjoyed the whole event

Usually a contest is a place where there is a lot of stress. Due to systematic panning and the beautiful location, all of us enjoyed the event & the stay together! Every team member operated the radio and picked up a few contacts.



## The strong holds

Peter VU2PJP with his harmonics Rakesh VU3RGP and Ajith VU3EMX along with Ajith's better half Priya joined as a whole family. SWL Mahi and Akhil were also along to support them. With this strong team around, we felt nothing was impossible.



### OM Manoj VU2DTH

Manoj made all the infrastructure through his determination and muscle power.



### OM Saju VU3GNL

The Antenna Man who made the HF Quad and the VHF stacked array.



### OM Jacob VU2ADV

The idea creator and the driving force of the team, a keen observer too. The next event is already in his "To do".





## Strategy briefing

There was a mid day strategy briefing by VU2CPL. The team learnt many operating techniques through this session and also planned ways to improve the next field days and contests. After the event, during the summing up sessions, lessons were documented and a few shortfalls were understood. To the team's surprise, many stumbling blocks which were thought of as problems, finally turned out to be in favour. Shifting of the quad antenna from open ground to the roof top was one among them.



## VU2ACT, VU2PJP AND VU2ADV SET UP A TENT FOR VHF/UHF ACTIVITIES

While the main stations were kept inside the cottages, a tent was set up at a higher point in the open ground for exploring the VHF and UHF possibilities from different locations. It was a sunny day during the day time, but the breeze was cool. Mounting the VHF-UHF mobile antenna on his car, VU2ADV attempted few mobile QSOs.





## THE TEAM AND THE CONTRIBUTION FROM EACH MEMBER, MADE THE EVENT A SUCCESS

### VU2ACT

Dr Easwaran was our guiding light. When the team faced a difficult challenge, as his name suggests, “God” was always there to guide us!. Caps for the team members were printed within a short period. Thanks to his planning and support.

### VU2ADV

The spark that started it all. A huge inspiration and a constant source of motivation to all. He kept ideas coming and ensured the the team never felt discouraged. A very good operator, he kept the QSOs coming on VHF.

### VU2CPL

He was behind the big numbers that were in the log. Showed all others how to operate non stop from beginning to end. “Butt on the chair and CQ in the air” attitude set the tone of operations during the contest day and night. Manoj acknowledged that it was VU2CIA Maya’s mobile kitchen which helped him to survive during the non-stop QSOs.

### VU2DTH

The strong man who never runs out of energy. With local knowledge and experience, from climbing poles for antenna installation to being the co-pilot to Abraham and Manoj, he was everywhere.

### VU3FWR

The VHF man who knows most of the call signs and pathways! Major driving force behind the VHF numbers.

### VU3GNL

The Antenna man! Who else could have thought of a Cubical Quad to be put up for a contest which came on such a short notice? And a stack for VHF? All his efforts showed in the final results.

### VU2KGB

The CEO of the team! The glue that held all together. He was planning and installing antennas, organising the stay, ensured every one had basic necessities and reasonable luxuries, operated VHF and UHF and had an HF station with on standby.

### VU2KKG

Rahul was the eye of the operation - that too, a good one at that. He ensured no action was missed and no angles were left uncovered. His photos and videos enabled the team to concentrate on installing antennas and operating.

### VU2OJ

Dr Abraham lugged a full station from Wayanad and operated as the HF Station playing a very important role of supporting the main HF station to cover all local stations, despite his tight schedule.

### VU2PJP

Peter knows how to keep the team spirits high. Be it timely humorous comments or an endless supply of tea/ coffee and snacks, he was there from beginning to end and provided the HF Manpack which added a camping QRP portable dimension to the operation.

### VU3EMX

Despite down with flu, he showed his passion and dedication to the hobby by joining the team by driving a long distance, with his pleasing wife Priya.

### VU3RGP

Rakesh was in the thick of action the moment he landed up late on 25th February night. He operated on VHF for a long time with a loud CQ contest call which reached each and every corner. He showed a keen interest in HF operations as well.

### SWL MAHI

A keen SWL but a CW tutor & and ex-cop in the team provided the much needed support during the entire action. He was driving a hefty Mahindra Scorpio Getaway with antennae and masts. He kept a “cop’s vigil” over the operations and was always there to help when it was needed.

### SWL AKHIL

Acted as a major heavy lifter for Saju and Manoj for installation of antennas, man pack and solar panels. An Engineering graduate with his technical expertise, he for sure is a very promising team member & a future ham.

YouTube Link of the contest video:  
<https://youtu.be/MqQDT2s2K0c>