**The HIARC Bulletin**

May 2022 Edition

**Newsletter of the Harris-Intersil Amateur Radio Club**

**Club Meetings:** Second Thursday of each month at Meemaw’s Barbecue on Babcock Street between Palm Bay Road and Port Malabar Road. Supper is at 5:30 PM, business is at 6:30 PM. Prizes at 7:00 PM. Our programs start at 7:15 PM. Meeting ends by 8:00 PM. As some members have allergies, we kindly ask that you refrain from wearing fragrances. Thanks.

**Club Station:** Building 15, Room 321.  E-mail Butch for access.

**Repeaters:** K4HRS,145.47 Mc, tone 107.2 cycles. Down, being moved to the Turkey Creek Tower.

**Nets:**

The nets change often. At one point in time:

* South Brevard Emergency Net: Thursdays at 7:00 PM. 146.61 or 146.85 Mc repeaters
* Skywarn at 7:30 PM, 146.61 or 146.85 Mc on Thursdays
* Medical Complaint Nets: evenings 3.5 to 4.0 MHz

**HIARC Web Site:** [www.qsl.net/hiarc](file:///C:/Users/Worm-W10PC/AppData/Local/Microsoft/Windows/INetCache/Content.Outlook/053Z5X9S/www.qsl.net/hiarc). Website administrator; Jim , KC7SSW

**Officers:** President: Francis (“Butch”), WA4AQV

Treasurer: Pat KA4ZEC

Secretary: Open

Repeater Chairman: Clyde KD8AN

Program Chairman: Open

Field Day Chairman: Open

Sunshine Chairman: Open

Club Jester: Ken N8KH

**Annual Membership:**

Annual dues are $12.00. Join at the meeting or send a check to:

HIARC Treasurer

Pat , KA4ZEC

We are on a calendar year dues system with annual dues due in June. Dues are prorated by a dollar a month so if you join in April they are $2.00 to get to June, or you can pay ahead.

Send me your email address to receive the newsletter: francis.parsche@l3harris.com

**Local Hamfests**

None, summer dry spell.

**Ham Radio Lunches:**

* Every Friday, 11:00 AM till 1:00 PM or so, Golden Corral on Palm Bay Road in Palm Bay. Around 9 people recently. Talk in on 146.61 Mc repeater.
* Once a month, the Saturday after the PCARS meeting, Sarno Restaurant and Pizzaria, 11:00 AM. Talk in 146.61 repeater. This is at the corner of Sarno Road and Croton Road.

**Our Next Monthly Meeting**

Our next HIARC meeting is Thursday May 12 at Meemaws Barbecue. 5:30 PM for dinner, 6:30 short business or prizes, then about 7:00 the program. We will look at the BBC documentary on World War Two Radio Listeners. British radio amateurs copied CW into the night in their shacks and passed the raw radio traffic to the war effort. Complete with the original hams playing their parts.

Butch WA4AQV

**2022 Emergency Communications Volunteers**

L3Harris has an amateur radio transceiver. We try to staff it after hurricanes in case an emergency needs reported on campus and the phones are out. If you are an L3Harris employee and would like to particate let [Robin.Padden@L3Harris.com](mailto:Robin.Padden@L3Harris.com) know.

**2022 Field Day**

A 2022 HIARC Field Day has been discussed at each HIARC meeting since February. No one has come forward to chair it. No one has expressed any interest in particpating in one.If you change your mind Gary K0HV has offered to anyone at HIARC that they can come to the South Brevard Club 2022 Field Day at Fisherman”s Landing Park on US1 in South Grant. Gary NQ0V can be reached for details if you want to attend at [nq0v@hotmail.com](mailto:nq0v@hotmail.com).

**The Phone Patch Is You Friend**

As you will recall Hurricane Maria was the massive hurricane that impacted Puerto Rico in 2017 with massive disruption to normal communicaitons. A number of amateurs handled messages on every day on SSB near 7.170 and 14.280 Mc. L3Harris helped out using the building 25 Log Periodic antenna.

Typically these were safe and well messages passed for families and the community. I delivered a few. Some recipients cried on the telephone when they learned their family was ok. Nearly all were thankful. One person asked how I could know or prove their loved on was ok. I could only say I was a volunteer trying to give people piece of mind, explain amateur radio, and that I didn’t want personal information or money.

A voice telephone patch would repeatedly have been of help. Often the family was near the radio ham at the other end. I never heard a phone patch during the Marie disaster. The manual radio phone patch seems forgotten.

Phone patching was a regular thing on HF in the 1950’s through the early 1980’s perhaps. Phone patching was a bit naughty then as consumers were not supposed to make direct electrical connections to telephone lines then. Doing that violated FCC Part 68 rules which required registration of “Foreign Attachments”. This was to control volume levels, surge protection, RF interference and the like. As well the phone companies charged for each instrument you hooked up on a monthly basis. Phone companies could engage in “Detection of Unauthorized Equipment” such as your “Foreign Attachment” phone patch unit. Detection may have been difficult for a phone patch. It looked like phone electrically except was missing the ringer bells.. Phone companies did look for the impedances of ringers to give away added extension phones. You were supposed to order extension phones from the phone company and pay more for them. Phone companies never offered amateur radio phone patch units that I heard of . That would have come with a monthly fee if it did. Guess phone patches were intercontinental extension phones? Phone patching might also avoid long distance telephone charges and that would not have been popular. The phone companies and the FCC never acted against amateur phone patching that I heard of. Hams helped service members overseas, supported missionaries as to human needs, found doctors for injured in remote places and helped people in disasters. They would be looked like meanies if they did. The ARRL still advises on phone patching at [www.arrl.org/phone-patch-guidelines](http://www.arrl.org/phone-patch-guidelines).

The technical stuff. Phone patching was an electrical connection made between the telephone line and amateur radio transceiver. This was typically done through an interconnection box known as the “patch”. Most old patch units probably still work, many had no no tubes or transistors. There were volume controls for radio microphone and speaker connectors to the radio. The radio amateur providing the phone patching listened in on the phone call and manually threw the transmit / receive switch. The users were advised to say “over” when they wanted to stop talking and do the listening turn. You could make people speak up by turning down their receiver volume bit. Usually you explained ham radio before you started. People really appreciated hams afterwards. You would hear stations on 20 meters at far away military bases or on Coast Guard icebreakers looking for a phone patch to the western USA or whatever. Sometimes the South Pole would be on looking for a patch. I did that from the South Pole and always found someone willing to run a patch to family member.

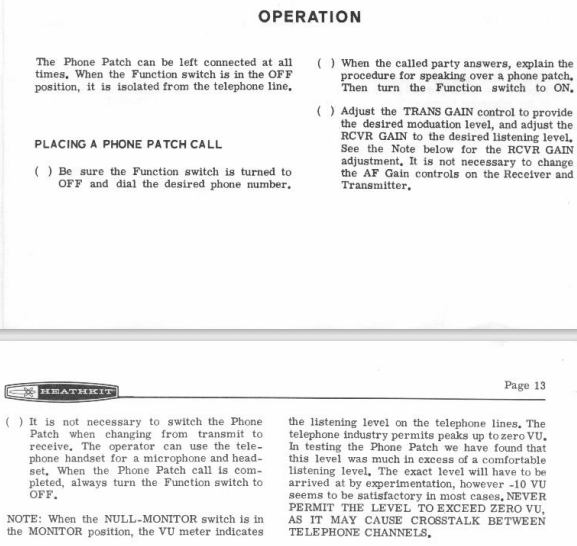
An example phone patch is the Heathkit HD-15 unit. They are around on Ebay for maybe 15 to 40 dollars. As can be seen there are level controls for the receiver speaker bridging and the transmitter microphone bridgeing, you just parallel across them. The magic part was the “hybrid transformer” inside which allowed for a “high isolation between the transmit and receive circuits to aviod instability or feedback.” Collins Radio had phone patches built into some of their 312B-4 “Station Controller” speaker units. Cheap hams could get a hybrid coil out of a dial telephone and make a unit.



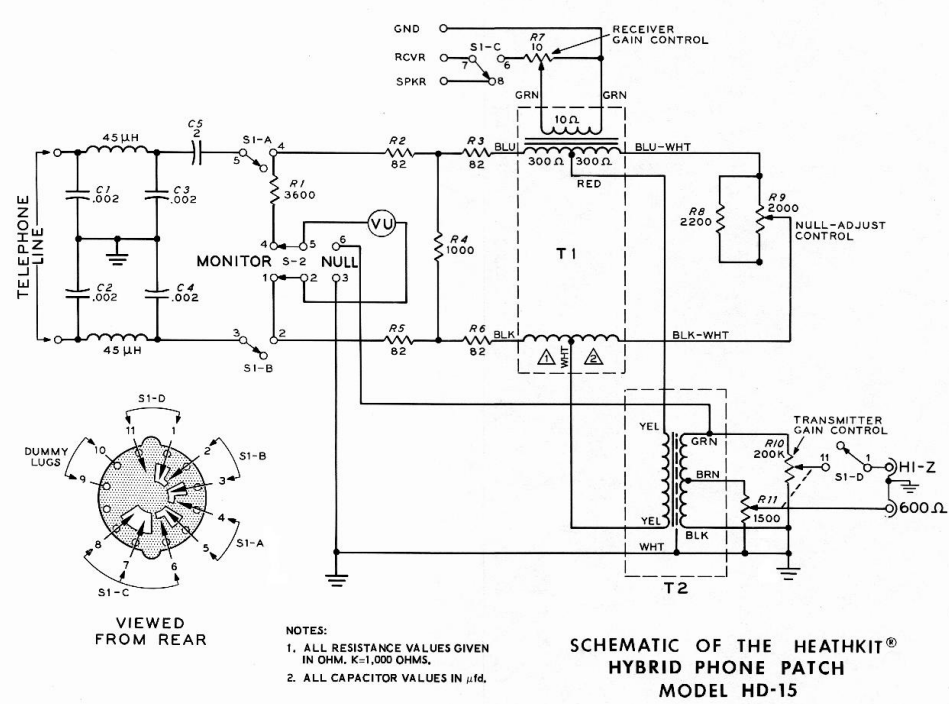
**Heathkit HD-15 Telephone Patch**

The way things are going I’m going to start looking for a Heathkit phone patch box. Maybe they’ll need phone patches for Europe soon?

Butch WA4AQV



**Heathkit HD-15 Telephone Patch Operations**



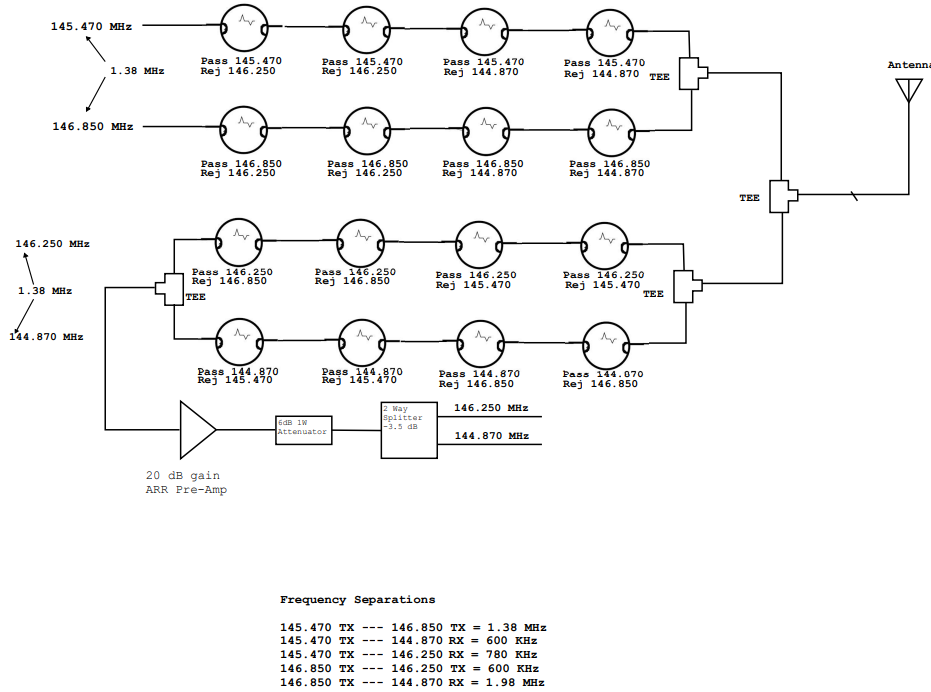
**Heathkit Telephone Patch Schematic**

**The 145.47 MHz HIARC Repeater Is Moving**

As mentioned last month, the 145.47 MHz HIARC repeater is moving from the Rialto Building to the L3Harris 400’ Turkey Creek tower.

More questions and answers:

* When was the 145.17 repeater first installed on the Rialto Building? June 18, 1988. Yes 1988.
* Who else is this happening too? The April 2022 QST advises ARRL is petitioning the Forest Service to avoid charges over $1000 a year for amateur antennas at mountain top sites.
* What does the new 145.17 – 146.85 combined repeater filter system look like: Here is a schematic:



Notice the filters are all transmit on one side of the T and all receive on the other. The stub impedance cable off the T arms has be correct, in other words the right length. More on that at a club meeting.

* Two repeaters on the same antenna! The filters will prevent any bad manners.
* Why do we do all this? 1) “To serve you better”. 2) It’s less expensive then treatment.

**Other Repeaters To Use**

The HIARC 145.47 repeater as you have likely heard is down for relocation to the Turkey Creek Tower. Gary NQ0V has kindly offered use of the Palm Bay Club’s repeaters as follows:

I am authorized to offer HIARC members the use of the Palm Bay club's repeaters.  The recent removal of the 145.47 MHz HIARC repeater from the Realto Building may cause significant delay in getting it back on the air.

Our VHF repeater is 147.255 MHz with a 107.2 Hz tone.  This repeater is located in southern Brevard County, but has good coverage through Melbourne and Palm Bay.   It has battery backup and solar power.

Our UHF machine is 444.325 Hz with a 107.2 Hz tone, and is also battery backed up.  This is located downtown on a high-rise building with great coverage around Melbourne and Palm Bay.

The HIARC repeater was pretty quiet, and as far as I knew, open to all as long as it wasn't abused.  Our Palm Bay club repeaters are very similar, they are not heavily used and open to all.

As an interim, or even a long-term arrangement, all HIARC members are welcome to consider the PBARC repeaters as 'theirs' for the duration.

Some operational considerations:  Both our repeaters are analog/digital Fusion.  This means whatever mode it hears, that is what gets repeated.  This allows normal analog FM operation.  If Fusion is heard, that is what comes out.  Both modes are sparsely used on our machines.

Listening to the digital buzz-buzz-buzz can get annoying rather quickly to the FM analog folks.  We recommend to use the receive squelch on the 107.2 Hz, thus blocking the digital signal when its's present.

Looking forward to hearing the HIARC members use our repeaters!

Gary NQ0V

**Fundamentals Of Wireless Communications**

Free book: Fundamentals of Wireless Communication

<https://Web.Stanford.edu/~dntse/Chapters_PDF/>

Ken N8KH