STARLITE

THE NEWSLETTER FOR THE STOURBRIDGE AND DISTRICT A.R.S.

G6OI
G6SRS

G4CVK

ISSUE: JUNE 2019

STOURBRIDGE & DISTRICT AMATEUR RADIO SOCIETY
INCORPORATING
OLD SWINFORD HOSPITAL SCHOOL RADIO CLUB

MEETINGS HELD AT

OLDSWINFORD HOSPITAL SCHOOL
HEATH LANE
STOURBRIDGE
[8:00 TO 10:00 PM]

VISITORS ALWAYS WELCOME

THE SOCIETY HOLDS ITS FULL MEETINGS
ON THE 1ST AND 3RD MONDAYS EACH MONTH

RSGB AFFILIATED SOCIETY

The views expressed in STARLITE may not be those of the Committee – Stourbridge and District Amateur Radio Society

STARLITE

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http://g6oi.ross-lewis.co.uk/index.html

StARS Facebook Page:-
https://www.facebook.com/groups/stourbridge.ars/

Forthcoming Meetings

June 3rd	On Air. Informal. Digi Modes Group.
June 10th	On Air. Informal. Digi Modes Group.
June 17th	**Annual BBQ @ No Man's Green**
June 24th	On Air. Informal. Digi Modes Group.
July 1st	On Air. Informal. Digi Modes Group.
July 8th	On Air. Informal. Digi Modes Group.
July 15th	Main Meeting – Subject t.b.a.
July 22nd	On Air. Informal. Digi Modes Group.
August 5th	On Air. Informal. Digi Modes Group.
August 12th	On Air. Informal. Digi Modes Group.
August 19th	Main Meeting – Subject t.b.a.
August 26th	**Bank Holiday – No Meeting.**
September 2nd	On Air. Informal. Digi Modes Group.
September 9th	On Air. Informal. Digi Modes Group.

Editor's Comment

We have several featured articles this month. The first is entitled "*A Triplexer – What Is That?*", the second has a long title, "*Hams try to re-carve the amateur radio spectrum in fight or open or encoded broadcasts*", the third also has a long title, "*A Mystery Frequency Disrupted Car Fobs in an Ohio City, and Now Residents Know Why*". I hope they are of some interest.

Most of you will be aware that StARS ran a Foundation Course during the first few months of this year for two candidates. Congratulations are due to Alan and Paul for passing the test and obtaining their Amateur Radio licences. Sorry, but I didn't get their callsigns.

From time to time, I've been tuning around the HF bands and I was pleased to note that 10m has been open, certainly into Europe, but my 5 watts and half-size G5RV wasn't successful for any contacts. It made a pleasant change to hear something on my favourite band. Didn't hear much on 20m and nothing on 15m. Not surprisingly, 40m has been quite busy during daytime and heard some DX in the hours after midnight. So, contrary to popular belief, there IS plenty to work on the bands!

Can someone explain to me (and others), what is the fascination of FT8? I understand that your computer "talks" to someone else's computer for a few seconds and that's your lot. Now there is FT4, which apparently does the same in half the time. Is it true that the station "operator" doesn't even have to operate the station? And you don't even have to interact with the "operator" on the other end? I'm sure that the members would like to know the answer to this question.

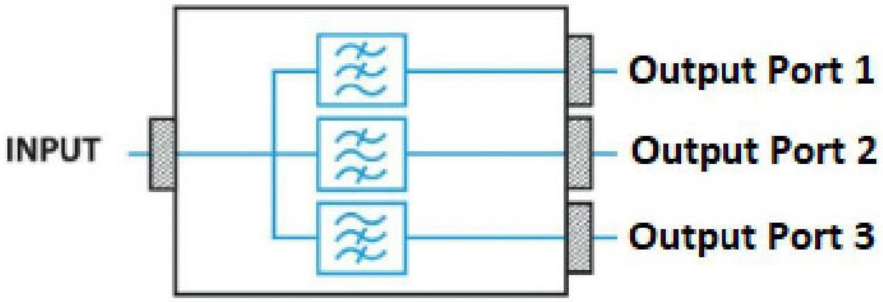
Once again there is nothing to report from within the Society, hence the blank space, below. It would be nice to be able to include items of news for the membership. No matter how often I suggest this, there is never anything received on the Editor's desk! So, it's up to you.

A Triplexer ... What is that?

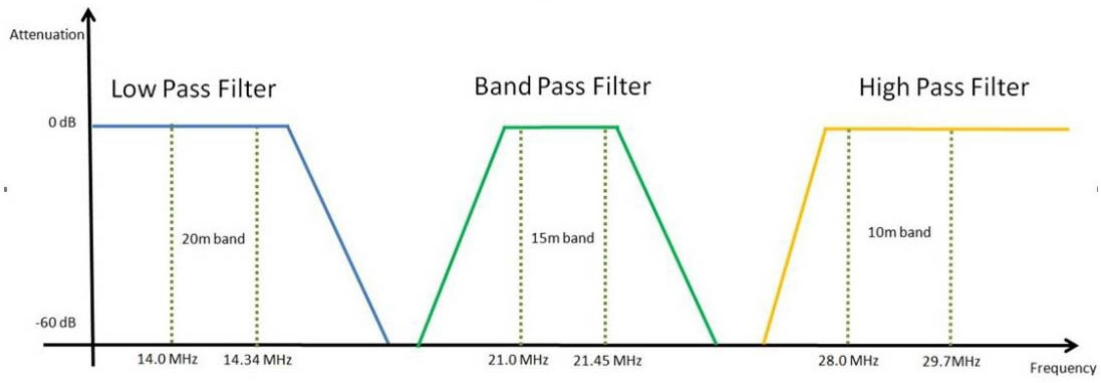
Les Tocko, VA7OM

Three Transmitters, One Antenna or Vice-Versa

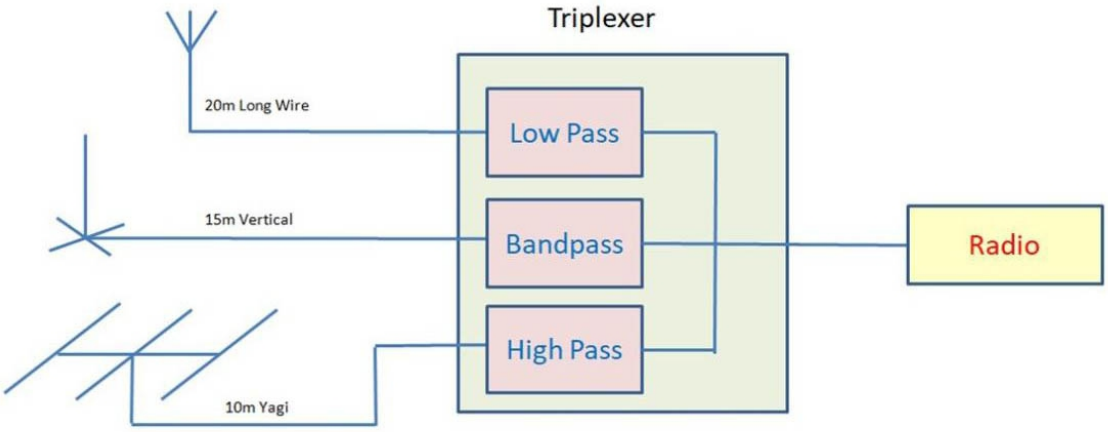
You have probably heard about triplexers but are not sure what they are. Here is a simple explanation.



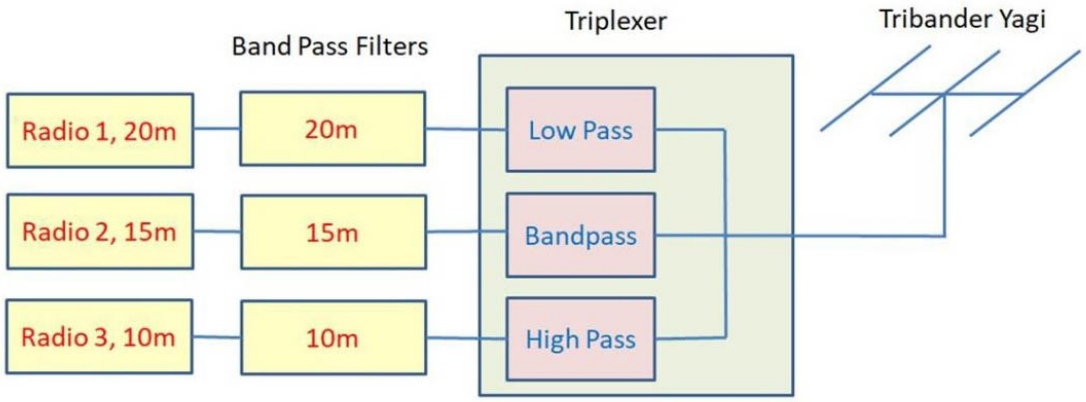
A triplexer is a device that allows 3 transmitters to share one antenna. The transmitters have to be on different frequency bands and the antenna needs to tune 3 bands. A good example is during a contest: 3 operators working with 3 transmitters one on 20 metres, second on 15 meters and third on 10 meters and the antenna is a 3 band Yagi 20 - 15 - 10 meters.



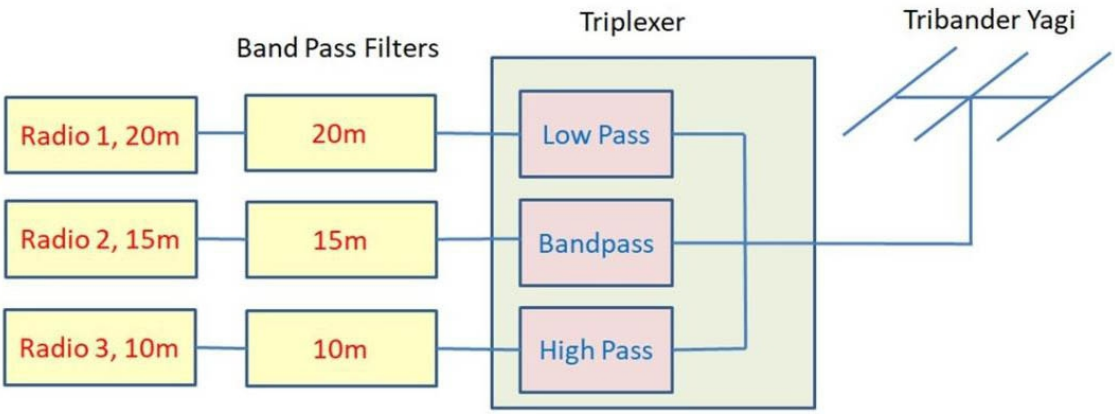
Inside a triplexer are filters that prevent power from one transmitter being routed to second transmitter and so on.



A triplexer can also work backwards - it enables use of 3 different antennas with one radio. Here is an example:



A triplexer might not have enough attenuation to prevent strong signal from other transmitters from entering the receiver input. This could damage the receiver's front end. Therefore, extra filters are used:



Hams try to re-carve the amateur radio spectrum in fight or open or encoded broadcasts

Radio enthusiasts argue signals must travel in the open, for the sake of national security

Some people have been using ham radio frequencies for communication that's encrypted or difficult to decipher and others argue that's a threat to national security and a violation of the spirit and rules of amateur radio. Really, it's a fight over whether the amateur radio spectrum remains a hobbyist space or develops as a medium for data traffic.

In a letter [PDF] submitted earlier this week to the US Federal Communications Commission, NYU professor Theodore Rappaport, who runs the NYU Wireless research center at the NYU Tandon School of Engineering, voiced support for RM-11831 [PDF], a proposed radio rule revision that, among other things, would require radio transmissions be open to public scrutiny.

"RM-11831 allows ACDS [Automatically Controlled Digital Stations] to continue to operate in ham radio, but simply requires them to use openly decodable transmissions in compliance with FCC rules," Rappaport says.

That means difficult-to-decipher, proprietary automatic repeat query (ARQ) traffic, using radio signal modulation modes like Pactor 3, WINMOR, STANAG, and ARDOP would have to be open source or make easy decoding available to ham radio operators who wish to examine the traffic.

Federal rules ban amateur radio stations from transmitting "messages encoded for the purpose of obscuring their meaning," with some exceptions. Despite this, evolving technology has given rise to a number of services that, some argue, violate these rules, such as Winlink and D-Star.

If the rule change is adopted, it might mean the end of these services, or reduced functionality, and might make it harder for innovative services like New Packet Radio to emerge.

RM-1183, argues Rappaport, "assures national security by providing transparency and self-monitoring by the public of all amateur radio transmissions in the HF spectrum that routinely cross international borders."

At the same time, Rappaport urges the FCC to reject other proposed rules, NPRM 16-239, RM-11828, RM-11759, and RM-11708, that he claims would allow more obscure or effectively encrypted communications over public radio spectrum.

Others offering their opinions to the FCC disagree. "RM-11831 is yet another effort by a small circle of US amateur radio operators wanting to cripple the use of data modes on the amateur radio bands," writes Stephen Williams of Bakersville, North Carolina, in a comment submitted to the agency.

"If enacted, the changes proposed will NOT promote transparency and will NOT prevent the use of the bands by commercial interests. There are no proven cases of commercial use of modes like Pactor on the amateur bands. This RM-11831 effort is simply an attempt to kill the use of Pactor in the US as a communications mode supporting emergency communications operations."

In a letter [PDF] to FCC chairman Ajit Pai last December, Loring Kutchins, president of the Amateur Radio Safety Foundation (ARSL), which oversees Winlink, pushed back against Rappaport's characterization of the service.

"Theodore Rappaport and the opponents he informs offer an emotional, layman's conjecture in their assertions that hard-to-monitor, advanced digital protocols used in the amateur radio service will encourage crime, terrorism, and are a threat to national security," said Kutchins. "They clearly do not know or appreciate what monitoring and inspection routinely occurs, and are thus not qualified to judge."

Kutchins claims Winlink sysops inspect system traffic. "All communications are logged in detail and messages are archived, and available to the FCC and anyone else on request," he insists, pointing to a separate set of comments intended to rebut Rappaport's claims.

Dan White, of Granbury, Texas, is both an ARSL member and critic. He claims the organization is backing proposed rules like RM-11708 "to provide free encrypted email and bypass commercial maritime services under the guise of 'emergency communications' while exhibiting total disregard for incumbent spectrum users."

The FCC will consider input on RM-11831 until April 29 this year.

A Mystery Frequency Disrupted Car Fobs in an Ohio City, and Now Residents Know Why

Virginia Avenue in North Olmsted, Ohio, where residents complained that their car key fobs and garage door openers had stopped working.

It sounded like something from an episode of “The X-Files”: Starting a few weeks ago, in a suburban neighborhood a few miles from a NASA research center in Ohio, garage door openers and car key fobs mysteriously stopped working.

Garage door repair people, local ham radio enthusiasts and other volunteer investigators descended on the neighborhood with various meters. Everyone agreed that something powerful was interfering with the radio frequency that many fobs rely on, but no one could identify the source.

Officials of North Olmsted, a city just outside Cleveland, began receiving calls about the problems in late April, Donald Glauner, the safety and service director for North Olmsted, said on Saturday.

In the weeks that followed, more than a dozen residents reported intermittent issues getting their car fobs and garage door openers to work. Most lived within a few blocks of one another in North Olmsted, though some were from the nearby city of Fairview Park.

Not every car fob failed to work, said Chris Branchick, whose parents live in North Olmsted. He said that whenever he visited his parents in his GMC vehicle, the fob would not unlock the car door; if he went in his fiancée’s Nissan, things were fine.

“We thought maybe it was a foreign versus domestic thing,” he said.

Officials from the cable company and AT&T joined the search for answers, and on Thursday, the Illuminating Company, a local electric utility, dispatched inspectors to investigate.

“They began by shutting off the power in the places where they detected the strongest reading for interfering radio frequencies,” said Chris Eck, a company spokesman. But even after shutting off power on an entire block, the overpowering frequency persisted.

“It’s like trying to talk to someone at a nightclub,” said Adam Scott Wandt, a professor at John Jay College of Criminal Justice in Manhattan, in explaining how a strong frequency can derail a weak frequency.

Dan Dalessandro, a television repairman, was one of several ham radio aficionados who went to investigate. At first, he said, all he picked up were “little blips” on a signal detector, but on one block — and at one house in particular — the signal was extraordinarily powerful.

By Saturday afternoon, City Councilman Chris Glassburn announced that the mystery had been solved: The source of the problem was a homemade battery-operated device designed by a local resident to alert him if someone was upstairs when he was working in his basement. It did so by turning off a light.

“He has a fascination with electronics,” Mr. Glassburn said, adding that the resident has special needs and would not be identified to protect his privacy.

The inventor and other residents of his home had no idea that the device was wreaking havoc on the neighborhood, he said, until Mr. Glassburn and a volunteer with expertise in radio frequencies knocked on the door.

“The way he designed it, it was persistently putting out a 315 megahertz signal,” Mr. Glassburn said. That is the frequency many car fobs and garage door openers rely on.

“There was no malicious intent of the device,” he said in a statement.

The battery on the device was removed and the signal stopped. “It was a relief,” Mr. Glassburn said.

More broadly, the case is a reminder of the power of radio frequencies, Professor Wandt said.

“They are not inherently dangerous to a human being,” he said. “But they could cause mass chaos in our technologically advanced society in ways we cannot predict.”

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