

Emergency Radio Communications

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Group Controller
East Suffolk RAYNET

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RAYNET in Suffolk

- Part of the RAYNET-UK national organisation
 - Founded after the 1953 flood to allow amateurs to handle 3rd party traffic for user services despite the GPO monopoly
- User Services
 - Originally Police, BRCS and St John Ambulance
 - Now all Cat1 and Cat2 responders including County and District
 - We can support parish councils using business radio
- Two Groups in Suffolk
 - East Suffolk group covers Suffolk Coastal, Ipswich and Babergh/Mid Suffolk districts with 32 members
 - The Forest Heath Group covers West Suffolk and Forest Heath districts with 20 members
- Almost all members are licensed radio amateurs
 - Amateurs are allowed higher power and more frequencies
 - Technically qualified – every operator is a technician
 - ID Verified
 - Many have 4x4 and transportable masts
 - Both groups also have business radio licenses for use by customers



What we offer in an emergency

RAYNET provides infrastructure independent radio communications to other public sector and voluntary emergency responders. We can work regardless of power cuts and internet or telephone failure on scales from across a village to county wide and world wide. In an emergency we can:

- Set up fixed radio links between control and operational sites
- Pass formal messages between HQ sites over radio as voice or data
- Provide wide area secure voice radio for incidents up to 100 sq. km
- Provide in-vehicle radio communications and a control station
- Provide short-wave links around the UK and internationally

RAYNET operators pass a technical exam to get their license so we are all communications engineers as well as radio operators.

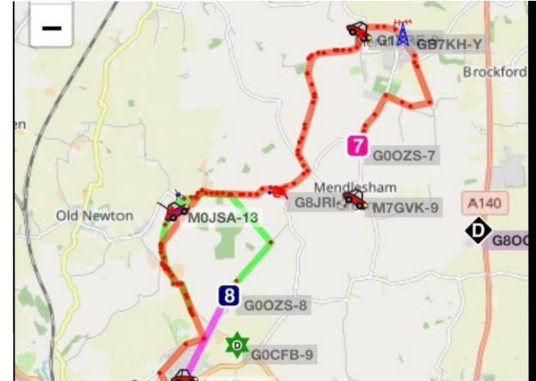
We can also provide radio training and consultancy.



What we offer to the Community

RAYNET Goups in Suffolk have received **no public funding since the 1990s** and depend on providing communications to community and sporting events to train and raise funds. We can help event organisers with:

- Secure Business Radio Handsets for hire to your staff or volunteers with a repeater and mast to extend the coverage area if required.
- Trained radio operators to shadow your key people or ride with roving marshalls and sweep vehicles.
- A central control station with a mast and shelter and trained operators
- Radio links between widely separated fixed locations
- Tracking of vehicles, runners and horses independent of mobile coverage
- Training in the effective use of radio



Different levels of radio are available



PMR 446

Low Power (1/2 W)
Short Range (1km)
16 shared channels
License Exempt
Not Secure
£15-20 per radio



Business Radio

Medium Power (5-10W)
Medium Range (5-10km)
Shared and Assigned channels
Licensed by OFCOM
Can be encrypted
£50-£500 per radio to buy
£10-15 per radio per day hire
You get what you pay for!



Trunked Radio

e.g. Airwave
Medium Power (5-10W)
Private cellular networks
Works through base stations
Operated by a Service Provider
Strong Encryption
£500-£5000 per radio
Not readily available to local responders.



Amateur Radio

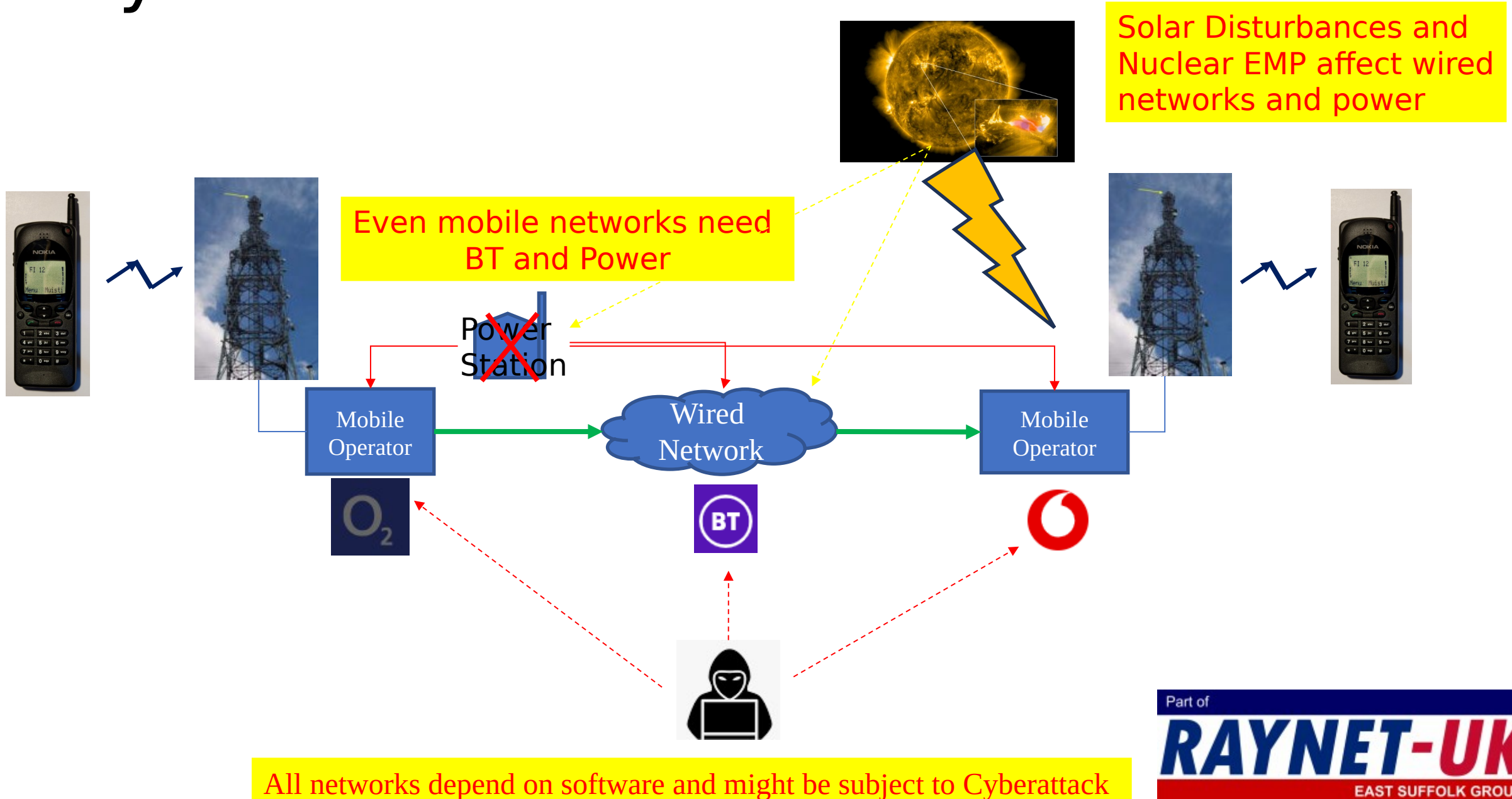
High Power – up to 1KW
Local to Worldwide Coverage
Using purpose made and surplus professional equipment.
Access via passing exams -
Every amateur is a technician.
Can Encrypt in emergency.
Radios already in Community.



Military

High Power – over 1KW
Local to Worldwide
Very Strong Encryption
Needs to be deployed
MACP needs cabinet office approval.

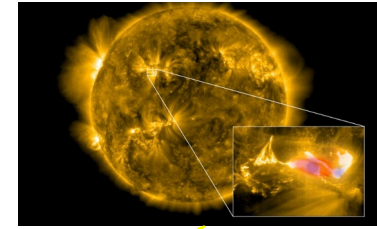
Why not mobile networks ?



Why not wired networks ?

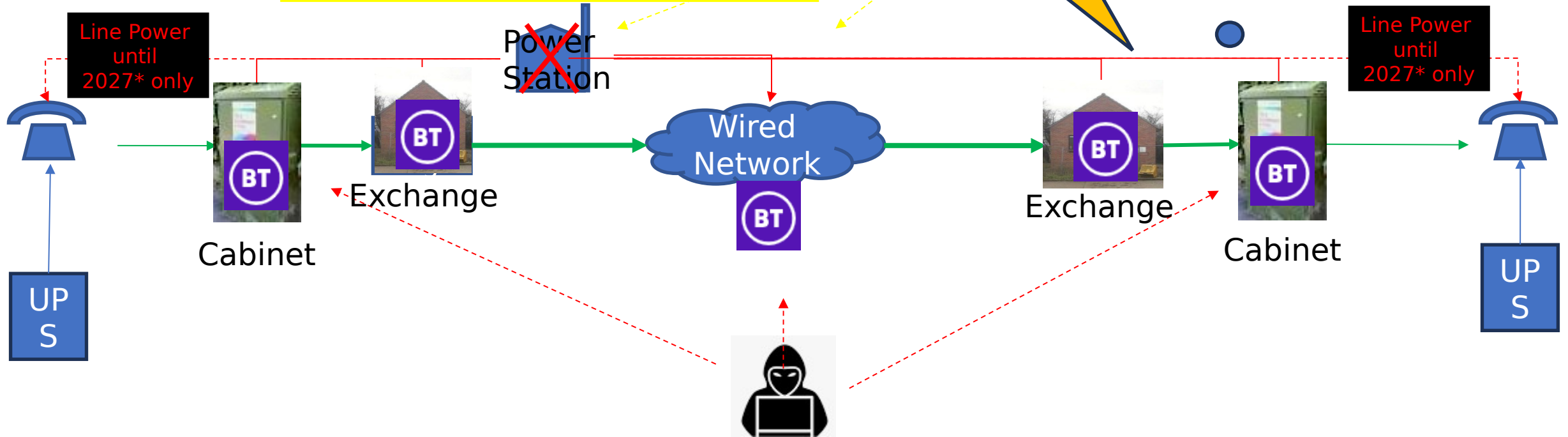


Electricity and Water do not mix!



Solar Disturbances and Nuclear EMP affect wired networks and power

Wired Phones need BT and Power



All networks depend on software and might be subject to Cyberattack

* BT PSTN closure now planned for 31st January 2027

<https://www.ofcom.org.uk/phones-and-broadband/landline-phones/future-of-landline-calls>

Why Radio ?



Infrastructure Independent Communications !

RAYNET at Dunwich

- Fire started 29th July
 - › 4 x 3 km operating area
 - › 120 Hectares burned
- Poor Communications on Site
 - › SFRS radios too short ranged
 - › Patchy cellular and airwave coverage
- RAYNET Called out 2nd Aug at 3.30pm
 - › Initial team at site 4pm to assess
 - › Repeater on site at 5pm and live at 6pm
 - › Radios deployed with firefighters at 6.30pm
- Operational until 10th August 5pm
 - › 24 x 7 technical support by 20 operators in shifts
 - › 40 handsets deployed to end users
 - › Two nets with full area coverage for SFRS and Police/Highways



Contact Information

National RAYNET:

Web Site: <https://raynet-uk.net>
Call Out Number: 0303 040 1080 Then *

East Suffolk Group Contacts:

Controller	Iain Moffat	07485 114 829	iain.moffat@raynet-uk.net
Deputy	Chris Cates	07976 404384	christopher.cates@raynet-uk.net

Web Site: <https://www.east-suffolk-raynet.co.uk/>

Forest Heath Group Contacts:

Controller	Justin Bridges	07712 425836	justin.bridges@raynet-uk.net
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