



Activity Report

The Radio Amateurs' Emergency Network

www.raynet-uk.net
030 30 40 10 80

GLOUCESTERSHIRE FLOODS

Friday 20th July 2007 saw the start of the worst flooding in the county for over 100 years. Gloucestershire County RAYNET was called out on 22nd July; their role was to establish a new Emergency Communications Centre (ECC) away from their usual base in Shire Hall which was located in a potential flood zone.



© Stewart Charles

The groups were also tasked with providing reliable radio communications between rest centres in Gloucester,

Stroud, Cheltenham and Tewkesbury. Meeting this objective was made more difficult by the local topography – the Cotswold escarpment making good VHF communications more challenging. Despite this, successful paths for voice and data links were established and maintained.

RAYNET was also tasked to be able to provide communications from the standby ECC to sites in adjacent counties should power in the area fail if the Walham electricity sub-station flooded. This was successfully achieved using VHF links to Bath. RAYNET also provided communications between the ECC and the main bottled water distribution centres.

Gloucestershire County RAYNET was fully involved with the flooding for over 10 days, with multiple sites being activated in difficult conditions which presented many engineering and logistical challenges.

Lessons Learnt



© Chris Shervey

The County Council Emergency Planning Team confirmed that RAYNET should have been called out earlier as the mobile and fixed telecommunications networks were becoming overloaded.

After the event, the Army stated that it would have been helpful for them to had RAYNET assistance to provide local knowledge and communications to help with water distribution.

A voluntary ambulance service experienced communications difficulties during the flooding. They subsequently confirmed that RAYNET assistance to back up their own communications system would have helped.

Gloucestershire Fire & Rescue Service has indicated that RAYNET support would have been useful to cover areas where their own communications were difficult.

Gloucestershire Floods



Activity Report

The Radio Amateurs' Emergency Network

www.raynet-uk.net
030 30 40 10 80

SHOREHAM AIR SHOW

Each year since 2001, the organisers of the Royal Air Forces Association (RAFA) Shoreham Airshow have requested South Sussex RAYNET to control their three-channel radio scheme. They recognise that the training and experience of our operators has a vital part to play in the efficient running of show communications and has a major impact upon public safety – important with 20,000 visitors present!

As a central point of contact for all ground-side staff, a fairly open and informal radio network is normally allowed, but when an incident occurs strict net discipline is immediately enforced.



© Peter Grant

Hurricane Crash



© www.danithompson.co.uk

At 3.20pm on Saturday 15 September 2007 one of the RAYNET operators watched in horror as a Hurricane aircraft unexpectedly plunged to the ground during the set-piece 'Airfield Attack'.

Within seconds the RAYNET operators in the Joint Emergency Centre (JEC) put into effect the prepared emergency plan and the airfield was locked down whilst all key personnel were located and briefed. This procedure was assisted

by the fact that the JEC is shared with the Police, St John Ambulance (for South East Coast Ambulance Service), show security control desks, and the Show Safety Officer. RAYNET operators are familiar in working alongside other services at such multi-agency controls.

Approximately half-an-hour after the crash the organisers of the event declared the incident over and the show resumed. This was in full accordance with the wishes of the deceased pilot which he expressed before the show. Only minutes after this, the paper logs and voice recordings of the two main radio channels during the incident were made available to the authorities and, ultimately, to the Air Accident Investigation Branch. The duty operators were then stood down and given time to recover and were debriefed.



© Iestyn Lloyd

Shoreham Air Show



Activity Report

The Radio Amateurs' Emergency Network

www.raynet-uk.net
030 30 40 10 80

Kent Ambulance Power Failure

KENT AMBULANCE POWER FAILURE

On 2nd October 2008 15:45hrs, Kent RAYNET received a callout from South East Coast Ambulance Service (SECamb) as power had been lost at their Kent headquarters in Maidstone. This had affected their telephones, radios and IT systems. While problems in North and West Kent were being managed by SECamb there was still a potential communication problem for the rest of the county.

Call out

Kent County RAYNET initiated a call out of all Kent RAYNET Groups. South Kent and Thanet RAYNET members were immediately dispatched to local ambulance stations and three hospitals within the potentially affected area. Medway RAYNET Group, which covers Maidstone and all the 'blue light' service HQs, despatched an interim team to SECamb Kent HQ, whilst the remaining Medway members were on standby to deploy.



© Ken Brown

SECamb requested RAYNET to provide an additional radio network to cover the ambulance stations and hospitals within South and East Kent.

Communications Provided

Utilising a plan used by Kent RAYNET during the Tour de France 2007, Kent RAYNET quickly deployed members to proven high ground locations to erect masts and establish radio talk-through units (see separate fact sheet).

Within 90 minutes of the initial callout, Kent RAYNET had operators at all the required ambulance stations and hospitals and four talk-through units linked together to provide radio communications from SECamb HQ Maidstone to South Kent, East Kent and the Isle of Thanet.

RAYNET provided a facility for passing of routine messages between the ambulances and SECamb HQ. This allowed SECamb's own radio system to be used solely for priority messages.

RAYNET were requested to keep the radio network in place during the night, to be reviewed in the morning. In light of this Kent RAYNET requested other RAYNET groups across the South East be put on standby in case they were needed. However Kent RAYNET was stood down at 0930hrs 3rd October 2008.

RAYNET provided the following during the operation:

- Operators at 7 Ambulance Stations and 3 A&E Hospitals, plus SECamb HQ.
- 4 Linked talk-through units and over 30 RAYNET operators.
- Additional radio network running for 16 hrs from independent power supplies.



Fact Sheet

The Radio Amateurs' Emergency Network

www.raynet-uk.net
030 30 40 10 80

Overview of RAYNET Operations

OVERVIEW OF RAYNET OPERATIONS

Portable

This usually means a radio operator on foot using a "handheld" portable radio. Because of the relatively low power produced by a handheld, they can only be used where there is a strong radio signal. This is usually close to the Control Station or within the coverage of a Talk-Through unit (see separate Fact Sheet).



© Stephen Davies (M0SPD)

Mobile

A mobile installation is usually installed in a RAYNET operator's vehicle and uses a vehicle mounted radio and antenna system. Because of the higher power and better antenna that are available (when compared to a handheld), mobile installations have a much wider radio coverage. Mobile units can easily change location as the dynamics of an incident change.

Temporary Fixed Installations

Where there is an area of poor radio coverage, it may be necessary to install an antenna and mast system to provide additional height for the antenna, thereby improving radio coverage. Talk-Through units are often installed in this manner. Masts are usually staked out using guy ropes and as such they are not easy to re-locate at short notice.

Control Station



Once a system, consisting of one or more of the above type of installations, is in operation a "Net Controller" will be identified to maintain the radio network. He / she will maintain radio network discipline to ensure that messages are properly recorded and relayed. The RAYNET Net Controller is usually co-located with the User Service "Control" facility. Where an incident has arisen "in the field" Control can simply be a radio installation in a car. It can

also be a permanent installation in a User Service's building. Many of these now have pre-installed equipment, such as antenna and cabling. More specialised and portable equipment (e.g. radios and power supplies) being provided as required.

User Services

RAYNET can only provide its emergency communication services to approved organisations known as "User Services". These are typically Civil Contingency Category 1 and 2 responders. If you are not certain that your organisation is a "User Service" please ask and we will be glad to offer guidance.



Fact Sheet

The Radio Amateurs' Emergency Network

www.raynet-uk.net
030 30 40 10 80

Talk-Through Unit – Overview

TALK-THROUGH UNIT – OVERVIEW

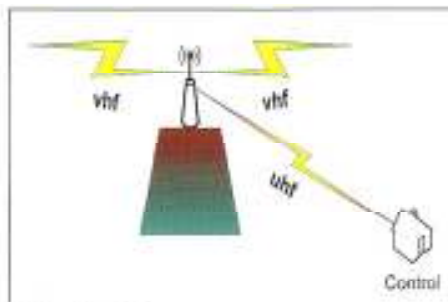
What's a "Talk-Through"

A Talk-Through unit is a specialised radio system which relays or rebroadcasts what it hears from its well placed location so as to provide radio coverage over a much wider area. Talk-Through units are temporary radio systems deployed to meet the specific needs of a User Service's RAYNET requirements on the day.

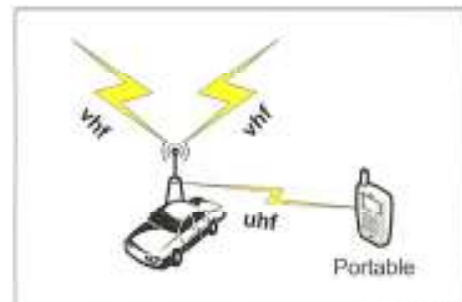
The area covered can be a relatively small one, providing a localised system or, more usually, they may be used to provide coverage over a wide area. Sometimes, in a large deployment, several talk-through units are linked together to provide coverage over even longer ranges or over particularly difficult terrain. For example, using multiple linked Talk-Through units to provide coverage throughout Kent during the *Tour de France*, and in a separate exercise, linking Talk-Through units over the Pennines to provide radio communications between both ends of a long railway tunnel.

Why do we use them?

There are two distinct scenarios where Talk-Through units are used.



Wide Area Coverage



Local Link

Wide-area coverage

If Control is in a bad radio location, e.g. a valley, city centre, or located in a User Service building with no way of placing effective external aerials, a strategically placed Talk-Through unit on a high point, such as a hill, will enable Control to communicate over a wide area. RAYNET is not limited to using existing masts and often locates talk-through units in vehicles sited at good radio locations.

Local Link

Outstation locations are sometimes poor for handheld use, signals are often better when a more powerful mobile radio is used. In this situation a local car-based Talk-Through unit maybe deployed to enable the operator to roam on foot e.g. with a member of the User Service whilst still maintaining a good radio link with Control.

