



This edition of RAY~Link has been sent to all registered members who have provided an e-mail address, and by post to Group Controllers who do not have e-mail facilities. Controllers are asked to ensure that all members of their group have sight of a copy of this edition

**Membership Fee 45p. per month.
PAI £1.50 per year or part year
(1st May - 30 April).**

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RAYNET Corporate Image

Please remember that RAYNET should always be written in upper case. Not only is it the correct way to display the word, but a bonus is obtained because RAYNET stands out when it is included in a block of text. This is particularly effective in press releases, as well as in user service event manuals, etc. and consequently items which include RAYNET are easier to scan.

Tell RAY~Link what you are doing!

RAY~Link is your newsletter and welcomes news from all groups and individuals. Although we are a National organisation, group members seldom have the opportunity to hear of the successes of groups in other parts of the country.

If you have something which would interest other RAYNET members, please send an email to raylink@raynet-uk.net and we will get back to you if we need any further details.

As the next edition is due out on Friday 10th. March, copy should be with the editor no later than Friday 24th. February 06. February and March are traditional AGM and preparation months for many groups, and if you have an item which would be of interest to groups as they get ready for the busy season, please get in touch.

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Network AGM - 5th November 2005

Over 100 members attended the Network's AGM, held at Marconi, Coventry, on Saturday 5 November. The first presentation was by Mike Konrad and outlined the challenges which were overcome by Marconi in order to provide communications on the West Coast railway line.

Jim Andrews G1HUL then went through the history of the **RAYNET ID card** and introduced the features of the new digitally produced cards. Throughout the day members made use of the opportunity to have their photograph taken by Ron Cowan GM4SRL and to collect their new card, processed by Jim Andrews and Mike Barker, before the close of the day's proceedings.

Greg Mossop G0DUB then outlined technical issues and asked members to consider various technological advancements which RAYNET could use.

After a buffet lunch, the formal AGM proceedings commenced, with the acceptance of the minutes of the last AGM, Chairman's report and adoption of the financial report.

The Chairman's report, given by Cathy Clark G1GQJ, outlined the progress made in discussions with central government since last December. Two meetings have taken place, with a third planned before the end of the year. As a result of these discussions, other meetings are planned with a number of interested parties.

Membership of the Network has seen a steady increase throughout the year and as of 31st October 2005 stood at 1404. This compares with a reported membership of 1258 at the AGM last year, an increase of 146.

However, the profile based on membership age makes interesting reading - there are 27 junior members under the age of 18, 65 members aged between 18 and 30, 347 aged 31-50, and 48 are 75 or over. The biggest age group in the organisation is the 51-65 year old bracket, with 431 members. This bears out the results of a questionnaire carried out in the amateur press a few years ago that the most active age group in amateur radio is between 40 and 60 years old.

In the last three months, there have been 66 enquiries for membership through the website.

The streamlining of the database with the new administrative system for the production of ID cards has meant that it was not possible to produce long service awards for presentation at the AGM; however, they will be given to zonal co-ordinators at the Committee of Management meeting in January for onward distribution to members.

A facility, for members wishing to update their ID cards to the new type before the group's usual renewal date, will be made available to groups in the New Year, though it will be necessary to make a small administrative fee per card, plus a stamped addressed envelope for the return of the cards. Guidance on the taking of digital images will be issued, although it will still be possible to scan existing passport photographs as well.

It is hoped that once the streamlining of the new database is completed, progress can be made on implementing on-line processing of talk-through permit applications.

The Committee of Management is firmly committed to ensuring that the membership is kept informed and the possibility of returning to a centrally printed and posted RAY~Link to households without an e-mail address is being investigated.

Network AGM - 5th November 2005 (contd)

ACHIEVEMENT AWARDS TO RAYNET

OXFORDSHIRE:

Oxfordshire RAYNET was recently presented with an Achievement award by Oxfordshire County Council. The award was received from The Director of Community Safety and Chief Fire Officer John Parry and accepted on behalf of the county's members by Bryan Thornton G7IIO, County Controller.

LANCASHIRE :

The Home Office Year of the Volunteer 2005 was marked in Lancashire with a presentation to honour the critical role played by volunteers, including RAYNET, in keeping the county safe in the event of an emergency.

County Councillor Jean Battle, Cabinet Member for community planning and partnerships, said: "These groups provide key support to organisations like the emergency services and local authorities. There could be no effective response without them.

Although the groups are volunteers they are regarded by us as true professionals. They can activate their emergency plans and be ready for action throughout day or night.

These people regularly give up their time to train to respond in emergencies to ensure that a major incident in the county would be managed to ensure a return to normality as soon as possible."

The RAYNET Shield for 2005 was presented to Geoff Griffiths G3STG.

The AGM was followed by an Open Forum, giving the members an opportunity to raise a variety of issues.

RAYNET Supplies enjoyed brisk sales throughout the day.

Over 30 members enjoyed a post-AGM meal at a local restaurant on the Saturday evening.



The New ID card, Wallet and Lanyard

See Hear - Geoff Griffiths G3STG

Once again your scribe has been scouring the amateur press for items of interest or of particular use to RAYNET Members.

Practical Wireless carried a report from RSGB in its October issue on the response to the OFCOM license consultation process. Many RAYNET members participated in the process, and many excellent contributions were submitted. In particular, many of the comments sought to protect the privileges of Radio Amateur public service and emergency operations, and I guess we have all been waiting for the final outcome, which is promised for publication by the time you read this! Hopefully the transfer of NOV's and other routine tasks from Potters Bar to OFCOM will have gone smoothly, and the nonsense of third party traffic prohibition on Foundation Licensees will be well on the way to a sensible solution! (PWOCtp18)

The same issue reports on the latest version of "**Digipan**", the versatile and widely used software for PSK31. This now includes the ability to grab any signal within the pass band of your receiver from the waterfall display. It also offers an integrated logging system, and a good help file to help you set it all up. (PWOCtp56)

Rob Mannion's column "topical talk" offers some timely advice on traveling abroad with Amateur Equipment, and recalls some amusing stories about experiences when suspected of "spying" when operating/P! (PWOCtp69)

Digital communications handies are beginning to appear nowadays, and the November issue reviews the Icom IC-V82, a rugged hand-held for 2m which offers an optional digital module, and will transmit lat/long information from an attached GPS unit. But it isn't compatible with UIView apparently, and this is a pity since so many Groups are using this software to great effect where lead and sweep vehicles are tracked for organisers on events (PWNOVp27-29)

Data Burst this month looked at the problems of interference between PC's and equipment in the amateur shack. Solutions are suggested for problems with PC's displays, peripherals, switch mode power supplies and networking hardware. If you are having problems, then this article may get you started towards a solution. (PWNOVp56-57)

Sadly **Short Wave Mag** has gone the way of so many of our bookstall favourites - I do hope its successor is a worthy one. However, SWM has continued to run a good series on computers in the shack, and the articles throughout 2005 are worth trawling through!

Another useful article appears in the December issue on interference for newcomers to the hobby. Probably one of the most difficult things amateurs have to deal with when

See Hear - Geoff Griffiths G3STG (contd)

interference is being experienced by our neighbours. Much has appeared over the years, but perhaps this article will provide excellent advice to those of us experiencing this problem for the first time. (PWDECp20-23) It covers a wide range of problems from TV to telephones, planning permissions to antennas.

And if unobtrusive antennas are your challenge, then why not try looking at a “whirligig clothes line” antenna? (PWJAN38-39) The subject also appears in the Radcom article on EMC, which looks at the use of ADSL filters to deal with low band interference with broadband. (RADCOMOCT84-85&DEC66-67)

The newly introduced **WM-S series of mobile microphone** systems from Waters and Stanton were reviewed in November, and a number of local RAYNET operators have invested in them with good results so far. The only difficulty I have had so far is devising a method of attachment for the mike to the visor in an Astra (RADCOMNOV22-23)

No doubt many of the 5MHz NOV holders involved in the NVIS test will have been interested to read the article by VE2CV on the use of antennas close to the ground which provides some further insights into this fascinating area. (RADCOMNOVp80-83) And here is an interesting crossed dipole design for home use (RADCOMDECp82-5)

as usual, the American Mags carry a great deal of news about their Volunteers work, and of course the recent earthquake and hurricane activities have provided much copy. I would recommend reports of the RAYNET response to the London Bombings, and the tunnel tests carried out by Gwent and S. Glamorgan groups (CQSEPP50), a South African simulated earthquake exercise (CQSEPP51), patient tracking in Colorado (CQSEPP52), being prepared (CQOCTp62-65), and Hurricane Katrina report CQNOVp13-24)

QST (the US equivalent of RADCOM) also carries many articles on the work of the American volunteers with ARRL supporting Katrina (QSTNOVp81-83), the Katrina chronicle (QSTNOVp43-50) and an article on “SkyWarn” (QSTDECp72-73)

I also spotted an electronic battery booster described in QST. This is intended to boost the nominal 12v from batteries to 13.8V to get the best out of your mobile equipment! (QSTOCTp7172)

And how about “NVIS Communicating over difficult terrain or Cloud Warming? (QSTDEC38-43)

I can't really close the column this time without mentioning the new edition of the RSGB Handbook. If you can find a strong shelf with space for it, then it is must! (Radio Communications Handbook, RSGB Shop)

As always if you are interested and can't find the references in your library, drop me a line. g3stg@raynet-uk.net or QTHR

North West Hampshire 2005 Report

Peter G0KQA, Secretary, North West Hants RAYNET

During the year the Group provided communications for 5 local charity events and we assisted other RAYNET groups at 8 of their events. In May we helped Buckinghamshire, Mid Thames and South West Hertfordshire Groups on the "Chiltern Landmarks 100 Mile Long Distance Walk". In June we operated for the "Buffalo Stampede" in which 26 walkers covered a 12 mile course. Later that month we assisted South East Hampshire Group in providing communications for the "Trafalgar 200" celebrations in Portsmouth. On the first Wednesday of June, July and August we assisted North East Hampshire Group with the "Yateley 10Km Runs".

No requests for emergency callout were received, but just after 10 a.m. on 7th July, the morning of the underground and bus bombings in London, Group Controller John M1ENA decided to put the Group on alert. Basingstoke Rail station had been cleared because of a suspicious package, later claimed by a passenger but destroyed in a controlled explosion, and TV news said the same thing was happening at Swindon Rail station. Finding out how many of the Group were available at no notice was a useful exercise.

July had our big local event of the year, the 11th annual "Basingstoke Big Wheel Bike Ride" in aid of St Michael's Hospice in which cyclists had the choice of 7, 18 or 45 mile courses. Around 1500 cyclists took part and 11 Group members plus 6 from other Groups provided cover around the course. South East Hampshire Group brought their Land Rover based station to provide a cross-band talk-through facility at the top of Farleigh Hill to the south of Basingstoke.

September was a busier month, starting with a Training Evening when we looked at two types of transceiver used by the Group and at our new Fugawi mapping software. We assisted South West Hampshire Group with the "New Forest Marathon" in which some 1200 runners took part. A week later came two local events that NW Hants regularly supports. Our resources were stretched because this year both were on the same weekend which meant that they were only hours apart.

On the Saturday night was the "Alton Moonraker Night Hike". Groups of walkers formed teams of around 5 persons and, armed with torches, maps and compasses, walked several miles cross-country in the dark between four checkpoints, collecting clues on the way to find the next checkpoint. One team of five ladies called themselves "Moms on the Run"! Entry was low this year with just four teams so we were able to get to bed a few hours earlier than had been expected at about 0100 hours. Next morning at 0830 hours we were set up and on air for the "Farleigh Wallop Cross Country Horse Ride". In this all-day event 131 riders (and two parents on foot!) followed a course around Lord Portsmouth's estate near Basingstoke.

In October we assisted South West Hampshire Group at the "Solent Half Marathon", and later in the month, South East Hampshire Group with the "Great South Run" of 10 miles around the streets of Portsmouth and Southsea. Some 12,000 people started in four waves. It was interesting to note that the wheel chairs started 5 minutes in front of the first wave of runners and the first wheelchair finished 15 minutes ahead of the first runner! At least one person completed the course on crutches. The RAYNET tail-end-Charlie was on a pushbike using a headset to a rig and battery tied to the bike's frame, with a mag mount whip over the rear wheel.

During these events we operated stations in buildings and tents, from our cars and on foot. At five of the thirteen events we attended, because of the terrain and size of area covered, talk-through stations were needed. These operated, under permit, usually on high ground, to act as cross-band repeaters between 2 metres and 70 cms allowing outlying stations to maintain good contact with the control stations, although on the Portsmouth estate the talk-through was needed in the steep winding valley as Control was on top! In some situations it was necessary for car based stations to put their aerials on portable masts. Working in RAYNET gives us enjoyment in using our skills and knowledge and the satisfaction of using them in public service. Preparations for next year have already started as we have attended the first planning meeting for the 2006 "Basingstoke Big Wheel Bike Ride". More amateurs should join us. It's fun and full of surprises!

The Thames Nelson Flotilla Text - Phil Williams, G6AQP, ZC5

Photos Eddie Wheaton, G7OMK

The event took the form of a flotilla of over 50 livery company and other historic rowing boats accompanying the "New Nelson Dispatch" aboard Jubilant Nine.

The route of the flotilla was between the start at West India Dock and HMS Wellington Near St Paul's cathedral and RAYNET members provided communications via hidden 2m hand held rigs. It was important that the radios were hidden as the operators had to be in period costume!!!

This was another 'first' for London RAYNET! Links for the event were provided by Paul Harrison (G8MJH) manning G3NAT at Guy's Hospital Tower. Thousands of people lined the route, the City of London area being particularly well attended and major news coverage was provided by two helicopters giving live coverage to the lunch time news services. As well as to the London RAYNET members, thanks should also go to colleagues from the Home Counties who assisted, in particular Phil Webber G8KLC and the other Hertfordshire members.

The organisers felt their comms would work, namely battery powered PMR base station in the lead boat with PMR handholds in others. Unfortunately, the first stroke of an oar resulted in a wave of Thames water flooding the power supply which, understandably, went into protect mode and sulked for the rest of the event!

RAYNET to the rescue, with most of the communications for the event being provided by the gallant volunteers and the organisers were suitably grateful as, with most of the nation's press watching, it could have been a major problem without RAYNET being on hand. One photograph shows Phil, G6AQP, in full period costume waving, with the event organizer next to him in the Admiral's uniform.

The following link gives further details about the event: <http://www.emiratesthamesnelsonflotilla.org/index.php>



Oxfordshire Achievement Award

John Kelly, Emergency Planning Officer, Oxfordshire County Council, nominated RAYNET for an Achievement Award to recognise our excellent service to emergency planning in Oxfordshire over decades. Although RAYNET did not receive a Jubilee Award, he felt that this award was a better recognition of our local service.

In his recommendation he said that RAYNET provides a vital communications service, particularly in the present climate of terrorism, where the emergency planning officers may depend on the communications skills of our volunteers. John is pleased to support RAYNET and sees us as a vital part of his response.



Bryan Thornton G11IO, County Controller, Oxfordshire, receiving the award.

Central Lancashire Raynet Callout.

On Tuesday December 14th a gas main leak occurred in a residential area in Darwen Lancashire, where the infrastructure included a school.

Blackburn with Darwen a Unitary Authority, under a support agreement requested Lancashire County Council's Emergency Planning Unit to activate the Rest Centre Plan. Central Lancashire RAYNET attended the incident with Fylde, Rossendale and North Lancs RAYNET Groups being placed on standby.

The Rest Centre was staffed and ready to receive evacuees when the order to stand down came through as the leak had been repaired sooner than anticipated.

Hemel Hempstead Callout

Hertfordshire RAYNET was called out during the Hemel Hempstead Buncefield oil terminal incident.

On Sunday 11th December a call was received from the County EPU at 1129 by the Hertfordshire County Controller, Trevor G4KUJ.

The requirement was for RAYNET support in establishing and setting up the Local Authority Control Vehicle which had deployed to Leverstock Green, about 2km south of the fire. Martin Green, G4PMG, arrived on site at 1210 and the facility was operational within a few minutes. The on board RAYNET equipment was used to maintain contact with local RAYNET members who were keeping a radio watch on 144.650MHz. No communications support was actually required as the normal infrastructure was operational.

The Control Vehicle was stood down during the afternoon as facilities at the Dacorum Civic Centre became established. G4KUJ then attended the site in order to return the vehicle to its base and both he and G4PMG completed at Leverstock Green at 1715.

New Items from RAYNET Supplies

Ideal for chilly RAYNET exercises, or when you get stuck in your car on a snowy winter's night, RAYNET Supplies now stock Vacuum Packed Foil Emergency Sleeping Bags which cost £17.50 each, order on the website, Reference no. 1872

Membership services are now issuing the new credit card sized ID badges, and RAYNET Supplies have the official ID holders and lanyards which are printed white RAYNET on a blue background. Order via the website:- Lanyard, Reference 1874, and ID holder, Reference 1875 (see Pic on Page 3)



RAYNET WEBSITE

The members' area of the website has been off-line during November and December whilst modifications were completed following the introduction of the new Registrations system. The work is now complete, and members are encouraged to log on to www.raynet-uk.net

RAY~Link by email

Please consider signing up to receive RAY~Link via email. Most members now either have their own email address at home or at work, and by agreeing to receive RAY~Link electronically you will not miss out on any information, and you will save copying costs which would otherwise be incurred providing you with a copy by other means.

Signing up is easily done via the Network's website at www.raynet-uk.net and going to the members' section. At the same time you can arrange to receive the Sunday morning news, and also occasional bulletins which might be of interest.

Help needed for 80m Sunday Morning Net

A regular 80m Net is held every Sunday morning on 3.663MHz LSB at 0830 clock time. This presents a reliable place to check that new rig, or to test your latest antenna mods, as well as being a good place to get the latest edition of the RAYNET News.

The team of 80m News Readers is looking to increase its numbers, particularly from the north of England, or from Scotland or Wales. If you enjoy HF operation, and have a signal which will cover much of the UK give good conditions, then why not join us?

Readers are tasked with reading the news about once every two months, and also acting as a standby reader at about the same interval. The net begins formally at 0830 clock, and is normally completed by 0915. You get the script sent to you on the morning of the Saturday before transmission, so email or Fax is really a requirement!

If you would like to volunteer for this important task, then please drop a note to g3stg@tinternet.com or QTHR - he would welcome your help.

LIVE 5 MHz MT63 DEMONSTRATION - NORTHWEST RAYNET (Zone 10)

Paul Gaskell, G4MWO

A live two-way on-air demonstration of the MT63 Data mode on 5Mhz took place during the Northwest RAYNET Association's (NWRA) Autumn Meeting on Sunday 20th November at the Lancs. Emergency Planning HQ in Preston. This was part of a workshop given by David Brooks, G0VIE, one of the RSGB's GB2RS News team for data transmissions showing how to set up for successful MT63 transmission and how it is most useful for bulk data transfer in an Emercomms scenario. Station callsign at Preston was G4MWO/P.

The transmissions commenced at 1330hrs local with MT63 USB 1kHz bandwidth long interleave data on 5279kHz (Ch-FB). The experiment, which was being conducted together with the GB2RS Data team, also included a parallel transmission on 3600KHz USB, to enable propagation comparisons to be made.

Other stations in the net were Gordon, G3LEQ and Alaster, M1DFO, operating the GB2RS News special lunchtime 5 MHz MT63 transmission from the North Cheshire Radio Club HQ at Morley Green, Wilmslow near Manchester, Steve, G4HPE in Royston, Herts and Alistair, GW0VMZ in Merthyr Tydfil, (both members of the GB2RS Digital as well as the RAYNET HF Team). Reception reports were also provided by Brian, G8ADD in Birmingham, Rod, G3TXA in Enfield and John, G8YDC in Middlesbrough

The 1330hrs 1KHz bandwidth MT63 GB2RS transmission was followed by the same transmission in 2KHz bandwidth format (with consequent faster throughput). In both cases, at G4MWO/P at Preston, copy was 100% - the only errors were typos in the original GB2RS datanews script, a copy of which was used for reference! Following an exchange of reports from those on the net, a member of the Lancs EPU staff typed a test section of text [part of the history of the building] which was received intact and therefore afforded user service staff the means of experiencing first-hand the mode in operation and its accuracy.

Another interesting experience occurred during the period of the tests, in that at one point by accident, both the stations at Wilmslow and Merthyr Tydfil were transmitting on the channel simultaneously – one using Voice and the other MT63. Steve, G4HPE in Royston, Herts, was able to copy BOTH stations without problem simultaneously; thus showing the resilience of MT63.

The equipment at G4MWO/P at Preston consisted of a half-wave end-fed for 5MHz supported at approx 18ft/6m by fibreglass fishing poles, with a suitable counterpoise run directly underneath this. This antenna set-up was meant to replicate that which could have been set-up in an emergency field station scenario. This was tuned by an SGC230 Autotuner, driven by an IC706 MKII, running 30W carrier power in USB mode (MT63 default mode). The data set-up was a laptop running IZ8BLY's MT63 Programme into a soundcard interface designed for MT63 operation by G0VIE, the presenter of the workshop. He laid particular emphasis on the need to prevent earth loops and RF leakage into the interface.

Propagation conditions were good and the contacts exhibited all the elements of classic NVIS propagation – stations of a modicum of power at stable signal strengths against a reasonable quiet background. Unfortunately time and equipment constraints prevented us from monitoring the simultaneous 3600KHz transmission for propagation comparison on the day.

A circuit diagram and notes of the MT63 Interface Unit used are soon expected to be published in public domain, by kind permission of David, G0VIE – in the meantime, any interested parties can obtain these by contacting Paul, G4MWO at g4mwo@arrl.net The latest version of the IZ8BLY MT63 Programme can be accessed at <http://xoomer.virgilio.it/aporcino/MT63/index.htm>

TRAFALGAR 200. (28th and 29th June 2005)

Dave Walker G3ULL Group Controller SE Hampshire

Southeast Hampshire Group report.

Background.

This was a very large event with the authorities in Portsmouth and Hampshire expecting up to one million people to visit the general area over the two days of T200 and the following three days International Festival of the Sea (IFOS). RAYNET were asked by Portsmouth City Council Emergency Planning Manager to assist on the T200 days, but were not required for IFOS.

The T200 celebrations were on Tuesday 28th and Wednesday 29th June. Most problems were expected on June 28th. That day included the Royal International Fleet Review in the afternoon and a fly-past by the Red Arrows, followed in the evening by a Sound and Light battle re-enactment and a very large late night fireworks display and lighting up of the fleet.

On the 29th the International Drumhead Ceremony took place on Southsea Common and, although a RAYNET presence was maintained, there was little activity and no problems. This article therefore relates only to the 28th June.

Planning for the event

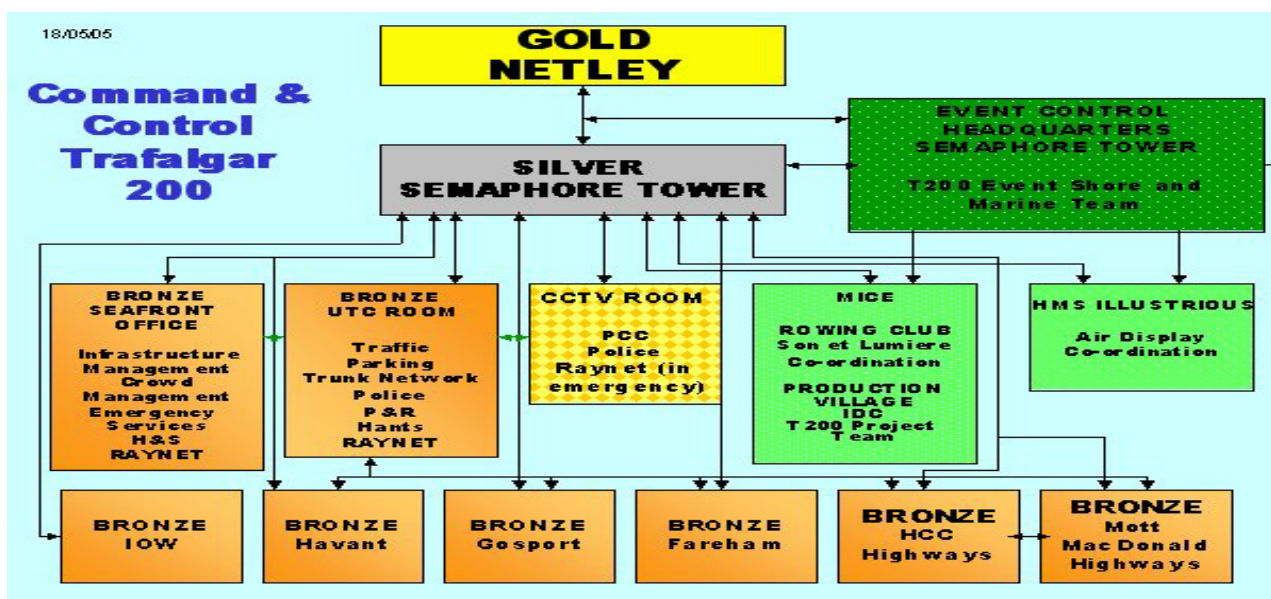
The authorities were anticipating, and had planned for, gridlock on the roads. Not only in and out of Portsmouth which, for those unfamiliar with the location, is actually on Portsea Island and has only three points of road access over bridges, but also to the west side of Portsmouth harbour in the Gosport area. They were also expecting some effect on trunk roads and motorways over a wide area of the South of England, and planning included the provision of water, welfare and medical assistance to those may be stuck for lengthy periods, and possible extraction of stranded motorists to rest centres if required.

To some extent the gridlock issue was going to be dependant on the weather but the planning was for the worst-case scenario of a good weather day.

All schools in the area were closed for the day and all livestock movements and abnormal loads by road banned. A park and ride system was used at Portsmouth but no such scheme was provided at Gosport.

A large shore-side Command and Control was set up for the event comprising:

- Gold Control at Hampshire Police Control Room. (Not active. On standby.)
- Silver Control in Semaphore Tower, Portsmouth Dockyard.
- Bronze Control in Portsmouth Civic Office Urban Traffic Control (UTC).
- Bronze Control on Southsea Common (Infrastructure Management - IM).
- Further Bronze Controls at Hampshire Highways, and adjacent Local Authorities of Gosport, Fareham, Havant, and Isle of Wight.



TRAFALGAR 200. (Continued)

The above was in addition to operations by the Royal Navy, which were equally, if not more, complex.

With the number of people expected to be along the coastline it was anticipated that the mobile phone cells would be likely to reach their capacity. For this reason, whilst the prime means of contact between the various parts of the Command and Control would be by landline (and extra lines had been provided in some locations), the mobile phone system was not being regarded as a reliable back up. The mobile phone preference scheme, which allows emergency users and others registered for the scheme to have priority, was not being implemented.

The RAYNET requirement.

To guard against the landlines failing or becoming overloaded RAYNET was requested by the Emergency Planning Manager for Portsmouth City Council (the User Service) to assist with communications at three locations within the city. These were:

- Semaphore Tower in the dockyard.
Silver Control - Tactical control for the event.
- UTC (Urban Traffic Centre) at Portsmouth Civic Offices
Monitoring and dealing with road traffic issues over a wide area of Southern England
- Infrastructure Management at the Resort Services building on Southsea common.

RAYNET cover was requested from 0900 on the 28th to 0200 on the 29th, and (although not a part of this report) from 0900 to 1400 on the 29th.

Provided that the landlines were coping with the level of traffic, the role of the RAYNET operators in Portsmouth was to assist generally with any communications required by PCC staff. This not only assisted the User Service as requested, but meant that RAYNET operators were aware of the general situation should the use of the radio net be required, rather than coming in cold at that time.

Hampshire County Council or the Local Authorities around Portsmouth did not request any RAYNET assistance. Hampshire County Emergency Planning Unit staff had suggested to Gosport Borough Council that they may consider this for their Bronze Control at Stokes Bay but it was declined.

The RAYNET deployment.

The length of duty on the 28th (0900-0200) meant that a shift system had to be arranged. Given that this was a weekday, and therefore usually more difficult to source operators for routine events, this caused a certain amount of head scratching. However, because the event requirement was known some time in advance, some members of Southeast Hampshire Group and others from further away were able to take a day (or two in some cases) off work. In more than one case this time off was given on the same basis as for a real emergency.

A total of 18 members of SE Hants were involved plus assistance from members of other groups: Ian (G6BJJ) from West Devon complete with his fully equipped motorcycle (known down there I believe as Thunderbird One!), Jack (G4PIJ) and Jean (R1941) from Dorset, John (M1ENA) and Mike (G4FVG) from NW Hants, Paul (G0TLG) from SW Hants and Brian (G3OYU) from Surrey.

Because there was the probability that the RAYNET operators at the PCC sites may be busy with tasks to assist PCC and, if radio was not being utilised at that time, may not hear or have time to respond to routine radio traffic, the decision was taken to run two separate nets; one for operational traffic on 144.775Mhz and one for support traffic on 144.675Mhz. Operational Control (if required) was to be from Silver Control and the Support net (essentially a RAYNET Bronze Control) was controlled from G1SEH at Fort Widley. The Support channel was only required on the 28th when many operators and shift changes needed to be co-ordinated, and things were expected to be very busy.

The equipment at Silver, UTC and IM was set up at the start of the event on the 28th, to be used as and when needed until the afternoon of 29th when it was removed. Handbooks for the radios were available at all sites as were headphones. (This proved to have been a good decision as noise levels were very high with large numbers of people and other radio systems in the same rooms). G1SEH is the group's permanent control station and required no setting up.

TRAFALGAR 200. (Continued)

Because there was the possibility of gridlock into and out of Portsmouth it was necessary for all operators who needed to be at locations in the city to be there early in the day, before any traffic build up, and to remain there even during their rest periods until completion of their last duty turn.

There were three operator shift patterns for each location (except Widley) such that each location had two operators at any time with a third on rest break.

Two spare operators (G4PIJ and G3OYU) were available in the city during the 28th in case of any unforeseen circumstances or sickness etc.

To guard against the possibility of an 'on-the-day' call for RAYNET assistance on the 28th in the Gosport area, and the problem of access to Gosport should this happen, Paul (G0AVP), Wes (G7CHO), and Brian (G7TUQ), who all live in Gosport, remained in that area and available to be deployed if needed.

To provide the capability for traffic reporting/monitoring for UTC, a RAYNET motorbike (Ian, G6BJJ) was located to the North of the city. A second motorbike (Dave, G3VXM) was available in the Southsea area.

Operations.

All stations were on site at the requested time, with the exception of RAYNET operators at Silver Control in the dockyard. Despite weeks of discussing the means of access and security passes etc with PCC and the dockyard, on the day the passes were not where PCC (and thus we) had been told and there was a lengthy delay whilst complicated processes had to be gone through. If there was one thing that was going to throw a spanner in the works it was always going to be that site, and it did not disappoint!

Silver Control.

Equipment installed was a dual band 2m/70cm set with mains PSU and tripod-mounted dual band aerial. This was fed via a dual band filter to ensure isolation from adjacent systems.

The use of the RAYNET radio at the dockyard was fraught with difficulties. It is not possible to use any equipment there without going through, and receiving, a site clearance. This involved passing the full technical spec of the equipment to the dockyard for approval. The approval was in some jeopardy right up until the 11th hour due to the number of other radio systems being brought in, or already on site, and the proximity of rather important pieces of MOD IT systems, about which they were understandably a little twitchy. However, approval was eventually granted but only for use as a fallback system for PCC. In other words the radio was not to be used (and what's more could not even be used on receive!!) without further process and approval. This meant that, apart from an initial approved comms test, the radio was not in fact used for the duration of the event.

RAYNET operators at Silver therefore assisted PCC staff. One task was collating the park and ride statistics being passed on from UTC. This was important information since the traffic situation would change dramatically if the three car parks became full. Not content with just collecting this information and recording it, the operators spotted an overhead PC projector and screen and, having borrowed a laptop from one of the PCC staff, inputted the information onto an Excel spreadsheet and projected it onto the screen as graphs of capacity against time, something that impressed PCC by all accounts. (Well done Steve, G4SAC and Dave, G0DNF).

UTC

Equipment installed was a dual band 2m/70cm set with mains PSU and mag-mount dual band aerial. Given that the location was on the 4th floor this provided good comms with the other fixed stations.

Also on site were Police, Hampshire County Council staff, Highways Agency, Colas (barrier provision etc) Park and Ride Controllers and BBC Radio Solent, who were transmitting live traffic reports from within UTC. This location rapidly became the centre of activity as the day progressed.

Given the difficulty with operation from Silver Control, UTC took control of the Operational Net. Road traffic levels were lighter than many had expected so there were no major problems on the roads into the city.

Ian (G6BJJ) had positioned his motorbike at a strategic position on one of the main arterial routes into Portsmouth and began passing traffic flow rate figures (number of vehicles per minute inbound and outbound) to UTC for their information at around 0930. The Highways Agency staff at that location found this useful and they requested

TRAFALGAR 200. (Continued)

that this be maintained every 30 minutes. Later in the morning they asked for similar monitoring on the main road from the M27 to Gosport and this was carried out by the free operators Mike (G4FVG), Paul (G0AVP), and Brian (G7TUQ) from the Gosport area.

Some radio traffic took place throughout the day with IM but the majority was by landline.

At 2200 (the time is significant because the conclusion of the day's events was at 2200), PCC staff at UTC decided they would need to deploy three traffic managers on foot to the area just north of Southsea common. This was the area from which all the park and ride buses would be leaving and was also on the walking route from Southsea back to the rail station at Portsmouth Harbour. RAYNET operators were suggested to accompany these staff since mobile telephones were not seen as an effective means of keeping in contact with them. This requirement on RAYNET had not been foreseen and had certainly not been planned for at any of the meetings.

Only two operators (Paul, G0TLG and Digby, M1DRE) were present at UTC at this time, plus a third (Chris, M0DQO) who was just going off duty for the day. Chris elected to delay finishing and to accompany one footman, Digby going with a second. The two RAYNET bikes were despatched by Support Control to further assist. This left Paul in UTC as the lone operator at a time which was probably the busiest it ever got but, although Support Control looked at finding an operator to go to UTC to assist, no operator could be found that could physically get through the crowds and traffic to that location so Paul had to manage on his own (thanks Paul).

The deployment of hand portable stations to that area of the city had not been expected and it was found that, although comms from UTC to other fixed points were good, they were unable to work the hand portable stations. Fortunately the station at IM was capable of talkthrough, and was much closer to the portable stations, so this was brought into use and relayed the signal on 70cm back to UTC.

There were considerable problems in the area for some 2-3 hours as an estimated 200,000 spectators tried to leave Southsea at about the same time either by Bus or on foot (the latter getting in the way of the road traffic). My thanks to Chris (M0DQO) who finally got away some two hours later than he had wished.

IM

Equipment installed was a dual band 2m/70cm set with mains PSU and dual band aerial mounted externally on a temporary 10ft mast.



Paul, G8SJA, (left) and Clive, G4EFB, with a cats cradle made entirely of UR67 coax cable!



INSIDE IM BRONZE SOUTHSEA

Also on site, and in the same room, were Medical Control (a commercial event medical company) and HM Coastguard.

As mentioned earlier, RAYNET had provided headphones for both operators via a splitter box off the single radio, and this proved to be have been a good decision later when the Medical Control were using two radios on loudspeaker, and the Coastguard one. There was no interference to or from other radio systems.

Most service traffic between IM and Silver or UTC was by landline with little use of the radio.

TRAFALGAR 200. (Continued)

The operational radio developed a fault (well, not a fault so much as the fact that it decided to go into code squelch mode at one point and could not be persuaded out of it) but a spare radio was on site courtesy of John, M1ENA so this was quickly put in use.

Support Control (G1SEH Fort Widley)

This station was operational from 0800 and was tasked with the RAYNET management for the event.

All stations called in when they began their journey to Portsmouth at the start of the day and remained on the support net channel until on site at one of the locations. They then informed Support Control who recorded them as deployed at that time. When starting a rest break, they again advised Support Control.

Support Control thereby knew where all operators were, and, more importantly, which operators were free in the area should an emergency arise.

Support Control also monitored the operational net in case required by any of those stations.

The staff changeover times for Widley were deliberately made different to the operational sites so that any problems occurring at changeover times could be sorted out before Widley itself had a change of operators.

A problem occurred with the UPS unit at Widley after some 11 hours operation when the unit began dropping its mains input and then restoring it only to repeat the process. There was a written procedure on site for completely bypassing the UPS and this was followed at a convenient time with only a pre-announced break in service of 1 to 2 minutes. (The cause of this problem is still not known and the UPS, which also supplies the MB7UP digipeater, remains bypassed).

Wind Down

All stations remained operational into the small hours of the 29th. The park and ride buses continued to take people back to the park and ride sites to the north of the city and gradually the congestion in the Southsea Common area declined. However, Support Control (who were monitoring the Operational traffic from the portable stations) was concerned about a possible request coming from UTC for assistance to the north of the city, as that was where everyone was headed. The decision was taken by Support Control to deploy mobile stations to the area just in case.

These could not be sourced from within the city so the Gosport based stations were turned out again to proceed to the park and ride sites, where they passed information about traffic leaving the sites for the information of UTC.

This situation was maintained until 0200 on 29th June when PCC advised all RAYNET stations to stand down for the day.

(Two operators returned to Silver Control, IM and UTC at 0900 but, as mentioned earlier, there were no problems and the final stand down was given at 1400 on the 29th).

Lessons learned

- Don't just plan comms between asked-for sites but include general coverage in case unforeseen things develop as they did at 2200.
- Always use dual band radios if possible – having done this it meant we were able to use a 70cm link to UTC without changing the radio.
- Always have a spare radio available for all sites (or one that can be taken there easily).
- Keep handbooks and details on how to switch dual band radios into talkthrough with the radio – you never know when you may need to use it.
- Always provide headphones for fixed sites where there are other services present to avoid the vicious circle of volume increasing.

My thanks again to all those who were involved in this event. They were:

G0DNF, G4SAC, G7ARJ, G0TLG, M0DQO, M1DRE, G8SJA, G4EFB, M1ENA, G6BJJ, G3VXM, G4PIJ, R1941, G3OYU, G0AVP, G7TUQ, G4FVG, G7CHO, M3BBH, G4DCP, G0NUL, 2E0AWE, G6ATK, M3FAX.

RAYNET SUPPLIES
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Ref No.	Description	Retail Price	P & P Ref	Banding
1101	Yellow High Visibility Jacket with clear badge pockets but no badges - S	£43.00	£6.00	K
1102	Yellow High Visibility Jacket with clear badge pockets but no badges- M	£43.00	£6.00	K
1103	Yellow High Visibility Jacket with clear badge pockets but no badges - L	£43.00	£6.00	K
1104	Yellow High Visibility Jacket with clear badge pockets but no badges - XL	£43.00	£6.00	K
1105	Yellow High Visibility Jacket with clear badge pockets but no badges - XXL	£43.00	£6.00	K
1106	Yellow High Visibility Jacket with clear badge pockets but no badges - XXXL	£46.00	£6.00	K
1107	Yellow High Visibility Jacket with clear badge pockets but no badges - XXXXL	£46.00	£6.00	K
1111	Yellow High Visibility Sleeveless Waistcoat with RAYNET badges front & back - S	£17.50	£1.75	E
1112	Yellow High Visibility Sleeveless Waistcoat with RAYNET badges front & back - M	£17.50	£1.75	E
1113	Yellow High Visibility Sleeveless Waistcoat with RAYNET badges front & back - L	£17.50	£1.75	E
1114	Yellow High Visibility Sleeveless Waistcoat with RAYNET badges front & back - XL	£17.50	£1.75	E
1115	Yellow High Visibility Sleeveless Waistcoat with RAYNET badges front & back - XXL	£17.50	£1.75	E
1116	Yellow High Visibility Sleeveless Waistcoat with RAYNET badges front & back - XXXL	£17.50	£1.75	E
1117	Yellow High Visibility Sleeveless Waistcoat with RAYNET badges front & back - XXXXL	£17.50	£1.75	E
1121	Yellow High Visibility Long Sleeved Waistcoat with RAYNET badges front & back - S	£22.85	£2.00	F
1122	Yellow High Visibility Long Sleeved Waistcoat with RAYNET badges front & back - M	£22.85	£2.00	F
1123	Yellow High Visibility Long Sleeved Waistcoat with RAYNET badges front & back - L	£22.85	£2.00	F
1124	Yellow High Visibility Long Sleeved Waistcoat with RAYNET badges front & back - XL	£22.85	£2.00	F
1125	Yellow High Visibility Long Sleeved Waistcoat with RAYNET badges front & back - XXL	£22.85	£2.00	F
1126	Yellow High Visibility Long Sleeved Waistcoat with RAYNET badges front & back - XXXL	£22.85	£2.00	F
1127	Yellow High Visibility Long Sleeved Waistcoat with RAYNET badges front & back - XXXXL	£22.85	£2.00	F
1301	Reflective 'RAYNET' badge - S	£2.25	£0.75	A
1302	Reflective 'RAYNET' badge - L	£3.90	£0.75	A
1303	Reflective "RAYNET Controller" badge - S	£3.00	£0.75	A
1304	Reflective 'RAYNET' Controller' badge - L	£5.35	£0.75	A
1305	Reflective 'RAYNET' badge - EN (Suitable for waistcoats)	£3.20	£0.75	A
1311	Embroidered round 'Network' logo sew on badge	£2.50	£0.75	A
1312	Lapel Badge, stud fixing, with round 'Network' logo	£1.10	£0.75	A
1321	Epaulettes - 'RAYNET' - Pair	£7.25	£0.75	A
1322	Epaulettes - 'Controller' - Pair	£11.15	£0.75	A
1331	Window Sticker - 100mm round 'Network' logo, black on yellow	£0.90	£0.75	A
1332	Window Sticker, small, - Text 'RAYNET', black on yellow, 200mm x 60mm	£1.00	£0.75	A
1333	Window Sticker, large, - Text 'RAYNET', black on yellow, 500mm x 125mm	£1.35	£0.75	A
1336	Car Window Panel with suckers, complete with 'RAYNET' reflective badge ref 1302	£9.75	£1.75	D
1338	Sign for mounting on vehicle roof rack, double sided, white on blue/red	£20.25	£4.50	J
1341	Magnetic Sign - Text 'RAYNET' white on blue, 310mm x 100mm, each	£6.00	£2.00	E
1342	Magnetic Sign - Text 'Comms by RAYNET' black on yellow, 310mm x 100mm, each	£6.00	£2.00	E
1351	Flag 3'x2' dye printed, black Network logo on yellow polyester roped & toggled	£42.00	£1.75	D
1352	Network Logo Sticker, large - 280mm black on yellow, strong adhesive	£4.45	£1.25	B

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Ref No.	Description	Retail Price	P & P Ref	Banding
1401	Acrylic V Neck Nato Jumper embroidered round Network logo - S	£15.55	£2.75	G
1402	Acrylic V Neck Nato Jumper embroidered round Network logo - M	£15.55	£2.75	G
1403	Acrylic V Neck Nato Jumper embroidered round Network logo - L	£15.55	£2.75	G
1404	Acrylic V Neck Nato Jumper embroidered round Network logo - XL	£15.55	£2.75	G
1404	Acrylic V Neck Nato Jumper embroidered round Network logo - XXL	£15.55	£2.75	G
1411	Acrylic V Neck Nato Jumper embroidered text 'RAYNET' - S	£15.55	£2.75	G
1412	Acrylic V Neck Nato Jumper embroidered text 'RAYNET' - M	£15.55	£2.75	G
1413	Acrylic V Neck Nato Jumper embroidered text 'RAYNET' - L	£15.55	£2.75	G
1414	Acrylic V Neck Nato Jumper embroidered text 'RAYNET' - XL	£15.55	£2.75	G
1415	Acrylic V Neck Nato Jumper embroidered text 'RAYNET' - XXL	£15.55	£2.75	G
1441	Sweatshirt, navy, with embroidered round Network logo in gold - S	£16.15	£2.25	F
1442	Sweatshirt, navy, with embroidered round Network logo in gold - M	£16.15	£2.25	F
1443	Sweatshirt, navy, with embroidered round Network logo in gold - L	£16.15	£2.25	F
1444	Sweatshirt, navy, with embroidered round Network logo in gold - XL	£16.15	£2.25	F
1445	Sweatshirt, navy, with embroidered round Network logo in gold - XXL	£16.15	£2.25	F
1446	Sweatshirt, navy, with embroidered round Network logo in gold - XXXL	£16.15	£2.25	F
1451	Sweatshirt, navy, with embroidered text 'RAYNET' in gold - S	£16.15	£2.25	F
1452	Sweatshirt, navy, with embroidered text 'RAYNET' in gold - M	£16.15	£2.25	F
1453	Sweatshirt, navy, with embroidered text 'RAYNET' in gold - L	£16.15	£2.25	F
1454	Sweatshirt, navy, with embroidered text 'RAYNET' in gold - XL	£16.15	£2.25	F
1455	Sweatshirt, navy, with embroidered text 'RAYNET' in gold - XXL	£16.15	£2.25	F
1456	Sweatshirt, navy, with embroidered text 'RAYNET' in gold - XXXL	£16.15	£2.25	F
1461	Polo Shirt, navy, with embroidered round Network logo in gold- S	£14.95	£2.25	F
1462	Polo Shirt, navy, with embroidered round Network logo in gold - M	£14.95	£2.25	F
1463	Polo Shirt, navy, with embroidered round Network logo in gold - L	£14.95	£2.25	F
1464	Polo Shirt, navy, with embroidered round Network logo in gold - XL	£14.95	£2.25	F
1465	Polo Shirt, navy, with embroidered round Network logo in gold - XXL	£14.95	£2.25	F
1466	Polo Shirt, navy, with embroidered round Network logo in gold - XXXL	£14.95	£2.25	F
1471	Polo Shirt, navy, with embroidered text 'RAYNET' in gold- S	£14.95	£2.25	F
1472	Polo Shirt, navy, with embroidered text 'RAYNET' in gold - M	£14.95	£2.25	F
1473	Polo Shirt, navy, with embroidered text 'RAYNET' in gold - L	£14.95	£2.25	F
1474	Polo Shirt, navy, with embroidered text 'RAYNET' in gold - XL	£14.95	£2.25	F
1475	Polo Shirt, navy, with embroidered text 'RAYNET' in gold - XXL	£14.95	£2.25	F
1476	Polo Shirt, navy, with embroidered text 'RAYNET' in gold - XXXL	£14.95	£2.25	F

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Ref No.	Description	Retail Price	P & P Ref	Banding
1501	Pilot Shirt, blue or white, with embroidered round Network logo - Short Sleeves - 15"	£11.70	£2.25	F
1502	Pilot Shirt, blue or white, with embroidered round Network logo - Short Sleeves - 15.5"	£11.70	£2.25	F
1503	Pilot Shirt, blue or white, with embroidered round Network logo - Short Sleeves - 16"	£11.70	£2.25	F
1504	Pilot Shirt, blue or white, with embroidered round Network logo - Short Sleeves - 16.5"	£11.70	£2.25	F
1505	Pilot Shirt, blue or white, with embroidered round Network logo - Short Sleeves - 17"	£11.70	£2.25	F
1506	Pilot Shirt, blue or white, with embroidered round Network logo - Short Sleeves - 17.5"	£11.70	£2.25	F
1507	Pilot Shirt, blue or white, with embroidered round Network logo - Short Sleeves - 18"	£11.70	£2.25	F
1508	Pilot Shirt, blue or white, with embroidered round Network logo - Short Sleeves - 18.5"	£11.70	£2.25	F
1511	Pilot Shirt, blue or white, with embroidered round Network logo - Long Sleeves - 15"	£12.25	£2.25	F
1512	Pilot Shirt, blue or white, with embroidered round Network logo - Long Sleeves - 15.5"	£12.25	£2.25	F
1513	Pilot Shirt, blue or white, with embroidered round Network logo - Long Sleeves - 16"	£12.25	£2.25	F
1514	Pilot Shirt, blue or white, with embroidered round Network logo - Long Sleeves - 16.5"	£12.25	£2.25	F
1515	Pilot Shirt, blue or white, with embroidered round Network logo - Long Sleeves - 17"	£12.25	£2.25	F
1516	Pilot Shirt, blue or white, with embroidered round Network logo - Long Sleeves - 17.5"	£12.25	£2.25	F
1517	Pilot Shirt, blue or white, with embroidered round Network logo - Long Sleeves - 18"	£12.25	£2.25	F
1518	Pilot Shirt, blue or white, with embroidered round Network logo - Long Sleeves - 18.5"	£12.25	£2.25	F
1521	Pilot Shirt, blue or white, with embroidered text "RAYNET" - Short Sleeves - 15"	£11.70	£2.25	F
1522	Pilot Shirt, blue or white, with embroidered text "RAYNET" - Short Sleeves - 15.5"	£11.70	£2.25	F
1523	Pilot Shirt, blue or white, with embroidered text "RAYNET" - Short Sleeves - 16"	£11.70	£2.25	F
1524	Pilot Shirt, blue or white, with embroidered text "RAYNET" - Short Sleeves - 16.5"	£11.70	£2.25	F
1525	Pilot Shirt, blue or white, with embroidered text "RAYNET" - Short Sleeves - 17"	£11.70	£2.25	F
1526	Pilot Shirt, blue or white, with embroidered text "RAYNET" - Short Sleeves - 17.5"	£11.70	£2.25	F
1527	Pilot Shirt, blue or white, with embroidered text "RAYNET" - Short Sleeves - 18"	£11.70	£2.25	F
1528	Pilot Shirt, blue or white, with embroidered text "RAYNET" - Short Sleeves - 18.5"	£11.70	£2.25	F
1531	Pilot Shirt, blue or white, with embroidered text "RAYNET" - Long Sleeves - 15"	£12.25	£2.25	F
1532	Pilot Shirt, blue or white, with embroidered text "RAYNET" - Long Sleeves - 15.5"	£12.25	£2.25	F
1533	Pilot Shirt, blue or white, with embroidered text "RAYNET" - Long Sleeves - 16"	£12.25	£2.25	F
1534	Pilot Shirt, blue or white, with embroidered text "RAYNET" - Long Sleeves - 16.5"	£12.25	£2.25	F
1535	Pilot Shirt, blue or white, with embroidered text "RAYNET" - Long Sleeves - 17"	£12.25	£2.25	F
1536	Pilot Shirt, blue or white, with embroidered text "RAYNET" - Long Sleeves - 17.5"	£12.25	£2.25	F
1537	Pilot Shirt, blue or white, with embroidered text "RAYNET" - Long Sleeves - 18"	£12.25	£2.25	F
1538	Pilot Shirt, blue or white, with embroidered text "RAYNET" - Long Sleeves - 18.5"	£12.25	£2.25	F

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Ref No.	Description	Retail Price	P & P Ref	Banding
1601	Fleece, grey, with embroidered round Network logo in gold - S	£27.90	£4.25	H
1602	Fleece, grey, with embroidered round Network logo in gold - M	£27.90	£4.25	H
1603	Fleece, grey, with embroidered round Network logo in gold - L	£27.90	£4.25	H
1604	Fleece, grey, with embroidered round Network logo in gold - XL	£27.90	£4.25	H
1605	Fleece, grey, with embroidered round Network logo in gold - XXL	£27.90	£4.25	H
1611	Fleece, grey, with embroidered text "RAYNET" in gold - S	£27.90	£4.25	H
1612	Fleece, grey, with embroidered text "RAYNET" in gold - M	£27.90	£4.25	H
1613	Fleece, grey, with embroidered text "RAYNET" in gold - L	£27.90	£4.25	H
1614	Fleece, grey, with embroidered text "RAYNET" in gold - XL	£27.90	£4.25	H
1615	Fleece, grey, with embroidered text "RAYNET" in gold - XXL	£27.90	£4.25	H
1701	Tie, navy, with round 'Network' logo in white	£7.25	£1.25	B
1702	Headscarf, navy, with round 'Network' logo in white	£6.00	£0.75	A
1703	Baseball Cap, black, with round Network logo embroidered in gold	£6.00	£1.50	C
1704	Baseball Cap, black, with text 'RAYNET' embroidered in gold	£6.00	£1.50	C
1801	Transparent ID badge holder with clip	£1.65	£0.75	A
1802	Keyring with leather fob with round 'Network' logo	£3.10	£0.75	A
1821	18 amp RAYNET standard connectors - Pack of 10 pairs	£8.35	£1.50	C
1831	Emergency cone light with gravity switch, amber LEDs	£5.60	£2.00	E
1851	Fold-over yellow clipboard with round 'Network' logo printed in black	£7.25	£2.75	G
1852	Fold-over yellow clipboard with '50 Years of Service' logo printed in black	£5.50	£2.75	G
1871	'50 Years of Service' white mugs LIMITED STOCK	£3.00	£2.00	E
1872	Emergency Foil Sleeping Bag, vacuum packed to approx 230 x 110 x 45 mm	£17.50	£2.00	E
1874	RAYNET Lanyard, navy with white lettering and safety clip	£1.80	£0.75	A
1875	ID Holder for new style RAYNET ID Badge	£0.70	£0.75	A

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(see order form)

January 2006



RAYNET Supplies

85 Eastwoodmains Road, Clarkston, Glasgow. G76 7HG
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Supplies Order Form for use of Network Members.

Purchaser's Details (Please print clearly!)

Name	Date
Address	Callsign
	e-mail address
	Telephone
Postcode	Group code (e.g. 12/SC/321) (Printed on the back of your membership card.)

Please supply the following (State size and colour if appropriate)

Qty	Ref	Description	Size	Colour	Members' Price

Cost of Order	£
DEDUCT 10% Members' Discount	£
	£
Add Post & Packing (See note below)	£
Cheque / PO enclosed with the Order Total	£

Postage Banding:- For an order of one item, please add the postage amount shown against the item.

For orders of multiple items, please add postage as follows:-

Band A:- Up to four items for £0.75 or up to ten items for £1.50.

Bands B to K inclusive:- Add all postages and deduct £0.25 per item in bands B to K.

(No deduction for one single item in bands B – K if ordered with a free postage item in Band A)

Orders will be dispatched as soon as possible, but please allow 21 days for delivery.

RAYNET Supplies reserves the right to alter specifications and / or prices without prior notification.

All orders deducting 10% will be checked against the national registrations database.