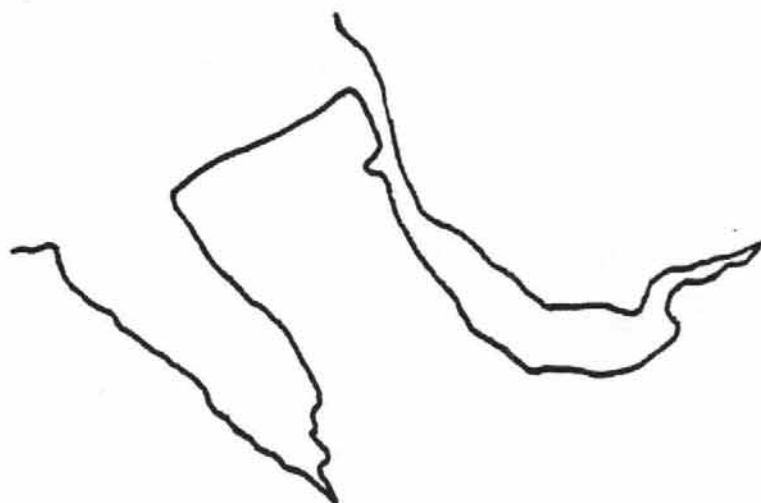


SUMMER

AIRWAVE

» 325 «



WIRRAL AND DISTRICT
AMATEUR RADIO CLUB

G4MGR - - - G8WDC

WIRRAL AND DISTRICT AMATEUR RADIO CLUB

SUMMER & AUTUMN 1983

- July 10. Sunday DF Hunt. See inside.
- July 13. To be announced. Was visit by RR 1 but called off due to ill health.
- July 27. 'Winners Revenge' D.F. Hunt.
- Aug 3. Barberque. See inside.
- Aug 10. Junk Sale.
- Aug 14. Sunday D.F. Hunt.
- Aug 24. Visit / Social Evening with members of the Liverpool and District A.R.C.
- Aug 31. Another BBQ? See inside.
- Sept 11. Sunday D.F. Hunt.
- Sept 14. Fire Protection Techniques by Steve G8TCC.
- Sept 28. QRN Causes and Cures by Alan, G4EFP.
- Oct 9 Sunday D.F. Hunt.
- Oct 12. Computers in Amateur Radio by Paul G4DLV.
- Oct 26. Inter-club Quiz Night. Return Match with Chester ARC.

OTHER DATES TO NOTE. D&W's ARE ON PAGE 2

- July 31. 432 Low Power contest.
- Aug 7th. RSGB National Mobile Rally, Woburn.
- October 6-8th. ARRA 12th. Amateur Radio & Electronics Exhibition, Exhibition Centre, Doncaster Racecourse.
- October 8th. Midlands VHF Convention, British Telecom Training School, Stone, Staffs.

CLUB MEETINGS are held at 8pm. on the second and fourth Wednesday in each month, at Irby Cricket Club, Mill Hill Road, Irby. The clubhouse is just off the main road, on the Easterly side, and about $\frac{3}{4}$ mile north of the centre of Irby.

PLEASE park at the top of the long drive and walk down to the clubhouse, thus leaving room for guest speakers loading equipment, and for the disabled members to use the very limited space at the bottom. Remember, you may need to use it one day.

For further information about the Club or events, contact any committee member or- The Secretary, Gerry Scott,
45, Stringhey Road, Wallasey,
Merseyside, L44 1EF. 051 630 1393

BUT.... See note on page 3.

OR better still, be a regular attender and keep 325 alive !

D & W's

D & W stands for drinking and waffling, the name that we give to an informal gathering of members and friends at a pre-arranged local hostelry. The intention is to go to popular venues that are in easy reach of some of the amateurs and SWL's at least some of the time.

- JULY 6 The Lighthouse, Wallasey Village.
 20 The Parkgate Hotel, on the front.
 27 Announced after the D.F. hunt.
- AUG. 3 B.B.Q. at Heswall. (See INSIDE MAG.)
 17 The Wheatsheaf, Raby.
 31 See inside mag.
- Sept. 7 The Shrewsbury Alms, Chester High Road.
 21 The Red Cat, Greasby.
- Oct. 5 The Seven Stars, Thornton Hough.
 19 The Victoria Lodge, Tranmere.
- Nov. 2 The Harp, Lower Neston.
 16 The Primrose, Liscard.

Keep 325 ALIVE and find out when and where the mid-week and week-end D&W's are taking place.

VISITS

Are arranged from time to time. At the moment, we do not have any confirmed dates, so the best way to find out is to keep in touch with the Club news, and be a regular attender.

NEW!

To keep you up to date with topical news on a regular basis, both for updates of Club events and amateur radio in general, we shall be introducing a Club News-sheet every month or two. This will be in addition to 'Airwave 325', which will continue to be produced about every four months as usual.

Please, keep the items for inclusion coming in, we need as much as we can get.

WIRRAL AND DISTRICT AMATEUR RADIO CLUBCOMMITTEE 1983

CHAIRMAN	GORDON NICHOLAS	G8MMM	051-336 7143
TREASURER	SUSAN NICHOLAS	G6ADO	051-336 7143
SECRETARY	GERRY SCOTT	G8TRY	051-630 1393 or 227 1018
PUBLICITY MANAGER	NEIL McLAREN	G4OAR	051-608 1377
SOCIAL MANAGER	FRANK KNEALE	G4DBG	051-339 9623
ACTIVITIES MANAGER	ERIC GETHIN	G6HWD	051-645 7904
NARSA REP.	PETER DENTON	G6CGF	051-630 5790

AIRWAVES - is the periodic newsletter of this Club, and is published three or four times a year as events and articles dictate.

Articles for inclusion are always welcome, as are members ads., and any material should be sent to the secretary well in advance of publication.

The views expressed in any article in the newsletter are those of the author and not necessarily those of the Committee.

The Committee reserve the right to withhold any article from publication.

PLEASE NOTE

During the Summer the Secretary should be moving house. As the move should still be within Wallasey, the phone No. should stay the same. Suitable arrangements will be made for the diversion of mail, and members will be made aware of the date of change and the new location as soon as possible, via the usual channels and club meetings

Since the publication of 'ADDRESS LIST 82' in January, the 'phone No. for Peter G6CGF, has changed. It is shown correctley above.

Mistakes

If you find miskates in this publication, please consider that they are put there for a purpose. We publish something for everyone, and some people are always looking for mistakes !

THE EILEEN MEDLEY DF HUNT RULES

- 1 The start point will be from the lay-by on the A540 West Kirby to Chester trunk road, being located at NGR SJ 260 831. This is on the West Kirby side of Heswall, and close to the speed-limit signs on the north-west outskirts of the town.
- 2 A team may consist of up to four persons in one vehicle. To qualify for any award at least one member of the team must be a current member of the Wirral & District Amateur Radio Club.
- 3 The start time is as published, and will normally be 8pm local.
- 4 The team will elect a leader whose callsign will be used from the vehicle and which must be recorded with the 'Hunt Organiser' together with the other team members names. This should take place at least ten minutes from the start. Late entrants cannot be accepted after the Foxes initial call.
- 5 The 'Fox' will make an initial call to the Hunt Organiser at the start time which may last up to two minutes. He will then 'go to ground' until called by one of the teams, when he will reply (if he heard you) with a transmission lasting approx 10 to 30 s.
- 6 The 'Fox' may vary power or polarisation, but not location, as he or she so wishes.
- 7 You may make as many calls to the fox as you like. They will be logged, and may be used in determining prizes or positions.
- 8 The 'Fox' will not be on private land, and you must not trespass onto private land to find him. This includes farmers fields etc.
- 9 Traffic regulations, speed limits etc. must be observed at all times.
- 10 You may not move off from the start point until the 'Fox' has at least started his initial call.
- 11 On finding the 'Fox' you must leave his lair as quickly as possible. He may give you a QSY to go to.
- 12 The duration of the hunt will be between one and two hours maximum. The 'Fox' will give the exact finishing time depending on local circumstances, and may announce the QSY before the end.
- 13 Teams must not communicate with one another or anybody else except the 'Fox' unless in case of emergency.
- 14 Only passive antennas may be used unless sufficient participants warrant a separate section being made to the rules.
- 15 Unless otherwise specified, the frequency used will be 145.325 Mhz.
- 16 The winner will be awarded the 'Eileen Medley DF Cup', suitably engraved, for a period of twelve months, at a Social and/or Prizegiving at the Club later in the year.

SUNDAY AFTERNOON FOXHUNTS

START TIMES - approx 2.30 pm.
 START LOCATION HESWALL LAY-BY
 DATES JUNE 12th. JULY 10th. AUG 14th.
 SEPT 11th. OCT 9th.

- 1 Points will be awarded to the first five teams to find the fox on each of the hunts.
- 2 Active antennas may NOT be used. (ie. Doppler Scan etc.)
- 3 At least one person in each team must be a fully paid-up member of the Wirral & District ARC.
- 4 The foxes lair will not be on private property.
- 5 The foxes lair will be in an area of the Wirral Penisular bounded by the River Mersey, River Dee, the Irish Sea and an imaginary line drawn between Eastham Ferry, Eastham Village, A41,A5133 via Hooton and Willaston, A540, A5134 via Neston to Parkgate.
- 6 The fox on each hunt will be within 25 yards of a road or track which is easily accessible by a large car.
- 7 To qualify for the points being awarded a team must have registered with and be at the starting point for the beginning of the hunt.

Don't forget to bring any food and drink that you may need. Good Hunting.

Further details from Phill G6SNO 652 9600 (day)
 or Phill G6IIN 645 1066 (day)

NOTE:

I understand from Phill that the overall scoring allows for a teams best three results to be included out of a possible five, so that it is not nessecary for a team to enter all five contests to stand a chance of being the overall winner. So don't let those other commitments stop you from entering any of the series. EDITOR.

Mary was a little ham
 Who tried to QSO
 On every frequency that was clear
 But her Cambridge couldnt go.

Little Miss Muffet
 Sat on a tuffet,
 Trying to work through MP.
 But the bits of a spider
 Squashed by her pot slider
 Made her zero Db.



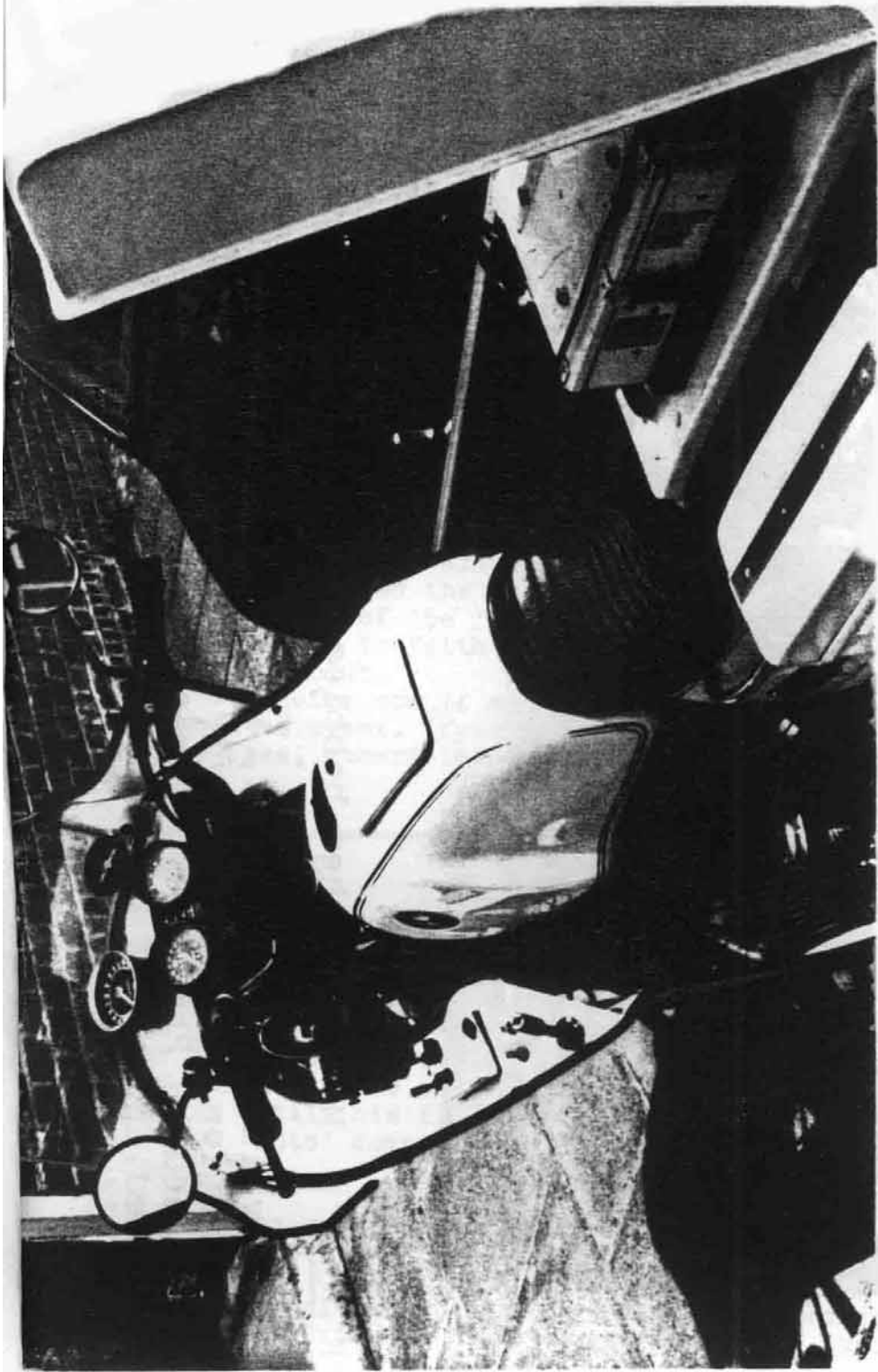


PHOTO-FEATURE

The GSTRY/M Motor-cycle mobile outfit, showing the 10 channel Pye Westminster, m/c version, in a special fiberglass box on the back, and the speaker, control unit and quick-break connector on the fairing, with PTT on the left-hand mirror stalk. This machine was used in part of the talk 'Motorcycle Radio' which was given at the Club on June 8th.

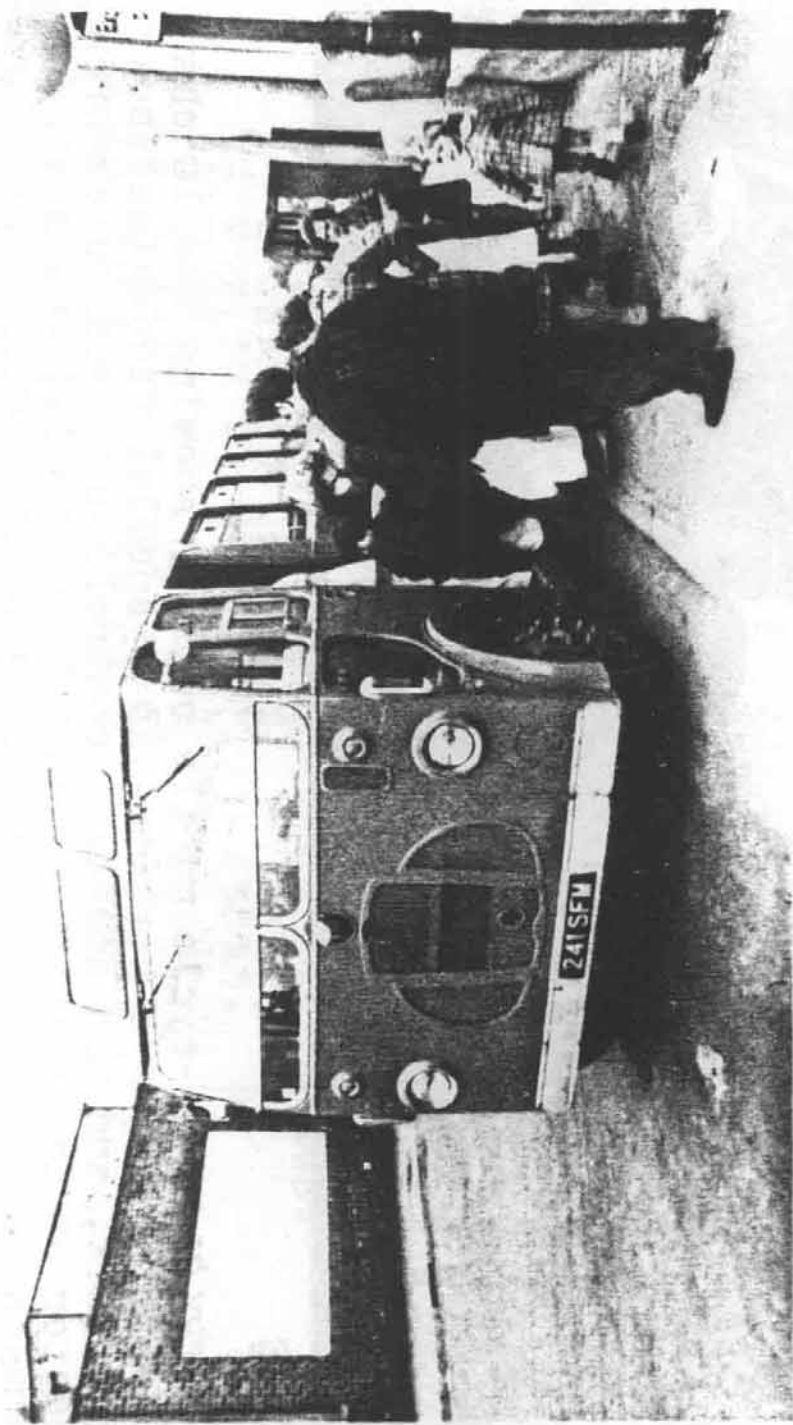


PHOTO-FEATURE

Members other hobbies - preserved vehicles.

Ex-Crosville Bristol SC4LK, with Gardner engine and ECW body. Registration No. 241 SFM, Fleet No. SSG 668. It is seen here when owned by Phillips of Holywell, at British Steel. Now owned and being restored by Bob Williams, G4OXN, and his son Rolli, to the style of when it was new.

AUGUST 24th.

We have invited the members of the Liverpool & District ARC to visit us for a social evening and get-together. In the past, these evenings, either here or in Liverpool have been extremely popular. It is intended to provide refreshments during the course of the evening.

Due to a fire at their usual QTH in Wavertree, the club met in Childwall, but from Tuesday 5/7/83 it's business as usual in the Conservative rooms.

OCTOBER 26th

When the Chester & District Radio Club invited us to an inter-club quiz night, we didn't know quite what to expect as it was new ground for us. It was a splendid evening, we were warmly welcomed and well looked-after. Not only that, we won.

So, in October, we are returning the invitation.

Any volunteers for the quiz team ????

OUR THANKS

Go to Keith Medley, the husband of the late Eileen Medley, and father of John, G8ODG, (one of our members since 1978).

Keith, who has a photographic business in Wallasey, donated the Cup to the Club in 1979 in memory of his wife, and has now given the Club a photograph album. The album carries the club name in gold leaf letters and Keith has included the (professional) photo that he took at the first presentation of the 'Eileen Medley D.F. Cup' to the winning team.

Our thanks go to Keith for his kind gestures and continued interest in our club.

ALL we require now is some more photos to go in it, taken at any club orientated event. If you can help please contact the Secretary, who you may see, camera in hand, making up for the lack of photos.

GEORGE DODD G8GX

It is with deep regret that we have to announce that George Dodd died on Friday 17th. June, following a period of ill health since January, and when it was thought that he was making a good recovery.

George was retired, and had spent some time out of the country with his job. After his return, he had to re-take the Morse test again in order to regain his lapsed class A call-sign of G8GX.

George joined the club in 1980, and was a fairly regular attender at the club until his ill health. He was active on HF, VHF and C.W. He was also 'into' computers with an Ohio Superboard, which was also used for RTTY.

Our messages of sympathy have been sent to his wife, Vera, and family.

Vera Dodd has asked me to 'convey to the Members and Committee of the Wirral & District ARC my appreciation of their thoughts at this sad time.'

(Sec.)

RSGB COUNCIL NEWSLETTER Vol 6 Issue 3

For the first time I have an up-to-date copy of the above in my hands in time for a newsletter. The information is for dissemination as far as possible, so no appologies for a big rip off.

UOSAT is now transmitting information in English using a National Semiconductors 'Digitalker'. Under UOSAT's controll, the readings of 59 guages and 45 switches can be read out giving operational telemetry information.

Anyone can tune in with a NBFM reciever on 145.825MHz even with a simple antenna on a hand-held etc.
Orbital information on Tel. No. 0483 61202 -- University of Surrey

As a result of a recent request from the media (incidentally we deal with many such requests per week)we needed to research the origin of the word "Ham". The most widely accepted version seems to be:-

"Ham: a poor operator. A 'plug.'"

That's the definition of the word given in G.M. Dodge's The Telegraph Instructor even before radio. The definition has never changed in wire telegraphy. The first wireless operators were landline telegraphers who left their offices to go to sea or to man the coastal stations. They brought with them their language and much of the tradition of their older profession.

In those early days, spark was king and every station occupied the same wavelength - or, more accurately perhaps, every station occupied the whole spectrum with its broad spark signal. Government stations, ships, coastal stations and the increasingly numerous amateur operators all competed for time and signal supremacy in each other's receivers. Many of the amateur stations were very powerful. Two amateurs, working each other across town, could effectively jam all the other operations in the area. When this happened, frustrated commercial operators would call the ship whose weaker signals had been blotted out by amateurs and say "SRI OM THOSE #;S!@ HAMS ARE JAMING YOU."

Amateurs, possibly unfamiliar with the real meaning of the term, picked it up and applied it to themselves in true "Yankee Doodle" fashion and wore it with pride. As the years advanced, the original meaning has completely disappeared.

- Louise Ramsey Moreau
W3WRE/WB6BBO

Since the problems we experienced with the Schedule (to the UK licence) last year, the Society has had a number of special meetings with the Home Office. As a result of these meetings, we have recognised the very high level of complexity required in order to arrive at a final document which is accurate. We hope to finalise the document within the next few meetings. It is worth noting, however, that the basic concept of "modes in plain language", put forward by the Society, has in fact been accepted by the Home Office.

Once the Schedule has been resolved, the Home Office and the Society intend to turn their attentions to the licence itself. Naturally any comments would be welcomed at this stage by the Licensing Advisory Committee.

* * *

RSGB HQ hopes to have its first Beacon Station operational later this year on 50 MHz, using the call-sign GB3NHQ. Initially the beacon will operate outside TV hours, but in 1984 it is expected that it will become operational on a 24 hour a day basis. More news when available.

* * *

One DXCC country that must be on almost everyone's "list" is Heard Island, VKØ - or perhaps one ought to say "used to be" after the recent operations from there. There were two separate DXpeditions to this most inhospitable part of the world recently, with VKØJS operational around 14190 kHz and listening somewhat higher up the band and VKØHI who was up around 14284 kHz. The pile-ups were quite astonishing, and it seems that many UK amateurs were able to work one or other of the stations. We did, in fact, have a near miss with VKØHI from the Headquarters station GB3RS; the antenna in use did not like working on 14 MHz very much, but we did get a "QRZ GB3?" out of him! The HQ station is being worked on as time and resources permit, but various devious plans are in hand to put up some rather more convincing antennas than the present 7 MHz dipole. On VHF, the 8-element beam seems to work quite well and our best contact so far has been into North Yorkshire to the north and well into GW to the west - the Potters Bar site seems to be quite promising in most directions as far as VHF and UHF are concerned. We are in the throes of building a pair of 4CX250s for 144 MHz, and if anyone has some suitable smoothing for the EHT supply (we're looking for about 50 uF and 3 kV) Headquarters would be delighted to hear from you! The intention is to make as much of the station home-brew as possible, to the highest standards, so that visitors and the media get the best possible impression of what the hobby is all about.

* * *

Readers will no doubt be aware of Amtor - Amateur Teleprinter Over Radio - which is a high-grade communications system developed by Peter Martinez, G3PLX, using digital techniques to produce pretty well error-free copy; it is quite popular on the HF bands and indeed there seems to be a growing number of stations using it on 144 MHz. We were delighted to hear that it is now legal in the USA in the amateur bands from 3 - 30 MHz - the rules permitting its use became effective from 22 February 1983. As well as a description in Radio Communication, there is an interesting article exploring some aspects of Amtor in QST for June 1981.

On a related topic, the Microwave Committee's 384 MHz source was the subject of an article in the most recent edition of QST, and it was most interesting to compare the American approach to technical articles to our own!

For some time the UK has apparently had a reciprocal licensing agreement with Zimbabwe. The Home Office have recently had protracted correspondence with the P+T in Harare in consultation with our own Foreign and Commonwealth Office and it now appears that the agreement is no longer in force.

As a general point, UK has reciprocal agreements with:-

Austria	Belgium
Brazil	Denmark
Dominican Republic	El Salvador
Finland	France
Iceland	Irish Republic
Israel	Italy
Luxembourg	Monaco
Netherlands	Norway
Poland	Portugal
South Africa	Sweden
Switzerland	West Germany
USA	

However, in the case of the following countries, while there is no reciprocal agreement as such, they appear to issue visitors licences on the strength of UK Class A qualifications:-

Antigua	Australia
Bahamas	Barbados
Bermuda	Botswana
Brunei	Canada
Cyprus	Gambia
Gibraltar	Grenada
Guyana	Hong Kong
India	Jamaica
Kenya	Malawi
Malaysia	Malta
Mauritius	New Zealand
Nigeria	Rhodesia
Seychelles	Singapore
Sri Lanka	Swaziland
Zambia	

At present, reciprocal negotiations are in the, rather long, pipeline for Spain, Chile, Yugoslavia, Greece and Japan.

	Region 1	Region 2	Region 3	Worldwide
Average Annual Membership Fee (US\$) :	15.12	18.75	10.30	15.44
Societies with Permanent Office Location :	65 %	62 %	50 %	61 %
Societies Receiving Funding from Gov. :	30 %	0 %	19 %	20 %
Societies with Emergency Corps :	33 %	82 %	59 %	52 %
Societies with RFI Program :	46 %	29 %	33 %	39 %
Contact with Gov.				
Weekly :	24 %	33 %	13 %	25 %
Monthly :	59 %	62 %	60 %	60 %
Yearly :	17 %	5 %	27 %	15 %
Government's Attitude				
Very Favorable :	27 %	50 %	25 %	33 %
Favorable :	56 %	36 %	44 %	48 %
Neutral :	15 %	9 %	31 %	17 %
Hostile :	2 %	5 %	0 %	2 %
Very Hostile :	0 %	0 %	0 %	0 %

1983 INTERNATIONAL AMATEUR RADIO UNION SUMMARY OF ANNUAL REPORTS

This table is just a short extract of the above, and for a full copy of the listings, ask the club Sec.

It makes interesting reading to see how well ^{OTHER COUNTRIES} treat their amateurs and how much their national societies charge.

Hey Diddle Diddle
 Young Mat had a fiddle
 To get back some sigs from the moon.
 He made the boys laugh,
 When they saw such a gaff,
 The dish that he had wouldn't tune.

HANG - GLIDING By G6CKO

Someone once asked me about where did flying first begin. I suppose we could start with Daedalus and his Son Icarus, who had escaped from jail in Greece and by glueing feathers from birds upon their bodies flew across the waters to safety. I think Icarus must have had a blow on some LSD 'cos he decided to fly high. He had been warned by his father not to fly too near the Sun as it would melt the glue and he would no longer be airborneOf course he took no notice and his name was in the L.Pool Echo the next day in the obituary column.....

Men have always dreamed to fly and so it goes on thru' the History books. Probably the best known was Leonardo de Vinci, and although he was a painter (Artist), he also drew up many plans and some of which were flying machines. In fact he had designed the first Helicopter.

Most, if not all these learned men had studied the flight of birds and therefor most of the drawings were all of curved wings as of the Seagull, etc: The fuselage or body section were all sort of torpedo shaped and the tail section followed the shape of a fantail once again as of the Seagull.

The shape of the torpedo even followed when Mongolfier Brothers made a Balloonbut really that is another story.....

Just over 100 years ago and this is where the History books seem to go slightly astray as to who was the first become airborne Some say it was Sir Percy Pilcher's Coachman. Pilcher had made what is to to-days standards a Glider very much so. He stuck this poor old coachman in the contraption and using half a dozen of his household staff, towed him from the edge of a hill down a slope and the flying machine left the ground to about twenty feet and the duration of flight was eleven secondsOn landing the coachman said in so few words "you bloody great Burke I'm off" never to be seen again

Otto Lilienthal I think we could say he was the first person to fly on a regular basis. He had made a variety of Gliders and I think he was the first to know about aerodynamics. He realised that one needed a raised wing section for the air to flow over like a Gulls wing. His Glider had two wings one above the other also a tail section once again fanned. He had a mound of earth built and would fly and soar like the birds from his man made hill....He had flown thousands of times from the hill and using weight shift to climb or descend also to veer to the left and right.....unfortunatley he did not know about wind sheer or Curl Over this is a phenomenon due to wind blowing along the ground and as it sweeps up a hill and over the top it curls back on itself. Depending on the heigh of the hill depends on the height,Curl over. I think most of the Amateurs in the Club know of Thurstaston shore and the cliff face well on that height with a wind of twenty five knots, if one flies say twenty feet in front of the cliff all is U.K. ie, on the shore side of the hill to sort of ride the wind to its crest of maybe eighty feet.But on no account should one fly on the land side of said hill as the wind and curl over will certainly push you and the glider in to the ground not only at twenty five miles per hour but also the flying speed of ones machine. And that is say twenty m.p.h.+twentyfive =fortyfive m.p.h.⊗...

⊗ If one flies in nil wind conditions of say 20 mph that is therefore 20 mph air speedIf there is a wind of 20 mph then although one is flying at 20 mph air speed then the aircraft relative to the ground is standing still
 Once again if a wind of 40 mph is blowing and one flies at 20 mph air speed actually the aircraft is flying backwards at 20 mph....
 If one flies in a 40 mph wind at 20mph and then turns downwind ei being blown by the wind one has to add the flying speed of the aircraft plus the wind speed we now have a total of 60mph....

A little complicated but thats how it works.....

Of course just on the turn of the Century there were several people building Gliders and some very cunningly putting engines on them. We now come to the Wright Brothers bicycle builders and in their spare time built Gliders...The type glider they built was of the Canard section ie, a small wing in front of the main wing so that if the small front wing were to stall and that means not flying, then it drops a few degrees and starts to fly again in doing so does not allow the larger wing at the back from stalling and therefore one will not fall out of the sky.....A very good documentary on BBC 1 some ten years ago of the Wright Bros maybe some of you seen it

Next we come on to a Francis Rogallo who is or was employed by N.A.S.A. with the problem of getting these Sputniks back to Earth in one piece also getting them to land in places where they could predict.... This guy used the Delta shape type Parachute in those early days and it was intended to put strings on the leading edges of the Delta wing and make them steerable....He experimented using inflatable leading edges and in fact complete Delta shaped inflatables, but eventually the ordinary Parachute system took overThis was over twenty years ago, and all was forgotten about Delta wings

But from out of the BLUE just over ten years ago men were to be seen on the sand dunes of California running and jumping and flying but for only seconds and landing back on the beach..... The materials used in those days were believe it or not was polythene and bamboo canes, ensemble held together with cello tape. If one crashed it was a matter of taking ones sandwiches out of the polythene bag and cello taping the hole or whatever so as one could be flying again.

Gradually it caught on and I flew my first kite on the mountain range of Moel Famou nearly ten years ago and mine heaven forbid was a little more advanced than bamboo cane it was television tube and a terylene sail but the flying wires were a thin rope, not as they are today a very safe craft indeed ...Using 6061 extrusion Aluminium all aircraft ARB tested and the flying wires of stranded steel wire. There was no one in those early days to teach flying Hang Gliders and fortunately some of the foolish things I had done I certainly would not do now that I am a little wiser

The kites in those days were not of a very stable nature and if one let go of the A frame it would certainly go into a dive, and a dive that one could not get out of , and all one could do was to say repeat after me"The Lord is my shepherd"

The ARB stepped in and it was advised that all kite manufacturers would on producing a new Glider have it suspended on a 200 foot Crane and in place of the Pilot a one hundred weight ball would be used.... The Glider on being released would have to pull out of its dive and fly straight and level allowing for the weight to stabilize itself. Having done this then the manufacturer could sell his product with the sort of BSS safety standard sign

Time passed, but only a short time passed and it was inevitable that a Powered Hang Glider would soon come on the market Films from the U.S of A with a new craze of flyingYES.....it was Power.....The Hang Gliders were the same but the Centre of gravity had to be moved aft so a plate was made with several holes in it so one could move the Cof G using the J.C. bolt ...this bolt was called the Jesus Christ bolt because if it broke or fell out whilst flying all one could say wasaaaaahhhhhhhh Jesus Christ..... I tell you the truth by the way.....

Also on this plate by the J.C. bolt was yet another bolt to accommodate the 100cc engine chain saw variety on to this was a long aluminium tube that stretched to the back of the kite possibly six feet long, and inside this tube was a flexible drive on to which was bolted on a propeller.....The method of starting the motor was pulling on a string just like starting off a lawn mower.....

In the U.S. the method used there was using an open truck and the Pilot would hang on to a welded bar above the truck's cab... with motor running he would jump into the lying down position where a wire man would hold the front of the kite and on reaching 20 knots would just fly off...not unlike an aircraft leaving the deck of an Aircraft Carrier..The throttle in those early days was believe it or not a clothes peg of the crocodile type and one bit hard to accelerate as there was a strong spring to close throttle if any difficulty arose.....Other problems were, when coming into land one had to push the bar forward to flare out and lose flying speed and there are no less than five hundred Americans that lost either one or both legs in pushing the bar too far forwardThis was overcome by stitching a small rope on to the flying harness so as one could not push too far forward as the other end of the rope was tied to the A bar.

Hang Gliders up to this date had but a single piece of fabric for the wing covering, and relied on the wind to inflate it to an airfoil section

Time passed once again and eventually the Hang Glider took on a new shape. The Delta shape gradually went and the movement towards a wing crept in ...although still slightly delta shaped, they were being made now with both a top wing section and a bottom wing section, sawn together and with the use of battens placed in slots in the wing if one looked side elevation at the kite the wing was definitely pear shaped.....Of course having wing sections of this nature gave a far better glide angle to the kite....The glide angles of the old kites from the beginning started at two to one and then gradually went up to six seven to one....I always explain the ratio to people as "if I were one mile up in the air then I could glide to a place seven miles away and that would be in still wind conditions. ... A ten and even twelve to one is now possible on these modern day kites. And before moving on to the power side again just let me say that some terrific mileages are being flown on the ordinary kites without motors....I think to date and that was about last June 82' 128 miles covered by H.Glider this was in the U.S.

Locally in Wales, from Rhyl to Llangollen, a distance of thirty five miles has been clocked, with an altitude gain of 6,000ft. Modern day Pilots do carry instruments on their Kites, nam viz;
 Altimeter an instrument to tell you how high above ground you are.
 Air Speed Indicator * * how fast one is travelling.
 Variometer an instrument to tell whether you are climbing or sinking.
 Parachute in case you have to shout Jeronimo

Oxygen bottle for use above 10,000 to 12,000 feet.

How do Hang Gliders get to these heights you ask, exactly as the ordinary Sailplane does, using the wind blowing up hillsides and also Thermals; Thermals can be very weak ones or very strong ones. They are generated by the Sun blazing down on a field or pond that is gradually being dried, when suddenly it breaks away from the ground in the form of a huge bubble rising at a fair rate of knots ten, twenty feet per second thousand feet per minute, which can quite easily lift a Kite to 6,0007,000....8,000 feet in the blink of an eye, and one has to juggle very warily because a pull of several Gs can occur which could rip your Kite apart, also no problems in inverting one and Kite should it be flown on the edge of the thermal.

Enough on ordinary Kites and return to Power, different Power Plants were used to give more thrust and bigger fuel tanks were placed on and around the Kite so as they could be flown longer distances, there was even a powered job that had a small engine which strapped onto the back like a haversack and the prop was encased in wire mesh, the Pilot did actually sit in his harness like a baby bouncer as opposed to the normal prone position of lying face down in a sort of straight jacket.

And so it came to pass that a frame work not unlike a pyramid shape of aluminium or tripod with a wheel at each corner, a canvas type stretcher seat and behind that a MOTOR.....

That is the most up to date type vehicle made to date
A nose cone has been added to cut the drag and special pear shaped sponge has been added to the round poles once again to reduce drag, adding all this can give an fuel economy of 10 per cent and also a 10 to 15 per cent increase in speed.....

So approximately on my Kite I can reach 50 mph and use about 40 mpg.
using above articles to reduce drag etc:60 pmh * * 50 mpg Approx

Should you want a lecture on the subject I could fetch my machine but would not be able to fly it from the Irby Club as there is the MATZ Manchester Air Traffic Zonebasically from ground level to two thousand feet anywhere on the Wirral is Airspace belonging to both M/Chester and Speke.....although once in Wales from Queensferry all is O.K.

Any questions ??????please do not hesitate to ask.....

G6 CKO stroke Mobile

When I recieved this article from Bill on the subject of hang-gliding I could hardly refuse to publish it. As you can see, it was typed by his own fair hand (or should that be finger ?)
Bill has used radio while in the air. Unfortunately, as this can't be done on an amateur licence, it took place on another band, and in certain circles you may find him known as 'Birdman'.

My thanks and a large jar of 'Snowpake' goes to Bill.

N.A.R.S.A. REP'S REPORT

This year I am happy, very happy, to report that the Southport N.A.R.S.A. Exhibition was a great success.

We had a grand stand, there was an excellent video tape presentation courtesy of Alan, G4EFP, and Colin, G3RLA, a computer display doing QRA plotting from Eric G6HWD, some homemade items on show from Rennie G6IAD and Gerry G8TRY; Alan G4EFP who had his own stand next to us also helped out with the video equipment that we used.

Many people came as helpers, including Mike G6HMD and Peter G6CGJ amongst others, and ably assisted with the erection, daily manning, and dismantling of the stand. There were too many to mention them all by name in here, but I would most sincerely like to see every name entered if I could.

It is most gratifying to the Club, that is you "all the members" have supported myself in this way, so to you all, I extend my thanks for the interest and help you have shown.

As a two day event we were successful beyond all our expectations, and I am now looking forward to 1984.

So my friends, once again all my thanks to all and every one of you, and let's have a good show again next year.

Your happy NARSA Rep,

Peter Denton, G6CGF.

HEARD ON '325'.

" This piece of PMR gear can't be A.M.
..... because it's got a squelch controll."

" I'm going to turn one leg of my inverted V through 90° to give circular polarisation."

" .. I'm lying in bed and I've just got sticky fingers."
(having just finished eating a toffee apple.)

NEWS IN BREIF-

G8UZZ -- has been gardening, and removed 11 meters of twig that was growing from the side of the house.

G4NOY -- has bought a 'new' car, gone QRT on 2m, and is beleived to be experimenting with smoke signals.

FOR SALE:

CREED 75 Teleprinter. Nice condition.
Reasonable offers to

Ian G4IPQ
Tel. 327 7108.

QSP FM G4DLY

Just Thought I would drop down a few notes that may be of interest. I take no credit for the items included as they are all nicked from various publications, mostly QST, Ham Radio (USA) and Amsat bulletins.

If there is enough interest I will try and make it a regular article, and hopefully there will have been quite a lot of activity by the time the next copy of Airwaves is out, particularly in space.

SPACE NEWS

PHASE IIIB.

The Phase IIIB Satellite is on schedule for 'LIFT OFF' on June 3rd from French Guiana. Assuming all goes well with the Arriane launcher Rocket, and you may remember the last Arriane carrying Phase III didn't get to far, then phase IIIB will be known as 'OSCAR 10'.

Specs for Phase IIIB :-

Mode B.

Uplink	- 435.025 - 435.175 Mhz
Downlink	- 145.975 - 145.825 Mhz
General Beacon	- 145.810 Mhz
Engineering Beacon	- 145.988 Mhz

Mode L.

Uplink	- 1269.050 - 1269.850 Mhz
Downlink	- 436.950 - 436.150 Mhz
General Beacon	- 436.04 Mhz
Engineering Beacon	- 436.02 Mhz

These frequencies are subject to final calibration but are the latest to come into the 'DLY Shack'.

SPACE SHUTTLE.

The SPACE shuttle (Challenger) due for launch in late September 83 will have as one of its crew members KSLFL who has been granted permission from the FCC and NASA to take a 2 Metre handheld with him. Details of frequencies and times of operation are not yet available, but like a few Million other Hams I would'nt mind a Qsl card from the shuttle.

JAMSAT. (Japanese Amsat).

It looks like JAMSAT are going ahead with construction of a new Oscar (working title is JAS-1) It is expected to be placed in an orbit similar to that of Oscar 7. and will carry a mode J transponder and also will carry a Pacsat Transponder. (see below)

PACSAT. (Packet Radio Satellite)

Amsat have decided to take another step forward in the Amateur Space race by commissioning work on Pacsat.

This will be a satellite in an orbit similar to Oscar 8, and will basically be a 'flying mailbox' capable of receiving data messages, storing them and then retransmitting them later, and should greatly appeal to the many computer buffs joining the hobby. But most importantly will underline to the professional radio users that Radio Amateurs are keeping ahead of technology.

73 for now

Paul G4DLY.

QUIZ

A Radio Club Secretary recently got some of his record cards in a mess. All he could remember on the five members is given below. From the information given, find the surname of each, his age and his kind of operation.

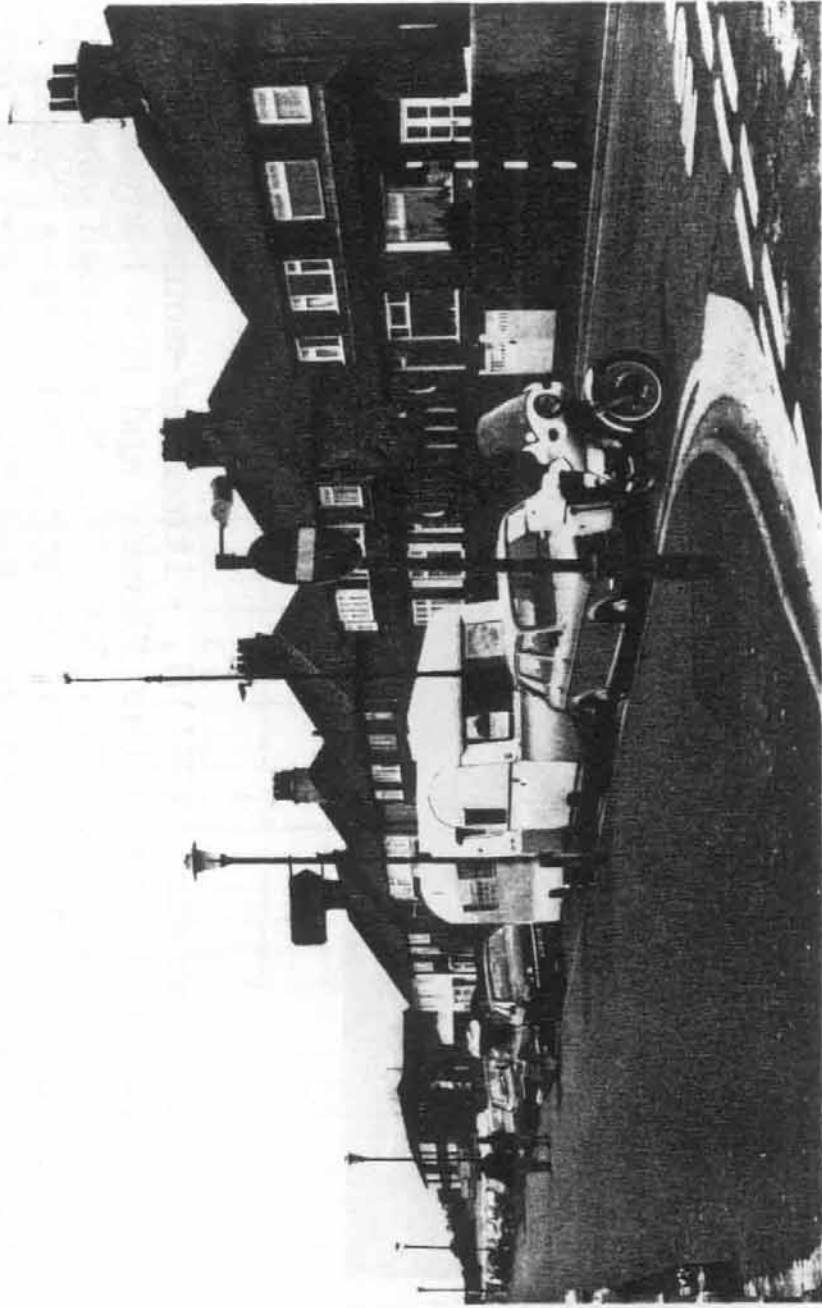
- 1 Pete, who worked H.F., was 2 years older than Bruce.
- 2 Moxon, who was 21, did not work on 2m FM, which was used by a younger man.
- 3 Bruce Evans did not have a 70 cM mobile.
- 4 Collins, who was an SWL, was younger than Bruce.
- 5 Wayne, the eldest, worked RTTY. His surname was not Moxon.
- 6 Leo, the youngest, was not called Riley.
- 7 Riley, who was 19, did not work on 2m FM.

	COLLINS	EVANS	HARRIS	MOXON	RILEY	16	17	19	21	22	S.W.L.	H.F.	70 cM MOBILE	RTTY	2m FM
BRUCE															
JESSE															
LEO															
PETE															
WAYNE															
SWL															
HF															
70cM/M															
RTTY															
2m FM															
16															
17															
19															
21															
22															

NAME	SURNAME	AGE	OPERATION
BRUCE			
JESSE			
LEO			
PETE			
WAYNE			



Ex-Crosville Bristol RE6LIG, with rear-mounted Gardner 6LX engine, horizontal under the floor, and ECW bodywork. Reg. No. UFW 56 F, Fleet No. ERG 56. Now owned and being restored by Steve Shakeshaft, G8TCC. This is a 'dual purpose' vehicle, and has coach seats of red moquet, and is one of the only batch so delivered. The others were in green.



The vehicles used for the Raynet 'Exercise Hilbre' in May.
From left to right: The St. Johns First-Aid caravan, G4EFP's
caravan for Raynet Control station (note the mast) and car,
and the despatch bike of G8TRY.

RAYNET

Since the last newsletter the Wirral Raynet Group have been fortunate enough to find a permanent headquarters. Due to the "good offices" of Rich G6LKI, we are now based at the YMCA, 56 Wheatstone Lane, Birkenhead. Regular meetings are held on the first Thursday in the month.

When funds permit we hope to set up both 2M & 70cm Base stations at the YMCA. To this end I would remind all members that subscriptions for 1983/4 are now due. At the A.G.M. held on 14th. April, a fee of £3.00 was set to cover the next 12 months for membership of the Wirral Group. Prompt payment would be appreciated, to the Treasurer Noel, G8XBG, QTHR.

Wirral Raynet have supported the St. Helens Raynet Group on two exercises recently, and on Sunday 8th. May, carried out its first exercise with a user service entitled "Exercise Hilbre".

The West Kirby Council of Churches, via the St. Johns Ambulance Brigade approached Raynet to provide radio coverage for a "Pilgrimage Walk" from West Kirby to Hilbre Island. The SJAB, however, were unable to formally request the Group to be operational. Eventually, after lengthy negotiation, the Merseyside Police agreed to support the involvement of Raynet on the grounds of public safety.

Alan, G4EFP, provided his caravan with pump-up mast, aerial, and a base station to become 'Controll' at the Dee Lane slipway. An intermediate station was set up on Little Eye. The two Land-Rovers being used were equipped with radios and operators to become mobiles and four members equipped with portables joined the walking party.

Although no incidents occurred, radio traffic was quite heavy in keeping Main Controll advised on the progress of the walkers, who were out of sight of Controll for most of the time.

The Group were complemented on their proficiency, and a certain amount of interest was shown by the local news media.

At recent meetings of the Group, 'Basic Message Handling' and 'Map Reading' have been covered, with more advanced exercises to be carried out shortly. Further user exercises are anticipated in the near future.

Any further information can be obtained from myself or the Deputy Controller, John G3UZZ. All new (and old) members are most welcome - you don't even have to be licenced.

Don't forget about the regular net nights on S8 at 8 (20.00 Hrs Local Time) on the 10th. 20th. and 30th. of each month.

73,

Mike G8RXB
Group Controller

Editors Note:

For those after rare QRA's, Hilbre Island and Little Hilbre is the only land in YN44d, and similarly with Little Eye in YN54b. Also, YN54b is the only usable part of YN54 that is not in Wales.

No points for guessing the identity of Raynet member in reserve to act as despatch rider and signing motorcycle mobile.

COMPUTER CORNERLOW COST PRINTING FOR THE UK101

One way of obtaining low cost print capability is to hook up your computer to an ASR 33 printer. These can be picked up for around £30 in 'working' condition and although suffering from lower case only print and a generous amount of audio QRM they offer the facility for a fraction of the price of a 'black box' dot matrix or daisy wheel device.

On the UK101 the 110 bauds is readily generated by constructing a 74163 and 7400 counter/reset unit, strapped to reset on 1010 (binary 10), thus giving a divide by 11 facility. If you then drive this counter from the 19.2K Baud line available at Pin 12 on IC57 you derive a signal at 1745 baud. This provides a suitable input to the 6850 at 16 x 109.09 bauds which readily drives the ASR 33. If your printer has a current loop facility this can be accommodated by the construction of a circuit designed to convert logic level in into a 0-20 mA signal out. This circuit comprises only an inverter stage (74LS04) and a transistor BC479 but unfortunately requires the addition of a neg 12V supply to achieve the necessary swing. This circuit is available on request from the author of this article.

G8MMM

 $\frac{8}{10}$

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FREE

TWO PACKS OF EIGHT EXPOSURE 'POLAROID' B&W FILM
TYPE 107C 8.3 X 10.8 CM (outdated)
OR loan of camera for same.

CONTACT - Gerry G8TRY 630 1393 or at the CLUB

WANTED

ANY INFO. CCT DIAGRAMS ETC. FOR
' LAFAYETTE MODEL HA-63 COMMUNICATION RECEIVER '
To G8TRY

CALIFORNIA MOTORCYCLISTS MAY SOON GET HAM PLATES

Thanks to a California legislator, motorcycle riding amateurs in the Golden State may soon be able to display their call letters on motorcycle license plates. Responding to a request and further discussions with Sacramento amateur and motorcycle enthusiast, Bill Tubbs, KB6JM, Arleta Assemblyman Bob Hayes introduced legislation on 7 January, which would remove a little-known prohibition against Amateur Radio call letter plates on motorcycles from the California Vehicle Code. In February, Assemblyman Gene Chappie of Roseville joined as a co-author with an amendment to include motor-driven cycles in the proposed legislation.

According to the Department of Motor Vehicles, all potential amateur call letters are encoded in such a way as to preclude their use as personalized plates under the state's environmental license plate program as well.

Recognizing the importance of identifying amateurs during emergencies and other public service activities, Assemblyman Hayes introduced the bill, AB 1987, which is headed for the Assembly floor after receiving unanimous approval in both the Assembly Transportation Committee and the Ways and Means Committee.

With the ever growing number of "motorcycle-mobile" amateurs, particularly in view of the rapidly escalating fuel costs in recent years, the measure, if adopted, will provide even more visibility and publicity for the widely varying world of Amateur Radio.

While the bill has met no opposition thus far, California hams are urged to contact their Assembly representatives to lobby for support of AB 1987.

THE MOTORIST'S IF

If you can drive from John O'Groats to Devon
And not tell lies about your average speed,
If you can treat the modest Imp or Mini
With all the care a limousine would need,
If you can thread your way through thickest traffic
Nor cease from caution down the loneliest lane,
Aware that once removed to realms seraphic
No hen or duck will come to life again.

If you respect your tyres and springs, and soften
What might have been a pothole's hideous bump,
If you can use the grease gun well and often
And keep the safety level in the sump,
If you can smoothly change from top to bottom
When faced with 'one in seven' on your route,
If you apply all warnings as you spot 'em
And always give crossroads their passing hoot.

If you avoid the aim of stunt contrivers
Of 'cutters-in' and breakers of the Code,
If you can bear in mind that other drivers
Are just as much entitled to the road,
In short, if you behave with due discretion
As just one item in a mighty host,
You'll be, if I might give you my impression
A damn sight better motorist than most!

This letter arrived too late even for me to mention at the Club meeting. However I have included it so that any members that may be interested can contact Len and John with regard to future meetings of their new association.

COMPUTER HAMS
MEETING
Friday 29th April
at 8-00p.m.

If you own

A Spectrum

B B C ZX 81 Vic

Tandy Texas U K 101

or any other computer you are invited to attend the above meeting.

The object of the meeting is to find out how many AMATEURS have or are interested in COMPUTING as part of their hobby.

This is intended as an initial gathering after which the various computer groups might like to get together themselves.

MIKE GORMAN who would describe himself as 'A Computer Freak' and has a wide ranging interest in the subject (A collection of 1.500 magazines) has agreed to speak to the assembled company.

Venue.

The Unitarian & Free Christian Church

Corporation Street

ST.Helens.

The Church is situated between the Law Courts and Lincoln House on Corporation Street about 100yds from the Town Hall. There is a huge car Park behind the Church entered from either side-street. Parking is free after 6.00pm.

LEN G4 FUY

JOHN G6 KWW

Further information
Tel 051 428 2712.

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(LIFE INSURANCE 2p EXTRA)

ITINERARY

- 1st DAY LEAVE GREASBY INTERNATIONAL AIRPORT AT 4.35 A.M.: ALL PASSENGERS TRAVEL 1ST CLASS ABOARD AIR LEPRICORN UNI-ENGINE DUMBO JET.
- 2nd DAY IN AIR
- 3rd DAY IN AIR
- 6th DAY IN AIR
- 5th DAY IN AIR
- 7th DAY ARRIVE CORK AIRFIELD: PROCEED TO DUBLIN BY BUS.
- 8th DAY ARRIVE DUBLIN 8.00 P.M.: TRANSFER TO DUBLIN HILTON BASEMENT ANNEX FOR BOX DINNER
- 9th DAY AFTER BREAKFAST COMPLETE CITY TOUR OF DUBLIN FROM 9.30 A.M. TO 9.45 A.M.: FREE TIME FOR SHOPLIFTING AND MEETING WITH IRISH DENTAL SOCIETY. AGAIN WE WILL BE ENTAINED IN STYLE BY LOCAL DENTISTS AND TREATED TO A FABULOUS 7 COURSE MEAL (PASTIE AND SIX PACK OF GUINNESS).
- 10th DAY DAY SIDE TRIP TO DOCKS AND KERRY. TOUR THE COUNTRYSIDE IN THE COMFORT OF A REBUILT HORSE-DRAWN CARAVAN: WATCH THE LOCAL PEASANTS WORKING, PERFORMING NATIVE DANCES, AND CHANGING UNDERWEAR (WITH EACH OTHER): SO CONTINUE TO BANGLADESH (OPTIONAL).
- 11th DAY BACK IN DUBLIN FOR A TOUR OF THE UNIVERSITY OF IRELAND (BOTH HUTS) EVERYONE WILL GET TO SEE THE BOOK IN IRISH KNOWLEDGE LIBRARY.
- 12th DAY EDUCATIONAL TOUR OF IRISH AGRICULTURAL AREA: FREE TIME TO DIG POTATOES: SIDE TRIPS TO ROAST POTATO, CHIPPED POTATO, MASHED POTATO AND BOILED POTATO FACTORIES
- 13th DAY BOARD YOUR WAITING DUMBO JET FOR LONDON: ONLY THREE QUICK STOPS (2 FOR FUEL AND 1 FOR DIRECTION)
- 14/19th DAY IN AIR
- 20th DAY ARRIVE HEATHROW BETWEEN 100.00 A.M. AND MIDNIGHT (DEPENDS ON WEATHER CONDITIONS AND FUEL LEAKAGE): CUSTOM CLEARANCE IS QUICK, NO DUTY ON IRISH GOODS PURCHASED (ONLY ON WHAT YOU LEFT BEHIND)

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(2 OR MORE PERSONS)

ONLY £69 PER PERSON

DO YOU OPERATE ON 2-METRES 145MHz, 70-CENTIMETRES 433MHz OR 23-CMS 1297MHz?

If you operate on VHF and/or UHF, then you will be aware of the extensive repeater network which exists in certain portions of the 145MHz and 433MHz bands. Similar facilities will be available shortly on 1297MHz.

In the North West of England there is a large and carefully planned repeater network which gives good service to FM operators throughout Lancashire, Cheshire, Greater Manchester, Merseyside and North Wales.

These repeaters include:-

On 145MHz (2-metres VHF) - Ch R0 GB3MB North Manchester & parts of Cheshire
 Ch R1 GB3VT Stoke-on-Trent, The Potteries & Staffs
 Ch R2 GB3MN South Manchester, Liverpool & parts of
 Lancashire & Cheshire
 Ch R6 GB3MP Merseyside incl. Liverpool, North Wales,
 Lancashire and most of Cheshire

plus on 433MHz (70cm UHF)- Ch RB0 GB3LL Llandudno, North Wales
 Ch RB2 GB3ST Stoke-on-Trent, Staffordshire
 Ch RB4 GB3MA North Manchester
 Ch RB6 GB3CR Chester, Cheshire & North Wales
 Ch RB10 GB3LI Liverpool, Merseyside
 Ch RB12 GB3MT Winter Hill (RTTY & DATA only)
 Ch RB13 GB3SM Leek, Staffordshire Moors
 Ch RB14 GB3MR South Manchester & Cheshire

and on 1297MHz (23cm UHF)- Ch RMO GB3MC Winter Hill (Beacon & Repeater)

At the time of writing (6/2/83) GB3MB, GB3MT and GB3MC are not yet on the air although GB3MC is undergoing soak test prior to initial beacon operation. Furthermore there is also a UHF TV repeater GB3UD in preparation (to be sited in the Potteries on 23cms) and a UHF dual-band linear repeater GB3LR under discussion.

All these facilities are planned, operated and maintained by the UK FM GROUP (WESTERN) - without any help from the Radio Society of Great Britain. The Group also issues 2 or 3 comprehensive news letters entitled "Talkthrough" per year.

Membership of the Group is voluntary, but in practice most radio amateurs who operate on these bands join - for without their subscriptions there would be no repeaters in this part of the Country! The annual subscription is only £3.00 - and for all the facilities described above that is pretty good value for money by any standard. Many people make an additional donation to the Group and this is of course gratefully received.

WHY NOT JOIN NOW. Make your cheque/PO payable to UK FM GROUP (WESTERN) and sent to:-

Mr J D Clifford G4BVE
 7 Birch Fold
 Goostrey
 Crewe
 Cheshire CW4 8NR (Tel: 0477 34535)

Your membership card will be posted to you within a few days and you will be included on the "Talkthrough" mailing list.

All communications except memberships should be directed to G3LEQ, 2 Ash Grove, Knutsford, Cheshire (0565 4040)

