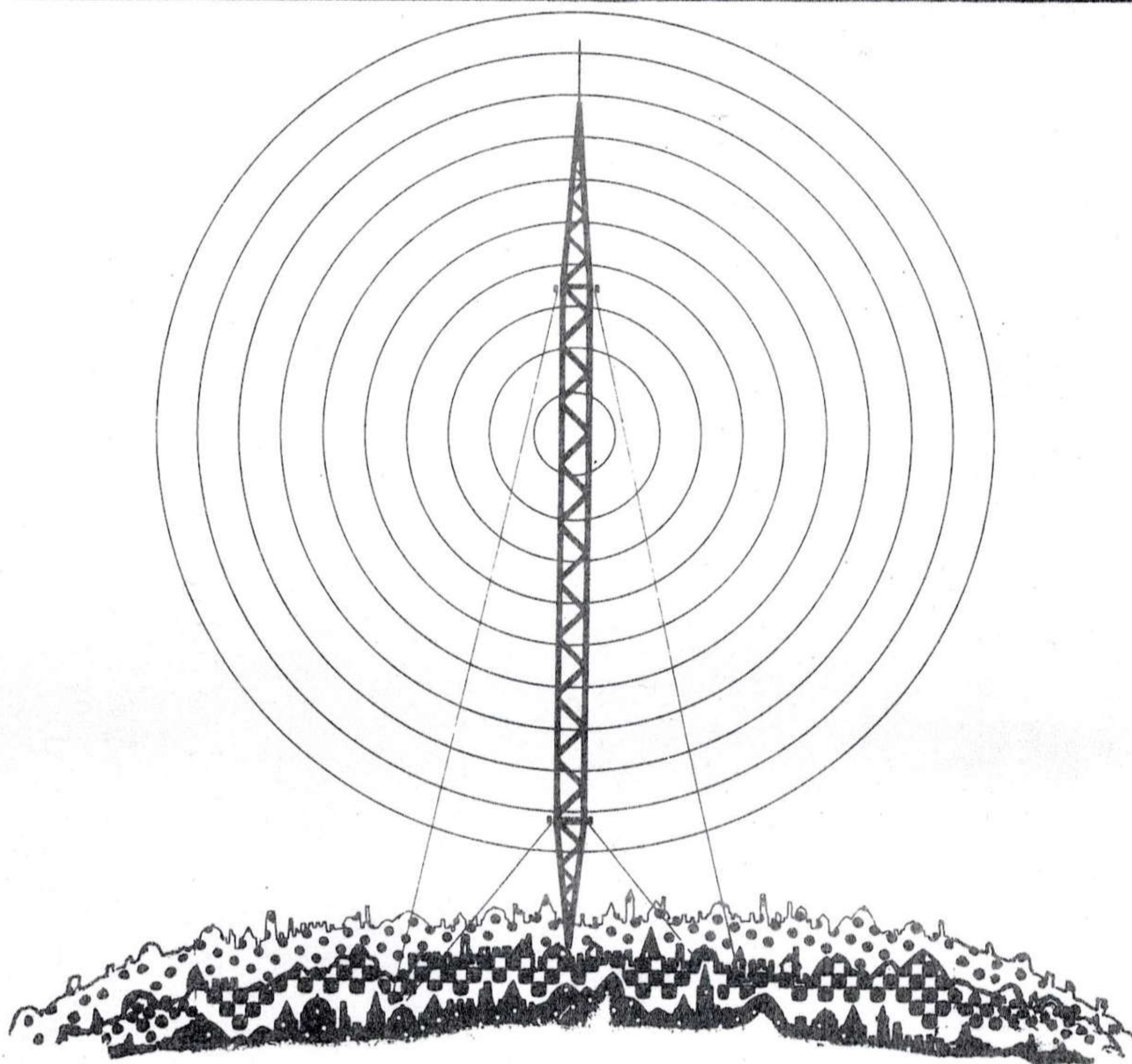


MEDIUM 9

QUARTERLY MAGAZINE OF THE I.R.M.



INSIDE: 500Kw VOICE ALSO OF IRELAND

- » RADIO CAROLINE.... is it worth it?
- » DX-PEDITION TO LAPLAND
- » AN END TO LAND-BASED PIRATES?
- » DX NEWS Q.S.L. REPORT

EDITORIAL

Welcome to the ninth edition of MEDIUM, and a special CEAD MILE FAILTE to all those who are reading this magazine for the first time. A special word of thanks to all those who renewed their membership for yet another year, and to those who have just recently joined us for the first time we all hope you will enjoy your membership. Every member is welcome to contribute articles for possible publication in future editions.

We welcome your tips and details of your experiences in the field of radio, no matter which aspect interests you most - and your questions will also be welcome.

We hope to start a regular section containing letters from members - and indeed from those people who are not yet members but who have picked up a copy of the magazine in some shop in or around Dublin. So get your thoughts down on paper, send them to your editor and maybe you'll be seeing them in print in the next edition of MEDIUM!

Now, in this edition we have most of our regular features, and in addition we have a special article from Dr. J. Campbell detailing his DX-ing experiences in Lapland. We also have a long technical article from our new IRM President, Paddy Brennan, about RTE's new Tullamore transmitter.

At the time of writing I regret to say I have not received any articles from our secretary, Mark Story. I know he is extremely busy with his studies, but I know you will all be looking forward to reading Mark's articles in future editions of the magazine.

As some of you already know, we are planning a trip to the new Tullamore complex in the near future. Actually, Paddy Brennan is responsible for most of the background work in connection with this proposed trip.

Elsewhere in the magazine, Paddy asks those interested in the trip to contact him. I hope a big number of members will be interested in this trip. Even if you are not technically-minded (like your editor!) I think you might enjoy the opportunity of making personal contact with other members - in other words the trip will have its social aspects which should not be overlooked. I am hoping to make the trip to Tullamore and I shall certainly look forward to meeting YOU there! Further details may be had from Paddy Brennan.

Since MEDIUM 8 came out, we have held our AGM. Frankly, the turnout was disappointing. I was pleased to meet for the first time Fintan Conway and new member Felim O'Connor, and I hope they will continue to take an active part in the Movement's affairs in the future.

Ken Sheehan formally resigned as President at the AGM and was replaced, as you know, by Paddy Brennan. Ken was appointed to the position of Press Officer or PRO. Ken is now a veteran when it comes to having letters published in the newspapers! Mark Story was re-elected Secretary, and yours truly did not notice anyone itching to take over the position of Editor! (Thank you, Aine in Co. Meath for your postal vote!)

Before ending this editorial, may I once again appeal for your letters and articles. Without your support we just cannot continue, so please do something positive for the IRM and remember the next deadline - 20/5/1976.

JOHN DOWLING

LOCAL RADIO NEWS

DOWNTOWN RADIO

Belfast's new commercial station, DOWNTOWN RADIO, has been noted testing day and night for the past few weeks. This station, which is operated by Community Radio Services Ltd., will operate on 1025 kHz MW and 96 MHz in the FM band.

Test transmissions are heard here in south Co. Carlow on 1025 kHz (293 metres) and the signal during the daytime is quite good - some times "S" 9 on the metre. However, in the mornings and from early evening onwards, there is strong interference from Radio San Sabastian in Spain which puts out a very potent signal from its 10 kW transmitter on the northern coast of Spain (facing the south of Ireland.)

I'm sure the signal from Downtown Radio is much better in Dublin where the interference from the Spanish station might not be so strong.

The tests noted so far consist of test tones, with occasional taped identification announcements. Instrumental music is also used in the tests. An extract from the song "Down Town" is used as the station's theme music. Regular transmissions are scheduled to start in mid-March...

THAMES VALLEY BROADCASTING

Reading's new commercial station has been noted here testing in the early hours of the morning with tones and IBA taped identification. This station operates on 1430 kHz - that's 210 metres - in the MW band. It's located on your radio dial right beside Radio Luxembourg. Regular

LOCAL RADIO NEWS

THAMES ALLEY BROADCASTING (cont'd)

broadcasts were due to commence on March 1st.

BEACON RADIO

This is the last of Britain's 19 commercial stations and it is scheduled to open before Easter on 989 kHz medium wave. Beacon Radio will serve the Wolverhampton area. Reports indicate that test tones have already been heard from this station, but I've been unable to receive them here at this location.

Reception of Beacon Radio is made very difficult by the presence of BBC Radio Four's Exeter transmitter with 1 kW on the same frequency, and there are also strong Spanish and German stations (RIAS and jammer) with which to contend.

CONTACT (monthly publication of WDYC) states that the TV Times organisation will launch a new magazine covering the local radio chain. It will be called RADIO GUIDE and will appear in May when all 19 commercial stations are on the air. There will be five different editions to cover different areas and the price will be 20p

Reports sent to Pennine Radio and Radio Tees remain unanswered despite the fact that adequate return postage was included. Anyone else had difficulty verifying these stations?

JOHN DOWLING

LETTERS TO THE EDITOR

8, Windmill Road,
Crumlin,
Dublin, 12.

Dear John,

Many thanks for MEDIUM 8 in which I feel there are two very good articles... (1) The Medium Wave DX Stations from Latin America and the U.S. and Canada. I found this list extremely useful in checking for NA stations especially when the "marker" CJON comes in. On the night of Dec. 31st. I stayed DX-ing on the old domestic receiver (much better than the VEF 206 for medium wave) and I logged WCBS (in New York), CKEC (in New Glasgow, Nova Scotia) and CJON (in St. John's, Newfoundland). I tried again early in January but could log nothing at all! By the way, the completion of the list (above 1330 kHz) would be very useful. The second best article was the Local Radio News which gave the frequencies and addresses of all IBA stations. This is very useful and informative. ... Nice to have Veronica back. As I write this (26/1/1976) I am listening to Veronica via Hilversum 1 at 2230 GMT on 1007 kHz.

73's de KEVIN RYAN

Thanks for your letter, Kevin, and for your other letters, not all of which I have managed to answer. Well, I hope to complete the MW listing in a future edition of MEDIUM as well as make some more additions to the part already published. MW conditions have been patchy during the past few months, but generally CJON has been heard very regularly - almost every night - and with a really good signal. Plenty of Brazilian stations have also been coming through on MW. All I have to do now is learn Portuguese and find out what they are saying! Hope to hear from you soon again, Kevin, and thanks again for your continued support.

JOHN

17, New Cabra Rd.,
Phibsboro,
Dublin, 7.

Dear John,

I am interested in purchasing a good quality portable short wave communications receiver, and after reading the article MAKING CONTACT in the last edition of MEDIUM in which you referred to a World Portable, I would appreciate it if you will let me have more details on this type of receiver, including price and where available in this country.

73's de TOM CUMMINS

Nice to hear from you for the first time, Tom. You will have received a detailed reply to your letter some weeks ago - hope you received it okay? Let us know if you manage to pick up a new radio, and if so you might like to give us a report on it for MEDIUM'S CONSUMER SECTION.

JOHN

Garracloon,
Cloghans,
Ballina, Mayo.

Dear John,

..... Your list of trans-Atlantic stations (on MW) really surprised me. I had never connected DX with the medium wave band. I haven't built a loop antenna yet, but early on the morning of St. Stephen's Day I listened with a long wire and logged CBA, WINS, WTIC, WCAU and WABC. I reported to these stations, so I should have some more QSLs soon!

PADRAIC CAWLEY

THE PRESIDENT'S PAGE

I know that being elected President of any organisation has its responsibilities and demands and this was clear to me when I decided to run for this post.

Being the new President has given me the opportunity of injecting some new ideas and life into the I.R.M. God knows it needs it!

As regards the committee, some new blood was drafted on to it at the A.G.M. but they haven't made an appearance yet, also no ordinary members come along to these meetings which are usually very interesting, their opinions and ideas are what we really need. I would

like to see the membership becoming more actively involved and hopefully our trip to the Tullamore transmitter will make a move in this direction. Our magazine, MEDIUM, which is the backbone of the Movement, is the only effective means of communication with our members. If they do not contribute articles and letters both the magazine and the Movement will die! So wake up and do something, it's not enough to pay a subscription every year, it requires a little more. Think, why did you join in the first place!

PADDY BRENNAN

WORLD RADIO TV HANDBOOK 1976

Just arrived here from Denmark is the latest edition of the DX-er's Bible, the 30th edition of the WRTH. This edition contains 560 pages and incorporates a very interesting section (88 pp) entitled "Listen to the World". As usual several hundred pages are devoted to detailed information about broadcasting stations in every country around the world. Comprehensive listings of medium and short wave stations are also included. In addition there are articles such as "Broadcasts in English, Conference on Long and Medium Wave Broadcasting", "DX Programmes", "Most Suitable Broadcasting Bands in 1976", "Standard Frequency and Time Signal Stations", World Time Charts and Tables are also included.

The "new" section, "Listen to the World", contains some of the most interesting articles I've come across for a long time - including a 16 page feature on Clandestine stations (political). Several Irish "underground" stations are mentioned, but the information is probably a bit out of date. Fifteen pages are devoted to the 20 most popular Receivers in the World with objective comments by the author. There are other articles too numerous to mention... You should be able to see a copy of the WRTH in your local Library. Irish stockists are Easons of O'Connell St. and Greenes of Clare St. (both in Dublin).

JOHN DOWLING

M E D I U M ' S C O N S U M E R R E P O R T

Welcome to the first in which we hope will be a series of reports on various types of radios and accessories purchased or used by members of the IRM.

We start off with a report on the DRAKE SPR4 receiver and make some comparisons with the TRIO 9R-59DS receiver...

REPORT ON SPR4 COMMUNICATIONS
RECEIVER

The SPR4 is an all solid-state communications receiver which can be programmed with accessory crystals to cover 150 kHz to 30 MHz in ranges of 500 kHz. The receiver comes with crystals which give coverage of the long and medium wave bands plus the short wave bands 13 to 49 metres. One must purchase additional crystals to obtain coverage of other bands.

I have been comparing the Drake receiver with the Trio 9R-59DS set. In certain respects the Drake is far superior (it should be as it is a considerably more expensive set!) but, in some regards, the Trio can more than hold its own.

The first obvious advantage of the SPR4 is the direct frequency read-out... Frequencies can be read off the dial very accurately - no guesswork involved in tuning into a station whose frequency is known - one simply tunes to the station's frequency which is simply read off two dials. In this respect the SPR4 is far superior to the Trio receiver which is noted for its poor dial calibration and backlash.

Selectivity is limited as 4.8 kHz bandwidth for AM, 2.4 for SSB and 0.4 kHz for CW. With the bandwidth switch in the "AM" position one can

hear signals from AM stations with a bandwidth of 4.8 kHz "at -6 db down". I have noted that this selectivity is not as good as on the 9R-59DS! And it seems, too, that the Drake is not any more sensitive than the Trio which came as a disappointment. A weak station located in between two very strong stations 10 kHz apart is slightly better heard on the Trio. This is because the strong stations "spread out" more along the dial on the Drake as compared with the Trio.

I am now concentrating on improving my antenna set-up - the present set-up consists of a 250 feet long wire fed directly into the receiver. An antenna tuning unit is being purchased.

A filter to improve selectivity is also under consideration, this would enable the receiver to be tuned to narrower bandwidths than at present.

It is also noted that the Drake is more prone to picking up electrical interference than the Trio. A noise blanker is available as an accessory but it is expensive while its effectiveness is in some doubt.

A crystal calibrator has been fitted in the new receiver and some additional crystals have been purchased to enable reception of the tropical bands and some of the amateur bands. SSB signals are very easily resolved and the quality of the signals is excellent - no drift and no retuning necessary. The same applies to AM signals - sound reproduction is very good and as far as I can determine there is no frequency drift. When a station is tuned in the receiver will remain tuned to it!

Reports for this section would be appreciated - please send them directly to the editor.

JOHN DOWLING

QSL REPORT

BY KEVIN RYAN AND JOHN DOWLING

BANGLADESH

Radio Bangla Desh, 23/7 Shaymoli, B-Block, Dacca, verified with a white card in 25 days. Frequency was 15530 kHz, the time 1230 GMT. (N.B. This was the third report to the station so don't be disappointed if you don't get your QSL first time!)

CLANDESTINE

Radio Espana Independiente, Box 359, Prague, Czechoslovakia, verified by card in 46 days. This station can be heard clearly in Spanish around 1900 GMT on 10110 kHz.

GREECE

Voice of Greece, Mourouzi Street 16, Athens 138, verified by card and schedule after 22 days. The frequency was 9520 kHz and the time 0715 GMT.

JAPAN

Radio Japan, 2-2-1, Jinnan, Shibuya-ku, Tokyo, verified by QSL card, pennant and schedule after 20 days. Frequency was 15430 kHz and the time 0800 when the station is best heard in English.

JORDAN

Radio Jordan, Box 909, Amman, Jordan, verified with a very colourful card and schedule in 13 days. Frequency was 9560 and the time 1700 when the station may be heard with news in English.

PHILLIPINES

F.E.B.C., Box 2041, Manila, verified my report after 77 days with a "map-card", schedule and questionnaires for three IRC's (rather expensive items now!) The time was 0930 GMT and the frequency was 11920 kHz.

KEVIN RYAN

Our thanks to Kevin for his continued support for this section. How about some contributions from YOU!?

AUSTRALIA

Two ABC Domestic service short wave stations have recently been verified by your editor - VLQ9 from Bald Hills, Brisbane (9660 kHz - 1300 GMT) and VLR6 from Lyndhurst (1035 GMT - 6150 kHz). Both stations operate with 10 kW transmitters. VLQ9 verified in the super fast time of 8 days, and VLR6 took 19 days.

CANADA

Some more trans-Atlantic medium wave QSL's have been added to my collection ... CFRB in Toronto on 1010 kHz (same frequency as the powerful WINS in New York) verified by card in 34 days... CBI in Sydney, N.S. on 1140 kHz verified by card in 22 days... CBD in St. John, N.B. on 1110 kHz verified by card in 51 days. CBNM in Marystown, Nfld. on 740 kHz verified in 31 days. (N.B. The local CBC stations in Canada are verifying with full data QSL cards - unlike Radio Canada International which has stopped this practice.

GERMANY

ZDF TELEVISION verified a report by letter and part of "Sendeprotokoll" plus booklet listing all TV transmitters in 112 days (after follow-up). The station was seen last October on Ch 30 in the UHF band.

U.S.A.

A very pleasing return for reports sent to U.S. MW stations - including QSL card and poster from the very rarely heard station, WBAP in Fort Worth, Texas, (820 kHz)... KMOX in St. Louis - card in 50 days (1120 kHz), WWWE, Cleveland - 22 days (1100 kHz), WTIC, Hartford - 42 days (1080 kHz), WOKO, Albany - 58 days (1460 kHz), WWL, New Orleans - 21 days (870 kHz), WQXR, New York - 17 days (1560 kHz).

JOHN DOWLING

PIRATE RADIO NEWS

Pirate radio activity seems to be at a rather low ebb at the present time, but a few stations still remain and no doubt they attract some listeners. In my opinion, most radio enthusiasts who tune to the so-called pirate band immediately above the 49 metre short wave band do so mainly with the possibility of getting some more QSL cards in mind, and some of these hobby pirates really come up with very attractive verifications and other promotional literature. ABC Europe (which is no longer on the air) was one station which sent out a very attractive card. Now, I have received a very nice card from RADIO VALENTINE INTERNATIONAL, a German station which broadcasts from 1100 to 1600 hours C.E.T. on the first Sunday of the month. Frequency used is 6230 kHz. The station has received only about three reports from Ireland according to a letter received from the Technical Department (Chiffre 41, P.O. Box 1823, D-76 Offenburg).

The Radio Valentine short wave transmitter has an output of 50 watts and the antenna is a 65 metre long wire. Programme format is mainly pop with a "progressive touch", with Top Ten records, Oldies, DX information, record requests and jingles. Reception reports have been received from Sweden, Denmark, West Germany, East Germany, Holland, Belgium, England, Scotland, Austria, France, Ireland and Italy.

ABC ENGLAND which broadcasts from the Suffolk area of England had been broadcasting regularly for about 16 weeks on 6268.5 kHz when Post Office officials turned up at the scene. The raid was not a success, but the transmitter is switched on now only from time to time. Power is 8 watts and I

(cont'd)

received my verification by means of a prepared QSL card which the station disc jockey filled up and returned. The same deejay had been operating Radio Atlanta on 225 metres MW for about five years, then he came across the old Radio 69 transmitter and put out some short wave transmissions which brought in reports from all over the continent. I should say here that the Radio 69 mentioned produced a really excellent quality QSL card, one of which I have in my collection. ABC England has been using an address in Cambridge but they do not want it used any longer by reporters as some of the mail is getting "lost" (!)

I have received a very long and detailed article about RADIO CAROLINE NORTH, the Irish hobby-pirate which was raided some time ago. I think it would be a pity to try and condense this article, so I am hoping to put it on stencils and duplicate it sometime and then make it available to IRM members. The article goes into very fine detail about the history of the station, its personalities and type of programming. If YOU are interested in reading this very good article drop me a line.

Recently received here was a copy of FREE RADIO SUPPORTER which is published by the FREE RADIO LEAGUE, P.O. Box 46, N-6650 Surnadal, Norway. Membership of the FRL is 20 N.Kr. or 20 IRC's. I am not a member, and I do not know how often the magazine comes out.

JOHN DOWLING

MEDIUM'S TECHNICAL SECTION

THE NEW RTE HIGH POWER TRANSMITTER AT TULLAMORE BY PADDY BRENNAN

As many of you are aware RTE has built a new 500 kW transmitter just outside Tullamore town. This will replace the transmitter at Moydrum near Athlone which had an output of 100 kW and came into service in 1932 on 566 kHz. The transmitter was replaced in 1955 by a more modern type but the output power still remained at 100 kW.

Over the years the situation on medium wave in Europe got steadily worse as the number of stations increased beyond the capability of the medium wave band to cope with them. The result of this was that stations interfered with one another giving poor reception to the listener. In order to reduce interference stations increased their power output ensuring good reception in their own countries but causing increased interference in neighbouring - and indeed distant - countries.

In 1969, RTE embarked on a comprehensive technical study of the Medium Frequency (M.F.) situation in order to improve coverage throughout Ireland and part of Britain. The study concentrated on the field strength (F/S) of the received signal - i.e. the voltage in millivolts induced in an aerial at a particular location. If the signal is weak the field strength will be low - e.g. 0.5 mV/m (reads 0.5 thousands of a Volt per metre) or a strong signal will have a F/S of 5 mV/m.

Before considering improvement at the Moydrum site it was desirable to check whether Moydrum was the optimum site for a high power station. When this site was originally chosen it was because it was available and near the centre of Ireland and the choice was not based on an engineering study

The first test carried out was to in-

vestigate the conductivity around Moydrum out to a distance of 10 Km and beyond to major population Centres such as Dublin. In fact it was found that this site was a very poor one and the need to find a good one became more obvious.

COUNTRYWIDE INVESTIGATION...

Extensive F/S surveys were carried out and the results analysed. The general picture of Ireland emerged as a country where the conductivity of the ground varied a lot due to surface deposits and mountains. Glacial deposits occur in a definite pattern and occur from Sligo down to Athlone and over to Dublin and influence the conductivity of the Moydrum site, and also that of the path from Moydrum to Dublin. The conductivity in Ireland varies from very poor to better than good. Urban areas require maximum F/S for satisfactory reception and it was therefore important to establish if "corridors" of good conductivity existed to urban areas like Dublin.

Such a corridor was, in fact, located between Tullamore and Dublin and more detailed investigation was made of an approximately 10 km wide corridor from Dublin to Tullamore and over to the Shannon.

SITE TESTING ...

A necessary step before deciding whether or not to move from Moydrum was to test an alternative site and quantify the advantage over the Moydrum site. The site chosen was about 6 km east of Tullamore and a 50 watt transmitter on 900 kHz was used with an improvised 75 ft. aerial

cont'd.../

The final selection was a site in Ballycommon approximately 8 Km east of Tullamore.

CHOICE OF AERIAL ...

The aerial may have an omnidirectional transmission pattern or it may be designed to restrict its transmission to certain directions. Depending on its height the simple vertical aerial has two significant variables.

One of these variables is the gain, this increases with height up to a maximum of 3 db at a height of 0.625 of a wavelength at the frequency of operation. In medium wave, wavelengths vary from 570 down to 187 metres (525 to 1605 kHz).

The second variable is the vertical radiation pattern. When the aerial height is greater than half a wavelength there is a secondary lobe in the vertical radiation pattern at high angles of elevation.

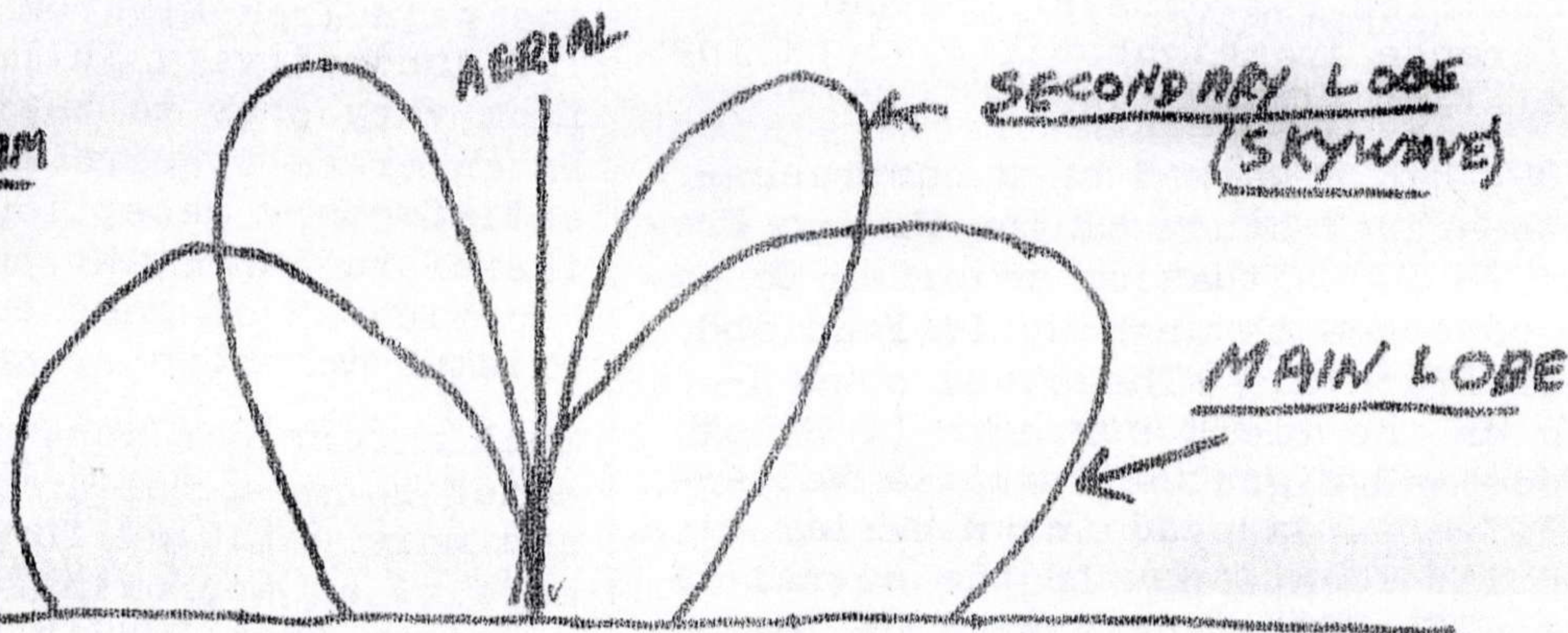
lattice mast of triangular cross section made up of steel tubes bolted together. The mast was made up in 6 metre lengths on the ground and these sections were erected one on top of the other. As the mast itself is acting as the radiator it has to be insulated from the ground. The base insulator is made up of five porcelain pots about 150 mm in diameter and one metre high.

TRANSMITTER (AUDIO, RF, COOLING, BUILDING)

The specification was for a 500 kW transmitter which has to operate on a reduced power of 150 kW at night to reduce interference with foreign stations.

The transmitter consists of two 250 kW transmitters in parallel - their outputs being fed to a combining unit and then to the aerial. If a breakdown occurs in one transmitter the other will keep going

POLAR DIAGRAM



This lobe causes a strong skywave to be radiated to the ionosphere where it is reflected and at a short distance from the transmitter meets the ground wave giving rise to fading. So if the onset of fading is to be kept at a maximum distance from the transmitter the height of the mast must be about half a wavelength. The one purchased by RTE was 0.57 wavelength in height and this could be varied slightly to get maximum performance. The structure is a

but the output will be reduced. Another important idea in the design was for the system to be capable of unattended operation. The state of the transmitters is relayed by telemetry to the old Moydrum station (this is the base for staff in the midlands area). The power output can be changed from Moydrum by pressing a button.

STUDIO INPUT ...

The programme is sent from the

studios in Dublin over land lines (known as screened pairs) to the transmitter. Two routes are provided. One is on the northern screened pair via Ballymahon and Athlone (via Moydrum).

The other is on a southern screened pair which also feeds programmes to the transmitter in Cork. There is a branch at Portlaoise to Tullamore town and from there to the station 8 Km from the town. These lines are rented from the Department of Posts and Telegraphs.

A third source is the off-air signal from one of the VHF/FM transmitters.

The carrier is generated by two crystal oscillators only one of which is used, the other being on standby. These are transistorised and deliver 10 watts to the transmitter which is boosted to 250 kW by the valved stages (Frequency 566 kHz).

The audio (from studio) is fed into a 20 watt transistor amplifier where it drives a sub-modulator with two valves in push-pull. This drives the modulator which in turn modulates the power amplifier valves (250 kw). Distortion and hum in the output waveform of the transmitter is mainly produced in the modulated signal amplifiers. To improve this negative feedback is applied from the modulator valve anode circuit to the first stage of the audio transistor amplifier.

(SEE DIAGRAMS ACCOMPANYING THIS ARTICLE)

COOLING SYSTEM ...

This is a very elaborate system and very interesting at that. The water is obtained from a local water scheme where it is fed to the de-ionising equipment. This makes the water virtually non-conductive to electricity as it will be flowing through parts at very high voltages. The cooling for the transmitters is divided into two, the anode cooling system and the filament cooling system. The anodes

of the modulator and power amplifier valves are cooled by a constant flow, pressure meters and level meters are provided in various positions in the circuit in order to ensure that sufficient water is available at all times. Sensing devices detect any reduction in flow and the high tension supply is automatically removed from the valves and an alarm activated.

Other items cooled are the dummy load (aerial) and combining unit and aerial tuning unit.

BUILDING ...

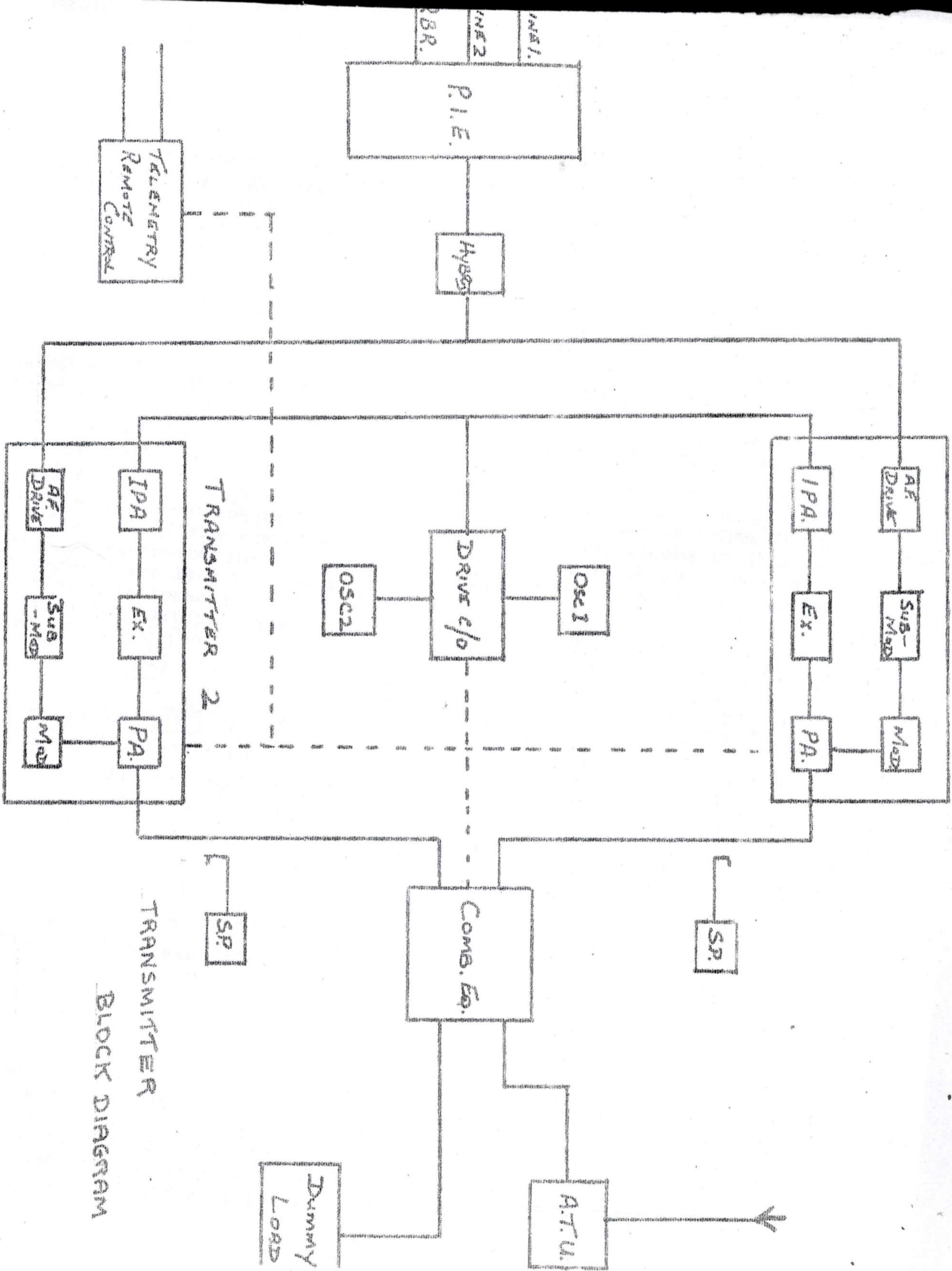
The walls are of cavity construction. A copper mesh screen is provided in the cavity and over the roof in order to reduce to a minimum the possibility of interference to the transmitting equipment from a very high radio frequency field (or fields) in the vicinity of the aerial. It was also necessary to earth all reinforcing steel in the building in order to prevent circulating currents causing overheating and cracking the concrete.

Didn't think transmitters were that involved, did you?!

PADDY BRENNAN

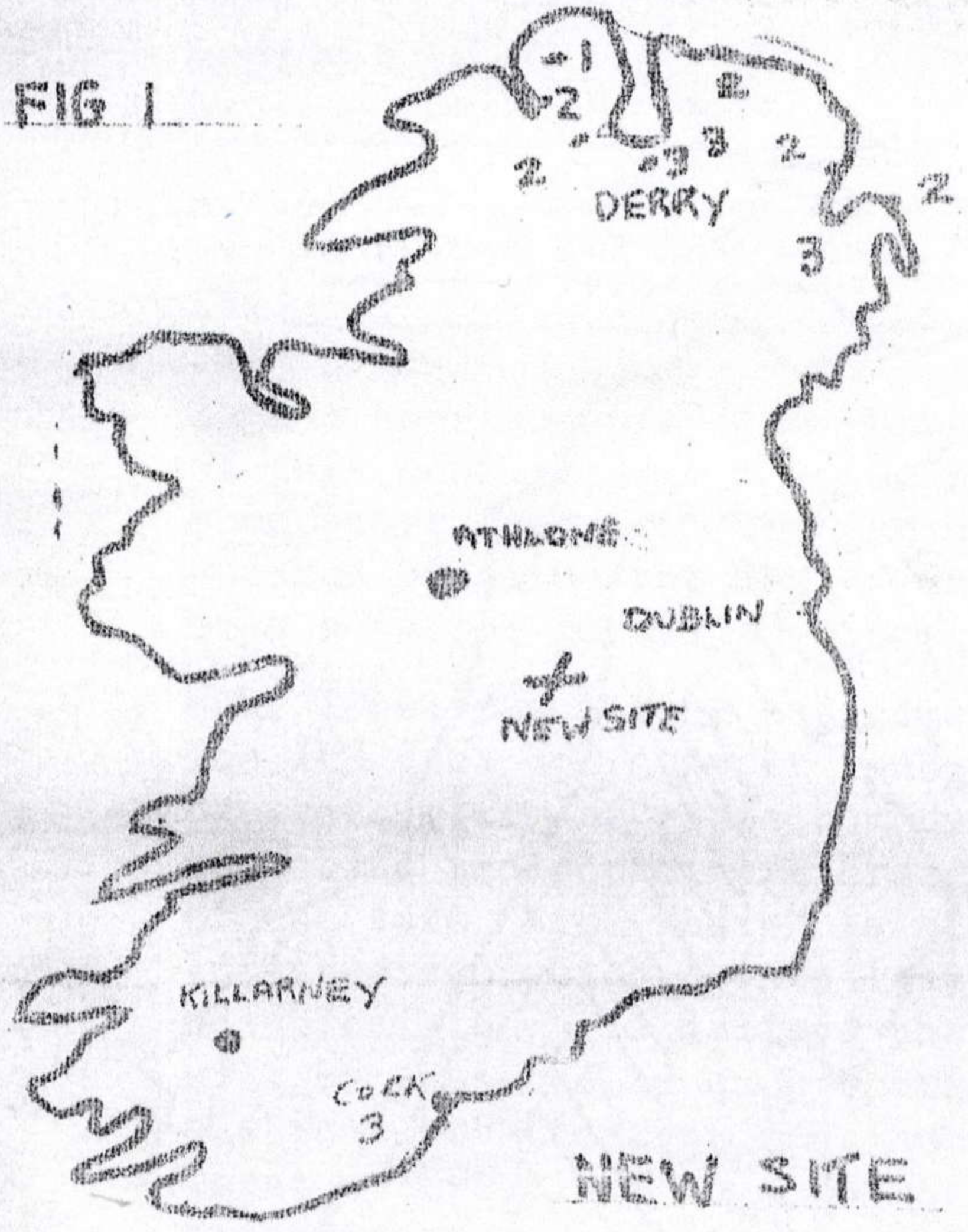
NOTE RTE have kindly given the IRM permission to visit the Tullamore complex, so if any member would like to do so please send your name and address to PADDY BRENNAN, PRESIDENT, IRM, c/o 4, Brighton Rd., Rathgar, Dublin, 6. FIRST COME, FIRST SERVED!

This article could not have been written without reference to a paper presented by M. J. Curley and P. Do of RTE to the Institute of Electrical Engineers in Ireland. Copy sent to Paddy by Mr. Curley.



TRANSMITTER
BLOCK DIAGRAM

FIG 1

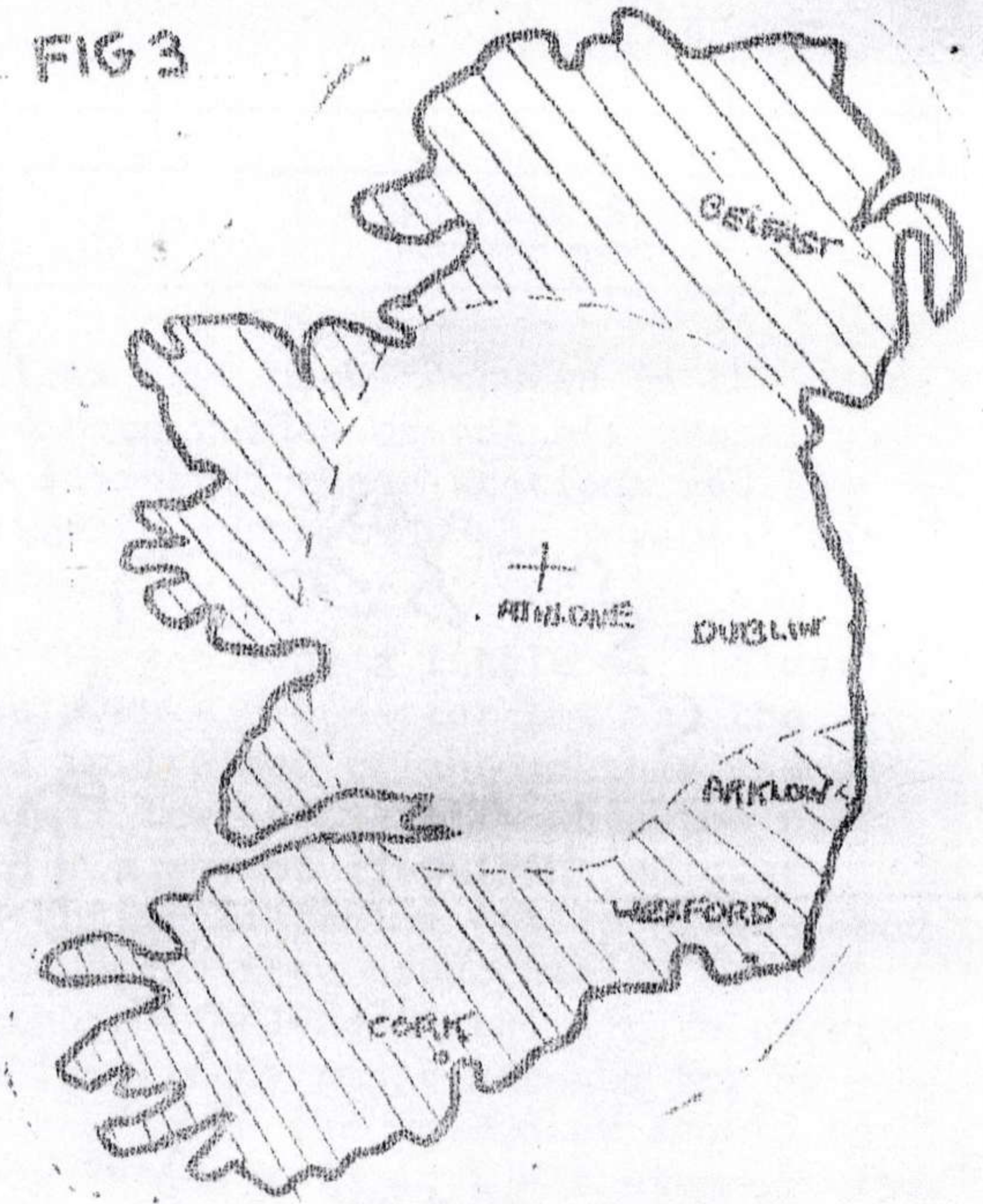


NEW SITE

DAYTIME COVERAGE

FIGURES INDICATE GRADE OF RECEPTION
 GRADE 1 RECEPTION
 POWER 600KW FREQ 566KHZ
 MAST RAD 157.1

FIG 3



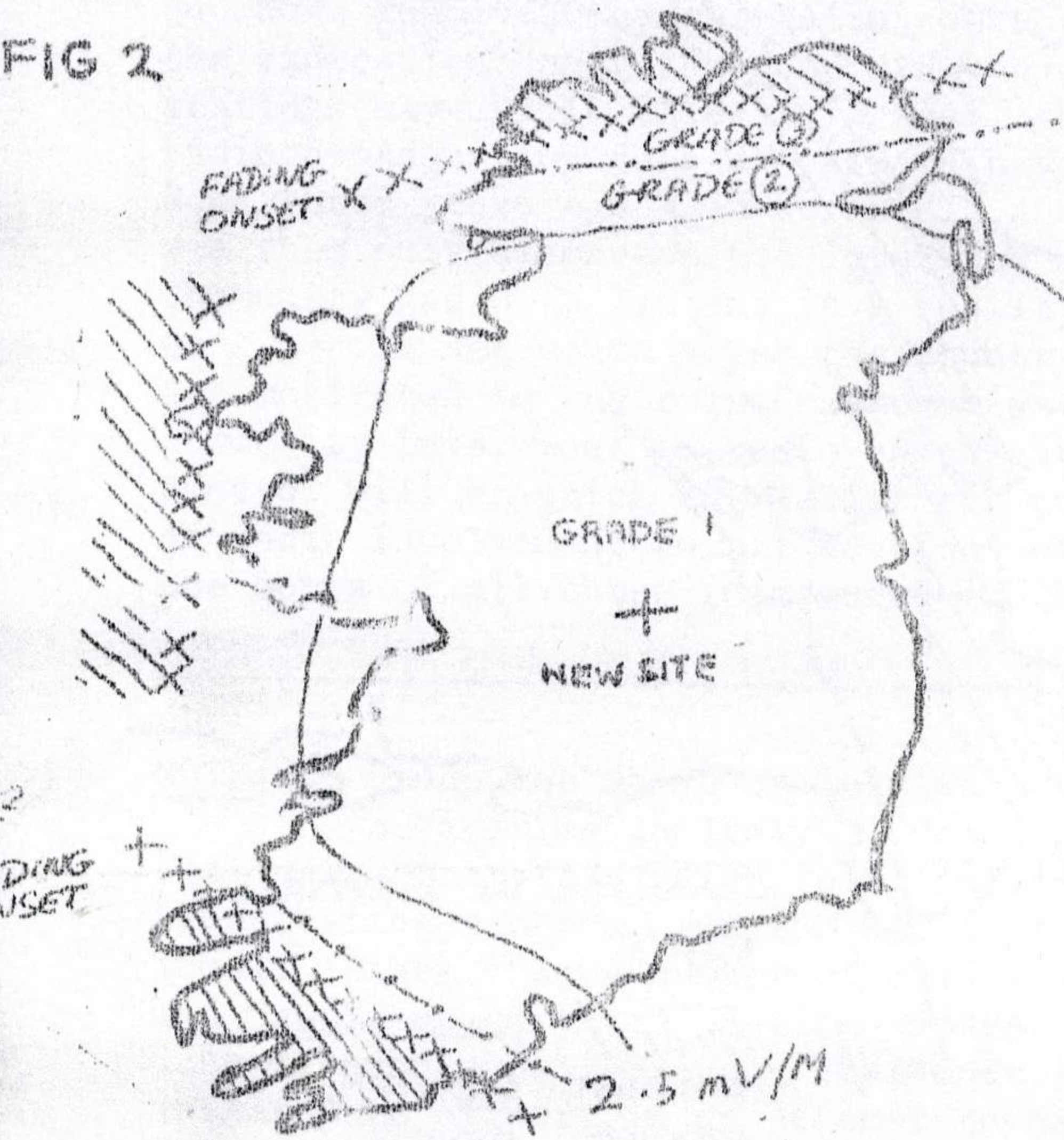
ATHLONE

||||| INADEQUATE

POWER 100KW FREQ 566 KHZ

OMNIDIRECTIONAL

FIG 2



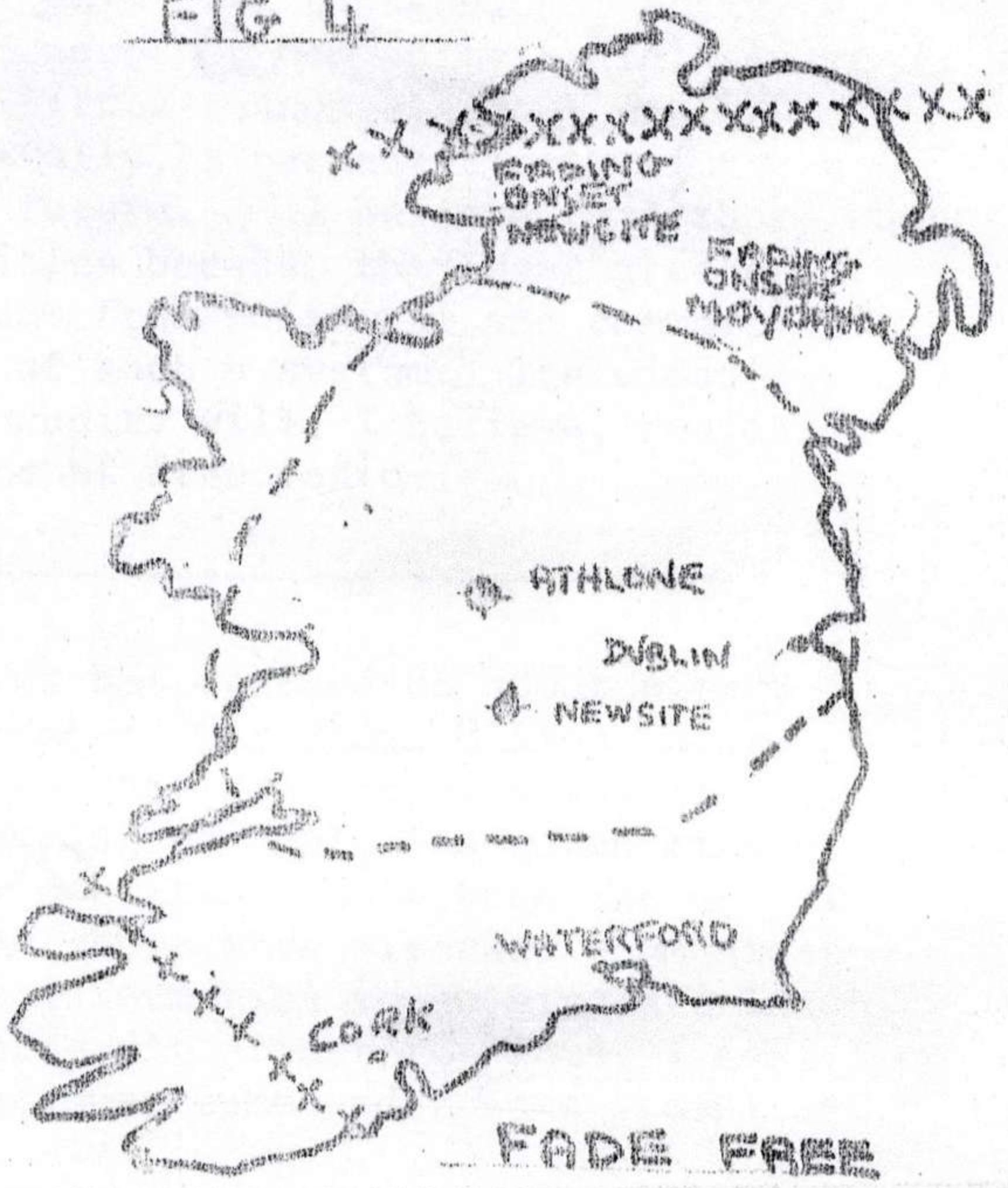
GRADE 1

NEW SITE

2.5 mV/m

NEW SITE NIGHT-TIME COVERAGE
 BELFAST + CORK GRADE 3
 XXXX FADING LIMIT
 ||||| SUBJECT TO FADING

FIG 4



ATHLONE

DUBLIN

NEWSITE

WATERFORD

FADE FREE ZONES

 A FUTURE FOR LAND-BASED PIRATES?

 BY MARK STORY

In the past, several land-based "pirate" stations have been featured in the pages of this newsletter. Almost all of these have been raided or put off the air by some other factor. The IRM has never openly supported these stations and advocated breaking the law. Nevertheless, the tacid support of the Movement has been a factor in all editions of Medium to date.

Now, I believe a time has come to outline the IRM's policy a little more clearly. The IRM does not support land-based pirates as such. No matter how bad the present system of radio communication might be in Ireland or abroad this cannot authorise indiscriminate breaches of the criminal law, especially when the use of the term "Free Radio" is all too often merely a way of disguising an over-inflated ego which foists itself on the unsuspecting listening public unasked and unappreciated. I believe that no progress towards a free broadcasting system will be achieved by such stations. Instead those involved in third-rate pirate stations broadcasting continuous music, which is already amply catered for by legal stations and no information or news of benefit to the community should be discouraged from using the undefined term "Free Radio" to describe their activity.

What is free about one person imposing his musical tastes or political ideology on the public by way of an often over-modulated transmitter, often interfering with legitimate broadcast concerns. It is true that some stations have existed in the past which have prided themselves in presenting professional programmes and have involved themselves in the activities of the community. Unfortunately, the expression "only the good die young" is tailor-made for these stations. Such stations have while illegal, I feel, shown the authorities that involvement in radio broadcasting does not always have to be a full-time professional activity. Some three years ago I spoke on RTE about the concept of Community Radio. As it was then only a concept the interview met with little response. Now, in 1976 Community Radio in Ireland is a reality. Hopefully, a permanent community network may be set up to cover the country in the future. I believe that those who are motivated in their land-based pirate activities because they want greater community involvement in radio and greater freedom from political and commercial control will be quick to realise the potential of such a system. The widening of radio involvement to all sections of the community will, I believe, realise the hopes of all those interested in the concept of free radio.

NOTE: Since the above article was written news has reached us about pirate activities in Italy. Readers may remember that Radio Milano International, a pirate station operating in Milan, was declared to be a legitimate broadcasting concern, and the RAI state broadcasting monopoly was unconstitutional. Since then a number of unlicensed radio operations have been set up. In mid March one of these stations operating on the short wave aircraft communications frequency deliberately broadcast incorrect information to an aircraft landing at Rome Airport in an attempt to cause an aircraft disaster. This, I feel, supports the view that all forms of broadcasting must come under some licensing authority - however informal this may be.

I must also make the point that this is my view, as secretary of the IRM.

MARK STORY

RADIO CAROLINE - A NIGHTLY EGO TRIP?

In the Free Radio small ads of Radio Mirror, the English music weekly, the following advertisement appeared on March 6th:

"The real Radio Caroline died at 5.20 a.m. on Sunday, 3/3/1968. We free radio purists here in England still hope that one day she will return; meantime, THANK YOU, RADIO MI AMIGO, for over two years of professional broadcasting, and for being the ONLY true Free Radio Station on the North Sea. Please, Sylvain, will you give us here in England either a Radio Mi Amigo English Service from 6 p.m. every night or 24 hours a day Dutch/Flemish Radio Mi Amigo -- as we can't take much more of the present nightly ego trip."

A long advertisement, and one which sparks off the question whether the new Radio Caroline is living up to the former Radio Caroline's reputation. Has the new Radio Caroline sold out as the unsigned ad. implies? For my part, I don't believe so. The old Radio Caroline existed on plugged records and advertisements. The endorsement of records by disc jockies was paid for, and I do not believe that this form of commercial control is conducive to free radio. This is not to decry the old Caroline; it was undoubtedly a lot free-er than the BBC or Radio Luxembourg; the disc jockey was given new freedom and the very existence of the station gave the average listener a choice - and usually Caroline was his choice. The new Radio Caroline is not financed by plugged records or advertisements, it is financed by time sold to Sylvain Tack for Radio Mi Amigo. Mi Amigo is financed by advertisements and possibly plugged records. While it is much more likely that the old Radio Caroline, and its programming is a lot "tighter" than the present Caroline it cannot be considered any free-er. Is the new Radio Caroline an ego trip? Unfortunately, here I must agree with the anonymous advertiser. While broadcasters like James Ross, Jeff Boland and Samantha Dubois and one or two others in the past year have been of a consistently high standard, others have had a very questionable talent for Caroline's type of programming and have presented second rate programmes. Apart from the presenters I believe that there is certainly room for improvement in other aspects of Caroline's programme format. The music played is not Top Forty and thus Caroline is filling a vacuum. It would also be useful if access to airtime were given to interest groups and other societies of the so-called underground. By ignoring these areas of human expression Caroline is not fulfilling its enormous potential.

MARK STORY

COMMITTEE REPORT: With the growth of MEDIUM as the magazine of the IRM it has been agreed that the fortnightly meetings should be suspended and replaced by editorial meetings which will take place at monthly intervals. It is hoped that this will lead to greater involvement in the preparation of the magazine. A number of retail outlets for the magazine are at present being negotiated. MEDIUM is already available in Peats (Parnell St., Sundrive Rd., Malahide Road). This has resulted in a considerable increase in our publication run. Hopefully this trend will continue.

MARK STORY

As anyone who has sampled a range of DX Club bulletins from different European countries knows, the most consistent record of reception of exotic stations comes from Finland. In Finland itself, a new DX fashion which aims to make the exotic receptions regular has developed over the past few winters -- the DXpedition to Lapland, where one hopes that electrical noise and QRM from European stations are left behind. As I planned to visit northern Scandinavia at the end of 1975, I made my interest in joining such an expedition known to the Finnish DX Club (Suomen DX-Liitto). It lived up to its English subtitle of the "Friendly DX Club" in arranging for me to take part in a visit to Ivalo with Mikko Summala, a young DX-er from Pyhäjoki, and Lauri Levanto, one of the most experienced Finnish DX-ers in the reception of FM and North American MW stations.

Our location for this part of my Scandinavian visit was a lakeside hut at Ukonjärvi, about 10 km north of Ivalo. Despite temperatures of around -27°C . when we arrived, three antennae (north, north-west and west) with lengths between 100 and 500 metres were laid out across the ice within 12 hours. DXpeditions have found that the best performance comes from 200 to 800 metre long wires, and people returning to the south usually plot to put up long wires in their own neighbourhoods after they have come back from Lapland. In this, they are simply rediscovering the Beveridge antenna which was once very popular for MW reception in Australia. I settled for the 100 metre wire with regret because anything longer overloaded my Barlow-Wadley portable, but the other receivers (Sony CRF160 and Kenwood QR-666) went well with the bigger antennas. However, I felt less re-

gret when I discovered that I could hear anything that could be picked up on the other receivers. The Barlow-Wadley actually seemed to have superior performance above about 850 kHz. Below 850, the less said the better!

Unfortunately our visit coincided with unsettled conditions and relatively poor reception of North America... In fact, on about one morning in two we could hear either no NA stations at all or else the single trusted and regular KJNP, North Pole, Alaska, on 1170 kHz with 50 kW, somespun philosophy and hillbilly music. On the good days, NA stations would fade in around 0700 GMT and be audible until 1030 or in some cases 1100. This was our period of frantic activity. The rest of the day tended to be spent in writing reception reports, listening to Finnish weather forecasts or eating sausages roasted unevenly in our indoor fire. It is amusing to note that NA stations could be heard over significantly longer periods in the day at Utsjoki, 120 km further north, where up to 5 hard-bitten Finnish DX veterans at a time kept a listening post going continuously from December 6th to January 10th in a university field station. In turn, reception in Ukonjärvi was notably better than in Oulu or Helsinki. Probably the moral of this story is that the ideal DXpedition should go to the extreme north of Norway. Do I have any volunteers for next Christmas?!

Even with the "bad" conditions, I was kept busy identifying and reporting new stations. No strong geographical pattern was evident - the first opening of the morning would be Alaska and the US west coast, where stations like KOMO (1000 kHz) and KING (1090) in Seattle were regular, and then by 0800 GMT reception from arbitrary mixtures of other places would occur. Utah (KSL, 1160) was regularly heard at the same fade in time as New York (WHN, 1050), for

example. Canadian reception tended to be concentrated on Ontario and western Quebec, but the strongest stations in the Prairie provinces (e.g. CFRN, Edmonton, 1260) were regularly heard too. In terms of distance and power, the best "regular" reception was of KLAX, Lakewood, Colorado (5 kW), which dominated 1600 kHz. The most regularly-heard, clearly, was Alaska. We logged 9 Alaskans of 5 kW or above. But the people in Utsjoki went one up on us by identifying 8 Hawaiian stations!

Although MW conditions were uneven, something interesting was happening on some band on each day of my visit. Escaping from the usual utility QRM on 60 and 90 metres, I was able to log all the domestic regional stations of All India Radio regularly from 1230 onwards. Madras on 4920 succeeded in blotting out Moscow, which should give a good idea of the unusual things that can happen in Lapland. Programming content was variable - the music was fine (if you like the style, which I do), but after I had heard 3 regionals in one day do their own different local-language versions of the same carefully-scripted "spontaneous" conversation between two men-in-the-street who outbid each other in praising the excellent perfection of the government's policies and the state of emergency, I was eager to get back to the solemn 30-minute Finnish weather forecasts. Programmes from other Asians, including all the normal RRI Indonesian stations, were more enjoyable.

On two days which were not good for NA reception, a wide range of Asian MW stations turned up between 1300 and 1730 GMT. The most pleasing catches for me were FEBC, Manila, on 1470, South Korean religious stations HLKX (1190 kHz) and HLDA (1570), and Japanese commercials JOIF (1410) and JOFR (1270). The Asians seemed to arrive as compensation for the lack of NA reception. Many more stations from

this area and slightly further away were heard in Utsjoki. The best reception of the season was probably 4 MK, Mackay (Queensland, Australia) on 1380 kHz (2 kW) at 1908 on Dec. 13. There is reason to believe that Australian MW reception is even better at the same latitude a little further east, in the USSR, but Intourist is probably not happy about arranging DXpeditions!

On our last two days, NA stations on MW were covered on some frequencies at 0730 GMT by Latin American competition, e.g. Radio Cordillera (Bogota) on 1190 kHz with 10 kW and Radio Clarin (860) in the Cominican Republic. At the same time we heard several Mexicans like XERF (1570) and XEDM (1580), and our tentative best logging was XEMO, Tijuana (860, 5 kW). Also on 860, I found one mysterious Canadian which might just have been a 40 watt low-power repeater in the North-West Territories - not as crazy as it sounds, because one or two of these LPRT stations (unattended relays for outlying settlements, with transmitters usually located in CNR railway station buildings and supplied with programmes through telephone lines) have been heard in Finland already. Investigations on this question are proceeding!

There are two general points to be made about the tour. Firstly, "if these were bad conditions, think of how lively it must be in Lapland when conditions are normal".

Finally, the great virtue of the visit. (and surely this is what one wants from any good DXpedition) was that we never quite knew what exotic stations or regions we would hear next. I hope to be back again, further north!, in 1976.

(c) JOHN CAMPBELL

IRISH BID FOR MANX RADIO

(SUNDAY PRESS, 29th February, 1976)

The Dublin-based Eamonn Andrews Studios have applied for permission to run Manx Radio and expect to hear within a few months whether or not they have been successful.

The radio station is currently run by the government of the Isle of Man, and has been operating for about five years. It has now decided to hand it over to a commercial operator.

The station is controlled by the Government of the Isle of Man and by the British Post Office.

Mr. Fred O'Donovan, managing director of the Eamonn Andrews Studios, said that the company would run Manx Radio as an international radio station if successful. It is thought that Irish artistes might get a better airing on the station if the company does get the licence. They would not, however, get any preferential treatment, he emphasised.

Thanks to Paddy Brennan for sending copy of the above down to the Editor

STUDENT RADIO ON A NEW BEAM

(THE GUARDIAN, 25th February, 1975)

A new type of low-powered broadcasting station has been designed by students of Imperial College, London, to transmit the students' own radio programmes to the college's halls of residence. If it meets the Home Office licensing requirements it should encourage a rapid expansion of campus radio stations in city centres. There are already at least 12 student radio stations on the air, but they are all in fairly isolated groups of buildings. To be given a broadcasting licence the signal must not exceed a stated strength at the campus boundary, to avoid the possibility of outsiders

picking up the programme. The effect has been to confine campus radio stations to sites such as Essex University, set in Wivenhoe Park, or Lancaster University.

Imperial College has particular problems. Of its five residential buildings for students, one is only five yards from the road, and another is next to the Albert Hall.

"Our plan is for three transmitters, putting out a low signal, with lots of aeriels," Mr. John Allen, one of the five station managers of Imperial College's scheme, said yesterday. "In this way, we think we could provide transmissions which could be picked up on transistor radios by about 720 students.

If a licence were granted and tests were successful, the college was prepared to put up £1,500 for the station's studio and equipment, Mr. Allen said, and a fair amount of music would be broadcast, mixed up with general and student news and feature material.

The radio technology directorate of the Home Office is carrying out tests into how effectively the transmissions can be limited to the student buildings.

Our thanks to Kenneth Macinnes for sending copy of the above article to the Editor. The article was written by John Fairhall.

Even though the article itself is a bit "dated" we think it should prove interesting, especially in view of the fact that a campus station is planned for TCD in Dublin.

We are always pleased to receive newspaper cuttings and similar items of news. Ken Macinnes has been our best supporter in this regard!

73's de JOHN DOWLING

DX TIPS WITH JOHN DOWLING

Welcome to this section in which I hope you will find some items of interest. Unless otherwise stated all items are the result of my own listening....

ARGENTINA

Radio Splendid, one of Argentina's home service stations is now audible here in Ireland around midnight on 11880 kHz in the 25 metre band. Reception is fair... Programmes are in Spanish.

ASCENSION ISLAND

The BBC Relay Station on Ascension Island may be heard with an excellent signal with a broadcast in English around 2020 GMT on 11820 kHz.

AUSTRALIA

Radio Australia is currently audible on the 25 metre band frequency of 11965 kHz, and the DX programme is broadcast on Sunday afternoons at 1530 hours GMT. Reception is excellent with no other station on the frequency.

BRAZIL

It would take up too much space to list all the Brazilian stations which are currently audible here in Ireland on both the short and medium wave bands, but we shall give a few examples... All programmes are in Portuguese and the best time to listen is around midnight... But, as the examples show, the stations are also audible at other times...

Radio Guiba may be clearly heard on 11785 kHz at 2155.

Radio Globo is audible on 11805 kHz around 2330.

Radio Aparecida may be heard clearly on 9635 kHz. Religious programming is noted, including regular broad-

casts of the Rosary.

Radio Clube de Pernambuco was heard on 6015 kHz on 11/3/1976 shortly after midnight GMT. Around the same time and on the same night Radio Jornal do Comercio was heard on 6085 kHz. Also Radio Cultura da Bahia on 6165 kHz and Radio Dif. Sao Paulo on 6095 kHz.

Radio Rio Mar may be heard on 9695 kHz sometimes blotting out the signal of Radio Sweden on the same frequency.

These are just a few of the stations recently logged. Now, I think if I knew Portuguese I could possibly add several more QSL cards to my collection!

CANADA

Radio Canada International has been noted with an excellent signal in English at 2100 on 11860 kHz.

CYPRUS

The BBC World Service Relay Station on this island has been noted signing off with a clear signal at 2315 GMT.

FRANCE

Radio France noted with English to Africa and a fair signal at 1705 GMT on 15425 kHz.

GREECE

Greece noted with an excellent signal and news in English at 0017 GMT on 8/1/1976. The station was on 9520 kHz but I think it must have moved frequency since then, or at least is covered by European QRM.

HOBBY PIRATES

On Sunday 21/3/1976, three pirates were noted just above the 49 metre band around 1130 hours GMT...

(1) ABC England on 6270 kHz with a good clear signal.

cont'd...

- (2) Radio Wessex International on 6250 kHz with a very poor quality signal.
- (3) An unidentified weak station on 6240 kHz.

INDIA

Home Service of All India Radio noted recently on several 90 metre band frequencies. In the 49 metre band AIR was noted with English news and weatherforecast at 1530 GMT. Frequency is 6145 kHz. May also be heard at this time on 3355 kHz. AIR's overseas service has been noted in English on 9525 kHz at 2215 GMT with an excellent signal. Regularly heard, too, is the 75 metre band Home Service frequency of 3905 kHz. Try for this one around midnight.

ITALY

As some of our members are already aware, the law concerning the state monopoly of radio in Italy was found unconstitutional some months ago by the High Court in Italy. Since that ruling countless stations have appeared all over Italy, and one Italian newspaper recently listed 135 of these "free" radio stations, according to reports in DX magazines received here. Most of these stations operate in the FM band, and two broadcast in English. No action can be taken against these stations as the law in Italy now stands and it is true to say that anyone these can start a station and the State cannot impose any restrictions. The whole matter will be settled finally this month when the Supreme Court hands down its ruling on the position of these "private" stations.

IVORY COAST

Radio Abidjan's Home Service programmes in French may be heard very clearly on 11920 kHz at 2340 GMT. When reporting to this station return postage is recommended.

JAPAN

CONTACT reports that Radio Japan will broadcast to Europe from March 7th on 11960 kHz from 1800-1930 GMT

ISRAEL (sorry, out of order!)

Israeli Radio may now be heard on several "out of band" frequencies with relays of the Home Service to various parts of the world. Recent loggings include... 11646 kHz (approximately) English noted at 1200 GMT... Also noted on 15490 kHz with a good signal at 1228 GMT. These programmes include advertisements in English. This station may also be heard at 2030 on 9815 kHz.

MALAGASY

SCDX reports that tests have been heard on 18470 kHz at 0800-0815 with English and French announcements.

NEPAL

Radio Kathmandu may be heard signing on nightly on 3425 kHz at 0020 hours. The signal is usually clear and reports may be sent to K. B. Khatri, Director General, His Majesty's Government Department of Broadcasting, Radio Nepal, Singha Durbar, Kathmandu, Nepal. Return postage is recommended and QSL cards are generally issued for correct reports.

NORTHERN IRELAND

Downtown Radio, P.O. Box 293, Newtownards, Co. Down, is now on the air with a schedule running from 6 a.m. to 1 a.m. LOCAL TIME. Medium wave frequency is 1025 kHz (293 metres) and the VHF frequency is 96 MHz in stereo. Judging by the strength of the signal down here in south Carlow, I think the signal must be heard very clearly on medium wave in Dublin. Reception here is fair to good, with the best signal heard during the daytime. Best results are obtained using the loop antenna which effectively cuts out the interference from Radio San Sabastian in Spain on

the same frequency. In the next edition of MEDIUM I hope to have a lot more information about Downtown Radio as I have recently written to them requesting such information. It is noted that three hours of C & W music is included in the schedule - 8 to 9.30 p.m. on Tuesday and Thursday nights. The Hit Parade, including a song from each of the ten best selling ALBUMS, is broadcast on Sunday afternoons from 3 p.m. onwards. Immediately before this there is a programme for members of the older generation.

NEW ZEALAND

Radio New Zealand has been heard recently with a WEAK signal around 0900 GMT on 9520 kHz.

PAKISTAN

The "Home Service" of Radio Pakistan was noted recently on about 3396 kHz at 1740 GMT with a programme in English. On 14/2/1976 a programme of requests with Western-style pop music was heard on this frequency. Signal was quite strong.

PORTUGAL

Radio Portugal has been noted with a news bulletin in English on 6025 kHz at 2030 GMT.

Radio Renascenca is noted on 1286 kHz (Lisbon transmitter) after the station has been handed back to the Catholic Church.

In keeping with the spirit of World DX Club Year 1976, the World DX Club (11, Wesley Grove, Portsmouth, PO3 5ER, England) will issue a special QSL card (for 1 IRC) for a correct reception report on their DX programme broadcast over the facilities of AWR on 9670 kHz at 0935-0945 GMT on the 1st Sunday in April. If requested, the report will then be passed on to AWR who will issue their own QSL card.

SOUTH AFRICA

The All-Night Service (Domestic) of the SABC may be heard nightly from around midnight onwards (and earlier) on 3250 kHz in the 90 metre band. Signal is usually quite good.

TURKEY

TRT may be heard from 2200-0115 GMT on 9515 kHz in English with an excellent signal - and, for those who like it - plenty of pop and progressive music...

U.S.S.R.

For their English language broadcasts to North America at 2300 and 0000 GMT Radio Moscow uses no less than 13 different frequencies - most of them in the 41 metre band. Most of these are heard here with excellent signals but, ironically, some of them are disturbed by Soviet jammers meant for other stations! Recently 7150 kHz was verified and the location was typed in. It came as a surprise to note that it was Khabarovsk - which is located in the Far East of the U.S.S.R.

U.S.A.

WYFR ("Your Family Radio") has been heard on 11805 kHz at 2200 GMT with QRM from Radio Globo also on this frequency.

VATICAN

Vatican Radio now broadcasts a programme of music late at night and into the early hours of the morning. It's been noted on 1529 and 6190 kHz - both giving good reception.

YUGOSLAVIA

English language programme heard at 2200 on 9620 kHz - excellent signal.

ZAMBIA

Radio Zambia noted with news in English on 1/2/1976 on 9580 kHz. Signal was quite good.

73's and good DX-ing from JOHN DOWLING