

WRTH[™] DOWNLINK

SEPT. 1988

THE WORLD RADIO TV HANDBOOK NEWSLETTER

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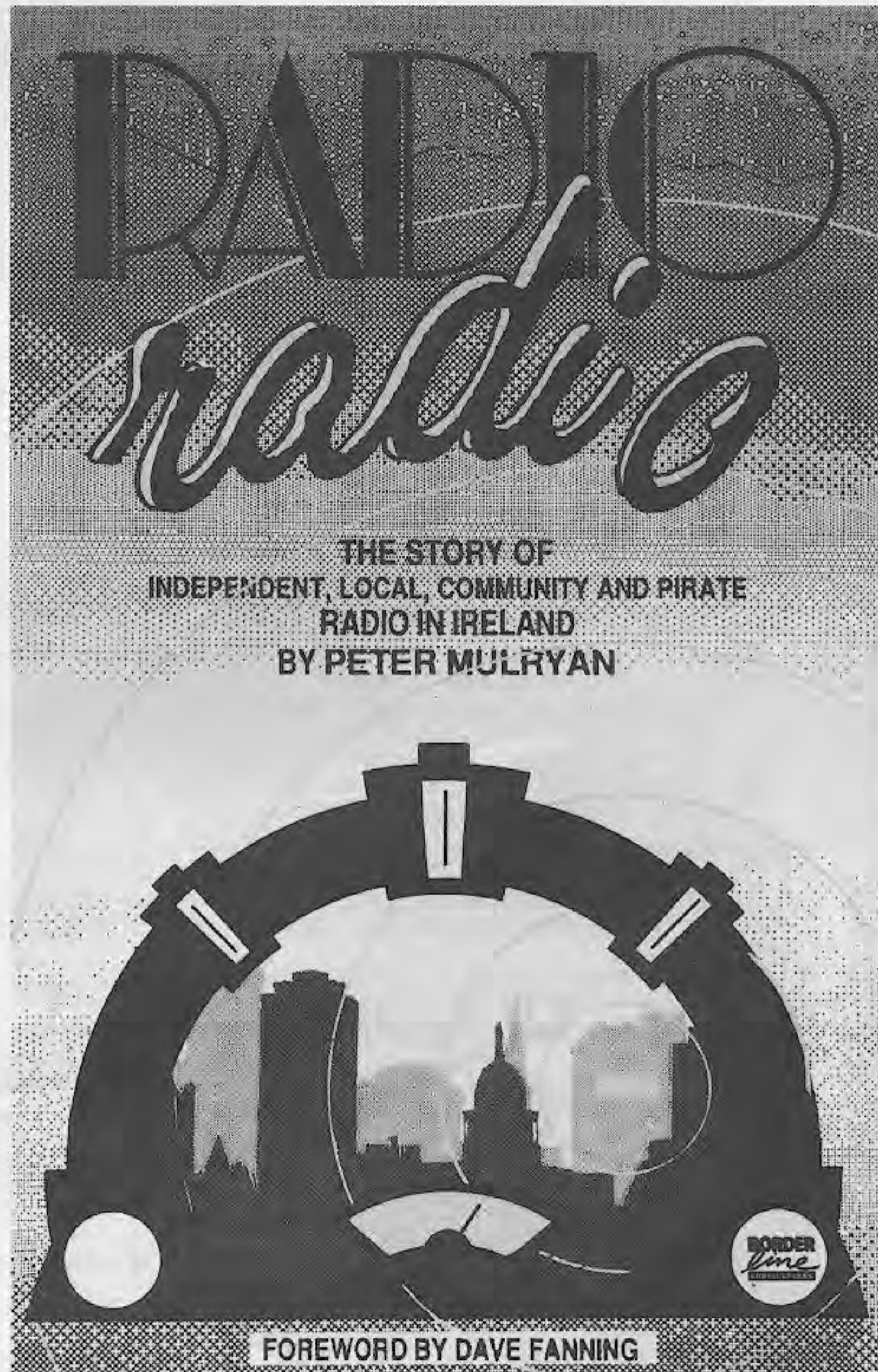
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RADIO
radio

THE STORY OF
INDEPENDENT, LOCAL, COMMUNITY AND PIRATE
RADIO IN IRELAND
BY PETER MULRYAN

BORDER LINE

FOREWORD BY DAVE FANNING

From The Editor . . .

The May issue of Downlink turned out to be something of a milestone. We produced two different editions, for North America and the rest of the world. That was a last-minute decision and something of an experiment, but it worked and we have decided to do it again for this issue.

As most of you will have realised, we really hadn't much experience of using Ventura Publisher at the time when the May issue was produced. We hope that you will notice a distinct improvement in this issue, and we apologise for the shortcomings of the previous one.

We have even produced versions in different page formats to suit the different paper sizes! You can expect further developments along these lines in the future. Also worthy of note is that the BBC World Service schedule in this issue was compiled directly from the output of our database system. The shortwave frequency table will also be produced on database for the first time. I am just praying that the Dutch electricity workers don't go on strike! And now, here is the news.....

WRTH ASSISTANT EDITOR SAYS GOODBYE

One year ago, I was looking forward to joining the WRTH. Now, I am leaving, because I have health problems and can no longer manage to live on my own. I shall be returning to the UK, and I intend to set up my own translation business, as well as doing some freelance work for the WRTH.

I am sorry to be leaving, but I have enjoyed my year here, and hopefully done some worthwhile work. (Richard Hunt).

KUPERUS JOINS THE EDITORIAL TEAM...

Although we are sorry that Richard is leaving us, I am pleased to announce that we have already appointed his replacement. Bart Kuperus joins us from the NCRV, a Dutch broadcasting organisation. Bart has a solid background in press and public relations, and speaks five languages. His appointment takes effect from September 1st.

ANARCON 1989

Although it is not long since the 1988 Association of North American Radio Clubs' Convention, preparations are well under way for the 1989 convention. ANARC 89 will be held at St.Petersburg Beach, Florida, from July 14th - 16th. The venue will be the Dolphin Beach Resort, which, as its name suggests, is right on the beach. The program is already taking shape, and some items - such as the WRTH QUIZ - are already scheduled.

The usual variety of seminars and discussions will take place, together with an exhibition on International Broadcasting which will be open to the public as well as to delegates.

The conference fee is \$25.00 per person (\$40.00 per family), and the ANARC Banquet is an extra \$25.00 per person. Special room rates vary between \$50.00 and \$66.00 per night. Extra nights are also available at the special ANARC rate.

Full details can be obtained for a large s.a.s.e. in the USA or 3IRC's elsewhere, from this address: ANARC 1989, P.O.Box 272301, Tampa, FL 33688. You can also call convention chairman Jeff White at (813) 384-2354.

OBITUARY: JIM FLATLEY

We are sorry to report the death earlier this summer, after a short illness, of Jim Flatley. Jim was a member of the WRTH New York team for many years. He was the senior executive in charge of advertising, but he also performed many other duties for the Handbook.

Jim was well known to many of our North American readers and advertisers, and regularly attended the annual convention of the Association of North American Radio Clubs. His cheerful personality was much appreciated by his friends and colleagues, who all miss him. Jim is survived by his wife Gloria, son and four daughters.

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Editorial office: World Radio TV Handbook, PO Box 50558, 1007 DB Amsterdam, The Netherlands.

Europe

AUSTRIA

The S-88 frequency schedule of Radio Österreich International is as follows:

0400-2300 to Eu on 6155
 0700-1700 on 13730
 1700-2200 on 5945
 to SEu 1300-1500 on 21490
 2000-2300 on 9870
 1000-1300 to EAs on 13730
 0600-0900 to AUS/Pac on 15450
 1300-1600 to SAs/SEAs on 11780
 0400-1100 to ME on 15410
 1700-2100 on 12010
 1700-2100 to SAf on 15175
 1500-1700 to WAf on 21490
 and 2100-2300 on 9870
 2200-2400 to SAm on 9870 and 11780
 0000-0200 to SAm on 9870
 0200-0400 to CAm on 9870
 1100-1300 to NAm on 15450
 0000-0300 on 9875
 0300-0500 on 6015.

For the times of broadcasts in English, please refer to WRTH88.

ANDORRA

Radio Andorra and Sud Radio are temporarily silent, albeit not dismantled, as a result of political decisions, and there are for the time being no broadcasts officially originating in Andorra.

However, STA (Servei de Telecomunicacions d'Andorra, Avgda. Meritxell 110, Andorra la Vella) offers relay transmissions via their transmitter at Carroi, located in the vicinity of Andorra la Vella approximately 2000m above sea level. The following stations are offered: R3, Radio Lleida, Radio Barcelona, R4, Catalunya Radio, France-Culture, France-Musique, France-Inter, and Radio Valira. The relay power is just under 0.1kW.

Radio Valira has its main transmitter on Spanish territory, at Cogulló, Organyá, some 1800m above sea level, on 98.1 MHz with 0.3 kW, but most of their programmes are in fact originated from the former Sud Radio studios in Andorra la Velle.

(Henrik Klemetz)

BULGARIA

The S88 schedule of Radio Sofia's English broadcasts to Eu/Af is :

0300-0400 on 7115, 0630-0700 on 9700 & 11720, 1830-1900 on 6070, 9700 & 11720, 2030-2100 on 7115, 9700 & 11720, 2130-2230 & 2300-2400 on 9700 & 11950. From September 25th, broadcasts will be one hour later. At press time, these are the only details we have received about Radio Sofia.

CZECHOSLOVAKIA

During S88, Radio Prague broadcasts in English as follows :

To Eu: 1530-1630 on 6055, 1800-1830 & 1900-2000 on 5930 & 7345, 2200-2030 on 1287 & 6055.

To NAm/CAM: 0100-0200 & 0300-0400 on 5930, 6055, 7345, 9540, 9740, 11990.

To AUS: 0730-0800 & 0830-0900 (Sat/Sun 0930) on 11685, 17840, 21705.

To SAs: 0730-0800 & 0830-0900 (Sat/Sun 0930) on 17840 & 21705, 1430-1500 on 9605, 11685, 13715, 1530-1630 on 7345, 9605, 11685, 13715, 15165, 1730-1830 on 9605.

To Af: 1430-1500 on 7345, 9605, 15110, 15155, 17730, 21505, 1530-1630 on 7345, 9605, 11990, 15110, 15155, 17730, 21505, 1730-1830 on 9605, 11685, 11990, 13715, 15110, 21505.

DENMARK

The initial S-88 schedule of Radio Denmark is as follows:

1000-1052 to SEu and WAf 17740
 1100-1130¹ to GRL and NAm 15165
 1200-1252 to AUS/IND 25850
 1300-1352 to USA/CAN 15165
 1400-1452 to AUS/EAs
 1500-1552 to ME/EAf 17790
 1600-1652 to EAs/J 9720

DENMARK (Continued)

1730-1830¹ to GRL/NAm 15165

1900-1952 to ME/EAf

2000-2052 to SEu/WAf 15165

2100-2115² to GRL/NAm 118452130-2145² to SEu/WAf 15165

2100-2152 to GRL/NAm 11845

2200-2252 SAm/CAm 11845

2300-2352 to USA/CAN 15165

0000-0052 to SAm 9595.

This schedule is subject to considerable revision.

FEDERAL REPUBLIC OF GERMANY

Two of West Germany's regional public service broadcasters are planning to merge in the early 1990s. They are Südwestfunk (SWF), based in Baden-Baden, capital of Rheinland-Pfalz, and Süddeutscher Rundfunk (SDR), based in Stuttgart, capital of Baden-Württemberg. The reason for the planned merger is to become more cost-effective and competitive, in view of static licence-fee income and decreased advertising revenue because of competition from private radio and television broadcasters. Both stations currently have shortwave outlets; SWF is on 7265 and SDR is on 6030. The proposed merger would create the second largest public broadcaster, after WDR (Westdeutscher Rundfunk) in Köln.

On September 25th, Deutsche Welle will inaugurate its restructured English Service programming. The existing separate African, Asian and North American services will be discontinued and a new merged department will produce programmes. It is hoped that the new programmes will better satisfy the interests and needs of the audience.

The schedule until September 25th will be as follows:

0100-0150 to NAm on 6040A, 6085, 6085M, 6145, 9565, 9735, 9735M, 11865M

0200-0250 to SAs on 1548T, 5995T, 6035, 7285, 9615T, 9690, 11945

0300-0350 to NAm on 6010, 6130, 9545MT, 9605, 9605M, 9700A

0400-0450 to SAf/EAf on 7150, 7225K, 9565K, 9765, 11765

0500-0550 to NAm on 5960, 6120A, 6130, 9635MT, 9700

0600-0650 to WAf on 11765, 13790, 15185, 17875

0900-0950 to AUS/NZL/SAs on 6160A, 11945T, 17715T, 17780, 21650, 21680

0900-0950 to SAf/EAf on 9650K, 11785K, 15510

1100-1150 to WAf on 15410K, 17765, 17800K, 21600

1500-1550 to SAf/EAf on 9735K, 11965K, 17810, 21600

1600-1650 to SAs on 1548T, 6170T, 7200T, 13790, 15105, 15595, 17825M, 21680M

1900-1950 to WAf on 9745, 11785T, 11810, 13790, 15390, 17715T

2100-2150 to AUS/NZL/SAs on 7130, 9650, 9765, 11785T

Programmes in German are scheduled as follows:

0600-0800 on 6075, 7285, 9545, 9690A, 9735, 11705MT, 22785A, 11795, 17825, 17845, 21560

0700-0800 on 21640T

0800-1000 on 6075, 9545, 9690, 9735, 11705MT, 11795, 15105, 15275, 17845, 21560, 21640T

1000-1200 on 1548T, 6075, 9545, 15105, 15545, 17845, 21560, 21590T

1200-1400 on 1548T, 1557MT, 6075S, 9545, 11705MT, 13780, 15105, 15245S, 15275A, 15545, 17715, 17845, 21560, 21590T, 21680S

1225-1400 on 9545

1400-1600 on 1557M, 6075, 6075S, 9545, 11795M, 13780, 15275, 17845, 21560

1600-1800 on 1557M, 6075, 9545, 11795, 15275

1600-1655 on 11795M, 13780

1700-1800 on 1548T, 9545, 17765T

1800-2000 on 1548T, 3995, 6075, 9735K, 11795, 15275, 17765T, 17860

2000-2200 on 3995, 6075, 9640T, 9735 (to 2150), 11795, 15275, 15355A, 17810A, 17860K

2110-2200 on 6075S

2200-2400 on 3995, 6040, 6075, 6100, 9700, 11785T, 11795, 15270K, 15410A, 17860K (to 2350)

0000-0200 on 3995, 6075, 6075S, 6100, 7130, 9640K, 9700, 9760, 15270K, 15410A (to 0150)

0100-0300 on 6075B, 9545B

0200-0400 on 3995, 6075, 6085, 6100, 9735, 9735M, 11795M

0200-0250 on 9640K, 15270K

0300-0400 on 6045S

FEDERAL REPUBLIC OF GERMANY

(Continued)

0400-0547 on 3995, 6045S, 6075, 6085A, 6100, 9545, 9605S, 9735, 9735M

B=Brasilia (via transmitters of Radio Bras). Other sites as in WRTH88.

The expansion of private radio in Germany continues. The most significant expansion for some time took place on September 5th, when Antenne Bayern took to the air, broadcasting to the state of Bavaria via a network of high and medium power FM transmitters. The potential audience is over 10 million.

GREECE

Since March 1988, several non-government radio stations have been operating legally on FM only. The Committee for Local Radio, under the auspices of the Supreme Court, has issued nearly 70 licenses for broadcasting. The majority of the applicants do not plan to commence broadcasting until autumn of 1988. However if more than five months has passed and service has not commenced, the licence is suspended.

The stations are allowed to carry advertising and news, with restrictions concerning national security and public health. The maximum permitted ERP is 600W, but almost all of them use several kW, since the Ministry of Communications does not have suitable equipment for measuring ERP.

(Eleutherios E.Kastanakis, Crete).

HUNGARY

Radio Budapest has changed its schedule, and now broadcasts as follows (all transmissions one hour later from 25th September) :

TO EUROPE

English: 1830-1900 & 2000-2030 on 6110, 7220, 9585, 9835, 11910, 15160

German: 1100-1230 (Sat) on 7220, 9585, 9835, 11910, 15160, 15220

1230-1400 (Sun) & 1400-1530 (Sat) on 6110, 9585, 9835, 11910, 15160, 15220

1630-1700 on 7220, 9585, 9835, 11910, 15160, 15220

1930-2000 (exc.Sun) on 6110, 7220, 9585, 9835, 11910, 15160

Hungarian: 1000-1100 (Sun) on 7220, 9585, 9835, 11910, 15160

1400-1530 (Sun) on 6110, 9585, 9835, 11910, 15160, 15220

1800-1830, 1900-1930 & 2030-2100 on 6110, 7220, 9585, 9835, 11910, 15160

Italian: 1530-1600 & 1700-1730 on 6110, 9585, 9835, 11910, 15160, 15220

Spanish: 2100-2130 on 6110, 7220, 9585, 9835, 11910, 15160

TO EUROPE & MIDDLE EAST

Turkish: 1100-1230 (Sun) & 1230-1400 (Sat) on 6110, 9585, 9835, 11910, 15160, 15220

TO NO.AMERICA

English: 2330-2400 (exc.Mon) & 0030-0100 on 6110, 9520, 9585, 9835, 11910, 15160

Hungarian: 0000-0030 & 0100-0130 (Mon 0230) as English

TO SO.AMERICA

Hungarian: 2130-2200 & 2230-2300 (Sun 2400) on 6110, 9585, 9835, 11910, 15160, 15220

Spanish: 2200-2230 & 2300-2330 (exc.Sun) on 6110, 9585, 9835, 11910, 15160, 15220.

IRELAND

Radio Tara has obtained planning permission for its longwave transmitter site, despite protests from environmental groups and local residents. According to Robby Collins, head of news at Radio Luxembourg's London office, Tara should be on air by the middle of next year on 254kHz long wave. "As from October, the main people will be in their Dublin offices, and that's when they'll start hiring staff," he says. The station is expected to be on air during the daytime, possibly using the on-air name "Radio 5".

Legislation to legalize local commercial radio in the Republic has now passed halfway through Dail Éirran, the Irish Parliament. If the bill is passed, it will take effect on January 1st 1989, and will mean the end for the existing pirate stations.

ITALY

The S-88 schedule of RAI shows the following new frequencies:

ITALY (Continued)

6010 2135-2225 in Czech, Slovak and Polish; 9770 2230-0135 in Italian, Spanish and Portuguese, 0140-0325 in Italian and Spanish; 17795 0350-0410 in English, 0415-0530 in Amharic Italian and Somali, 0535-0555 in Arabic; 21560 1400-1425 in Italian.

Adventist World Radio has made some changes to its schedule, and is now broadcasting from Forli as follows : 0600-0630 Mon-Wed Ukrainian & Thurs-Sun Russian, 0630-0700 English, 0700-0730 Sun-Thurs Swedish & Fri/Sat Finnish, 0730-0800 Tues-Sat Spanish & Sun/Mon Rumanian, 0800-0900 German, 0900-0930 Mon-Wed Ukrainian & Thurs-Sun Russian,

0930-1000 Sun Bulgarian, Mon Slovenian, Tues Macedonian, Wed Albanian/Greek, Thurs Hungarian, Fri Croatian, Sat Serbian, 1000-1100 French, 1100-1200 Italian, 1200-1300 German, 1300-1330 as 0930-1000, 1330-1400 English, 1400-1500 Italian. The freq is 7257, with 7205 and 7125 as possible alternatives.

MONACO

SW Schedule of Trans World Radio from Sept 25th 1988
Days: 1=Mon, 2=Tues, 3=Wed, 4=Thurs, 5=Fri, 6=Sat, 7=Sun.

Armenian: 1930-1945 1234567 on 9435;

Belorussian/Ukr.: 1845-1900 124567 on 7350;

Bulgarian: 1730-1745 567 on 7350;

Catalan/Spanish: 1300-1315 127 on 9495;

Croatian: 1330-1345 7 on 9495;

1730-1745 12356 on 7290;

1745-1800 12345 on 7290

Czech/Slovak: 0930-0945 1234567 9495;

1130-1200 7 on 9495;

1645-1700 1234567 on 7350; 2035-2050 4567 on 6230;

English 0625-0800 1234567 on 7105

0800-0840 1234567 on 9480

0840-0910 123457 9480

0910-1000 7 9480;

Estonian/Latvian/Lithuanian: 1815-1830 1234567 on 7290;

Farsi: 1530-1545 12345 on 12025

1545-1600 1234567 12025;

German: 0830-0905 7 on 6230 and 9795

0905-0920 1234567 on 6230 and 9795;

1105-1120 123456 on 6230 and 9795;

1145-1200+ 3 on 6230;

1415-1430* 6 on 9795;

1430-1500 1234567 on 6230 and 7195

[+Swiss German, *)DX-prgr].

Hungarian 0945-1000 1234567 on 9495;

1700-1730 1234567 on 7350

Kazakh/Kirghiz 1515-1530 4567 12025

Kurdish 1600-1615 1234567 12025

Norwegian 0800-0820 1234567 9650

Polish 1005-1015 267 9495

1655-1730 1234567 7315

Romanian 0900-1915 3 7350

1900-1930 124567 7350

Russian 1515-1630 1234567 11660;

1515-1700 1234567 9495;

1630-1645 23567 11660

1800-1815 1234567 9495

1815-1845 123467 9495

2000-2030 1234567 7355

Turkish 1615-1640 1234567 12025

Uzbek 1530-1545 67 12025

THE NETHERLANDS

The schedule of Radio Nederland Wereldomroep from 25th September until 25th March 1989 is as follows:

B=Bonaire, F=Flevo, M=Madagascar -- s)Sun only.

Arabic

1530-1625 ME/Eu/Naf F15560, F13770, F9860, F5955;

1730-1825 Naf/Eu B17605, F9860, F9890

1930-2025 Naf F11740, F9840, F6020

Dutch

0000-0025 SEAs M9590, M7285

0030-0125 SWAm/NEAm B15315, B6165, F6020

0330-0355 EAf/ME F9895, F7110

0430-0525 NWAm B9590, B6165

0630-0725 AUS/NZL B9715, B9630

0700-0825 As/NAf/Eu/ME M21485, F11935, F9895, F9775, F5955

THE NETHERLANDS (Continued)

0830-0925 AUS/NZL B9630
 1030-1125s Eu/WA/f/ME F17605, F15560, F9715, F5955
 1030-1125 EAs/SEAs M21485, M17575
 1330-1425 Eu/SEAs/AUS M17575, M9505, F9895, F5955
 1530-1625s SAm B21540, B17605 1530-1625 SAs M17575, M15570
 1630-1725s NAm B17605, B15120
 1630-1725 Eu F13700, F9895, F9775, F5955
 1730-1825 Af/ME B21680, F15560, F13700, F9895, M6020
 2030-2125 WAf B21685, B17605
 2130-2225 Am/Carib/Eu B17605, B15560, F11730, F9895, F6020
 2230-2255 SEAs M9590, M7285
Dutch/Papiamentu/Sranan Tongo
 0900-1025 Carib/SUR B6020
 0930-1025 Carib/SUR B6040
 2330-0025 Carib/SUR F11660, F9895, F6020
English
 0230-0325 NEAm F9895, B9590, B6165, F6020
 0400-0425 EAf/ME F9850, F7210
 0530-0625 NWAm B9715, B6165
 0630-0655 WAf F11930, F9895
 0730-0825 AUS/NZL B9715, B9630
 0830-0855W AUS B9770
 0830-0925 As M21485, M17575
 1030-1125 AUS/Carib B9505, B6020
 1130-1225 As M21480, M17575, F17605, F15560 Eu F9715, F5955
 1430-1525 As M17575, F15560, F13770, M11735 Eu F5955
 1630-1725 EAf/SAf M15570, M6020
 1830-1925 Af B21685, B17605, M15175, M6020 Eu F6020
 2030-2125 WAf M15560, F11740, F9895, M9540
French
 1230-1325 WAf/CAf F21520, F17605
 1430-1525 NWAf F15280
 1830-1925 CAf/WAf F15560, F13700, F9840

1930-2025 CAf/WAf B21685, B17605, M15560, F13700, M9540

Indonesian

0930-1025 INS M21485, M17575
 1230-1325 INS M21480, M17575
 1330-1425 INS F17605, F15560
 2130-2230 INS M9590, M7285
 2300-2400 INS M9590, M7285

Portuguese

0030-0125 B F11660, F9895
 2230-2325 B B15560, B15315

Spanish

0130-0225 SAm/CAM B15315, F9895, B6165, F6020
 0330-0425 CAM B9590, B6165
 0600-0655 SWEu F6110
 1230-1325 SWEu F15560, F11930
 2030-2125 Eu F9860, F6020
 2230-2325 CAM/Eu F9895, F6020
 2330-0025 SAm B15315, B11715

NORWAY

The S88 schedule of Radio Norway is as follows :

0600 to ME/ Af on 15165, Eu/WAf on 11865/9590.
 0700 to FE/NZ on 21730, Eu on 9590, WAf on 15165.
 1000 to FE/NZ/SAs/Aus on 21705, WAf on 21565, Eu/WAf on 15235
 1100 to FE/AUS/NZ on 15180, AUS on 15165, Eu/WAf/SAm on 17780
 1200 to FE/NZ on 15165, SAs/AUS on 21705, Af on 25730, ENAm/CAM on 15325
 1300 to SAs on 21705, Eu on 6035/9590, NAm on 15310
 1400 to SAs on 15280, SAs/AUS on 15190, ME/EAf on 21700, NAm on 15310.
 1500 to Eu/ME/Af on 17840, NAm on 15310, Eu on 1314(Mon-Fri till Sept 23rd).
 1600 to SAs on 9590, ME on 15310, ME/EAf on 21700, WNAm on 15310, Eu on 1314 (Mon-Fri from Sept 26th).
 1700 to Eu/WAf on 9655, Af on 21700, NAm/CAM on 15310.
 1800 to ME/EAf on 15220, Af on 21700, Eu/WAf on 9655, ENAm/CAM on 15310.
 1900 to NZ on 15220, Eu/WAf on 9590, NAm on 15310.

NORWAY (Continued)

2000 to Eu/WAf on 6010/9590, Eu/WAf/SAm/NZ on 15310.
 2100 to WAf/SAm on 15265, SAm on 15165.
 2200 to WAf/SAm on 15180, SAm on 11850
 2300 to WAf/SAm on 11850, NAm on 9605.
 0000 to SAs on 9620, ENAm/CAM on 11850
 0100 to NAm/CAM/SAm on 9615.
 0200 to NAm/SAm on 9615.
 0300 to ME on 7215, WNA on 9650.
 0400 to ME/EAf on 11760, WNA on 9650.
 0500 to ME/EAf on 11735, Af on 15165.

POLAND

Radio Polonia has made some schedule changes as follows: **TO EUROPE: English:** 0630-0700 on 15120, 7270, 6135. 2030-2100 transmission dropped. Add 2305-2355 on 7270, 7145, 7125, 6135, 5995, 1503, 1206, 738.

Esperanto: 1930-2000 transmission dropped.

Finnish: 1730-1755 on 7125, 6095. 1930-2000 (ex-2000-2025) on 7285, 6095. **French:** 0600-0630 on 15120, 7270, 6135. 1800-1825, 2000-2030 & 2030-2100 transmissions dropped.

Spanish: 2200-2300 on 7145 only.

Music: 0500-0530 transmission dropped. 1130-1200 on 7285, 6095, 5995, 1503. 2000-2100 (ex-2305-2355) on 7285, 7270, 6095, 6135, 5995, 1503.

TO AFRICA: English: delete 9675 in all transmissions.

ARABIC SCE: 1400-1455 delete 17865. 1700-1725 & 1900-1955 delete 9675.

TO NO.AMERICA: English: discontinued.

Polish: 1130-1225 delete 17865.

BROADCASTS IN POLISH: 0700-0800 add 15120. 1300-1355 delete 9675 & 2100-2130 delete 9675.

Some years ago, the Polish Pathfinders' Station (The Scouts Radio - Rozglosnia Harcerska) operated a low powered shortwave transmitter, and when this closed down, the programmes continued, but on FM only. Now, listeners outside Poland can once again hear the programme, as it is now carried on the mediumwave and longwave transmitters of

Polish Radio 4: W1300-1430, Sun 0900-1000 on 1080, 1206, 1260, 1305, 1368, 1485, 1584 and 1602; Sun also 198.

A special QSL-card is available for correct reports, which should be sent to: Rozglosnia Harcerska, PO Box 362, 00-950 Warsaw, Poland. (Wojciech Zajac, Krakow, Poland)

PORTUGAL

Adventist World Radio is now broadcasting from Sines as follows: **on 9605:** 0530-0600 Sat/Sun Russian, then on Sundays as follows: 0600-0630 Serbian, 0630-0645 Macedonian, 0645-0700 Slovenian, 0700-0730 Croatian, 0730-0800 Romanian, 0800-0830 Ukrainian, 0830-0900 Arabic, 0900-0930 Bulgarian.

on 9670: Sundays: 0600-0700 Polish, 0700-0800 German, 0800-0830 English.

SPAIN

Here is the Radio Exterior de España S-88 schedule, valid from September 4th to November 6th 1988.

To Europe:

6020: 0500-0600 Spanish; 9875: 0500-0600 & 0930-2130 Spanish; 11790 0930-1630 Spanish; 11920: 0930-2130 Spanish; 12035: 0930-2130 Spanish; 15395: 0930-1630 Spanish; 9570: 1630-2130 Spanish; 9765: 1800-2000 French and English; 11790: 1800-2000 French and English; 9765: 2000-2200 French and English; 11790: 2000-2200 French and English.

To the Middle East:

21595: 0500-0700 Spanish; 21575: 0930-1900 Spanish; 15395: 1700-1800 Arabic; 17770: 1700-1800 Arabic^(*); 15395: 1800-2100 English and French; 17770: 1800-1830 Sephardic^(**).

To North Africa

11890 and 15395: 2100-2200 Arabic

To Africa

17890: 1300-2130 Spanish; 15375: 1900-2100 English and French

To South America

2300-0200 :11815 and 11915 Spanish

To Central America

SPAIN (Continued)

17815: 0930-1830^(D); 17845: 0930-1900; 21570: 0930-1300;
17845: 1930-2245; 11775: 2200-0500; 9630: 2300-
0500; all in Spanish

To North America:

11880: 1930-2330 Spanish; 9630: 2300-2400 French; 9630
and 11880: 0000-0200 English and 0200-0500
Spanish

To AUS 9650 and 11730: 0500-0700 Spanish

To JPN

1000-1100 and 1200-1300 Spanish⁽⁺⁾

To PHL

1100-1200 and 1300-1400 Spanish⁽⁺⁾

^(*) not Sunday ^(**) Monday only ^(D) Sunday only ⁽⁺⁾ China
relay.

Radio Nacional de España (RNE) and Radio
Cadena de España are to merge into one organisa-
tion. The current three RNE and two RCE program-
mes will be reorganised. Radio 1, mainly a news
channel, will be on mediumwave only. The other
four programmes will be on FM: Radio 2, with 24
hour serious music, Radio 3 for pop and rock, Radio
4 with local and regional opt-outs. RCE's medium-
wave frequencies will in future carry Radio 5,
providing a combination of local and national
programming.

SWEDEN

Here is the Radio Sweden schedule valid from
September 25th 1988 until March 26th 1989, as sup-
plied by Televerket, Swedish Telecom. This
schedule contains major revisions to that published
in WRTH88.

Swedish 0030-0100 9695 and 11706 to SAm; 0200-
0230 9695 and 11705 to NAm; 0330-0400 9730 to ME;
0530-1000 6065 to Eu and 15390 to AF; 1030-1100
9630 to Eu, 21610 to AUS/Pac and 21690 to ME;
1130-1200 6065 and 9630 to Eu and 21690 to ME;
1300-1330 9565 to EAs, 15430 and 17780 to
SAs/AUS/Pac; 1600-1630 6065 and 9615 to Eu; 1700-
1730 6065 and 9615 to Eu; 1900-1930 6065 to Eu and
11645 to ME; 2200-2230 6065 and 9655 to Eu; 2330-
2400 9695 and 11705 to SAm:

English 0230-0300 9695 and 11705 to NAm; 0330-
0400 11705 to ME; 1230-1300 9565 to EAs, 15430 and
17780 to SAs/AUS/Pac; 1400-1430 15345 and 17860
to NAm; 1530-1600 on 15430 and 17780 to
SAs/AUS/Pac and 15240 to AF; 1800-1830 6065 and
7265 to Eu and 11845 to AF; 2100-2130 6065 and 9655
to Eu:

Portuguese 0100-0130 on 9695 and 11795 to B;
1730-1800 on 6065 to Eu; 2300-2330 on 9695 and
11705 to B:

French 1000-1030 on 9630 to Eu, 21610 and 21690
to ME/AUS/Pac; 1100-1130 6065 and 9630 to Eu
and 21690 to ME; 1500-1530 on 15430 to SAs/AUS,
15345 and 17860 to NAm; 1930-2000 on 6065 to Eu
and 11845 +to ME:

German (all broadcasts to Eu) 1630-1700 on 9615;
1730-1800 on 9615; 2000-2100 on 6065 and 9655;

Spanish 0000-0030 to SAm on 9695 and 11705;
0130-0200 to NAm on 9695 and 11705; 0300-0330 to
NAm on 9695 and 11705; 1630-17009 to Eu on 6065;
2230-2300 to SAm on 9695 and 11705:

Russian 1200-1230 on 9565 and 15430 to URS;
1330-1400 on 9565, 15430 and 17780; 1830-1900 on
6065 and 7265; 2130-2200 on 6065 and 9655.

SWITZERLAND/BRAZIL

On July 1st, Swiss Radio International began an
experimental relay using the facilities of Radiobras
in Brasilia. The SRI signal is fed by undersea cable to
Brazil, and a 250kW transmitter beams the signal to
central America. The frequency is 17730, and the
relay is daily from 0130-0300 UTC.

UNITED KINGDOM

The following is the winter schedule of BBC
World Service in English, listed by frequency. The
transmitter site abbreviations are as follows: ANT =
Antigua, ASC = Ascension Island, BER = Berlin, BET
= Bethany, CYP = Cyprus, DAV = Daventry, DEL =
Delano, DRO = Droitwich, HK = Hong Kong, KRA
= Kranji, LES = Lesotho, MAS = Masirah, MON =
Montserrat, ORF = Orfordness, RAM = Rampisham,
SAC = Sackville, SEY = Indian Ocean Relay, SIN =
Singapore, SKE = Skelton, WOF = Woofferton.

* = Non-daily.

UNITED KINGDOM (Continued)

kHz	Times	kW	Site	kHz	Times	kW	Site
198	2345-0450	500	DRO	3255	1815-1830	100	LES
639	2000-2030	500	CYP	3255	0330-0400	100	LES
639	0300-0330	500	CYP	3255	1900-2030	100	LES
639	0545-0815	500	CYP	3255	0400-0430	100	LES
639	1130-1245	500	CYP	3255	1830-1900*	100	LES
639	1030-1130	500	CYP	3255	0300-0330	100	LES
639	0815-1030	*500	CYP	3915	2200-2315	100	KRA
648	0545-0630	500	ORF	3915	1500-1745	100	KRA
648	0445-0545	500	ORF	3955	0300-0500	100	DAV
648	0705-1130	500	ORF	3955	0500-0730	100	DAV
648	2005-0425	500	ORF	3955	0500-0730	250	SKE
648	0425-0445	500	ORF	3955	1800-2315	250	SKE
648	1205-1715	500	ORF	3955	1830-2315	100	DAV
702	2000-2030	750	MAS	3955	1615-1800	100	DAV
702	0200-0230	50	MAS	3990	0400-0530	20	CYP
720	0300-0330	500	CYP	5965	0000-0030	100	MAS
720	0545-0630	500	CYP	5965	2000-2115	250	HK
930	0200-0230	130	MON	5965	0030-0145	100	MAS
930	1600-1615	130	MON	5965	0145-0200*	100	MAS
930	1800-1830	130	MON	5965	1100-1130	250	SAC
930	2115-2130*	130	MON	5965	0145-0200*	100	MAS
1296	0400-0445	500	ORF	5965	0200-0230	100	MAS
1296	0700-0730	500	ORF	5975	2115-2130*	250	ANT
1296	2300-2315	500	ORF	5975	1030-1500	300	DAV
1296	1600-1615*	500	ORF	5975	1615-1830	250	KRA
1296	0300-0330	500	ORF	5975	1330-1615	100	MAS
1323	0300-0730	200	CYP	5975	2130-0430	250	ANT
1323	0730-0900*	200	CYP	5975	2000-2115	250	ANT
1323	0900-2315	200	CYP	5975	2115-2130*	250	ANT
1413	1745-1830	750	MAS	5975	0730-0915	300	DAV
1413	1645-1715	750	MAS	5975	0915-1030*	300	DAV
1413	0300-0400	750	MAS	5975	0430-0730	250	ANT
1413	1900-2030	750	MAS	5975	0915-1030*	500	RAM
1413	1830-1900*	750	MAS	5995	1430-1445*	250	HK
1413	1300-1400	750	MAS	5995	1500-1615	250	HK
1413	0200-0230	750	MAS	5995	0900-0945	250	HK
1413	1715-1730	750	MAS	5995	1300-1400	250	HK
1413	0000-0030	750	MAS	5995	1400-1430*	250	HK
3255	1830-1900*	100	LES	6005	1900-2115	250	SEY

kHz	Times	kW	Site	kHz	Times	kW	Site
6005	1830-1900*	250	SEY	6190	0700-0815	100	LES
6005	0000-0030	250	ASC	6190	0815-0900*	100	LES
6005	1615-1645*	250	SEY	6190	1745-1800	100	LES
6005	1645-1700	250	SEY	6190	1815-1830	100	LES
6005	1830-1900*	250	SEY	6190	0630-0700	100	LES
6005	0400-0430	250	ASC	6190	1615-1645	100	LES
6005	0500-0630	250	ASC	6190	1900-2030	100	LES
6005	2115-2300	250	SEY	6195	1115-1130*	125	KRA
6005	0300-0330	250	ASC	6195	1130-1615	125	KRA
6005	0330-0400	250	ASC	6195	1300-1330*	250	ANT
6005	0630-0700	125	ASC	6195	1330-1500	500	RAM
6005	1615-1645*	250	SEY	6195	1100-1300	250	ANT
6005	1700-1745	250	SEY	6195	1500-2315	300	DAV
6005	0430-0500	250	ASC	6195	1615-2315	100	RAM
6030	2130-2200*	100	CYP	6195	0500-0730	100	SKE
6045	1300-1345*	350	SKE	6195	1600-2315	500	RAM
6045	0900-1300	350	SKE	6195	0900-1115	125	KRA
6045	1300-1330*	350	SKE	6195	1300-1345*	250	ANT
6050	0200-0330	100	CYP	6195	0500-0730	100	RAM
6105	0300-0400	250	CYP	6195	2200-0030	125	KRA
6155	0400-0430	250	ASC	6195	1500-2315	250	SKE
6155	0445-0509	250	ASC	6195	0300-0730	300	DAV
6175	2200-0330	250	SAC	6195	0300-0730	500	RAM
6180	1500-2315	250	CY	6195	1115-1130*	125	KRA
6180	0400-0730	250	CYP	7105	0400-0430	250	ASC
6190	0400-0430	100	LES	7105	0445-0509	250	ASC
6190	1645-1700	100	LES	7105	0600-0630	250	ASC
6190	1830-1900*	100	LES	7120	0500-0730	100	SKE
6190	0330-0400	100	LES	7125	0230-0330	100	MAS
6190	0500-0630	100	LES	7140	0545-0730	20	CYP
6190	0430-0500	100	LES	7140	0730-0900*	20	CYP
6190	0300-0330	100	LES	7140	0900-1130	20	CYP
6190	0900-1615	100	LES	7145	2200-2300	100	KRA
6190	1615-1645*	100	LES	7145	2300-0030	100	KRA
6190	1700-1745	100	LES	7150	0815-0915	300	DAV
6190	1830-1900*	100	LES	7150	0600-0815	300	DAV

ANT = Antigua, ASC = Ascension Island, BER = Berlin, BET = Bethany, CYP = Cyprus, DAV = Daventry, DEL = Delano, DRO = Droitwich, HK = Hong Kong, KRA = Kranji, LES = Lesotho, MAS = Masirah, MON = Montserrat, ORF = Orfordness, RAM = Ram-pisham, SAC = Sackville, SEY = Indian Ocean Relay, SIN = Singapore, SKE = Skelton, WOF = Woofferton.

* = Non-daily.

kHz	Times	kW	Site	kHz	Times	kW	Site
7160	0330-0400	250	CYP	9410	0200-0330	500	RAM
7160	0300-0330	250	CYP	9410	0100-0200	500	RAM
7160	0400-0430	250	CYP	9410	0500-0730	250	SKE
7160	1645-1830	100	MAS	9410	0330-0500	250	SKE
7160	2200-2215	250	KRA	9410	0330-0730	100	RAM
7180	2000-2115	250	HK	9410	1615-2315	250	SKE
7180	2245-2300	250	KRA	9410	0730-0915	300	DAV
7180	0815-0945	250	HK	9410	0915-1615	100	SKE
7180	1300-1400	250	HK	9410	1515-2300	250	SKE
7180	1400-1430*	250	HK	9410	0730-0915	100	DAV
7180	1430-1445*	250	HK	9410	1615-2115	100	RAM
7180	1500-1615	250	HK	9510	1330-1345*	250	SAC
7185	0500-0700	250	SKE	9510	0430-0545	250	ANT
7185	1615-1645*	250	SEY	9510	1100-1330	250	SAC
7185	1900-2030	250	SEY	9515	1745-1800	100	LES
7185	2115-2300	250	SEY	9515	1615-1645*	100	LES
7185	0300-0700	300	DAV	9515	1645-1700	100	LES
7185	1645-1700	250	SEY	9515	0900-1615	100	LES
7185	1830-1900	250	SEY	9515	0500-0630	100	LES
7185	1615-1645*	250	SEY	9515	0815-0900*	100	LES
7185	1700-1745	250	SEY	9515	0630-0700	100	LES
7185	1830-1900	250	SEY	9515	0615-0645*	100	LES
7210	0300-0330	250	CYP	9515	0700-0815	100	LES
7230	2130-2200	250	CYP	9515	0430-0500	100	LES
7235	0000-0145	250	CYP	9515	1700-1745	100	LES
7235	0145-0200*	250	CYP	9570	1945-0030	250	KRA
7235	0200-0230	250	CYP	9580	0500-0630	100	CYP
7235	0145-0200*	250	CYP	9580	0000-0145	100	MAS
7260	0400-0430	250	CYP	9580	0145-0200*	100	MAS
7275	1745-2030	100	KRA	9580	0145-0200*	100	MAS
7325	1030-2315	300	DAV	9580	0200-0230	100	MAS
7325	0900-1030	300	WOF	9590	2200-0030	250	SAC
7325	2200-0330	300	DAV	9590	0030-0230	250	BET
7325	2300-0330	500	RAM	9590	0300-0330	100	CYP
7325	1800-2115	100	SKE	9600	0400-0430	250	ASC

ANT = Antigua, ASC = Ascension Island, BER = Berlin, BET = Bethany, CYP = Cyprus, DAV = Daventry, DEL = Delano, DRO = Droitwich, HK = Hong Kong, KRA = Kranji, LES = Lesotho, MAS = Masirah, MON = Montserrat, ORF = Orfordness, RAM = Rampisham, SAC = Sackville, SEY = Indian Ocean Relay, SIN = Singapore, SKE = Skelton, WOF = Woofferton.

* = Non-daily.

kHz	Times	kW	Site	kHz	Times	kW	Site
9600	0545-0630	250	ASC	11750	1115-1130*	250	KRA
9600	0500-0545	125	ASC	11750	1130-1615	250	KRA
9600	0300-0330	250	SEY	11750	1745-2200	250	KRA
9600	0700-0730	250	ASC	11760	0300-0815	100	MAS
9600	0800-0815	250	ASC	11760	0900-1330	100	MAS
9600	0430-0500	250	ASC	11775	1100-1300	250	ANT
9600	0630-0700	250	ASC	11775	1300-1330*	250	ANT
9600	0730-0800	250	ASC	11775	1300-1345*	250	ANT
9610	1700-1745	250	CYP	11775	1500-1600*	250	SAC
9635	2130-2200*	100	CYP	11775	1600-1745	250	SAC
9640	0600-0815	125	ANT	11785	2000-2315	250	CYP
9660	0230-0330	250	BET	11820	2000-2030	250	ASC
9660	0700-0730	100	CYP	11825	0600-0730	100	CYP
9660	0730-0900*	100	CYP	11860	0900-0915	250	ASC
9660	0900-1515	100	CYP	11860	0815-0845*	250	ASC
9740	1515-1615	250	KRA	11860	0730-0800	250	ASC
9740	1615-1745	250	KRA	11860	0700-0730	250	ASC
9740	0900-1115	250	KRA	11860	0800-0815	250	ASC
9740	1115-1130*	125	KRA	11860	0815-0845*	250	ASC
9740	1130-1515	125	KRA	11860	1500-1530	250	SEY
9740	1115-1130*	125	KRA	11860	0845-0900*	250	ASC
9740	0900-1030	250	KRA	11945	2245-2300*	250	HK
9750	0900-1515	250	SKE	11945	2300-0030	250	HK
9750	1615-1630*	250	SKE	11955	0145-0200*	250	KRA
9760	0900-1615	250	SKE	11955	0230-0330	100	MAS
9915	2200-0330	500	RAM	11955	0030-0145	250	KRA
9915	2300-0330	300	DAV	11955	0330-0545	100	MAS
9915	0630-0700	250	SKE	11955	0600-0915	250	KRA
9915	0330-0430	500	RAM	11955	2200-0030	250	KRA
9915	2130-2200*	500	RAM	11955	0145-0200*	250	KRA
11750	1115-1130*	250	KRA	11955	0200-0230	250	KRA
11750	0300-0330	250	SEY	12095	0730-0915	100	DAV
11750	0400-0430	250	SEY	12095	0900-2115	100	SKE
11750	0900-1115	250	KRA	12095	1030-1830	300	DAV
11750	0330-0400	250	SEY	12095	2200-0300	100	DAV

ANT = Antigua, ASC = Ascension Island, BER=Berlin, BET = Bethany, CYP = Cyprus, DAV = Daventry, DEL = Delano, DRO = Droitwich, HK = Hong Kong, KRA = Kranji, LES = Lesotho, MAS = Masirah, MON = Montserrat, ORF = Orfordness, RAM = Rampisham, SAC = Sackville, SEY = Indian Ocean Relay, SIN = Singapore, SKE = Skelton, WOF = Woofferton.

* = Non-daily.

kHz	Times	kW	Site	kHz	Times	kW	Site
12095	0900-2030	250	SKE	15400	1900-2100	250	ASC
12095	0300-0430	100	DAV	15400	1830-1900*	250	ASC
12095	0300-0730	100	SKE	15400	2100-2200*	250	ASC
12095	0600-0915	300	DAV	15400	0915-1130	250	ASC
15070	0730-0915	300	DAV	15400	1645-1700	250	ASC
15070	0400-0730	250	SKE	15400	2200-2300	250	ASC
15070	0600-0915	100	DAV	15400	1830-1900*	250	ASC
15070	0915-1515	500	RAM	15400	1745-1830	250	ASC
15070	0915-1030*	300	WOF	15400	1700-1745	250	ASC
15070	1030-2030	100	DAV	15400	2100-2200*	250	ASC
15105	1300-1330	250	ASC	15400	1500-1615	250	ASC
15105	1330-1345*	250	ASC	15400	1615-1645*	250	ASC
15105	0730-0800	250	ASC	15400	1615-1645*	250	ASC
15140	1030-1515	250	CYP	15420	0900-1130	250	SEY
15140	1900-2000*	100	KRA	15420	1300-1400	250	SEY
15140	2000-2315	100	KRA	15420	0430-0500	250	SEY
15245	0730-0900*	250	CYP	15420	0400-0430	250	SEY
15245	0545-0730	250	CYP	15420	0500-0630	250	SEY
15245	0900-1030	250	CYP	15420	0630-0730	100	CYP
15260	1600-1745	250	SAC	15420	0730-0900*	100	CYP
15260	2000-0330	250	ASC	15420	1130-1200*	250	SEY
15260	1500-1600*	250	SAC	15420	1615-1830	250	CYP
15280	0300-0815	250	HK	15420	1500-1530	250	SEY
15310	0330-0815	100	MAS	15435	2245-2300*	250	HK
15310	0900-1615	100	MAS	15435	2300-0030	250	HK
15310	1615-1830	100	KRA	17705	0900-1445	250	SKE
15360	0000-0030	100	KRA	17705	1445-1615	100	RAM
15360	0400-1115	250	KRA	17740	1500-1530	100	CYP
15360	1115-1130*	250	KRA	17760	2000-2115	250	ANT
15360	1115-1130*	250	KRA	17790	0545-0815	100	MAS
15380	0145-0200*	250	KRA	17790	0900-1515	250	ASC
15380	0200-0230	250	KRA	17815	0300-0900	250	HK
15380	0300-0330	250	KRA	17830	0900-1030	100	KRA
15400	0900-0915	250	ASC	17885	1615-1645*	250	ASC
15400	0700-0815	250	ASC	17885	1830-1900*	250	ASC

ANT = Antigua, ASC = Ascension Island, BER = Berlin, BET = Bethany, CYP = Cyprus, DAV = Daventry, DEL = Delano, DRO = Droitwich, HK = Hong Kong, KRA = Kranji, LES = Lesotho, MAS = Masirah, MON = Montserrat, ORF = Orfordness, RAM = Rampisham, SAC = Sackville, SEY = Indian Ocean Relay, SIN = Singapore, SKE = Skelton, WOF = Woofferton.

* = Non-daily.

UNITED KINGDOM (Continued)

kHz	Times	kW	Site
17885	1615-1645*	150	ASC
17885	1745-1830	259	ASC
17885	0730-0900*	100	CYP
17885	1400-1615	250	ASC
17885	1645-1700	250	ASC
17885	1830-1900*	250	ASC
17885	1700-1745	250	ASC
17885	0500-0630	250	SEY
17885	0900-1400	250	SEY
18080	0900-1030	250	WOF
18080	1030-1615	300	DAV
18080	1030-1615	100	DAV
18080	0900-1030	300	WOF
21470	0900-1615	250	CYP
21470	0500-0730	250	CYP
21470	0730-0900*	250	CYP
21470	1615-1745	250	ASC
21710	0900-1615	100	RAM
88900	0145-0200*	10	SIN
88900	1115-1130*	10	SIN
88900	1130-0145	10	SIN
88900	0145-0200*	10	SIN
88900	0230-1115	10	SIN
88900	1115-1130*	10	SIN
88900	0200-0230	10	SIN
90200	0545-0630	10	BER
90200	0700-1615	10	BER
90200	1700-1715	10	BER
90200	2000-0445	10	BER

and Cincinatti Electronics Corporation in partnership with Marconi Communications Systems of England, all of which are subsidiaries of the British company, GEC. The contract is initially worth US \$57 million.

SEYCHELLES

The BBC Indian Ocean Relay station commences regular transmissions on 25th September. The frequencies of the World Service relays are given in this edition under "United Kingdom".

During S88, FEBA Radio broadcasts in English as follows (frequencies subject to change) :

- 0527-0630 (Fri) on 17820
- 0432-0530 (Sat) on 15325
- 0432-0530 (Mon) on 17820 & 15325
- 0712-0905 (Sun) on 17780 & 15325
- 1158-1226 (Fri/Sat) on 15325
- 1458-1610 (Sun 1612) on 11865 & 9590,\
- 1610-1625 (Mon-Sat) on 9590
- 1731-1804 (Fri/Sat 1824) on 11760.
- French is scheduled at 0912-0930 (Thurs 0945, Fri-Mon 1001) & 1833-1906 (Sat/Sun) on 11860.
- Portuguese : 1827-1900 (Wed/Thurs 1845) on 6065

SOUTH AFRICA

The S88 schedule of Radio RSA is as follows :

- 0200-0400 English to USA/CAN on 9580, 9615, 11730
- 0400-0426 English to Af/Me on 5980, 9598, 11900
- 0430-0530 Chichewa on 7295
- 0430-0626 French to Af/Eu on 11900, 11925 & 15365
- 0730-0900 (Sun) Afrikaans/Dutch to EAf/Eu on 17745, 17795 & 21590
- 0800-0900 (Mon-Sat) Dutch to Eu on 21590
- 0900-1000 German to Eu on 21590
- 0900-1000 Tsonga on 9585
- 0900-1000 Swahili on 11730 & 15365
- 1100-1200 Portuguese to AGL/MOZ on 11925 & 15365
- 1100-1200 English to Af/ME/Eu on 11900, 17745 & 21590
- 1200-1300 French to Af/Eu on 11925, 17745 & 21590

Africa

MOROCCO/USA

The United States Information Agency has placed an order for ten 500k transmitters to be installed at its Tangiers site. The contract has been won by Marconi Electronics Inc. of Arlington VA,

SOUTH AFRICA (Continued)

- 1400-1600 English to Af/Eu on 11925, 11745, 21535 & 21590
 1500-1800 Lozi on 11900
 1600-1700 Swahili on 11730 & 15365
 1600-1700 German to Eu on 17745 & 21590
 1700-1800 Portuguese to MOZ on 7295
 1700-1800 Chichewa on 9585
 1700-1800 Dutch to Eu on 17745 & 21590
 1800-1900 English to Eu on 17765 & 21535
 1800-1900 Portuguese to AGL/CPV/GNB on 11900
 1800-2000 French to Eu/Naf/Waf on 17795 & 21460
 1900-2100 English to Af/ME on 7235, 15320 & 15365
 2000-2056 Portuguese to POR/CPV on 17745 & 21590
 2000-2100 Spanish to AGL/CUB on 9595/11900
 2200-2300 Portuguese to 9580 & 11870
 2300-0100 Spanish to LAm on 6065, 9580 & 11870.

Near & Middle East

Israel

During S88, Israel Radio Broadcasts in English as follows :

- 0500-0515 on 9435, 9815, 11585, 11655, 11700, 17630.
 1100-1130 on 11700, 15640, 15650, 17575, 17685, 21660.
 1800-1815 on 9930, 11585, 11655, 13750
 2000-2030 on 9010, 9435, 9815, 9855, 11605, 11700, 11960.
 2230-2300 on 9010, 9435, 9815, 9855, 11605, 11960
 0000-0030, 0100-0125 & 0200-0225 on 7460, 9435, 9855.

The Home Service relays are scheduled as follows :

- 0400-0600 & 2000-2300 on 9385
 1100-1625 & 1830-2300 on 11585
 0400-0600 on 11605
 1830-2300 on 11655 & 13750
 0615-2000 on 15615
 0615-1400 on 17555
 0615-1315 on 17590
 1100-1630 on 21625

LEBANON

The King of Hope, operated by High Adventure ministries, has the following schedule until November 1988:

on 6215 0300-0600 Arabic; 0600-1000 English; 1000-1430 Arabic; on 6280 1430-1600 English; 1600-1945 Russian, Ukrainian, Tagalog (Sat 1600), Greek (1930 Sat), Serbo-Croat (1930 Sun); 1945-2000 French, Swedish (Sat), Hungarian (Sun); 2000-2300 English.

Wolfgang von Poellnitz has recently been in the Middle East, and was able to monitor some of the stations in Lebanon. Radio Lebanon was not observed on 837 or 1068, but only on 989 and FM 96.2MHz. During summer, there is an English newscast at 1405 UTC. On 837kHz there is a station calling itself "Radio de Force Liban" operated by the Christian militia in Amchit; all programmes are in Arabic apart from occasional French IDs. The transmissions are very weak and irregular.

Radio Free Lebanon on 963 has English news at 1230 and 1745 UTC, for about 10 minutes. The station has many commercials, and seems to be very popular. Due to difficulties with power supplies, on some days the Voice of Lebanon on 6549.6 does not broadcast at all. Sign on is usually at 1100, sometimes as late as 1300, sign off around 2300.

Asia

BHUTAN

Bhutan Broadcasting Service has expanded its programming. The current schedule is 1100-1500 on weekdays (English 1415-1500) and Sundays 0600-1000 (English 0900-1000). Both services are broadcast on 6035, with 5kW. BBC changed its address from PO Box 1 Thimpu to PO Box 101 because the Royal Palace wanted No.1. When Radio NYAB, BBS's predecessor, was started, Thimpu General Post Office didn't have any post boxes. A crate was simply placed in the Post Office and marked "PO Box 1 - Radio NYAB". As Thimpu modernised, the concept of post boxes became popular and Box 1 became a prestige number. The Royal Palace wanted to have it and BBS obliged. (Supratik Sanatani in OZ DX).

INDIA

The All India Radio "National Channel" was inaugurated by the Prime Minister of India, Rajiv Gandhi, on May 18th. Transmissions are currently scheduled from 1330-2100 UTC, with a gradual increase in hours being planned. The frequency is 1566kHz mediumwave, and two 600kW Brown Boveri transmitters are used in parallel. Programmes are fed by satellite from Dehli to the transmitter site at Nagpur, some 1100 km to the south. According to a letter from the station received by our co-editor Olle Alm in Sweden, correct reception reports have been received from Scandinavia, South Africa, New Zealand and Western Australia.

INDONESIA

The Voice of Indonesia has a revised schedule, as follows : 0030-0100 Spanish on 11790, 15150

0300-0400 Arabic on 9675, 11790, 15150

1730-1800 Spanish on 7125, 11790, 15150

1800-1900 German on 7225, 11790, 15150

1900-2000 French on 7225, 11790, 15150

2000-2100 English on 7125, 11790, 15150

(official schedule via David Foster in OZ DX).

Rikard Johansson has confirmed reception of the German and French broadcasts, but notes that 11790 is actually operating on 11788. The 7MHz frequency used for English at 2000 seems to be 7160 or 7165 according to the announcement, but this could not be confirmed. This seems to be the recently-inaugurated 250kW transmitter.

JAPAN

The S88 schedule of Radio Japan's General Service is as follows :

To SEAs : 2200-1000 on 17810, 1000-1800 on 11815, 1500-1700 & 2200-0030 on 15230, 2100-2130 on 9695.

To Asian Continent : 0300-0700 & 0800-1100 on 11840, 1200-1700 on 9695, 2000-2030 on 7140, 2100-2130 on 9675, 2200-0030 on 11815 & 15195, 0100-0400 on 15195.

To SAs : 0000-0030 & 0100-0300 on 17845, 1300-1500 on 11780.

To NAm : 0500-0700 & 1500-1930 on 9505, 0100-0300 on 5960 (via Sackville), 0400-0700 on 11870, 1000-1200 on 6120 (via Sackville), 1600-1930 on 11705, 2000-2030 on 9505 & 11705.

To CAm : 0200-0300 on 11730 (via Montsinery, French Guiana).

To SAm : 0200-0300 on 15350 (Montsinery), 0800-0900 on 9675 (Montsinery) & 11875, 1000-1100 on 17755 (via Moyabi, Gabon), 2200-2300 on 9685 (Moyabi).

To Oceania : 0500-0900 on 15270, 1800-1930 on 9640, 2000-2030 & 2100-2130 on 9640 & 11850.

To Eu/ME/Af : 0300-0330 & 0400-0430 on 7125 (Gabon), 0700-0900 on 15325, 0700-0830 on 21695 (Gabon), 0800-0900 on 21640 (Gabon), 1500-1700 on 21700 (Gabon), 2200-2400 on 11800 (Gabon).

The General Service is scheduled during S88 as follows :

To Asia : 1015-1115 on 15300 & 17820, 1030-1300 on 7210 & 9580, 1130-1430 on 11875 & 15300, 1330-1430 on 5985 and 6080, 1445-1545 on 7210 & 9580, 2230-2400 on 11840 & 15350.

To the Americas : 0100-0130 on 11905, 0200-0400 on 11870, 17825 & 21610, 0330-0400 on 15350 (Montsinery), 0900-1000 on 17755 (Gabon) & 9525. English at 0100-0130 & 0300-0330, Spanish at 0330-0400 & 0930-1000.

To Eu/ME/NAf : 0500-0700 on 15235 (Gabon) & 15325, 1930-2030 on 9615, 2100-2130 on 9535. French at 0630-0700 & 1700-1730, German at 0600-0630 & 1930-2000.

To SAs/Af : 1500-1800 on 9535 & 11780. French at 1700-1730.

To Oceania : 0900-1000 on 11885 & 15270 in English

Deadlines For WRTH89 and DOWNLINK

If you have information for WRTH89, please ensure that it reaches us by **October 1st 1988**.

The deadline for the November issue of Downlink is **October 15th 1988**

Pacific

NEW CALEDONIA

RFO (Radiodiffusion Française d'outre Mer) in Noumea inform us that they have discontinued use of 7170 and 11710. The only shortwave frequency now in use is 3355 with a power of 20kW.

NEW ZEALAND

To cover the 3rd September to 29th October 1988 period, Radio New Zealand has scheduled the following frequencies: Pacific Service: 1830-2115 on 12045 and 15510; 2345 to 0145 on 17705; 0330-0730 on 17705; Saturday and Sunday only 0330-0730 on 17705; Australia and PNG Service: 1000-1215 on 6100 and 9850; 2345-0145 on 15150; 0330-0730 on 15150; Saturday and Sunday only 0145-0330 on 15150.

St. 3) 2ZM Wellington is no longer on 1161, but is now 2ZZM on 90.9MHz FM. St 3ZM Christchurch has also moved to FM, 91.3MHz and is now 3ZZM. (Paul Ormandy, Oamaru, New Zealand)

North America

ALASKA

From Sept 25th, KNLS plans to broadcast one-hour prgrs as follows : on 9840: 0700 Russian, 0800 English, 0900 Russian. On 6150: 1000 Japanese. On 7355: 1100 Mandarin, 1200 Russian, 1300 Japanese, 1400 Mandarin, 1500 & 1600 English, 1700 Russian. On 11700: 1800 English. On 9840: 1900 Russian. On 12025: 2000 Japanese, 2100 Mandarin.

UNITED STATES OF AMERICA

From George Jacobs & Associates we have received the following schedules, valid from September 25th until November 6th.

WRNO New Orleans (until October 30th): 1500-1700 to NAm/CAM on 11965; 1700-2100 to NAm/CAM/Eu on 15420; 2100-2400 to NAm/CAM/Eu on 13760; 0000-0300 to NAm/CAM on 7355; 0300-0600 to NAm/CAM on 6185; in addi-

tion on Sundays only (all to NAm/CAM) 0600-1200 on 6185; 1200-1400 on 9715; 1400-1500 on 11965; for occasional (irregular) use 2300-2400 on 7355.

WCSN Scotts Corners, Maine : 0000-0200 to WAF on 9850, 0200-0400 to EAF on 9850, 0400-0600 to WAF on 9870, 0600-0800 to Eu on 7365, 1200-1400 to Ea.CAN on 5980, 1400-1600 to Ea.CAN/Eu on 13760, 1600-1800 to SAf on 21640, 1800-2000 to EAF on 21640, 2000-2200 to Eu on 9495, 2200-2400 to WEAF on 9495.

KVOH Rancho Simi, CA : 0100-0800 on 13695, 1400-1600 on 17775, 1600-2000 on 17755, 2000-0100 on 17775.

KUSW Salt Lake City : 0100-0300 on 11695, 0300-0500 on 9815, 0500-0700 on 6175, 0700-1100 on 6135, 1100-1600 on 9850, 1600-1900 on 15225, 1900-2200 on 17715, 2200-0100 on 15580.

WHRI Noblesville, Indiana : to LAm : 0000-0800 on 9495, 0800-1100 on 7355, 1100-1500 on 11790, 1500-1800 on 15105, 1800-2400 on 17830. To Eu/ME/NAf : 0000-0200 on 7365, 0200-0400 on 7355, 0400-0600 on 7400, 0600-0800 on 6100, 0800-1100 on 7355, 1100-1300 on 5995, 1300-1500 on 9455, 1500-1700 on 21655, 1700-1800 on 15105, 1800-2100 on 13760, 2100-2400 on 9770.

The American Forces Radio & TV Service will discontinue its shortwave broadcasts from the USA on 24th September.

Central America & The Caribbean

CUBA

Until November 6th, Radio Havana Cuba has the following schedule:

To NAm: **Spanish** 0900-1100 9655, 1100-1600 11875 and 11950, 1100-1645 9550, 1100-1800 11760, 1100-2040 11725 and 15340, 2200-2300 15340, 2200-0140 11725, 11760 and 11930, 2200-0600 11875, 11795 and 6090, 0200-0300 6035;

English 0000-0600 9655, 0200-0450 6140, 0400-0600 6035, 0600-0800 11760; to the Caribbean **English** 2040-2140 11725, 15340; 0200-0600 9770; 0400-0600 5965 and 6035; **French** (also for NAm) 0300-0400 on 6035; **Creole** 1100-1200 on 6060; 0300-0400 on 5965; to SAm **Portuguese** 0900-1045 9550;

0100-0245 15340; Quechua 1000-1050 11760; 0000-0100 15340; Guarani 2300-2400 on 15340; to Eu/AF/ME Spanish 0630-0730 9730; 0930-1040 9730; 1800-2000 on 11775, 11920, 11950, 9550, 15320; English 1700-1800 15295; 1830-2000 on 11795; 2200-2300 on 11820 and 7150; French 0830-0930 9730; 1600-1700 15295; 2000-2140 11795, 11950, and 15320; 2100-2200 11820 and 7150; Portuguese 0730-0830 9730; 2000-2100 9550, 11775, 11920; Arabic 1500-1600 15295; 1630-1730 11950 and 15230.

South America

COLOMBIA

CARACOL in Bogota has reactivated its transmitter on 4755 after some years. Information from the station indicates a power of 10kW and a 24 hour schedule.

VENEZUELA

A new station on shortwave soon will be Radio San Cristóbal in Táchira, according to information received from the station manager. The frequency will be 9570 and the power will be 1000 watts. The station is also on mediumwave 1060 kHz with the callsign YVOE. Radio Ecos del Torbes on 4980 is owned by the same company.

IMAST

The International Monitoring Association for Students & Teachers, a new international shortwave organisation dedicated to the educational aspects of shortwave listening is now forming, and looking for members. IMAST is interested in gathering students and teachers who would like to contribute in a newsletter on ways they have been using shortwave radio in the classroom, as well as what they have been learning from the programs on shortwave.

The bi-monthly newsletter of IMAST, "The Great Circle", will contain papers and letters from students and teachers, as well as information on the bands. IMAST is also concerned with the quality of programs. Members will be encouraged to vote on outstanding programs from their DX catches. In each edition, "The Masthead Award" will be given to a station which provides an outstanding educational program.

IMAST's main goals are to promote the educational qualities of shortwave listening, to provide an international forum of ideas on the application of shortwave radio and its related technologies in the classroom, to encourage the study of geography, social science, history and language, to provide a resource for teachers in all areas of the curriculum, including the handicapped as well as the enrichment programs, and to encourage friendly educational discussion amongst teachers and students.

Those interested in joining should send their name and address to IMAST, 2524 Sunset Highway, East Wenatchee, WA 98802, USA. Enclose an SAE and return postage. An application form will be sent back to you. Membership will be US\$5 for students and US\$10 for teachers per year. When writing tell us something about yourself; we are accepting reports and papers of 300 words or less. We welcome your participation.

Italian Radio Relay Service

New Shortwave Station expected to start tests in early October

According to research by the BBC, VOA, Radio Deutsche Welle, Radio Netherlands, Radio Sweden, Swiss Radio International, just to name a few, about two per cent of the West European population listens regularly to shortwave. This figure is multiplied many times for Eastern Europe.

We believe that properly located and operated (using for example modern audio processing and modulation techniques), a 5 kilowatt shortwave transmitter can deliver an excellent signal within the target zone of approximately 1,000km (600 miles). In technical terms, an "S-9 plus" signal.

This range can be substantially increased, depending on the frequency chosen and the time of day. To ensure total coverage without "dead zones", we will be using a very effective set of "L-shaped" dipoles, operating in conjunction with a modern German-built transmitter, capable of 5kW AM or 10kW SSB (assuring that our station will remain up-to-date in terms of the future conversion to SSB transmission sometime in the future). Furthermore, we will use carefully-selected frequencies, both in and out of

band. Exact frequencies we intend to use for this service will be discussed with clients and disclosed to the general public soon before we start our test transmissions.

As for program policy, we envisage our station as being a relay for programmer-clients, with no programming of our own planned for the time being. We are also thinking about the possibility of installing a second lower powered transmitter (1-2kW AM) available to small broadcasters at a greatly reduced hourly rate. Further details on this second installation will be available later this year.

(Article submitted by Alfredo Cotroneo, General Manager, IRRS-GRM, via Teodosio 27, I-20131 Milano, Italy. All enquiries concerning this project must be sent direct to Mr. Cotroneo).

New Zealand Radio DX League Celebrates 40th Birthday

Invercargill, New Zealand is known to shortwave listeners all over the world as the home of our friend and colleague Arthur Cushen. Over the weekend of 22nd-24th October, it will be the scene of 40th birthday celebrations. Not for Arthur himself, but the New Zealand Radio DX League of which he is the President. On this occasion, we congratulate the NZRDXL on forty years of fine service to its members, and hope that Arthur and Ralda will enjoy themselves as much as they obviously did on their European visit a few years ago.

How Carefully Do You Read Downlink?

No, this isn't another contest. But we were surprised to receive several letters asking for the identity of the good-looking people on the cover of our May issue. The answer was contained in the item about Sweden Calling DXers 40th Birthday. The information didn't appear on the cover itself for technical reasons - at the time we designed the cover, we didn't know how the desktop publishing software worked!

More On Antennas

Several readers have asked us for the addresses of commercial dealers who can supply antennas such as the T2FD mentioned in our March issue.

In North America, one possible source is Barker & Williamson, 10 Canal Street, Bristol, PA 19007, USA. Tel : (215) 788 5581. In Europe, try Kurt Fritzel, Siemensstrasse 2, D-6708 Neuhofen/Pfalz, West Germany. Te : (0 62 63) 5 20 44.

Jonathan Marks and Willem Bos will be back in the November issue with the usual equipment section.

Book Review



Radio Radio is subtitled "the story of Independent, Local, Community and Pirate Radio in Ireland" and that describes the book very well. In its 166 pages, this paperback traces the history of non-government broadcasting

in Ireland from 1916 to the present day. The political and legal background to Irish Broadcasting is discussed, starting with the Irish Wireless Telegraphy Act of 1926, and continues up to the present, with an appendix setting out the policies of the various Irish political parties on private broadcasting.

After sections on the hobby pirates of the post-war years, with amusing anecdotes and insights into the personalities involved, the chapters entitled "Hamburger Radio" and "The Plot Thickens" focus on the emergence of slick, commercial super-pirates such as Sunshine Radio, Radio Nova and Q102

The book draws extensively on interviews conducted by the author with the people involved intimately with the Irish radio scene of the late seventies and the eighties - notably Chris Cary, Robbie Robinson and Eamon Cooke. Their recollections tell the reader the ins and outs of the famous struggles and rivalries which took place, and some of the people explain why they did as they did.

The final chapter is a review of the arguments for and against "Free Radio", with some interesting insights.

Overall then, Radio Radio is a soundly researched and well written book, which is excellent reading. It comes alive through the many interviews, and the photographs, although few in number, are well chosen.

Radio Radio by Peter Mulryan is published by Borderline Publications, 38 Clarendon Street, Dublin 2, Ireland. ISBN 1 870300 03 3. Price IR£5.95.

North American readers can order this book from our New York office; see the order form elsewhere in this issue.

Software Review

This is a 'first' for Downlink - a review of a piece of computer software. PC-GLOBE is produced in the USA by Comwell Systems Inc., and consists of a database of vital information on 177 countries of the world. Some small states are not included.

When the program is started, a globe is displayed, followed by a world map and a series of choices. Specifying a country displays an outline map on the screen, and optionally the main cities or the elevation can be superimposed. Selecting f5 enters the countries database, and the user can then choose information from a menu. There are 16 choices, some of which are of direct use to the SWL or DXer: Major cities displays a list of cities and their populations and the local time in each city expressed as "GMT+..." or "GMT-..."; Languages, Ethnic Groups and religions displays information relevant to the selected country, and so on. The screen on "Cultural Considerations" gives some general tips, and gives the value of the local currency against the US Dollar. Some of the tips are a little vague however: the screen for Brazil informs the user that "Punctuality is not emphasized" which is rather an obvious point. The maps can be printed with a graphics-capable printer, although resolution is not very high. PC-Globe is easy to use and install, and fascinating to browse through. However, it cannot replace a good atlas and almanac. If you have access to a suitable computer it is worth considering.

The minimum system required is an IBM compatible PC with 256K RAM, twin disk drives, DOS 2.0 or later, and an IBM/Compatible colour graphics card.

PC-GLOBE by Com-well Systems Inc., PO Box 41852, Phoenix AZ 85080, USA, costs \$59.95 including shipping within the USA.

IBM, and IBM-PC are registered trademarks of IBM Inc. PC-GLOBE is a registered trademark of Comwell Systems, Inc.

Competition Corner

We were please to receive 60 correct entries for the competition in our May issue. The country missing from WRTH89 is Mayotte.

Our charming receptionist Marguerite Ruebens picked the winning entry, which turned out to be from Stefano Valianti in Italy.

Our publisher Glenn Heffernan was so impressed with the turnout that he has generously donated the prize for another competition in this issue.

We shall also be giving away some more souvenirs from various radio stations, such as a Radio Berlin International baseball cap !

The question this time is as follows :

On which page of WRTH88 will you find a reference to Romeo & Juliet ?

Answers must arrive at the WRTH Amsterdam office by October 31st 1988 at the latest.

Exclusive WRTH Offer

Readers in the USA and Canada can buy Peter Mulryan's book "Radio Radio", reviewed in this issue of Downlink, direct from our New York office.

The price is just US \$8.95, plus \$1.50 for postage and handling. Make checks payable to "World Radio TV Handbook." This offer is only available to subscribers in North America.



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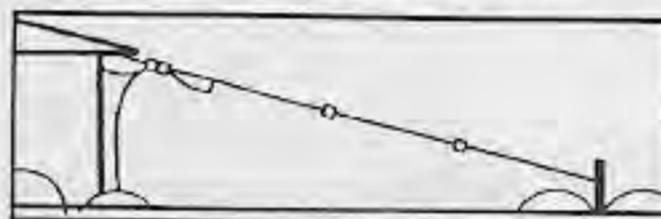
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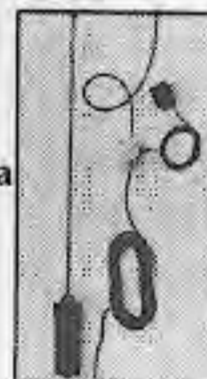
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ara-900 (formerly ara-500) Active VHF/UHF Scanner Antenna 50-650 MHz \$189.95 (+\$8)



DATONG

Outdoor Active Antenna, listed as best in famous handbook, AD-370.

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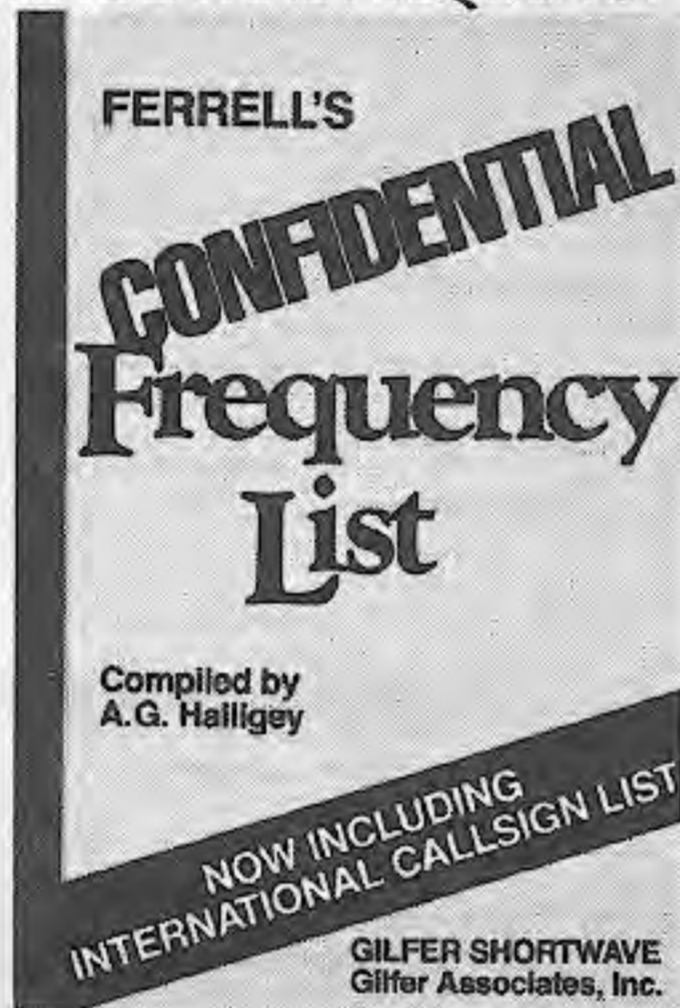
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- Barlow Wadley XCR-30
- Sony ICF-2010
- Sony ICF-2002
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- Grundig Satellit 650
- Panasonic RF-B600
- Panasonic RF-B60
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