

INTERNATIONAL MEDIUM WAVE DXING FROM EAST COAST NORTH AMERICA

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When I began DXing in the late 1960s, the great challenge to Medium Wave (MW) DXers was the increasing number of No Silent Period (NSP) stations on the air. Many commented how DXing was far more difficult than it had been "in the good old days." When I returned to the National Radio Club after college in the late 1970s the new obstacle was increased channel congestion, with most of the once clear-channel frequencies becoming filled by lower power regional stations. In 1969 the only stations on 1200 kHz were WOAI in Texas and a low power station in Frobisher Bay, NWT. Today there are more than thirty US and Canadian stations tearing up the frequency! Hearing international stations on 1200 and other similar frequencies is more challenging than ever before.

Bruce Portzer, in *Proceedings 1990*, speculated that international MW DXing may be more difficult for reasons other than channel congestion. A decline in long distance signal strength and audio quality may be related to some aspect of solar cycles that is not yet fully understood. It may be that the degree of electro-magnetic noise in our local environment is greater than ever before. Another negative factor is a greater amount of "slop" from local stations bleeding well beyond the 10 kHz spacing. Even so, a close look at international DX loggings in NRC's *DX News*, IRCA's *DX Monitor* and ODXA's *DXOntario* reveal that east coast DXers are continuing to hear good catches, *but* it takes a great deal of planning, patience, and plain old luck.

In the pages that follow, possibilities for Trans-Atlantic (TA), Caribbean and Latin American (LA) DX from East Coast North America (ECNA) will be outlined. Unusual North American targets and rare Trans-Pacific (TP) DX will also be considered. Before offering the list, some general comments are in order concerning factors critical to the success of international DXing. All times are UTC.

LOCATION

There is no question that DXing from inland locations is tougher. A site at the high tide line on the beach is the ideal, with diminishing possibilities as one travels inland. A coastal transmitter site will also enhance reception. Northeastern locations favor high latitude TA reception. Southeastern locations should favor low-latitude TAs, but, in fact, these are very difficult. The southeast, however, is far more ideal for Caribbean and Latin American receptions. Rural is better than urban, because there may be less locally-produced noise. Or, put another way, the further you are from your neighbors' fluorescent lighting, dimmer switches, and television the better. Ground conductivity is also a factor. Try to live where there's lots of iron in the ground or where the ground retains moisture! Terrain (hills, mountains, and buildings) may reduce the chances of good reception in certain directions. Given these factors, it is not surprising that the best ECNA loggings are either from rural or coastal locations, and that many urban DXers have gotten into the habit of DXpeditioning to remote rural locations to enhance their chances.

One additional observation: DXers to the north and west of the Great Lakes have noted enhanced reception to the Caribbean and points south. So if you can't afford Atlantic beachfront real estate, try looking for a big lake!

EQUIPMENT

Your receiver must be able to tune split frequencies. Most Eastern hemisphere broadcasters follow the 9 kHz channel plan (531, 540, 549 etc.), and not the 10 kHz standard used in the Western hemisphere (540, 550, 560 etc.). If you plan to drive your car to the beach for DXing, you will need an analog car radio tuner, or a radio that allows you to choose 9 or 10 kHz channel separation. "Splits" are also a factor in LA DXing, where some stations are found on frequencies ending in "5." Other stations will periodically drift 1 or 2 kHz off frequency.

The ability to tune a little above or below the actual frequency is an important way to dredge up the weak audio of a DX signal under a more powerful co-channel or adjacent station. Not all receivers that can tune splits actually bring in distant stations due to poor selectivity. Unfortunately, many of the newest DX machines which perform so brilliantly on SW often prove disappointing on MW. A choice of several bandwidths employing filters are highly desirable in a receiver. MW club newsletters give instructions for modifications or tips on where to get the job done. Highly regarded receivers, as seen in logging reports to NRC's *DX News*, are older tube radios like the Hammarlund

HQ-180A (I have the HQ-150) and SP-600 or the Collins R-390A. Modern communications receivers like the ICOM R70 and R71, Kenwood R-1000, 2000 and 5000, NRD 515 and 525, and Yaseu FRG-7 are also used. The Sony ICF-2010, usually slightly modified, appears to be growing in popularity among MW DXers. The inexpensive GE Super-Radio, still available in some markets, has proven to be an adequate receiver for those with low DX budgets.

The antenna is critical. Some of the newer receivers tend to overload on MW when any outboard antenna system is attached, especially when in the vicinity of local MW transmitters, so a manual RF gain control is an important plus. Beverage antennas give the best results, the only draw-back being the need for considerable space. Those who construct 500 meter beverage antennas need to carefully consider the terrain and weather, as others have had to deal with deep snow, desert wildlife, swamps, off-road vehicles, and curious police officers!

In the absence of a beverage, a loop antenna is a necessity. A ferrite rod or a wire-wound "air-core" loop is used inside your shack, can be tuned and has the ability to "null" dominant signals as the user rotates (and tilts) the antenna. The beverage is the most directional of the two, but the loop can be easily rotated at will. I have had good success with a ferrite rod loop less than 2 miles from my local stations. Many portables have a built in ferrite rod so at the very least try turning your radio in different directions for nulling. Your whip antenna will probably not give you good DXing results.

A regular random-wire antenna is less effective than a beverage or loop, but go for it if that's the best you can manage. Some DXers have built phasing units to combine properties of a loop and a long-wire, or multiple long-wires, to obtain especially sharp nulls. You are advised to read the various NRC/IRCA reprints on phasing units, loops, and other aspects of antenna design.

While good equipment is critical, there are enough stories about amazing receptions on the car radio during rush hour to give encouragement to the owner of any receiver!

TIMING

The daily "window" for TA receptions begins at local sunset and continues up until Europe/Africa sunrise. There are cases of TA reception well before local sunset and after transmitter sunrise, but the best time for TA DX is generally during the hour after local sunset when potentially interfering domestic stations to the west are still in daylight. As is the case on the Tropical Bands, peak TA reception is often enhanced at receiver sunset (2100-2300 or transmitter sunrise (0400-0600). Caribbean and Eastern South American catches are possible at local sunset as well. Central America, the Caribbean and Venezuela/Colombia are heard throughout the evening, but also after local sunrise when during certain months of the year (April to September), the transmitter may still be in darkness. African stations fade out later than Europeans in Spring/Summer mornings. Sunset/Sunrise charts or equivalent computer software are essential in understanding these phenomenon.

Some domestic stations are off the air between 0500 and 1200, which means that DXers will find distant receptions possible on these frequencies during this time. Even stations that are normally on the air 24 hours will occasionally sign-off in the middle of the night for maintenance and testing. While this could happen on any night, the best time to look for temporarily open frequencies is 0500-1200 on Mondays. Sundays and Saturdays are also possibilities. Until the Gulf War began, CBC English stations on clear-channel frequencies (740, 940, 1550) would leave the air every morning between 1:15 and 5:00 AM local time, and it is possible that CBC will return to this schedule in the face of tightened budgets.

MW DXers generally expect international DX to appear in September and last through April. Even so, most nights show little TA activity, so prepare to be very patient. The reception of stations south of the equator (Chile, Brazil, New Zealand) should theoretically be possible in summer (their winter), but ECNA receptions of these are quite rare.

The A-index has always been considered the most useful predictor of DX conditions. A high A value (10 plus) announced on time station WWV (2.5/5/10/15/20 MHz) at 18 minutes past every hour, generally indicates that reception to the south is more likely. Low values, particularly if they have been reported for several days in a row, may favor TA receptions. At my location, if CBJ-1580 (or any other Eastern Quebec or Maritime station) is coming in well before my sunset, good high-latitude conditions toward Europe are indicated. If CBJ is inaudible, and I'm hearing daytimers on 1580 to the south, I figure that TA prospects are limited. Some DXers note the early arrival of eastern Caribbean stations on 640, 780, 1100 as evidence that conditions will favor the south through the course of the evening. Those with propagational insights from tropical band listening and 160 and 80 meter amateur operations should find their knowledge generally applicable to medium wave.

To visualize the significance of the A-index for DXing, simply think of the auroral "northern lights" as a "blanket" in the upper atmosphere spreading south. The skywave signals of stations immediately under this blanket get absorbed by it, and lose their ability to propagate over distance. Meanwhile stations to the south slip in under the leading edge of the aurora at a low-angle, sometimes resulting in a normally powerful clear-channel station all but dis-

appearing under a distant Caribbean or LA station. Many DXers believe that the actual south-to-north propagation of signals originating at equatorial latitudes is enhanced during auroral conditions. Auroral conditions are often observed during October and March. If you ever see the northern lights, head for your receiver! The shortest path between ECNA and Europe actually crosses the ocean at a high latitude, so northern European stations are especially susceptible to auroral absorption, and southern European/African stations less so. If you are located to the north you may hear northern Europeans best, but Southern Europeans and Africans are still possible under auroral conditions.

MW DXers often comment that a great Latin American DX night often begins with what appears to be a dead band, with normally dominant stations sounding watery, dull or weak, and ends with the surprise of LA stations booming in.

In addition to low A-index values, another tip-off for TA conditions involves checking for "hets" on reliable indicator channels such as 1521 (Saudi Arabia) and 891 (Algeria) kHz. Since good TA openings are often frequency-selective, check for hets at the low end and high end of the band. If a strong whistle is heard on the high side of WWKB-1520 or WLS-890, chances are that other splits are trying to get through. TAs at the high end are more common. The Saudi station is quite powerful, and can be heard in the vicinity of Buffalo's WWKB-1520. Be careful, however, for interference from a nearby TV produces a light "buzz" on splits. With experience you will learn to tell the difference.

The eleven year solar cycle has a bearing on international DX. The quieter the better for TAs, the more auroral the better for LAs. But broad generalizations are suspect, for 1978 was my best year for TAs, but 1989 and 1990 have been disappointing. Most of us only DX at odd intervals, so we often "discover" good conditions for TA or auroral DX by pure chance. On any given night, something unusual may be happening, and the best way to find it is by checking out the band!

TOOLS

As a multi-band DXer, I find it hard to memorize station schedules, path of darkness or grey-line windows, so I try to have the information I need close at hand. The World Radio TV Handbook provides MW frequencies, schedules, identification announcements and interval signals, powers, SW parallels, addresses, and verifications signers. NRC's *DX News* or IRCA's *DX Monitor*, each published about 30 times per year, are filled with hot tips and strategies (see addresses at end of article). The *NRC AM Log* contains domestic schedules, networks, program and language notes. NRC's *Canadian-American Night Pattern Book* shows directional antenna patterns of North American and selected Mexican/Caribbean stations, but is sadly dated. The *IRCA Mexican Log* is a very detailed list of stations, networks, and schedules. *IRCA Foreign DX Reference* is a summary of ECNA and WCNA receptions of international stations during the past year(s). *IRCA AM-FM Almanac* (5th Edition), is a recently published compendium of just about anything related to MW DXing, including a section on MW foreign DXing. Sunrise/Sunset Charts or the DX Edge (or equivalent computer software) are essential for determining the sunset/sunrise terminator and specific sunrise/sunset times at target stations for any calendar date. Other tools include: Spanish-English, French-English, and Portuguese-English dictionaries, a good atlas, and a world almanac (for name of currency, current political leaders, national holidays, etc.). Reprinted articles concerning a variety of subjects related to MW DXing are available from the NRC Publication Center and the IRCA Reprint Center. Try to obtain a recording of national anthems from your library or music store. These are usually played at s/on and s/off times. An excellent reference is *National Anthems of the World* (edited by Martin Shaw, Henry Coleman and T.M. Cartledge) which can be found at better public libraries. It also pays to be current with different world pop musical styles, like High Life, Salsa, Ranchera, Reggae, etc. I also find it very helpful to have a digital shortwave receiver next to my old Hammarlund so that SW frequencies can be checked for MW parallels. A tape recorder is indispensable for later interpretations of identifications in unknown foreign languages. SW DXers will be interested to learn that NRC and IRCA accept recordings as an alternative form of verification.

GENERAL COMMENTS CONCERNING VERIFICATIONS

In recent years I've noticed fewer mentions of verifications of foreign broadcasters in the pages of NRC's *DX News*. This may mean that the veterans have already gotten all the QSLs they need, that newcomers are less interested, that taping is preferred, or that the response rate is way down. In any event, all of the lessons you've learned concerning shortwave QSLing strategies hold true and more so for MW DXing. Except for the admonition to write in the station's local language, I will not review QSLing strategies here. Even so, Scandinavian DX clubs report a great deal of correspondence is being received from Central and South America by those who keep at it.

MW DXers can expect a quick QSL response from governmental broadcasters in Europe. Most Caribbean stations are generally good responders, though a follow-up may be needed. Central American, South American, and African stations take the greatest persistence of all.

TARGETS

Most of the international DX targets that are listed below reflect the actual reports of hard-core ECNA MW DXers during the last two years, as reported in *DX News* (NRC) and *DX Monitor* (IRCA), and from *DX Ontario* (ODXA). Please note, however, that the following information may change without notice, due to political turmoil, hurricanes, or equipment break-down.

Abbreviations: HS = Home Service; ES = External Service; SW = shortwave; IS = Interval Signal; // = parallel; DT = Dutch; EN = English; FR = French; SP = Spanish; PT = Portuguese.

Synchro = several or more stations with high or low powers on the same frequency with the same program. If you notice an odd pattern of fades on a signal, it may be two synthros with separate fade patterns.

EUROPE

In addition to their shortwave operations, many of the governmental broadcasters in Europe transmit their international service on powerful MW transmitters. This means that a DXer can look for shortwave parallels as an aid in identifying a particular mystery station. But it also means that a station with a program in French, for example, may not be from France.

ALBANIA Radio Tirana is one of the easiest targets from Eastern Europe, because of high power with good punch and ideal split frequencies. The ES is on 1395 (1000 kW, 0500-2400), and 1215 (500 kW, 0400-2200). Also heard on 1458 (500 kW, 0400-2300). Different languages, check WRTH for likely SW parallels, and listen for RT's well-known trumpet IS.

ANDORRA A commercial station once active on 701 that could be heard in North America is now dismantled. Recent reports are that a new operation may soon begin on 819.

AUSTRIA There are several good splits to work on: 1476 (600 kW), 1026 (100 kW), and 585 (240/600 kW). 1476 is most often reported; all are 0500-2310.

AZORES While its outlets are low-power, some of them get through to ECNA. 693, 837 and 1566 have been reported in ECNA.

BELGIUM The ES on 1521 (600 kW, 0500-2230) is the best bet, but the DT HS on 927 (300 kW, 0430-2245, 0530 Su), and the FR HS on 621 (300 kW, 0430-2240, 0530 Sa/Su) are also possible.

BULGARIA High power HS outlets are 576 (500 kW), 594 (250 kW), 747 (500 kW), 828 (500 kW, 2nd HS program), 1161 (500 kW), 1224 (500 kW, sometimes parallel with SW ES), and 1296 (150 kW). All 24 hrs. It may be possible to hear parallels to the HS on 7670 and 11660 kHz, although these operate less than 24 hrs.

CZECHOSLOVAKIA 1521 (600 kW, HS, 24 hrs) is sometimes reported here, instead of Saudi Arabia. Also heard on 1098 (750 kW, 0300-2300 0500 Su) and 1287 (300/400 kW, 0400-0640 0600-0640 Su, 1400-2310 Radio Free Europe; and 1300-1400 ES)

DENMARK There is one medium wave outlet of Danmarks Radio Kanal Tre (channel 3) on 1062 (250 kW, 0355-2310).

FAROE ISLANDS Utvarp Foroya 531 (200 kW) is in Danish. The schedule is as follows: 0715-1400, 1700-2100 M-F, 0715-1600, 1830-2205 Sa, 1000-1900 Su. The station has been heard in Canada, and is said to have an EN weather report at 0800. CJFT-530 (Ft. Erie, ON) will shift to FM as of 10/91, but another Ontario station may take its place, so look for this one now!

FINLAND 963 (600 kW, 0300-2200 M-Th, 2300 F/Sa, 0400-2200 Su). Not often reported.

FRANCE Stations are regulary heard from France on Network B: 1557 (300 kW), 1377 (300 kW), 1206 (100 kW), 837 (200 kW), and 711 (300 kW) (0530-2200 0558 Su, including programs for foreign workers 0530-0600, 2100-2200); and Network A on 675 (600 kW), 1161 (100/200 kW) and 162 (2

QSL

card No. 20
(photo: Sverre Bergli)

Nils Ellingsgaard has made rosepainting his speciality, here at work with a richly ornamented clock. Rosepainting in Norway dates back to the early 18th century. It has become an important source of inspiration to modern artists.

Dear listener

We thank you for your report and are pleased to confirm that you have heard
Radio Norway International

on 1314 kHz 10 | 1 | 91

UTC | DATE | MONTH | YEAR

Sincerely yours,

~
RADIO NORWAY INTERNATIONAL
0340 OSLO 3, NORWAY

Mw) (24 hrs except 0005-0358 Tu). 162 is one of the most reliable LW TA signals.

GERMANY Stations on 783, 1044, 1323 and 1575 are from the former GDR. 1593 (WDR is one of the easiest TAs, 24 hrs with 800/400 kW), 1539, 1422, 1269, 1197 (EN language US Armed Forces Network reportedly leaving the air soon), 1107, 1017, 936, 828, and 756 are from the Federal Republic. With the consolidation of media services following reunification, the operations are going through identification, network, and schedule changes.

GREECE 1044 (150 kW) in Macedonia has been reported, though rarely. Also rare is VOA on 792 (500 kW, approx. 1700-0700).

HUNGARY The following have been reported: Magyar Radio, Program II, 0330-2315 (0500 Su), on 1251 (500 kW) and 1341 (300 kW). Also check 1188 (135 kW).

IRELAND Listen for EN on 567, (500 kW, 0630-0048), 612 (100 kW, 24 hrs). Atlantic 252 (500 kW, 24 hrs) is a new longwave target with EN pop music.

ITALY WRTH shows Radio Uno (0500-2230) and Notturmo Italiano (0500-2230) on 846 (540 kW). 1116 (150 kW) and 1332 (300 kW) have also been reported.

LUXEMBOURG: RTL 1440 with 1.2 Mw is a possible "even" TA (1900-0300 EN). The s/on time in other languages not clear in WRTH. LW 234 is 24 hrs in FR.

MALTA Two stations share the same 600 kW 1557 transmitter, but 1991 WRTH shows conflicting use: Radio Monte Carlo (0600-0800, // 9765); Deutsch Welle (0400-0550, 0700-0750, 1200-1800, and 1900-2120, with many SW parallels).

MONACO Two stations share the same 1 Mw 1467 transmitter, but 1991 WRTH shows conflicting use: Transworld Radio (0430-0515, 1945-2350); Radio Monte Carlo (0500-1830 with Arabic). RMC also uses 702 (300 kW, 0530-1830 in Italian).

NETHERLANDS All are possible: 675 (120 kW, 0600 - 2300, 0700 Su). 747 (400 kW, 24 hrs). 1008 (400 kW, 0800-2130 Tu-Fr (2200 Sa, 2140 Su, 2100 Mo).

NORWAY Easily the best high-latitude TA on a good split. Many DXers use this as a beacon. Norsk Rikskring-kasting (NRK) 1314 (1.2 Mw, 24 hrs in Norwegian) can be heard on the coast before local sunset and through the early evening well inland.

POLAND Most often reported is 1503 (300 kW). 1206 (200 kW) is also possible. Schedule in 1991 WRTH is not clear.

PORTUGAL Also an easy low-latitude TA, with various targets, but note that Spain and Portugal often have stations on the same frequencies, so be sure that you can identify the language in use. Antena 1 666 (135 kW and synchros, 24 hrs) has also been heard by some on the "even" TA frequency of 720! Rádio Comercial is also a good prospect on 1035 (135 kW) and 1062 (100 kW), both 24 hrs, and 783 with 50 kW (0600-2400). Look for Rádio Renascença, of SW fame, on 594 (100 kW, 24 hrs). Others heard include 567, 693, 756, 1562, and 1575.

ROMANIA 756 (400 kW, 0500-2200 includes some ES programs); 855 (1.5 Mw, 0500-2100); 1152 (950 kW, 0500-2100) have been reported. Also possible are 558 (200 kW, 0400-0600, 1400-2200, 0600-1100 Su); 1053 (1 Mw, 0400-0600, 1400-2200, 0600-1100 Su); and 1179 (200 kW, 24 hrs).

SPAIN An easy low-latitude TA country, with a range of high power targets, and occasional low power stations making it across. The best has been Radio Uno 774 (60 kW the



A Radiodifusão Portuguesa agradece e verifica o relato de escuta referente à emissão transmitida no dia 31/1/88 entre as 0435 e as 0500 TMG, na frequência de 666 kHz banda de 450 metros, enviado por Jim Renfro

100 kW.

GABINETE DE RELAÇÕES PÚBLICAS - Av. Eng^o. Duarte Pacheco, 5 - 1000 Lisboa - Telex 64774

10 BEST TA BETS

10 BEST LA BETS

(see listings for schedules)

1. NORWAY	1314	1. CUBA	710
2. SPAIN	774	2. MEXICO	730
3. PORTUGAL	666	3. NETH. ANTILLES	800
4. ALGERIA	891	4. ANGUILLA	1610
5. GERMANY	1593	5. BAHAMAS	810
6. SENEGAL	765	6. CAYMAN ISLANDS	1555
7. ALBANIA	1395	7. VENEZUELA	670
8. YUGOSLAVIA	1134	8. COLOMBIA	770
9. SAUDI ARABIA	1521	9. ST. KITTS	825
10. MONACO	1467	10. TURKS AND CAICOS	1570

highest power among multiple "synchro" sites). Radio Uno is also on 585 (500 kW), 684 (500 kW), 738 (500 kW), 855 (125 kW the highest power synchro). In past years SER synchros, with low power on 1584 and 1602, have been heard. Other reported frequencies: 612, 621, 727, 837, 918, 999, 1107, 1134, 1179, 1224, 1413, 1476, 1485, 1503, 1521 and 1539. Local and regional programming can be heard 0655-0659, a good time to seek site IDs.

SWEDEN Your only chance is 1179 (600 kW, HS 0450-1600 and ES 1600-0130) during high-latitude TA conditions.
SWITZERLAND German 1566 (300 kW) is most often reported (0500-0700, 1600-2400). Look for FR on 765 (600 kW, 24 hrs). Senegal's Afro-pop mx is very distinctive, if you are worried about confusing the two. Also Italian on 558 (300 kW, 24 hrs).

U.S.S.R. Difficult, but stations have been heard on 1089, 1143, 1215, 1386, and 1548. Listen for the distinctive Mayak IS of SW fame, but be aware that various republican services are now carving out separate slogans and Interval Signals.

UNITED KINGDOM The BBC has several services, each with high and low power synchronized transmitters: Radio One on 1053 and 1089 (150 kW, 0500-2300); Radio Three 1215 (100 kW, 0655-0035, 0005 Sa/Su); and Radio Five 693 and 909 (150/200 kW, 0600-2400). Some of these networks are expected to go commercial in the near future. BBC WALES can be heard on 882 (100 kW, 24 hrs). BBC Ulster NORTHERN IRELAND is on 1341 (100 kW, 24 hrs).

VATICAN CITY Vatican Radio is well heard with a wide array of languages on 1530 (300/600 kW, 0250-1100, 1400-0100) and 1611 (15 kW, 0310-1000, 1700-2100), with SW parallels shown in the WRTH. These may actually be 24 hrs. 1530 gets out very well.

YUGOSLAVIA Another easy shot at Eastern Europe is RTV Zagreb, frequently heard with western pop music on 1134 (1.2 Mw) // to the weaker signal on 1125 (300 kW). WRTH says schedule is 0400-2305, 24 hrs on Saturdays, although monitors report 24 hrs every day. These two transmissions are from Croatia, so keep an ear out for "Hrvatska" the Serbo-Croat word for "Croatia." 882 Titograd was reported in 1988.

INTERNATIONAL WATERS/EURO-PIRATES The famous Radio Caroline 819 is now off the air, probably for good. Low-power Western European pirates can be found above 1600 kHz, but none have been reported by ECNA DXers. According to recent reports, pirates are now on the rise in the USSR, probably with lower powers.

AFRICA

If you get any TAs at all, you should get at least one from Africa. Several outlets get out very well. Only the most likely countries are listed here.

ALGERIA One of the easiest TAs of all is 891, (300/600 kW, 24 hrs, and frequently audible as a het against WLS. 531 (300/600 kW, 24 hrs) is heard also. Listen for Koranic recitations.

CANARY ISLANDS COPE 882 (20 kW, 0700-2400) often produces a het against WCBS, but other outlets can be heard in spite of low power once Spain is in daylight, such as RNE-1 621 (100 kW, 24 hrs) RNE-5 747 (20 kW, 24 hrs), COPE 837 (10 kW, 0500-0100) and RNE-5 1098 (2 kW, 0800-2300). These are Spanish networks, so you will really have to dig for a local ID.

EGYPT 864 and 1107 are occasionally reported. Schedules were in flux during the Gulf War.

GUINEA Conakry 1404 (200 kW, 0600-0800, 1200-2400, 0800-2400 Su) was once very easy, but seems to have lost much of its "punch."

LIBYA 1251 and 1125 and // SW, listed as 1745-0430.

MAURITANIA 1349 (50 kW, 0630-0100, FR, AR and local languages).

MOROCCO RTM 1044 (300 kW, 24 hrs) is most frequently reported, along with "Medi Un" 612 (300 kW, 0600-0100 // 9575 0800-2100); also look for 594 (100 kW, 24 hrs), RTM 999 (10 kW, 24 hrs), 1053 (600 kW, 24 hrs) and 1197 (20 kW, 0600-0100, FR, EN, SP).

SENEGAL Dakar 765 (200 kW, 0600-2400 0700 Su) is a strong low-latitude split for those outside of Detroit and New York, heard this past season by DXers in Manitoba. FR language, with Afro-pop music. By the way, this is one of the best WCNA TA bets.

SIERRA LEONE SLBS 1206 (10/50 kW, 0558-2315 // (at times) 5980 and 3316 SW). Less frequently reported in recent years.

TUNISIA Sfax 1566 (1.2 Mw, 1600-2330) check // 7475. Arabic programming.

ASIA

Yes, a TA from this continent is very possible because of—

SAUDI ARABIA on 1521 (2 Mw, listed 0300-2300, but reportedly with extended hours during the recent Gulf conflict). The het against 1520 is quite strong through most of the winter months. Listen for recitations from the Koran and Arabic prayers (which should never be referred to as "chanting" or "wailing"). 1512 (1 Mw) has also been heard.

ISRAEL 738 (1.2 Mw, 0300-2215), TURKEY 1017 (1.2 Mw, 24 hrs), and the BBC OMAN relay 1413 (750 kW, see latest BBC sked) are also long-shot possibilities. Special Note Concerning Long-Wave TA Receptions:

CARIBBEAN

There are lots of countries here that you'll never hear on SW, with EN, FR, DT, SP, and Creole. Some are easy; some will take years of patient effort.

ANGUILLA By far and away, one of the easiest Caribbean stations is the Caribbean Beacon on out-of-band 1610 (50 kW), with EN religious programs. If it's coming in well, try for // 690 (15 kW). A good verifier. Tele-evangelist Gene Scott has reportedly purchased the Beacon and is simulcasting his TV audio on the Beacon and // KVOH 9785 SW. R. Anguilla 1505 (1 kW, 0930-1800, 2100-0210) is reported during auroral conditions.

ANTIGUA VOA 1580 (50 kW, 0000-0200, 1000-1200). Watch for its open carrier around 2350, followed by VOA EN programming. Noted in parallel with 5995. Commercial ZDK 1100 (10 kW, 0900-0504, 0956 Sa, 1426-0204 Su) and the religious Caribbean Radio Lighthouse 1165 (10 kW, 0925-0230) are good possibilities.

ARUBA Stations listed on 960, 1270, 1320 and 1440 are rarely reported outside of Florida. 1320 IDs as "Canal Noventa".

BAHAMAS ZNS-1 is widely heard on 1540 (20 kW, 24 hrs), especially during auroral conditions. ZNS-3 on 810 (1 kW, 24 hrs) can be heard with WGY nulled. The station has not been responding to verification requests in recent years. ZNS-2 1240 (1 kW) is a tough target. ZLS, a morse code beacon, is now on 526 and being widely heard.

BARBADOS CBC 900 (10 kW, 0855-0500) and VO Barbados 790 (20 kW, 0900-0500). Both tough due to domestics, Cuba and Mexico.


CAYMAN ISLANDS Radio Cayman is fairly easy to hear on 1555 (10 kW) and 1205 (1 kW). WRTH schedule is 1100-0400, but it is often on later than this. Caribbean accented EN with pop music. A good verifier.

CUBA For most DXers, Cuba is more obstacle than target. Radio Taino 1180 (also check 830, 1040, 1100) is easily heard with programming in EN and SP. Most other Cuban stations come in bunches, an easy one being Radio Reloj 760 whose programming consists of continuous news over the sound of tick-tick and "RR" IDs every minute in morse code. When you get one Reloj, look around for others. Radio Progreso can be heard on 640, 660, 740 and 880. Radio Rebelde is currently an easy one on 711 (perhaps deliberately drifted to interfere with Miami's anti-Castro WAQI-710). Rebelde programs can be heard on // 5025 and 3365v SW.

The big hint for identifying Cubans:

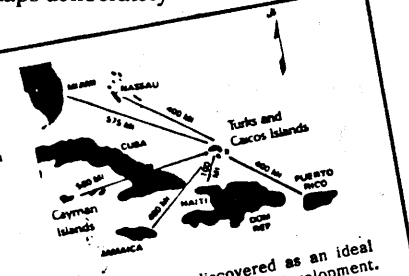
no advertising, but great music! Call letters are rarely heard, except on 840 "Dobleve" ("W").

Cuban networks are now in a state of flux, with some stations reducing power and limiting hours of operation, or carrying other networks during midnight hours. According to Arnie Coro (Radio Habana's "DXers Unlimited"), Radio Progreso stations sign off at 0500, municipal (local) stations at 0100, and provincial stations at 0400. Cuban verifications are possible, but are often non-specific and may take many months. Arnie has offered to be a conduit for MW QSL requests, and according to Harold Sellers of ODXA, he is trying to encourage site identifications at sign-off time. **GUANTANAMO AFRTS** 1340 (250 W, 24 hrs), a challenge!



Atlantic Beacon
 1570 KHZ - 50,000 WATTS
 The Communications Bridge from the Caribbean
 to the Southeastern U.S.


TURKS & CAICOS BEACON LIMITED
 South Caicos
 Turks & Caicos Islands
 British West Indies




The Turks & Caicos Islands, long the Caribbean's "secret", have been discovered as an ideal resort destination. Beautiful beach areas have been earmarked for major hotel development.

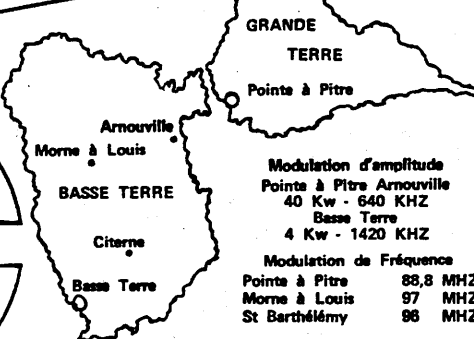
GREETINGS:
 WE ARE PLEASED TO VERIFY RECEPTION OF THE ATLANTIC BEACON
 ON Feb. 13, AT 1247 AM EST THE ATLANTIC BEACON OPERATES
 A 50KW NAUTEL TRANSMITTER INTO A TWO 5/8 WAVE TOWER ARRAY.
 THANK YOU FOR YOUR DETAILED REPORT.

J. J. [Signature]
 735 & GOOD DXING *CE*



B.P. 402 POINTE À PITRE
GUADELOUPE
 TéléDiffusion de France





GRANDE TERRE
 Pointe à Pitre

Arnouville
 Morne à Louis

BASSE TERRE
 Citerne
 Basse Terre

Modulation d'amplitude
 Pointe à Pitre Arnouville
 40 Kw - 640 KHZ
 Basse Terre
 4 Kw - 1420 KHZ

Modulation de Fréquence
 Pointe à Pitre 88,8 MHZ
 Morne à Louis 97 MHZ
 St Barthélemy 98 MHZ

DOMINICA DBS 595 10 kW (0930-0230, 0955 Su) can be heard during auroral conditions.

DOMINICAN REPUBLIC There are several opportunities to hear the DR. R. Amanecer 1565 (5 kW, 1000-0300) is a religious station with SW // 6025. This one verifies. Also look for R. Clarin 860 (50 kW, last reported SW // 9950), R. Central 1040 (10 kW, 24 hrs), R. Mil 1180 (10 kW, 0930-0500), R. Continental 890 (5 kW, 0930-0600), and R. Universal 650 (20 kW, 24 hrs).

GRENADA R. Grenada 535 (20 kW, 0957-0400/0200Su) is on a good split, if your receiver tunes this low!

GUADALOUPE RFO 640 (40 kW, 24 hrs) can be heard during auroral conditions. Listen for FR under Cuba and Venezuela. Difficult, but possible, if you keep looking for it.

HAITI La Voix Evangelique is on two channels: 1030 (10 kW, 0900-1000 & 1900-2200 SP, 1000-1300 2200-2300 EN) and 840 (10 kW, 0900-0200 Creole and FR), with religious programs. A recent QSL letter explains that these stations are currently operating with earlier s/off times due to high cost of generator fuel. 840 was heard with Christmas music, and "Amazing Grace" IS during evenings in December, 1990. St. Lucia also has FR on this frequency, so listen carefully for IDs.

JAMAICA There are two networks, both easily heard. JBC's Radio One is on 700 and 750 (10 kW, 24 hrs), heard well at night and at sunrise with Caribbean accented EN, reggae and other pop music, ads, talk shows, etc. RJR, with similar programming, is heard on 720 (10 kW), and 770 (5 kW). It also gets out quite well on 580 (10 kW, 24 hrs). JBC doesn't seem to verify, but QSL cards have been received from RJR.

MARTINIQUE R. Caraibes 1090 (20 kW, 24 hrs) has been heard on rare occasions, in FR.

MONTSEERRAT Stations on 740, 885, and 930 were hard hit by a hurricane a few years ago and are off the air. Reports indicate that R. Antilles 930 is under construction with 80 kW, and will transmit BBC, VOA, RCI, and Deutsche Welle programs.

NETHERLANDS ANTILLES A real powerhouse is Transworld Radio 800 (500 kW), with religion in SP, PT and EN. Daily schedule is 2159-0430, 0659-1258 (later on Sa and Su). Excellent verifier. PJZ, Radio Z-86 860 (10 kW) has not been reported in some time, but programs are in Papiamentu, a Caribbean form of DT/SP.

PUERTO RICO A glance at the NRC night pattern book shows why Puerto Rico is so hard to hear: most station patterns are directional away from the continental US. Scandanavian DXers hear more PR stations than we do. A good prospect is WIAC 740 (10 kW), which since the big hurricane has been apparently less directional. WRTH says 0859-0400, til 0600 Fr and Sa. WKAQ "Radio Reloj" is a good target on 580 (10 kW) and WQBS (5 kW) is worth checking for on 630.


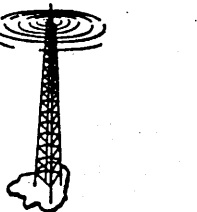
ST. KITTS A good country for splits. Radio Paradise 825 is widely heard in EN (50 kW, 0900-0400, Sa 0500). Voice of Nevis (or VON) 895 (10 kW) is a new station on the island of Nevis, but not often reported. ZIZ 555 (20 kW, 1000-0400) is another split, not reported lately.

ST. LUCIA SLBS 660 (10 kW, 0925-0300) in EN and Creole is sometimes reported. There is a 1 kW relay on 625. R. Caribbean International 840 (20 kW, 0500-1900) in EN and Creole with pop music is only possible at sunrise, due to limited schedule, but it may resume late night operations in Patois/EN quite soon.

ST. VINCENT NBC 705 (10 kW, (0930/1000Su-0300/0400FrSa/0200Su) is a split that sometimes gets through under auroral conditions.

TRINIDAD AND TOBAGO Sometimes heard on 730 (20 kW, 24 hrs). Less likely on 610 with 50 kW (0845-0600) —reported by Medium Wave News (UK) to have shifted to 620 as of 3/91.

TURKS AND CAICOS There are two chances to hear this island group, one fairly easy, the other much more difficult. The Atlantic Beacon 1570 (50 kW, 24 hrs) has been heard in WCNA with US-based religious programs from

	<p>50,000 Watts ST. KITTS WEST INDIES 825 AM</p>	<p>THIS CONFIRMS YOUR RECEPTION OF RADIO PARADISE ON .. 73-10-82 GMT ON 03/5</p>
<p>P.O. BOX 423, ST. KITTS. W.I.</p>	<p>TEL.: 809-465-3221</p>	<p>73/S THE GOSPEL VOICE OF THE EASTERN CARIBBEAN</p>
<p>SIGN ON 05.00 AST 09.00 GMT AND PROGRAMS 19.5 HOURS DAILY</p>		<p>ST. KITTS IS THE "MOTHER ISLE" OF THE CARIBBEAN, ALONG WITH NEVIS - ONE STATE, AND LIES AT THE NORTH-EASTERN END OF THE ISLANDS.</p>
<p>IVAN A. D. HAMILTON Engineer</p>		<p>DISCOVERED BY CHRISTOPHER COLUMBUS IN 1492, 33 MILES LONG AND 6 MILES WIDE, CENTRAL MOUNTAIN RANGE CLIMAXING AT 3,792 FT. POPULATION OF 47,000</p> <p>THE BEST CLIMATE 24 HOURS A DAY, 7 DAYS A WEEK, 4 WEEKS A MONTH AND 52 WEEKS A YEAR.</p> <p>COME TO ST. KITTS - NEVIS</p>

RADIO JAMAICA

RJR-AM (The Supreme Sound)

NAGGO HEAD (Kingston and environs) 720 KHZ (10,000w)
MONTEGO BAY 550 KHZ (5,000w)
SPUR TREE (Near Mandeville) 770 KHZ (5,000w)
GALINA (Near Port Maria) 580 KHZ (10,000 w)

CAPITAL STEREO (FM)

KINGSTON 92.7 MHZ AND 95.7 MHZ



Radio Jamaica Ltd.,
32 Lyndhurst Road,
P.O. Box 23,
Kingston 5, Jamaica
Telephone: 926-1100 Cables: Broadco

11th December 1983

Dear Mr. Renfrew,

This is to confirm your report of reception of
Radio Jamaica on a frequency of 580Khz
on 13th December 1982
as being correct and that the programme was
broadcast by us.

Yours truly,

Chief Engineer,
RADIO JAMAICA LTD.

its transmitter on South Caicos Island. It verifies from a US address. Radio Turks and Caicos 1460 (2.5 kW, 1100-0400 0315 Su) has been heard as far north as New England along the coast, but rarely inland.

VIRGIN ISLANDS (US) Very tough. Best chance is WVWI on 1000 (5/1 kW, 24 hrs, 1000-0400 SaSu), heard in Florida in 1991.

VIRGIN ISLANDS (British) ZBVI 780 (10 kW, 1000-0200, 1100-0100 Su) is often heard in early evening hours, before WBBM comes in. Recently reported in DX Ontario to be signing off at 0400, with a new 5 kW transmitter, hoping to go to 10 kW soon.

CENTRAL AMERICA

BELIZE Once an easy split on 834, Radio Belize is now much harder on 830 (10 kW, 1100-0600). A good verifier. VOA has relays on 1530 and 1580 (50 kW, 0030-0400, 1200-1430), according to a recent VOA schedule, with likely SW parallels (but note that VOA Antigua is also on 1580).

COSTA RICA A variety of commercial outlets are audible on 530, 670, 730 (R. Reloj is also 4832 and 6006 short-wave), 760, 980 (the old R. Impacto), and 1120 (as high as 1127).

EL SALVADOR YSS, Radio Nacional, on 655 (10 kW) is widely heard between and WSM and WFAN with music and time checks, although not as frequently as in past years. I heard their full data network s/off at 0400 in 11/89.

GUATEMALA TGW 640 (50 kW, 1055-0600) used to be commonly reported. Its signal was extremely over-modulated when I last heard it 8 years ago. Radio Cultural is sometimes reported on 730 (10 kW (0955-0730 // 3300 and 5955 SW) with SP and EN.

HONDURAS A country with many drifting stations, so unlisted splits that you may discover might be Honduran. LV de Honduras, HRN, 670 (1 kW) is the one most often reported. Stations on 880 (10 kW) and 890 (10 kW) are also reported. Recent splits include: R. Paraíso 1162, R. Latina 1255 and R, Danlí 1372.

MEXICO Mexico is, of course, fairly easy to hear on some channels, but also provides a great challenge on others. XEX 730 (100 kW) is heard regularly, in spite of Canadian interference. XEW 900 (250 kW), XEQ 940 (50 kW), and XEWA 540 (150 kW) are also regulars in many US locations. XERF 1570 (250 kW) is a high power "border blaster" with programming in EN for US listeners. At least one SW parallel comes into play, as XEEP 1060 (6185 kHz) is frequently heard under KYW (also a great music program in morning hours). IRCA has produced an incredibly detailed Mexican log, based upon observations from border areas, correspondence with Mexican networks, as well as travel loggings. The log indicates call letters, networks, hours of operation, and transmitter powers. There is a major shift in frequencies taking place in Mexico, with many stations now switching to US clear channels. XESFT 780 is one such station not far from the Texas border that is now heard under WBBM. What additional challenges after hearing a few from Mexico? See what you can hear from the various Mexican states, such as XEDM 1580 in Sonora and XED 1050 in Nuevo Leon.

NICARAGUA Since the change of government in late 1990, the broadcasting scene has been in a state of flux. R. 19 de Julio 555 (10 kW, 1100-0400) was heard for many years on this split, but less so recently. R. Ya was well heard this past season on 601 (10 kW, 1000-0600), but has now settled on 600. Jeff White in DX Ontario reports that out of power Sandanistas are using equipment removed from R. Nicaragua SW for R. Ya. Other stations reported include R. Católica 720 (10 kW, 1200-0400) and R. Sandino 750 (50 kW, 1000-0600).

PANAMA The only one I've heard in the northeast is R. Nacional on 770 (10 kW, 24 hrs). R. Nacional 1015 (3 kW)

is a split that is heard on occasion. CANAL ZONE US forces' Southern Command Network 790 (10 kW, 24 hrs) is obviously quite a challenge.

SOUTH AMERICA

ARGENTINA Perhaps your last, best chance for the Southern Hemisphere. Several DXers, in recent years, have heard Radio Nacional on 870 (100 kW, 24 hrs) with distinctive time pips on the hour under WWL/WHCU.

BRAZIL In order to hear Brazil, it is necessary to give careful study to Sunrise/Sunset charts and operating schedules, where known. DXers

from New England or Long Island occasionally report Brazilians. The only one I have seen in the last two years was R. Record 1000 (200 kW). The best time to listen is at Brazilian morning s/on.

COLOMBIA The full range of possibilities is extensive, but the best bets are CARACOL 810 and 700 (24 hrs, 250 kW // CARACOL SW outlets). A station that seems to have the best punch toward the NA interior is RCN 770. Stations on 650, 760, 780, 850, 870, 890, 1040, and 1100 are frequently heard, most 24 hrs. The WRTH list of network affiliates is very helpful to have on hand. Stations on the northern Caribbean coast get out quite well. High-powered CARACOL 700, in Cali, is tantalizingly close to Ecuador. Also try for MER morse code beacon on 1685 (1 kW) before the domestic band extends to 1700 kHz.

ECUADOR Very difficult. The best bets occur when an Ecuadorian drifts off-frequency. None were reported to IRCA and NRC in the last two years, though WCNA DXers have occasionally heard R. Superior 890. Werner Funkenhauser reports reception of Radio Católica Nacional 880 in January 1987 at s/off. I heard my only Ecuadorian, Ondas Orenses, on 915 at 0430 in October, 1983. It may be easier to try for the LAG beacon on 1665 (1kW).

FRENCH GUIANA RFO 1070, (10 kW), is rarely heard. WRTH says it carries Radio France's "Inter" program 24 hrs, and is not parallel to 3385/5055/6170 SW.

GUYANA Very tough. GBC broadcasts on 560 (0730-0300 irr. 24 hrs) and 760 (0800-0200), both 10 kW, // 5950 (if on the air).

SURINAM Radio Nickerie 914 (3 kW, 0930-1700, 1930-0100), is a possibility as a split frequency. Mainly Samami Hindi, with some DT and Javanese.

VENEZUELA A country where it is possible to hear a fair number of stations, even on nights when conditions are otherwise poor. Best bet is R. Rumbos 570/670 (100 kW, 0900-0600) from two transmitter sites // 4970/9660 SW. Distinct door bell tones between songs. It gets in well, even if Cuba is strong on 670. Other targets: 540 R. Mundial Perijá (0900-0400), 550 R. Mundial (24 hrs), 640 Ondas Porteñas (24 hrs), 700 R. Popular, 720 R. Visión Oriente (0900-0500), 740 R. Maracaibo (0900-0400), 740 R. Caroní (tantalizingly close to Brazil!), 750 R. Caracas (24 hrs, 100 kW), 780 Ecos del Torbes // 4980 (0900-0400/0600SaSu), 780 R. Coro (new, and quite strong, with many TCs between songs, 24 hrs), 830 R. Sensación (0900-0500), 1020 R. Mundial Margarita (quite easy under KDKA, 0955-0500), 1080 R. Barcelona, 1120 Ondas del Lago (1000-0400, 24 hrs SaSu) and 1200 R. Tiempo (24 hrs). The NA is frequently heard at s/on, s/off and at AST midnight. Watch for AST s/ons on open frequencies in the morning. R. Nacional is testing on 1240 (1 Mw) during limited hours, but may be off the air now due to complaints of interference.

BOLIVIA, CHILE, FALKLAND ISLANDS, PARAGUAY, PERU, and URUGUAY are extremely rare. Peru and Bolivia are only likely on drifting or split frequencies, and even when audible are usually too weak to identify. 985 Peru was heard in 1989.

NORTH AMERICA

ALASKA To my knowledge, no stations from Alaska have been heard in ECNA in many years.

BERMUDA The best bet is VSB-3 1160 (1 kW, 24 hrs), with BBC relay programming some of the time. The frequency is getting more and more congested, but this station is being heard. Also on 1280 and 1450.


GREENLAND Rarely heard outside of Canada and Scandinavia, and no longer on SW. Stations on 650 and 720 are the best bets, scheduled 1000-0300 (1100-0205 Su).

NEWFOUNDLAND A good target for this "country" is CHCM 740, on the air 24 hrs since a commercial station

Sector Sabana Grande
CARACAS - VENEZUELA

TARJETA POSTAL

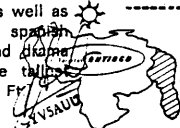
No. 084
B



<p>YVLX 570 50/100 Kw.</p>	<p>YVLL 670 50/100 Kw.</p>	<p>YVLLK 4.970 10 Kw.</p>	<p>YVLM 9.660 10 Kw.</p>
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This is to confirm your report on 670 KHZ on 20-10 19 89 AT 1030-1110 GMT

Radio Rumbos is the head of a National Network formed by more than 15 stations across the country. Is located in the capital city of Caracas. A city of 3 million hab. 2950 Ft. Above sea level, year round temp. 74°F. Called the city of eternal spring. R. Rumbos has been first in National Audience for many years as well as the network. All our programs are in Spanish and we cover sports, news, music and drama to complete. 24 hours. We have the tallest commercial tower in Latinoamérica 900 Ft. 73DX Best Wishes



JIM RENFREW STREET
ROCHESTER, NY 14607

USA

picked up this former CBC frequency. The oldies program punches through quite nicely. As the bombs began falling on Baghdad, CBL 740 in Toronto has gone 24 hrs, but I heard it in CBL's null one night at 0600, so it continues to be a potential target. The station is a relay of 590 and IDs as VOXM. A good verifier.

ST. PIERRE ET MIQUELON Two small islands off the coast of Newfoundland are French territory, with their own RFO outlet on 1375, with 20 kW. Schedule is 0930-0230 local programming, 0230- 0930 with Radio France's "Inter" program. When this station is in, it is a good indicator of TA conditions, but don't confuse it with France on 1377!

TRANS-PACIFIC

These are only likely at ECNA sunrise, and are quite rare. I have always heard that best reception possibilities are at the equinoxes, but, alas, have no personal experience of this!

AUSTRALIA 738 and 774 have been reported. Use ABC domestic SW parallels to help in identifying these (see WRTH). Great challenges are Radio for the Print Handicapped (RPH) outlets on interference-free 1620 and 1629, which have been heard in Ontario (D. Clark), Massachusetts (R. Moore), and Alabama (K. Atkins), but which are leaving these frequencies for FM or other mid-band MW frequencies. Fall, 1991 might be your last chance!

JAPAN There have been hints of carriers from Japan in ECNA, but not recently. Look for NHK 500 kW outlets on 747, 774 or 873.

KIRIBATI 846 Tarawa (10 kW, 1825-2000, 2355-1030, 0555-0930 Mo-Fr, 1825-0130, 0555-0930 Sa, 2355-0130, 0555-1100 Su // 14917.7 SW), is occasionally reported, but usually only the het.

TAHITI 738 (20 kW, 24 hrs) with FR and Tahitian sometimes gives a tantalizing het.

Ray Moore heard TP hets in October, 1990 on 747 and high-end 1548, 1566, 1575, and 1593 ten to twenty minutes after local sunrise.

LONGWAVE

There is not enough space to detail international Long-Wave DX, but I will simply note that some countries are only likely on LW: ICELAND 207 (off the air at date of writing for antenna repairs, expected to return with 500 kW) and LUXEMBOURG 234 (unless you can get it on the "even" TA of 1440 kHz). LW stations are good MW TA beacons, and MW clubs encourage the submission of longwave loggings. LW is more likely to suffer from local noise, and there is frequently interference from one of the many non-directional aeronautical and marine beacons using this band.

MW CLUB ADDRESSES

The best way to keep up with the International MW hobby is to become a member of one of the following North American clubs, and/or make use of their extensive reprints services.

International Radio Club of America (IRCA), c/o Ralph Sanserino, 11300 Magnolia #43, Riverside CA 92505 USA. IRCA Reprint service is c/o Steve Ratzlaff, 295 Pettis Avenue, Mountain View CA 94041 USA. Exclusively dedicated to Medium Wave DXing.

National Radio Club (NRC), P.O. Box 118, Poquonock, CT 06064 USA (subscriptions); P.O. Box 164, Mannsville, NY 13661-0164 USA (publications/reprints—Catalogue \$1.00). Exclusively dedicated to Medium Wave DXing.

Ontario DX Association (ODXA), P.O. Box 161, Station 'A', Willowdale, Ontario M2N 5S8 Canada. Monthly column on International Medium Wave DXing, loggings from Ontario only.

THANK YOU!

This article would not have been possible, except for the relatively small group of avid MW DXers who continually report all of their loggings to their respective clubs. Thanks to all, and keep those reports coming! Also my appreciation goes out to Werner Funkenhauser, Harold Cones, David Clark, Nick Hall-Patch, Kevin Atkins, Fritz Mellberg and John Bryant for their helpful suggestions regarding the presentation and content.