

# Your First 40 Transatlantic Countries

(AND THEN SOME) by Mark Connelly -OCT '82  
W A I T I O N

This article intends to prepare the Transatlantic (TA) DXer for the 1982-1983 season with an updated list of countries in approximate order of reception ease, along with information about best reception frequencies & times. Propagation analysis strategies are also brought into play.

As most TA DX is reported by those living in the northeastern US and south-eastern Canada, the reception notes have been formulated with this area in mind. Midwestern (Great Lakes area), southern (FL, GA, TX, etc.), and northwestern (OR, WA, BC, etc.) DXers also hear the TA's: many of the reception notes may be of use to listeners in these areas, but differences do exist - especially with regard to east coast sunset DXing information not applicable to those farther west. Of course, Brian Vernon up near the North Pole is a completely separate TA DX case unto himself: a strategy for his site would bear little resemblance to that for any DXer in the lower 48 United States.

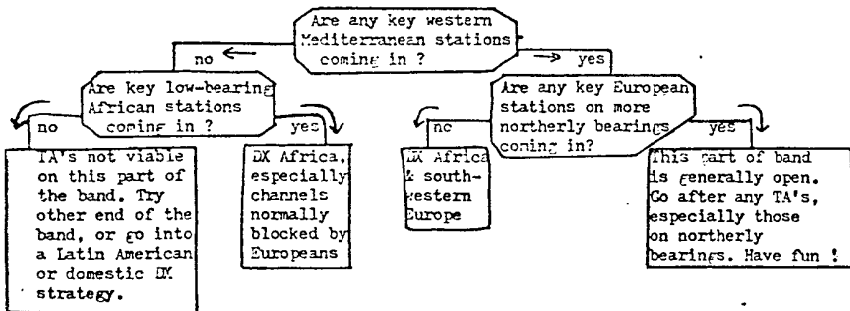
As a preface, the prospective TA DXer should have access to worldwide sunrise/sunset tables, a copy of the latest World Radio-TV Handbook (WRTVH), and a suitable receiver. The receiver and antenna required to hear TA's is dictated largely by the listener's location. Armed with no more than a car radio with whip or an unaided Realistic TRF, a DXer will have no trouble pulling scores of TA's if he's at Waterfront Park in Boston in autumn & winter. Even if it's auroral, some of the big Africans should show. For those not lucky enough to be at a perfect site with ocean towards Europe/Africa and obstructions towards most domestics, better receivers and antennae will be required. A good communications receiver with tight filters (e.g. R90A, R7, HQ180A) and an amplified high-Q-tuned air core or ferrite loop, possibly augmented by phased longwires or Beverages will definitely help you haul in more TA's, regardless of your location.

Inexperienced DXers should hone careful split-station tuning skills by practicing on powerful Pan-American splits such as St. Kitts - 825 and Surinam - 725. Keep tables of TV "birdy" frequencies & LA splits at hand: not all non-10-kHz. channel signals are from Transatlantics.

The quickest way to ascertain whether TA DX possibilities exist is to check several frequencies known to have strong signals under even mediocre, let alone good, conditions. The stations checked should be distributed evenly between low-band & high-band and between lower latitude & higher latitude bearings. Actual stations checked may differ as a function of time.

A working TA DX strategy is outlined by the following block diagram & tables of key stations:

Strategy Block Diagram - Flow chart to be executed for high-band stations and for low-band stations (key stations in tables to follow)



Key stations to use in "decision blocks" of strategy diagram

Low band (500 - 1000 kHz.) run	(2000-2400) local sunset	(3000-0400) mid-evening	(0400-0800) TA station dawn
<u>western Mediterranean:</u>	Spain - 738 Portugal - 756 Spain - 774 Algeria - 891	Spain - 738 Spain - 774 Algeria - 891	Spain - 738 Spain - 774 Algeria - 891

low-bearing African:	Senegal - 765	Canary Is. - 621	Senegal - 765 (after 0600)
<u>higher-bearing European:</u>	UK-648,693,882,909 E. Germany - 783 W. Germany - 756 (compare the two Germans listed w/co-channel Portuguese)	UK- 882, 909 W.Germany - 756	UK-693,882,909 W.Germany-756 Holland - 747
<u>High band (1000 - 1700 kHz.) run</u>	<u>local sunset</u>	<u>mid-evening</u>	<u>TA station dawn</u>
<u>western Mediterranean:</u>	Tunisia - 1566 Monaco - 1467 Albania-1395	Spain - 1224	Tunisia - 1566 France/Malta-1557 Monaco - 1467
<u>low-bearing African:</u>	Mauritania - 1349 Guinea - 1404	Guinea - 1404	Mauritania - 1349 Guinea - 1404
<u>higher-bearing European:</u> ( & Middle East )	Saudi Arabia-1521 W. Germany-1422, " " 1593 UK - 1053, 1089	UK-1053,1089 W.Germany-1422, " " 1593	UK-1053,1089 W.Germany-1422, " " 1593

When using the above TA-hunting strategy, the DXer must keep station operating schedules in mind: consult the WRTVH and the country-by-country breakdown to follow. The concepts presented in the previous strategy may someday find application when computer-controllable receivers become common.

Most experienced TA DXers have evolved one or more working schemes possibly similar to the above. Occasionally, a departure from standard TA hunting schemes in favour of a complete bandscan, or search for split-frequency-station-caused heterodynes from the bottom of the dial to the top, is advisable.

Check WWV (2.5, 5, 10, 15, or 20 MHz.) at 18 minutes past the hour from time to time to keep abreast of A & K index information. Some DXers have found that keeping track of these numbers has helped to give their DX activities a sense of direction and has helped them correlate these indices of geomagnetic activity with real-life TA DX propagation patterns. The A index (A fr: A index, Fredericksburg, VA) is that most commonly mentioned in DX circles. It ranges from 0 to over 100. Favourable high-latitude TA DX conditions are associated with several consecutive days of low geomagnetic activity (A indices less than 6). Disturbed conditions are indicated by somewhat higher A numbers: often such conditions produce short-skip and/or semi-auroral conditions with low-band receptions limited to the western Mediterranean region of Europe (Spain, Portugal, southern France) and Africa. Higher-latitude stations may still get through on frequencies above 1400 kHz.; such stations (e.g. 1593) often exhibit fast-flutter type fading. Really auroral conditions occur with high geomagnetic activity (caused by solar disturbances) when the A index soars above 20. The only TA's likely to be heard are Africans well to the south of the Mediterranean coast countries - - check Guinea-1404.

During a heavy aurora, it's best to concentrate on Caribbean & South American DX. The really choice Africans are generally only heard with Beverages at the beach, preferably from outer Cape Cod or from Maritime Canada (à la Mike Durn). Such aerials should be over 400 metres long, aimed at a 105°±10° bearing away from the DX shack.

The author has found that a loose correspondence between the A indices and real-life propagation exists and that obtaining these numbers provides an interesting supplement to DX information; however, a DXer should always check key stations (using a TA strategy similar to that outlined earlier in this article). Never write off a potential DX session before checking actual MW receiving conditions just because the WWV propagation alert sounds discouraging.

Autumn and winter provide the best TA DX but some TA's can be heard year 'round. Spring and summer can provide unique opportunities especially with regard to high-band Iberian peninsula stations. These stations remain in darkness well after the summer sun has risen at co-channel transmitter sites in more northerly countries, such as West Germany. Many Africans have been received in May, a month not generally considered good for DX. Historically, late August through early April has been thought of as the TA "DX season": late September through early January is usually the best part, as the "mid-winter anomaly" (thought to be related to the effects of lower ionospheric temperatures) slows things down a bit in the latter part of the winter. Around Christmas & the winter solstice, one can profit from the fact that darkness lingers longer in northern Europe than in the Mediterranean: e.g. as Algeria - 549 enters daylight and fades, the West German on that channel is left in the clear long enough

to get reception report details or a good tape. A brief sunset/sunrise chart is included as an appendix to this article; longer ones (both in map & tabular forms) are available as NRC & IRCA reprints.

#### ID'ing stations

Stations in English, of course, present no problem. Such stations represent a very small piece of the TA DX pie, unfortunately. On other stations, the frequency & the language certainly get you a long way, at least towards a tentative ID. Use shortwave broadcasts to get accustomed to the sound & some of the rudimentary vocabulary of a number of languages from the three major European groups: Germanic, Romance, and Balto-Slavic. If the station is the only one on the channel listed with the language heard, if it has been reported by other DXers in your area, and you hear other stations close in terms of frequency & in location to the station in question, you can pretty much log the catch with about 90% certainty. That last 10% of doubt can be removed with reception of a formal ID (generally heard at the top of the hour); an interval signal (some, such as Albania's trumpets, are very distinctive); or, in the case of the rare commercial station, advertisements mentioning local cities or brand names peculiar to one country. One must dig for as much identification material possible, especially if the language being used cannot be recognized by the DXer or if several different countries are on the channel with the same language or similar-sounding languages. Stations such as Vatican City, the Albanians, Monaco, & the France-Culture outlets may run many different languages within a short time span; furthermore, what one hears on one of these outlets at a given time one evening may be replaced by programming in a different language at the same time the following night. Format (e. g. rock music or religion) or cities & people mentioned on news broadcasts are supplementary pieces of information which may help to nail down an ID.

Other DXers may be able to dissect information from a tape that, to the original recipient of the signal taped, sounds like gobbledygook. In the early '70s, a peak period in terms of scientific DXing, DX bulletins published the EBU List with precise frequency measurements and drift data on TA stations. PFM (Precision Frequency Measurement) and SAH (Sub-Audible Heterodyne) analysis techniques were briefly in vogue as additional tools to ID TA's. Loop direction-finding (DF'ing) may also help, once a DXer has accurately calibrated a bearing chart by using both a compass (and/or solar position) and nulls of known-location TA DX, LA DX, and domestic stations on a number of frequencies throughout the band.

TA DX stations heard, even routine ones, should be reported to the two principal international DX columns. What somebody in MA or on LI thinks of as routine is probably a good catch in the midwest. To stimulate TA DX from sections of the US away from the east coast and to aid in the study of propagation patterns, report all TA's. For those "into" propagation study, the emergence of the home computer has helped to take much of the "dogwork" out of such studies.

In the list to follow it should be noted that stations' schedules change, so sign-on (s/on) & sign-off (s/off) times are only occasionally given; all times given are in GMT/UT. Recent DX bulletins, the latest WRTVH, local sunset, and European/African sunrise charts should be consulted to determine likely times of fade-in, s/off, s/on, and fade-out for specific stations.

40 selected Transatlantic countries, in approximate order of reception ease (from MA) over the course of a single DX season (SEP to APR), based upon frequent listening at times evenly distributed between local sunset and transmitter sunrise. (Frequent listening means a daily average of 30 minutes DXing time).

Note: St. Pierre & Miquelon - 1375 is not considered a TA for the purposes of this article.

#### CATEGORY A: VERY EASY

1. ALGERIA Algiers on 891 is generally the strongest TA signal heard in the north-eastern states. It is present even during mediocre openings (therefore, a good propagation beacon). Best reception is from half an hour before local sunset to an hour after sunset: WLS - 890 QRM is at a minimum during this period. Even later in the evening, this station gives WLS a run for its money, hetting it strongly and, on better nights, completely swamping it out (WLS becomes the het). In such cases, a TRF or car radio does fine. Programming on 891 is primarily Arabic music & talk. A few times French has been noted. Other Algerians are frequently noted on 531 & 549 (both often parallel to 891). 576, 1422 and others are also occasionally reported. The Algerians are usually heard running all-night schedules.
2. SPAIN Like Algeria, Spain is on a southerly TA bearing less subject to auroral blanking than bearings to northern Europe. Spain has many high-powered, largely all-night split stations for the newer DXer to hear with unsophisticated gear; these big stations (mostly the government RTVE-RTE outlets) help to tip off experienced DXers to the possibility of receiving the scores of lower power private stations in Spain. The big channels include 585, 639, 684, 729, 738,

774, 855, & 1359. Several others are also good, especially at shore sites just after sunset. Local channels, especially 1314, 1413, 1476, 1485, 1503, 1584, & 1602 have also provided good DX opportunities. All stations program in Spanish; music may be either pop or classical.

3. FRANCE As one of Europe's larger countries - in terms of land area, population, and industrial output - France, not surprisingly, has many powerful transmitters. Many do not operate a 24-hour schedule, so they are best heard before 2300 and after 0500. Schedules vary, so check recent DX bulletins & the WRTVH. French talk (including drama) and a wide variety of music may be heard on 711, 837, 864, 945, 1071, 1161, 1206, 1377, 1494, & 1557. Programs often feature alternating male & female announcers. Several of these outlets run the France Culture program which includes non-French programming: Arabic, Spanish, and a number of other languages (including Slavic tongues) may be noted. Checking parallel frequencies is the quickest way to ascertain whether a station not transmitting in French is one of the France Culture outlets or something in a completely different country. Although longwave is beyond the scope of this article, the superpowered outlet at Allouis on 164 kHz. should be mentioned as a TA propagation beacon of sorts.
4. MONACO A superpowered transmitter on 1467, used by Transworld Radio & Radio Monte Carlo, makes this small nation one of the easiest Transatlantic countries to hear. From local sunset to 0900 GMT, religious programming in several languages has been noted: English may be heard until 2330, then a half hour containing Spanish and/or French before s/off. S/on with open carrier & a characteristic 'music-box' interval proceeds from about 0400 to 0445 or 0500, then German programming commences. Lately, some have noted the open carrier running throughout the evening from 0900 to 0500 s/on. If this could be depended-upon or if 1467 went to 24-hour programming, we would have a very valuable high-band mid-latitude TA propagation beacon, indeed.
5. SENEGAL Dakar on 765 is among the most consistent TA signals: this is due largely to its bearing, 104° from MA., very southerly for a TA. Auroral conditions that totally wipe out European reception and severely attenuate Mediterranean area North African stations frequently leave Dakar unscathed; in fact a moderate aurora sometimes provides enhancement of 765, in terms of real strength as well as in terms of improved readability due to reduced QRM. This station is generally off the air from 0100 to 0600, although this may vary somewhat. The local sunset period is especially good at coastal locations; the transmitter sunrise period is of possible use to those inland (as well as on the coast) because of higher incoming skip arrival angles. The 0600 to Dakar dawn period, unfortunately, is during a time of much greater WABC & WJR slop than one encounters at sunset. Dakar - 765 runs French, Arabic, and a variety of local African languages; music is quite diverse - from Arabic-Islamic chanting, flutes, & violins to soul/reggae to exotic central African folk melodies.
6. PORTUGAL Projecting out on the western end of the Iberian peninsula, Portugal has a relatively low-loss path to the USA. Local east coast sunset provides the best opportunity to log Portuguese stations: a number of them go off between 0100 and 0500. When they return to the air (around 0500-0600), QRM both from co-channel Europeans and from stateside stations is generally worse than it is during openings prior to 0100. Those who like even (10 kHz. multiple) channel TA's may find that Norte-Azurara, Portugal on 720 kHz. is one of the easier ones: you certainly don't need tight selectivity to get this one at sunset, although being at least 150 miles from WOR - 710 would certainly help. Get this one before the FCC, in its infinite wisdom, fills up 720 with all sorts of eastern US fulltime domestics. Don't confuse it with YVOZ - 720 (in Spanish) which may also appear at sunset. Portuguese is a somewhat nasal language, intermediate between Spanish and French in sound. The best bets for Portugal include 666, 756, 783, 1035, & 1062. 755 & 1062 run classical music, primarily, with infrequent Portuguese announcements. These are best at sunset. 666, 783, 1035 run mostly popular music with frequent periods of Portuguese talk, including phone-in talkshows & discussion programs. In the spring & summer, numerous high-band Portuguese (and also Spanish) local stations may be logged at their sunrise with no QRM from much higher-powered co-channel northern Europeans knocked out by daylight: these unique openings are the "Iberian high-bander conditions" popular with numerous DXers on Cape Cod & Long Island.
7. GUINEA Conakry on 1404 seems to be heard widely throughout the US: its high frequency, high power, and southerly (105° from MA.) bearing certainly give it a lot of kick. Unfortunately, it is plagued by inconsistent technical standards: modulation good one night, poor the next. Reports of 20 dB over 39 carrier with unreadable audio are common. Frequency stability is not gold-plated, either;

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THIS SECTION HAS A HISTORY OF CHANGING. PROGRAMMING IS MOSTLY IN FRENCH, WHICH IS PRIMARILY NATIVE AFRICAN. POLITICAL CONTENT OF PROGRAMMING IS PREDICTABLY COMMUNISTIC. A NEW OUTLET ON 1396 PARALLEL TO 1404 HAS BEEN HEARD RECENTLY; STRENGTH NOT AS GOOD AS THAT OF 1404. CONAKRY - 1404 IS HEARD AT A WIDE VARIETY OF TIMES FROM RECEIVER SUNSET TO TRANSMITTER DAWN.

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3. MOROCCO Sebba-Ainou on 1044 with French talk and pop/rock music is reported fairly often; sometimes it's mixed with co-channel East Germany. Arabic talk & music often boom through on 612, 819, & 828. Moroccans are heard best at sunset from coastal sites in the northeastern states and Atlantic Canada. Moroccans noted less frequently are 657, 702, 854, 925, 1197, & 1233.
7. TUNISIA Sfax on 1565 often puts in a powerhouse signal, best around 0500 s/on with Arabic talk & music. The audio level tends to be low, however. Winter reception around sunset (approx. 2030-2330) is possible at better TA DX locations. Open carrier is sometimes run for more than an hour before 0500 s/on.
8. ALBANIA This small averick communist country tucked between Yugoslavia and Greece has an extensive medium-wave external service. Best heard in the US is Lushnje on 1395 with French around 2100, English around 2200, French (again) at 2230, and then Spanish from 2300 to s/off at 2355. Other Albanian transmitters on 1215 & 1458 are sometimes logged during the autumn & winter between local US sunsets and approximately 2330; these also use several different languages (consult WRTM). Albania's major stations use a 9-note trumpet interval signal that does a marvellous job of cutting through all sorts of domestic sloop and storm QRM. Most DXers would accept a tape of those shrill, piercing notes as a definite logging, even if the talk that followed was wallowing hopelessly in a quagmire of interference. Albania reportedly has a new rig on 648 which may sometimes raise havoc with co-channel BBC.
9. WEST GERMANY Although on a less-favourable northern route (bearing 52° from MA.), West Germany is in the "very easy" category because of the tremendous number of high-powered transmitters there. Langenberg on 1593 is most widely heard in the US; this is an all-night station whose signal tends to be best just before transmitter site dawn. 755 is a good low-band frequency to check; it is usually in the clear after co-channel Portugal goes off around 0100. Both 756 & 1593 have German talk; music is predominantly big-bands and show-tunes with occasional excursions into rock or classical music. Hard rock with German announcements may be heard on 1422. Other good frequencies are 1017 & 1269. 1539 may be separated from WPTX with a good receiver on better nights, 549 occasionally overtake the generally-stronger co-channel Algerian. For those who want to hear programming in English, try the American Forces Network (AFN) station at Munich on 873. WOA Munich on 1197 sometimes runs English, although Slavic programs to eastern Europe are its main function. German stations compete more favourably with the lower latitude TA's during the hour preceding W. German dawn, rather than at US sunset.
10. ENGLAND The BBC provides many channels running high power. Except for 648 & 1295, which sometimes run foreign languages, all programs that US DXers are likely to hear are in English, an important advantage. Schedules on some outlets have jumped back & forth between 24-hour operation and operation with a silent period, the latter due to budgetary restrictions. Best reception is during late autumn & early winter from local US sunset to 0000 and then from 0500 to transmitter dawn. The following frequencies should be tried: 648, 693, 882, 909, 1053, 1089, 1215, & 1296. Local outlets have been noted on 1458 & 1548. 882 & 909 are often in parallel with Radio 2 programming, which includes MOR music, talkshows, and drama. 1053 & 1089 are in parallel, presenting the rock-oriented Radio 1 service.

### CATEGORY 3: EASY

13. MAURITANIA Nouakchott, as of spring 1982, has been logged on the old-plan channel of 1349. Even if it soon moves to 1350, reception at sunset during moderate aurora in autumn & winter from favourable locations such as Boston should be routine. If it hangs in there on 1349, more widespread reception can be expected; a good rule of thumb is 'if 1404 Guinea is loud and it's just after local sunset at the DXer's location, try for 1349'. You may be pleasantly surprised to hear a strong 1 kHz heterodyne on the 1350 domestics, which, after a bit of receiver selectivity tweaking, reveals Arabic style chanting and talk in French & Arabic. S/off is at 2310 except on Friday, Saturday, & Sunday when at 2400 (0000). If still on 1349, s/on at 0600 should be audible. Check 4845 or 6120 kHz. shortwave parallels.
14. SAUDI ARABIA Superpowered Doha - 1521 makes this rather-distant Trans-atlantic country a regular in the autumn & winter from east coast sunset to 2300 and then again at 0300 s/on. Programming is Arabic music & talk, mostly of an Islamic religious nature. The same program is broadcast on several

shortwave frequencies: consult the WRTM for these parallels. Less frequently reported are outlets on 648 & 1512. Al-Qurayyat (Guriat) on 900 has been noted sometimes dominating over co-channel Italy as close to the US as the Azores (more than halfway along the path to the US from Saudi Arabia) and tentative reception from Boston has been made. Listeners in Newfoundland and Nova Scotia have a good shot at this one, as well as the 900 Italian, at sunset in winter.

15. ITALY There are several Italian MW frequencies commonly reported by US DXers. For those not in the splash zone of WDM - 850, Rome on 846 may be your best bet. This high-powered 24-hour station runs the early morning (Italian time) "Notturmo Italiano" program featuring blocks of music & talk in several languages including English. The synchronised stations on 1052 & 1035 (in parallel) sign on around 0400, usually before the Portuguese on those two channels come on. The Portuguese, by the way, are not parallel operations: that should make ID'ing the Italians a bit easier. Italy on 1052 has been logged in eastern MA. despite sloop from new pest WETD and old pests GJRP & RTW. 1575 & 1332 are good high-band Italian channels to check and 1116 may be noted mixed with Morocco, at least during above-average conditions. If you're lucky, you may be able to slice the 1449 Italian away from the 1450 'graveyard' jungle.
16. AUSTRIA Clearly, Wien (Vienna) on 1476 is the best channel for Austria. Its German-language programming, with a smorgasbord of music from classical to rock, is heard even during mediocre higher latitude openings. As with many other higher-latitude-bearing stations, reception at east coast sunset is possible, but the most consistent reception is from 0400 to transmitter dawn. Co-channel interference from stations in Spain is sometimes a problem.
17. HOLLAND Lopik on 747 can be a powerhouse when the auroral absorption zone moves sufficiently out of the way. In winter, this station is heard between DXer's local sunset and usual 2300 s/off. It can be heard again after 0500. During the latter period, one generally hears open carrier and occasional "doorbell" type interval signals. Regular programming often doesn't start until 0600. Another Dutch station, 1008, gets reported about once a year: WINS snuffs this one out for most of us.
18. EAST GERMANY Burg on 783 and on 1044 can be heard on better TA DX nights throughout the period of mutual darkness at transmitter and receiver. German talk is the prevalent programming noted; music can be classical, jazz, show-tunes/cabaret vocals, and (ever) rock. Both 783 & 1044 have other often-heard TA's on them, so listen carefully for German talk before coming to any snap decisions based upon music heard. During some parts of the evening, a pop music station noted on 1044 could be Morocco; similarly one on 783 could be Portugal. Less common E. Germans: 657, 693, 882, 1323, & 1359.
19. SWITZERLAND Sarnen on 1566 can be heard on nights when the major high-band, high-latitude "indicator stations" (e. g. W. Germany - 1593) are coming in well. The most advantageous time to listen is after 0500 during autumn & winter as oncoming dawn in Tunisia is causing normal channel dominant Sfax to fade. Sarnen - 1566 runs German talk with light "bouncy" music, frequently of a characteristically Alpine style. Harder to hear Swiss outlets are Sottens on 765 (best on a good TA night after Dakar s/off), and Beromunster-531 possible at sunset from a coastal location on a totnotch night (mixed with Algerian) or at Swiss sunrise in winter after the Algerian is well into daylight. Sottens is in French (don't confuse with Senegal) while Beromunster is in German, generally parallel to 1566.
20. CZECHOSLOVAKIA Praha (Prague) - 1287 with classical music and Slavic talk comes in well when the major high-band Germans are strong; receptions have been made during both the east coast US sunset and the European sunrise DX periods. Kosice on 1521 is sometimes heard under the Saudi Arabian, or in the clear with the Saudi off or faded. During better conditions, Liblice - 639 has been heard from the MA. coast at 2300 s/off. Co-channel Spain QRM and sloop from CBW - 640 can be a problem. 1098 & 1233 are more difficult Czech channels to receive, largely because of heavy domestic sloop but also because both channels have lower-latitude stations that can clobber the inland, northerly Czechs.
21. IRELAND (southern) RTE-1 Tullamore - 567 is your best bet. Try this between local US sunset and 0200 s/off and again from 0600 s/on to transmitter dawn. Although Ireland is the closest European country (with a high-power MW station) to the US (the Azores & Iceland are closer, but neither has a MW station in the 50 kW or greater class), RTE-1 on 567 doesn't get out as well as many other low-band Europeans. Partly this is due to a high bearing (52° from MA.), but mostly it is because Tullamore is in the centre of the country in a low valley surrounded by mountains in all directions. RTE-1(567) takes a beating at night from a co-channel East German in the more remote sections of western Ireland

- (e. g. Dingle). If the transmitter were moved to the west coast of Ireland (e. g. Clifden or Bundoran), the signal would be at least 10 dB stronger here in the States. 567 runs mostly adult-contemporary pop music, with some country-western & Irish folk music. English is the primary language used; Gaelic is occasionally noted. RTE-2 in Athlone (near Tullamore) is sometimes heard on 612 (if Morocco fades); format is more rock-oriented than that of 567. Programming is in English. Check this just before transmitter dawn in winter if 567 & the low-band BBC & French stations are loud. Less frequently noted are stations on 1188 & 1251. In response to the popularity of several Irish pirate stations as well as because of the success of the independent stations in England, Ireland will soon be licensing several new independent commercial stations; these should provide the US DXer with some new opportunities, especially if some of the stations are running decent power from western Ireland on good split frequencies. The Radio na Gaeltachta (all Gaelic language) outlets with their superb folk music programming are unfortunately low-powered; Beverages in eastern Newfoundland would be needed to get these. The 963 outlet near Dingle Peninsula is the most likely R. N. G. station to be heard in North America because of its locational advantage & because 963 isn't as "busy" a channel with other TA's as those of the other R. N. G. outlets.
22. MALTA The Deutsche Welle relay at Cyclops on 1557, with programming in Arabic & German (at times of US audibility) is commonly heard after 0300, often mixed with Nice, France. Arabic chanting & talk is also run on the French station so make sure you hear something positive to nail down an ID. In the case of Malta, the Deutsche Welle interval signal of shortwave fame heard at 0400 or a change from Arabic to German announcements would be the "clincher".

CATEGORY C: MODERATELY DIFFICULT

23. LIBYA Tripoli - 1251 now seems to be the most reliable Libyan signal in the US. The heterodyne against the 1250 domestics is strong many nights, but pulling up readable audio is tricky. When it does surface, the DXer will find Arabic chanting & talking (probably including Khaddafi speeches). The times to listen are from winter sunset at the listener's QTH to 2300 s/off and from 0400 s/on until transmitter dawn. In previous seasons, 539 & 827 had been reported, as stragglers on their old-plan channels. 539 has supposedly gone off entirely; presumably ex-827 is now on 828, behind usually-dominant Oujda, Morocco.
4. BELGIUM Wolvertea - 927 is heard under good TA conditions before 2245 s/off and after 0430 s/on (0530 Sunday). Programming is usually in Dutch; pop music is played often. If conditions are real solid & the low-band BBC outlets are loud, the 621 Belgian may show (note: 621 is shared with Canary Islands). A new outlet came on 1512 at the end of the last DX season. For those of you with no WITS problem, this may be another good frequency for Belgium: it is supposed to be a multi-lingual external service station.
5. YUGOSLAVIA The parallel outlets on 1134 & 1143 make it in with Slavic talk around transmitter site dawn under good autumn/winter high-latitude openings. If neighbouring Albania on 1215/1595/1750 is unusually loud and the high-band Germans are also strong, give the Yugoslavs a try. Remember that Slavic talk on 1143 may also be Kaliningrad, USSR so check for the 1134 Yugoslav parallel if WNEW will let you. Other possible frequencies for Yugoslavia include 684 (mixed with Spain) and 1413 (also mixed with Spain).
6. UPPER VOLTA Ouagadougou on 747 is your only real shot at this country, unless you're running Beverages from Newfoundland during auroral conditions. Sunset is definitely the best time to bag 747: look for a strong signal from Senegal on 765 compared to a weaker signal from Spain on 774 (signalling slightly auroral conditions conducive to good African reception with reduced QRM from Europeans). If Senegal is blasting in, then you'll have a good chance of hearing Ouagadougou - 747. Hit this early in the evening as domestic skip stop and increased atmospheric noise/storm QRM tend to diminish reception possibilities later. You may hear African music and talk in French and local languages at an apparently low modulation level. As with all local-sunset period DX, especially below 1000 kHz., the receiving site should be as close as possible to salt water in the direction of DX for optimum results.
7. CANARY ISLANDS The heterodyne from Santa Cruz de Tenerife on 621 is present most nights, but it has to get loud before audio (Spanish) can be dredged out of the 620 (WACZ/WPWA/CKCH et al) stop. Theoretically, reception is possible during the entire period of mutual receiver/transmitter darkness; domestic QRM considerations, however, point to sunset at the US receiving site as the best reception time. All of the other Canary Islands stations should be possible from autumn/winter sunset to at least 2330, when conditions of the type mentioned as favourable for Upper Volta - 747 are met. These other Canary Islands stations are on 720, 837, 882, 1008, 1098, 1215, 1269, & 1341.

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28. POLAND Stargard/Stettin - 1503 should be checked after (400 s/on if the high-band Germans are strong. An interval signal (on the hour) using Chopin piano music is a characteristic identifier. Consult the WRTVH for the schedule of languages used - this is an overseas service transmitter. Harder to hear Polish stations have been noted on 1206 (with France off) and on 1368.
29. TURKEY During good TA DX conditions, Istanbul on 1017 can be heard, often mixed with co-channel West Germany. Most receptions have been during the late autumn, between 0230 and 0330. Turkish language programming, with music intermediate in style between Greek & Arabic music, is featured. If this station is strong, consider the propagation door to the Middle East open; have fun going after more exotic catches. Diyakir on 1052 has occasionally been reported by North American Beverage users, but it has a lot of co-channel competition (Italy, Portugal, & Denmark for starters).
30. NORTHERN IRELAND The heterodyne from BBC Lisnagarvey - 1341 will show up against the 1340 'graveyarders' many nights from 0600 to transmitter dawn during winter if the English BBC stations are present above 1000 kHz. Slicing audio from the 1340 brouhaha can be tough, though: a strong 1341 signal & a good receiver are necessary. Programming may, at times, be parallel to other BBC outlets: this could help you ID 1341. Sunset period reception of Lisnagarvey (before 0000) is also possible, at least at coastal sites sufficiently distant from 1340 groundwave domestics. Another Northern Ireland station remotely possible is Belfast on 1026, around transmitter dawn.
31. LUXEMBOURG Marnach on 1440 is considerably harder to hear than it had been when on 1439 prior to the frequency re-allocations. The only advantage to its being on 1440 is that, when it does come in at sufficient levels to top the domestics on the channel, any receiver can hear it. No fancy filters are required for this one. There are two basic working periods of the night to go after Luxembourg. Inland DXers have only one choice: look for it during autumn & winter just before Luxembourg dawn. Monday morning is best in terms of minimised domestic (e. g. WFTQ/WGER/GPOC) QRM. Use the Germans on 1422 & 1593 as propagation beacons: if these guys are rattling the speaker sufficiently, Luxembourg is indeed possible. Look for German talk & commercials on 1440. In addition to the Euro-dawn opening, coastal DXers from NJ to WF should be able to get the English service, with lively DJ's, advertising, & music ranging from rock to country to disco. If your 1440 'primary pest' is northwest or southeast of you, a loop will do the trick in knocking it out, leaving Luxembourg in the clear. If the domestic 1440 station is not at a right angle to the Luxembourg bearing, the use of a phased Beverage pair, a phased longwire pair, or a loop-phased-against-a-wire scheme may be necessary. Luxembourg - 1440 is a semi-regular (in winter) at sunset at Waterfront Park in Boston: WFTQ is handily disposed-of by skyscrapers to the west. At sunset, as at transmitter dawn, use the routine Germans as propagation evaluators to aid in the search for Luxembourg.
32. VATICAN R. Vatican on 1530 has been logged by several DXers in New England, Long Island, & New Jersey: it mixes with WCKY, sometimes overtaking it, on above-average TA mornings (around 0500) during the cooler months. Several languages are used in the religious format of this station, music played is usually "very soothing" soft instrumentals.

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33. GABON Melene has sporadically been heard on 1554 (an old-plan channel). This runs parallel to 3300 & 4777 kHz. shortwave, so checking these may be beneficial. Most reports of 1554 mention 2300 as a good reception time; drum-oriented African music is the usual format. If this moves (or has already moved) to 1557, reception will be much less likely, as much because of WQXR stop as because of France/Italia co-channel QRM. Reception of Gabon seems to be as common in the southeast (FL, CA) as in New England.
34. BENIN Cotonou - 1475 (or 1476) would understandably be more easily heard if still on 1475, although during mild auroral conditions its signal level would be maintained while 1476 European competition would be removed. From local sunset to 0000 and from 0400 to Benin dawn are the working times of interest. 4870 kHz. may be useful as a shortwave parallel.
35. USSR Kaliningrad on 1143 makes it a few times each winter, usually between east coast sunset and s/off at 2300. When it's in, it's loud; but the southern edge of the auroral zone has to move quite far to the north. If the middle & high band German & British stations are strong, USSR - 1143 is worth a try. Do not confuse this with co-channel Yugoslavia. Transmitter dawn openings are also possible. Also check the Ukrainians on 765, 936, & 1548. Leningrad - 801 may show up, mixed

with a W. German, if you're lucky enough to be able to work around the normally insurmountable slop from RJB/CXK/LW/CHFC/YVTB/CJAD/YOWR et al on 800. Take a swing at other Soviets on 1035, 1107, 1215, 1386, & 1494 if it's a first-class TA night.

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36. EGYPT The 1107 transmitter at Batra is occasionally noted with Arabic programming at North American sunset in autumn & winter. As the incoming skip angle is very low, a seaside receiving site is advantageous. Chances are if Turkey - 1017 is coming in, Egypt - 1107 should be audible. Arabic programming heard behind Morocco's Arabic programming on 819 will probably be Egypt. Arabic heard behind Spain - 774 may be either Morocco or Egypt, so be careful to get positive identification material (such as parallel frequencies, interval signal, characteristic time pips on the hour, or a spoken ID).

37. JENNAH Try 1062 when mid-band British & Germans are strong, preferably around 0500 in autumn & winter. The talk, in Danish, will sound much different from the Portuguese & Italian usually heard on this channel. Jazz seems to be an important constituent of the music played.

38. BULGARIA Every year a few Bulgarians get reported, usually by Beverage Bill Bailey. Some of these are 576, 747, 774, 828, 864, & 1224. Try for these on topnotch TA nights when other high-latitude Europeans are loud. It is wise to consult the WRTVH for both the times of Bulgarian station operation and the times when the stronger western European & north African stations sharing channels (with the Bulgarians) are off. Good luck!

39. NORWAY Kvitsøy - 1314 should be possible on a few of the better TA mornings in autumn & winter; if the German on 1269 is doing well around 0600-0700, try for Norway on 1314. This station is about as far north as anyone on the east coast US can ever expect to get a TA. The auroral oval should be close to its smallest possible size to permit anything approaching good reception of stations in the Scandinavian countries. Norwegian, a Germanic language, sounds quite a bit different from the Spanish normally heard on 1314 (from Spain). Norway should be audible until quite late in the morning, by TA standards, (to 0800) around the winter solstice. By 0900 any co-channel competition from more southerly Europeans & Africans should have faded out with daylight in those areas. Westerners may have more luck with northern Norwegian stations than DXers in the eastern US. Stations such as Bodø - 675 & Vadsø - 702 may skip in the auroral "doughnut hole" and thereby propagate well into the Pacific Northwest US & western Canada.

40. GAMBIA Bonto on 648 should be audible at east coast sunset & up to 0000 s/off, if Senegal - 765 is strong & Upper Volta - 747 is fair. Programming is African music with talk in English and local languages.

\* \* \* \* \*  
an extra, with comments -

1. (??) ANDORRA Now that the powerful, widely-heard outlet on 819 is off the air, the station on 702 looks like the best bet. This has been listed as being inactive or as operating intermittently. Andorra will once again go back into the "very easy" category if 819 returns or if a new station on a good frequency with power comparable to that of old 819 takes to the Andorran airwaves.

Your next TA countries, after those listed so far, may just well be:

- |   |   |
|---|---|
| 42. Romania - 558, 756, 855, 1053, 1152 | 62. Zambia - 828, 1071  |
| 43. Hungary - 1188, 540                 | 63. Finland - 963   |
| 44. Israel - 738                        | 64. Madeira - 1530, 1331, 1485  |
| 45. Sweden - 1179                       | 65. Chad - 1170   |
| 46. Ivory Coast - 1493 or 1494          | 66. Greece - 729  |
| 47. Sierra Leone - 1206                 | 67. China - 1521  |
| 48. Togo - 1502 or 1503                 | 68. Swaziland - 1377  |
| 49. Mali - 1431                         | 69. Syria - 782 or 783  |
| 50. Scotland - 810                      | 70. Kuwait - 1131, 1341   |
| 51. Sao Tome - 759                      | 71. Lebanon - 836 or 837  |
| 52. Guinea-Bissau - 1071                | 72. Mozambique - 737 or 738, 1008,<br>1295 or 1296                        |
| 53. Azores - 837, 1394 or 1395          | 73. Nigeria - 594, 1314, others   |
| 54. Angola - 1088 or 1089, 1586         | 74. South Africa (including Transkei,<br>Bophuthatswana, etc.) - 603, 702 |
| 55. Cameroon - 1106 or 1107             | 75. Tanzania - 657  |
| 56. United Arab Emirates - 1481, 1575   | 76. Jordan - 801  |
| 57. Sudan - 1296                        | 77. Ascension Island - 1602   |
| 58. Iraq - 1035                         | 78. Kenya - (several)   |
| 59. Qatar - 954                         | 79. Congo Republic - 1476 See page 22                                     |
| 60. Oman - 702, 1413                    | 80. Iran - (several) for Appendix   |
| 61. Zaire - 801                         |   |

Many of these HAVE actually been heard by American & Canadian DXers, surprisingly.

Appendix: a brief table of sunset & sunrise times of interest to TA DXers. (Times listed, in GMT, are for the middle of the month listed.)

SUNSET: NORTH AMERICA (receiving end of path)

MONTH	Denver, CO	Chicago, IL	Miami, FL	Washington, DC	Boston, MA	St. John's, NF
JAN	2340	2228	2239	2155	2120	1949
FEB	0013	2303	2257	2226	2156	2032
MAR	0049	2342	2317	2301	2235	2120
APR	0129	0025	2339	2340	2319	2213
MAY	0202	0100	2357	0011	2355	2257
JUN	0222	0121	0008	0030	0017	2323
JUL	0215	0114	0004	0023	0009	2314
AUG	0146	0043	2349	2356	2338	2236
SEP	0109	0003	2328	2320	2257	2146
OCT	0030	2321	2305	2242	2214	2055
NOV	2353	2242	2246	2207	2134	2006
DEC	2333	2220	2235	2148	2112	1939

SUNRISE: EUROPE/N. AFRICA/NEAR EAST (transmitting end of path)

MONTH	Senegal	Portugal	England	W. Germany	Italy	Turkey	Saudi Arabia
JAN	0733	0748	0759	0701	0632	0514	0336
FEB	0724	0717	0708	0617	0558	0442	0319
MAR	0712	0643	0613	0528	0519	0406	0259
APR	0700	0604	0512	0434	0436	0325	0237
MAY	0650	0532	0421	0350	0400	0252	0219
JUN	0644	0514	0349	0323	0339	0233	0209
JUL	0646	0521	0401	0333	0347	0240	0213
AUG	0654	0547	0446	0411	0417	0308	0228
SEP	0706	0623	0543	0502	0457	0345	0248
OCT	0718	0701	0642	0554	0540	0425	0310
NOV	0730	0736	0739	0644	0619	0501	0329
DEC	0735	0755	0811	0711	0640	0511	0340