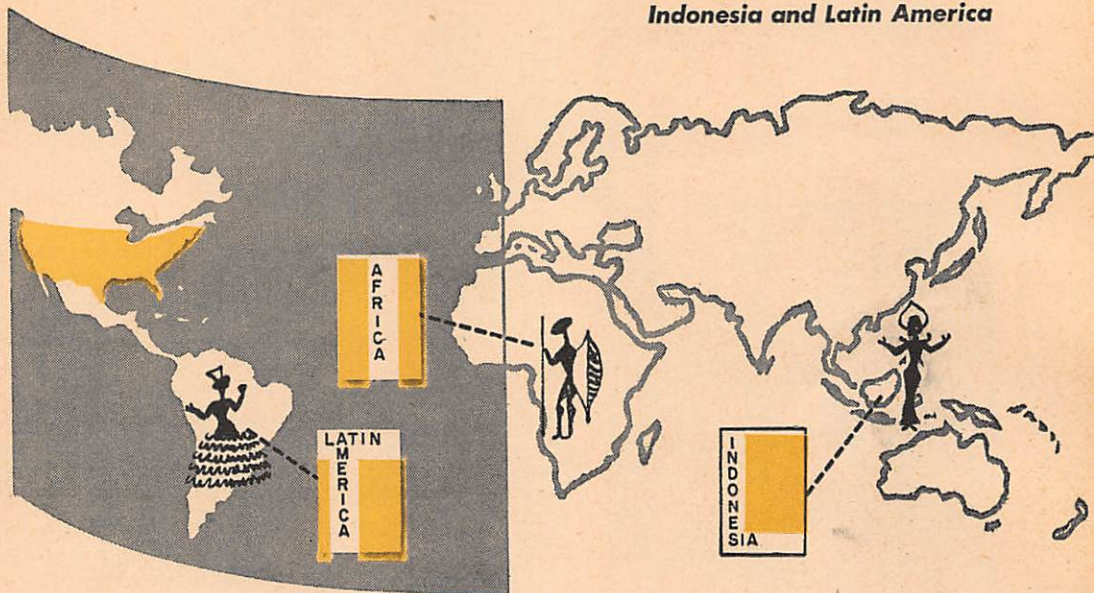


DX the Tropics on 60 Meters

"Path of darkness" brings you the rare ones from Africa,
Indonesia and Latin America



MANY DX'ERS who work the lower short-wave frequencies have found that best results are obtained when either the transmitter or the receiver is in a zone of darkness. This is due to the so-called "darkness factor." Understanding this phenomenon is a key to better pickup on

lower frequencies, particularly the 60-meter "tropical" band.

Long-distance radio communications are possible only because the "E" and the "F" ionospheric layers reflect signals back to the ground, enabling "skip" signals to be received great distances from the trans-

By
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RECEPTION ON 60 METERS (NOVEMBER - MARCH) FOR EASTERN U.S.A.			
Transmitter Location	Minimum Sunspot Years	Maximum Sunspot Years	Most Favorable Listening Time
AFRICA Short Path	Fade-In: 2000-2100 Fade-Out: 0800-0900	Fade-In: 2030-2130 Fade-Out: 0730-0830	0300-0700; and after 2100
ASIA Short Path	Fade-In: 0900-1030 Fade-Out: 1230-1330	Fade-In: 0930-1030 Fade-Out: 1200-1300	1030-1230
Long Path	Fade-In: 2130-2230 Fade-Out: 2330-0030	Fade-In: 2200-2300 Fade-Out: 2330-0000	After 2200
LATIN AMERICA (Central and South America, Mexico)	Fade-In: 2200-2330 Fade-Out: 1100-1300	Fade-In: 2200-0000 Fade-Out: 1030-1230	After 0000

NOTES: All times are in GMT. Africans in Tanganyika and Kenya areas peak between 0330 and 0400 and fade before 0500. South Africa and Mozambique will peak between 0330 and 0430 and fade before 0600. Stations in the Belgian Congo, the Congo Republic (French Equatorial Africa), and Libya may hold up until 0700. Other West Africans, such as the Ivory Coast and Liberia, will be among the last to fade out. The elusive Indonesians usually appear from about 1030 to 1130. Petropavlovsk, 5.050 mc., which runs 50 kw., may at times appear at 0800 or earlier. VLM-4, Brisbane, 4.920 mc., has appeared before 0700.

mitter. During daylight hours, however, a lower layer, the "D" layer, is present which absorbs radio waves and keeps them from being bounced back to earth. At noon, when the "D" layer is at its thickest, 60-meter reception is confined to within a few hundred miles of the transmitting site.

The author uses a Hammarlund HQ-160 receiver with an RME DB-22A preselector, a 10-kc. calibrator, 60' long-wire antenna and an antenna tuner.



After sunset, the "D" layer disappears, and real DX is possible.

In general, it seems more important for the transmitter to be in a darkness zone than the receiving point, especially in long-path DX. However, total darkness between the transmitter and the receiver results in

the picking up of stronger and better quality signals.

Rare Pickups. Though most of the stations in the 60-meter "tropical" band are intended primarily for local or regional reception, if there is considerable darkness between the transmitter and the reception point, you will be rewarded by some rare transmissions from Africa, Indonesia, and the Latin American countries. It is truly surprising how some low-powered stations can get out under good conditions.

A case in point is the "seasonal" CR6RH, Sa da Bandeira, Angola, outlet on 5.024 mc. I have tuned this 400-wattter with a signal level almost equal to the "regular" CR6RZ, Luanda, on 4.995 mc. which runs 3 kw.

It is usually my practice during an afternoon DX session to check conditions on 41 and 31 meters first, then try 49 meters a little later. Reception on these bands sometimes gives me an indication as to how good or poor 60 meters will be when it opens. If CNR-3, Sebaa-Aiouun, Morocco, 6.006 mc., comes through with a fairly good signal around 2000 GMT, there may be a chance to get good reception later on 60 meters.

This method is not always reliable, however, since conditions can change quickly. Also, some stations pop through at only a certain time of the year. Simply because the Angolan on 6.026 mc. is coming through does not mean that CR7RD on 4.851 mc. or CR6RH on 5.024 mc. will follow.

Long-Path DX. Perhaps the most thrilling form of reception is long-path DX; but
(Continued on page 126)

RECEPTION ON 60 METERS (NOVEMBER - MARCH) FOR WESTERN U.S.A.

Transmitter Location	Minimum Sunspot Years	Maximum Sunspot Years	Most Favorable Listening Time
AFRICA			
Short Path	Fade-In: 0000-0030 Fade-Out: 0830-0900	Fade-In: 0030-0100 Fade-Out: 0800-0830	0400-0730
Long Path	Fade-In: 1330-1430 Fade-Out: 1530-1600	Fade-In: 1400-1430 Fade-Out: 1500-1600	1500-1530
ASIA			
Short Path	Fade-In: 0600-0700 Fade-Out: 1600-1700	Fade-In: 0700-0800 Fade-Out: 1500-1600	0900-1430
LATIN AMERICA (Central and South America, Mexico)	Fade-In: 0000-0100 Fade-Out: 1100-1400	Fade-In: 0000-0130 Fade-Out: 1100-1330	After 0130

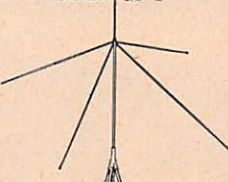
NOTES: All times are in GMT. Unfortunately for West Coast listeners, there will be no Africans operating at 0000. However, they may be fortunate enough to catch Azores, 4.864 mc., closing at 0000; and Dakar may possibly break through when signing off at 2330 on 4.950 mc. Around 0400, Mozambique, 4.840 mc., South Africans on 4.810 mc., 4.945 mc., and Rhodesia, 4.911 mc., will provide the best reception. Long-path Africans, such as Tanganyika, French Somaliland, British Somali, Kenya, and Uganda, are usually heard best from 1430 to 1530.

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DX the Tropics on 60 Meters

(Continued from page 71)

it requires great patience due to its unpredictable nature. At times it is very short-lived because of rapid changes in conditions. West Coast DX'ers have success with African stations via the long path from around 1400-1530 GMT, an extremely unlikely reception time for East-erners. On the East Coast, Asian stations are sometimes noted around 2130-2330 GMT, at which time the "daylight factor" would be a handicap for West Coast listeners. A most remarkable long-path Australian is VLX-4, Perth, on 4.897 mc., heard best on the East Coast from January through March, peaking around 2230-2300 GMT.

Winter months provide the best conditions for DX'ing on 60 meters because the days are shorter and thus there is less trouble with the "D" layer eating up the signal. During low-count sunspot years, signals will be of excellent strength and quality, as many DX'ers learned during the 1954 and 1955 seasons. Since the maximum sunspot year has now passed, it is reasonable to expect a gradual improvement on 60 meters until 1965—when the next minimum sunspot cycle will occur.

The tables on pages 70-71, designed for listeners in both Eastern and Western USA reception areas, will be helpful to old and new listeners alike on the 60-meter band. All times are *approximate* and are based on my five-year study of 60-meter reception during the months from November to March and for a median noise level.

Plenty of patience and perseverance are needed when you are DX'ing on 60 meters. Local noise or interference may at times render the desired signals unreadable. An antenna fed with coaxial low-loss lead-in will often lessen such noise considerably.

Don't be fooled by broadcast-band harmonics which may appear from time to time. An inexperienced DX'er, for instance, might think he is tuned to Uganda on 5.026 mc. at 1800 GMT when it is more likely that he is hearing a BCB harmonic on 5.030 mc. Identification is not always easy for there are many other types of interference—such as c.w.-QRM—in addition to local TVI or interference from appliances.

If you want real DX, remember that 60-meter reception thrives best along the "path of darkness."

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