



# Getting Started

## World Band's Three Musts

World band isn't run-of-the-mill radio—it travels freely by skywave and needs special receivers. So, here are three musts so you can master it right off.

### **Must #1: World Time and Day**

**World band schedules use a single time.** World band is global, with programs aired around the clock from nearly every time zone.

Imagine the chaos if each station's schedule were given in its local time to listeners scattered all over the world.

*Solution:* World Time—one time zone for the entire planet.

World Time—officially called Coordinated Universal Time (UTC)—has replaced the virtually identical Greenwich Mean Time (GMT) as

the global standard. It's in 24-hour format, so 2 PM is 14:00 ("fourteen hundred hours" or "fourteen hours"). Ideally, leading zeroes are shown; for example, 08:00, spoken as "oh-eight-hundred hours" or "eight hours," is more correct than 8:00. In the military, World Time (UTC) is often called Zulu or Zulu Time.

Don't forget to "wind your calendar," because at midnight a new *World Day* arrives. This can trip up even experienced listeners—sometimes radio stations, too. So if it is 9:00 PM EST Wednesday in New York, it is 02:00 hours World Time *Thursday*.

*Bottom line for clocks:* Purchase a radio with a 24-hour clock or buy a separate clock, then check out the sidebar "World Time: Setting Your Clock".



**Oregon Scientific RM323A self-setting travel clock with world time.**

## Must #2: Finding Stations

**PASSPORT shows station schedules three ways: by country, time of day and frequency.** By-country is best for tuning to a given station. "What's On Tonight's" hour-by-hour format is like *TV Guide*, complete with program descriptions. The Blue Pages' quick-access grids show what you might be hearing when you're dialing around the bands.

World band frequencies are usually given in kilohertz (kHz), but some stations and radios use Megahertz (MHz). The only difference is three decimal places, so 6170 kHz is the same as 6.17 MHz, 6175 kHz equals 6.175 MHz, and so on.

FM and other stations keep the same spot on the dial, day and night—webcast URLs, too, sort of. But things are different on the international airwaves. World band radio is like a global bazaar where a variety of merchants come and go at various times of the day and night. So, where you once tuned in a French station, hours later you might find a Russian roosting on that same spot.

Or on a nearby perch. If you suddenly hear interference, it doesn't necessarily mean something is wrong with your radio—another station may have fired up on a nearby frequency. There are more stations on the air than available space, so sometimes they try to outshout each other.

**World Time—  
one time zone for  
one planet.**

## PASSPORT'S THREE-MINUTE START

Owner's manual a yawn? Try this:

1. Night time is the right time, so listen evenings when signals are strongest. In a concrete-and-steel building put your radio by a window or on a balcony.
2. Make sure your radio is plugged in or has fresh batteries. Extend its telescopic antenna fully and vertically. Set the DX/local switch, if there is one, to DX, but otherwise leave controls at the factory settings.
3. Turn on your radio after dark. Set it to 5900 kHz and begin tuning slowly toward 6200 kHz. You should hear stations from around the world.

*Other times?* Read the nearby sidebar, "Best Times and Frequencies for 2007."

To cope with this, purchase a radio with superior adjacent-channel rejection—selectivity—and lean towards models with synchronous selectable sideband. *PASSPORT REPORTS* tests these and other features and tells you which models can hack it.

Because world band is full of surprises from one listening session to the next, experienced listeners like to stroll through the airwaves. Daytime, you'll find most stations above 11500 kHz; at night, below 10000 kHz, but there are interesting exceptions.

If a station can't be found or fades out, there is probably nothing wrong with your radio or the schedule. World band stations are located on *terra firma*, but because of the earth's curvature their signals eventually run into the sky-high ionosphere. When the ionosphere is suitably energized, it deflects these signals back down, after which they bounce off oceans or soil and sail back up to the ionosphere.

This bouncing up and down like a basketball continues until the signal arrives at your radio. However, if the ionosphere at any one "bounce point" isn't in a bouncing mood—it varies daily and seasonally, like the weather—the signal passes through the ionosphere and disappears into space.

That's great for intergalactic travelers, but for the rest of us it's the main reason a scheduled signal might be audible one hour, gone the next.

### No Censorship—Even During War

World band stations cope with the ionosphere's changeability by operating within different frequency ranges, depending on the season and time of day—even the 11-year sunspot cycle. This changeability is part of the fun and lets you eavesdrop on juicy signals not intended for your part of the world.

The ionosphere is also why world band radio is free from regulation and snooping. Unlike on the Internet, nobody can know what you're hearing—world band signals don't rely on cables or satellites, just layers of heavenly gases. This makes world band the ultimate for not leaving tracks that could come back to haunt during states of national emergency, security-clearance investigations or employment checks.

The ionosphere also helps analog world band transmissions to be heard even when there's skywave jamming, the only type feasible outside urban areas. Daily jam-

## WORLD TIME CLOCKS

Some radios include a digital World Time clock displayed fulltime—this is handiest, although they usually gain or lose a minute or so over time. Other radios may have World Time clocks, but to see time when the radio is on you have to press a button or turn the radio off.



**The \$35 MFJ-133RC atomic clock displays exact World Time. Similar clocks are available for outside North America.**

World Time is in 24-hour format, so digital numbers are easier to read than analog hands. MFJ Enterprises, Sharper Image, La Crosse Technology and others offer a wide variety of clocks, some with seconds displayed numerically, from \$9.95 to \$79.95.

Other 24-hour clocks, targeted to professionals, can run up to two kilobucks. Pricier models display seconds and even split-seconds numerically, while many synchronize with one or another of the world's several official atomic clock standards. There are even wristwatches that give World Time in analog or digital format.



**This 1935 Tefag Supertefadyn KW woodie tunes world band between 5850 and 15800 kHz. It originally belonged to the uncle of veteran Finnish radio aficionado Simo Soininen, who still fires it up regularly.**

S.S. Soininen

ming is currently limited to authoritarian regimes—Cuba, Iran and China, for example. Yet, even some democratic governments have infrastructures in place to disrupt communications during emergencies. As world band radio is largely beyond their control, it can inform even during the gravest of crises.

*Bottom line for tuning in:* World band is almost always there, no matter what.

### **Must #3: The Right Radio**

#### **Choose carefully, but start affordably.**

If you just want to hear major stations, you'll do fine with one of the higher-rated moderately priced portables. If you want something better, a top-end portable can do surprisingly well with challenging signals and offer superior audio quality.

Tabletop supersets are aimed at experienced and demanding users. If that's you, go for it. Otherwise, pass until you're sure you want a Maserati instead of a Boxter.

Select a radio with digital frequency display. This makes digging out stations much easier—virtually all radios in PASSPORT REPORTS have this, but portables with analog

display (slide-rule tuning) still abound. Some low-cost hybrids have analog tuning with digital frequency display, but most digital-display radios use synthesized tuning. These include such handy tuning aids as presets and keypads.

Also, get a radio that covers at least 4750-21850 kHz with no significant frequency gaps. Otherwise, it may miss some juicy stations.

An exotic outside antenna isn't a must unless you're using a tabletop model—portables are designed to work quite well with their built-in telescopic antennas. If you want to enhance a portable's weak-signal sensitivity, simply clip several yards or meters of insulated wire onto that antenna, or use one of the portable active antennas evaluated in PASSPORT REPORTS.

*Bottom line for buying radios:* Avoid cheap models, especially with slide-rule tuning—they suffer from major defects. But don't break the bank.

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*Prepared by Jock Elliott, Tony Jones and Lawrence Magne.*

## WORLD TIME: SETTING YOUR CLOCK

PASSPORT's "Addresses PLUS" lets you figure out local time in other countries by adding or subtracting from World Time. Use it to ascertain local time in a country you are hearing.

This sidebar shows the opposite: what to add or subtract from your local time to get World Time. For example, if you live near Chicago and it's 7:00 AM winter, the list below shows World Time as six hours later, or 13:00.

In the summer, with saving time in effect, World Time is only five hours later—noon, or 12:00. That's because World Time, unlike Chicago time, doesn't change with the seasons. So, once you've set your clock for World Time you won't have to fool with it again.

Many major international broadcasters announce World Time at the hour. On the Internet it's given at various sites, including [time5.nrc.ca/webclock\\_e.shtml](http://time5.nrc.ca/webclock_e.shtml). For North America and vicinity, World Time is announced over official stations WWV in Colorado, WWVH in Hawaii and CHU in Ottawa. WWV and WWVH use world band frequencies of 5000, 10000 and 15000 kHz, with WWV also being on 2500 and 20000 kHz. CHU ticks away on 3330, 7335 and 14670 kHz.

### WHERE YOU ARE

### TO DETERMINE WORLD TIME

#### North America

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##### **Newfoundland**

St. John's NF, St. Anthony NF

Add 3½ hours, 2½ summer

##### **Atlantic**

St. John NB, Battle Harbour NF

Add 4 hours, 3 summer

##### **Eastern**

New York, Miami, Toronto

Add 5 hours, 4 summer

##### **Central**

Chicago, Mexico City, Nashville, Winnipeg

Add 6 hours, 5 summer

##### **Mountain**

Denver, Salt Lake City, Calgary

Add 7 hours, 6 summer

##### **Pacific**

San Francisco, Vancouver

Add 8 hours, 7 summer

##### **Alaska**

Add 9 hours, 8 summer

##### **Hawaii**

Add 10 hours

#### Central America & Caribbean

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##### **Bermuda**

Add 4 hours, 3 summer

##### **Barbados, Puerto Rico, Virgin Islands**

Add 4 hours

##### **Bahamas**

Add 5 hours, 4 summer

##### **Cuba**

Add 4 hours

##### **Jamaica**

Add 5 hours

##### **Costa Rica**

Add 6 hours

**Europe**

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<b>United Kingdom, Ireland, Portugal</b>	Same time as World Time winter, subtract 1 hour summer
<b>Continental Western Europe; parts of Central and Eastern Continental Europe</b>	Subtract 1 hour, 2 hours summer
<b>Elsewhere in Continental Europe:</b> Belarus, Bulgaria, Cyprus, Estonia, Finland, Greece, Latvia, Lithuania, Moldova, Romania, Russia (Kaliningradskaya Oblast), Turkey, Ukraine	Subtract 2 hours, 3 summer
<b>Moscow</b>	Subtract 3 hours, 4 summer

**Mideast & Africa**

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<b>Côte d'Ivoire, Ghana, Guinea, Liberia, Mali, Morocco, Senegal, Sierra Leone</b>	World Time exactly
<b>Angola, Benin, Chad, Congo, Nigeria</b>	Subtract 1 hour
<b>Tunisia</b>	Subtract 1 hour, 2 summer
<b>Egypt, Israel, Jordan, Lebanon, Syria</b>	Subtract 2 hours, 3 summer
<b>South Africa, Zambia, Zimbabwe</b>	Subtract 2 hours
<b>Ethiopia, Kenya, Kuwait, Saudi Arabia, Tanzania, Uganda</b>	Subtract 3 hours
<b>Iran</b>	Subtract 3½ hours

**Asia & Australasia**

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<b>Pakistan</b>	Subtract 5 hours
<b>India, Sri Lanka</b>	Subtract 5½ hours
<b>Bangladesh</b>	Subtract 6 hours
<b>Laos, Thailand, Vietnam</b>	Subtract 7 hours
<b>China (including Taiwan), Malaysia, Philippines, Singapore</b>	Subtract 8 hours
<b>Japan, Korea</b>	Subtract 9 hours
<b>Australia: <i>Victoria, New South Wales, Tasmania</i></b>	Subtract 11 hours local summer, 10 local winter (midyear)
<b>Australia: <i>South Australia</i></b>	Subtract 10½ hours local summer, 9½ hours local winter (midyear)
<b>Australia: <i>Queensland</i></b>	Subtract 10 hours
<b>Australia: <i>Northern Territory</i></b>	Subtract 9½ hours
<b>Australia: <i>Western Australia</i></b>	Subtract 8 hours
<b>New Zealand</b>	Subtract 13 hours local summer, 12 hours local winter (midyear)

## BEST TIMES AND FREQUENCIES FOR 2007

Dialing randomly within the full range of shortwave frequencies might get you nothing but dead air. That's because world band stations transmit on limited segments within the shortwave spectrum. Some of these are alive and kicking only by day, while others don't spring to life until night. Time of year also counts.

World band is always active, but many signals are strongest evenings because they're aimed your way. Still, lots of interesting stuff is heard outside prime time when, thanks to shortwave's scattering properties, signals beamed elsewhere are heard.

Experienced station hunters especially enjoy the hour or two on either side of dawn. Because propagation is different then, you may hear parts of the world that normally elude. Try after lunch, too—especially towards sunset. After midnight may also be interesting, especially winters.

*Fine Print and Slippery Excuses:* Treat this time and frequency guide like a good weather forecast: helpful, but not holy writ. Nature, as always, has a mind of its own, and world band is nature's radio.

This guide is most accurate if you're north of the African and South American continents. Even then, what you hear will vary depending on such things as your location, where the station transmits from, the time of year and your radio hardware.

📻 World band radio has fourteen official frequency segments. Nevertheless, broadcasters also operate "out of band" as legitimate secondary users, provided they don't cause harmful initial interference to such primary users as fixed-service utility stations.

📻 "Night" refers to your local hours of darkness, give or take.

### **Night—Very Limited Reception Day—Local Reception Only**

2 MHz (120 meters) **2300–2495 kHz**—used by a very few domestic stations, plus 2496–2504 kHz for time stations only.

**World band  
is free from  
regulation and  
snooping.**

### **Night—Limited Reception Day—Local Reception Only**

3 MHz (90 meters) **3200–3400 kHz**—overwhelmingly domestic broadcasters, but also some international stations.

### **Day and Night—Good-to-Fair in Europe and Asia except Summer Nights; Elsewhere, Limited Reception Night**

4 MHz (75 meters) **3900–4050 kHz**—international and domestic stations, primarily not in or beamed to the Americas; 3900–3950 kHz mainly Asian and Pacific transmitters; 3950–4000 kHz also includes European transmitters; 4001–4050 kHz currently out-of-band.

**Night—Fair Reception**  
**Day—Regional Reception Only**

5 MHz (60 meters) **4750–4995 kHz** and **5005–5100 kHz**—mostly domestic stations, plus 4996–5004 kHz for time stations only; 5061–5100 kHz currently out-of-band.

**Night—Excellent Reception**  
**Day—Regional Reception Only**

6 MHz (49 meters) **5730–6300 kHz**—5730–5899 kHz and 6201–6300 kHz currently out-of-band.

**Night—Good Reception**  
**Day—Mainly Regional Reception**

7 MHz (41 meters) **6890–6990 kHz** and **7100–7600 kHz**—6890–6990 kHz and 7351–7600 kHz currently out-of-band; 7100–7300 kHz no American-based transmitters and few transmissions targeted to the Americas. The 7100 kHz lower parameter for outside the Americas shifts to 7200 kHz in March of 2009.

**Day—Fair Reception Winter; Regional Reception Summer**  
**Night—Good Reception Summer**

9 MHz (31 meters) **9250–9995 kHz**—9250–9399 kHz and 9901–9995 kHz currently out-of-band, plus 9996–10004 kHz for time stations only.

**Day—Good Reception**  
**Night—Variable Reception Summer**

11 MHz (25 meters) **11500–12200 kHz**—11500–11599 kHz and 12101–12200 kHz currently out-of-band.

13 MHz (22 meters) **13570–13870 kHz**

15 MHz (19 meters) **15005–15825 kHz**—15005–15099 kHz and 15801–15825 kHz currently out-of-band, plus 14996–15004 kHz for time stations only.

**Day—Good Reception**  
**Night—Limited Reception Summer**

17 MHz (16 meters) **17480–17900 kHz**

19 MHz (15 meters) **18900–19020 kHz**—few stations use this segment.

**Day—Variable Reception**  
**Night—Little Reception**

21 MHz (13 meters) **21450–21850 kHz**

**Day—Rare, if Any, Reception**  
**Night—No Reception**

25 MHz (11 meters) **25670–26100 kHz**

**World band is  
 always there,  
 whether in crisis  
 or in calm.**