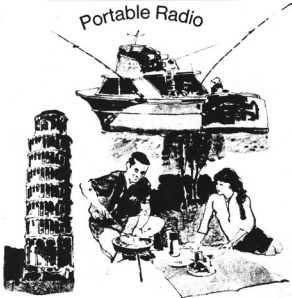


MW • FM • SW1 • SW2 • VHF • AIR • PUBLIC



## Portable Radio



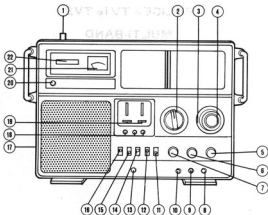
### Operating Instruction and Owner's Guide

Please read these instructions carefully before operating your new radio.

## Introduction

Your new multi-Band Portable Radio is a finely-engineered possession that, with proper care, will give you many years of trouble-free enjoyment.

Before operating your radio, familiarize yourself with all of the features described in this booklet. This will add to your satisfaction and help you avoid unnecessary service and repair.



### Location of Controls

- |                                 |  |
|---------------------------------|--|
| 1. Telescopic Antenna           | 13. Headphone Jack                               |
| 2. Rotary Band Selector         | 14. Display Switch                               |
| 3. Tuning Control               | 15. AC/DC Switch                                 |
| 4. Fine Tuning Control          | 16. Power On/Off Switch                          |
| 5. Volume Control               | 17. 12V Car Adaptor Jack (Rear of Radio)         |
| 6. Tone Control                 | 18. FM Present Push-buttons                      |
| 7. Squelch Control              | 19. FM Present Tuning                            |
| 8. External Antenna Jack        | 20. Dial Light Push-button                       |
| 9. Microphone Input Jack        | 21. Battery/Tuning Meter                         |
| 10. Earphone Jack               | 22. Digital Frequency Counter Display            |
| 11. Public Address/Radio Switch | 23. Battery and Cord Compartment (Rear of Radio) |
| 12. AFC Switch                  |  |

## I. HOW TO OPERATE YOUR RADIO

### 1. BATTERY INSTALLATION

Put the radio on a table or on your lap and remove the Battery lid at the back of the case. Insert six D size batteries in the compartment. Be sure that the batteries are inserted correctly to avoid damage to the unit. Standard batteries should last about 6 months with normal use. Always remove when the radio will not be used for a long period of time, as this will cause leakage and subsequent damage to your radio. The battery indicator will show battery strength when the radio is turned on so batteries can be replaced if necessary.

### 2. AC/DC OPERATION (AC 220 Volt, 50 Hz):

The AC/DC switch controls the power supply. Be sure AC/DC switch is in proper position for intended use — AC for household current — DC for battery current.

### 3. 12-VOLT CAR ADAPTOR OPERATION:

Connect the adaptor properly to the working 12-Volt cigar lighter receptacle and firmly insert the adaptor cord plug to the 12-Volt car adaptor jack located on left side of radio cabinet. Be sure AC/DC switch is in proper DC position.

**CAR ADAPTOR:** Use only 12-volt, 1 Amp DC supply.

## II. ROTARY BAND SELECTOR

To play the radio on a particular band, rotate the selector knob located on the front of the case to one of the six positions.

**NOTE!** This band selector does not function when FM preset button is depressed. Be sure the FM preset selector button is in the "off" position when using the rotary band selector.

### 1. MW and FM LISTENING

When playing the radio on the MW band, it is not necessary to raise the TELESCOPIC ANTENNA since there is a built-in antenna for MW reception. However, since radios are sensitive to direction, improved reception may be obtained by rotating the radio to different positions. For FM listening, it may be necessary to raise the left Telescopic Antenna for maximum performance. Be sure that the radio is tuned precisely to the FM station desired; otherwise, a howling or hissing noise may distort the sound. Unsatisfactory reception, even with the antenna raised, may

mean that the batteries should be replaced. For FM preset operation, refer to the section "FM PRESET" in "DESCRIPTION OF CONTROLS".

### 2. PB AND MARINE BANDS

Unlike MW and FM broadcasts, police transmission is not continuous, and there are times when there is no signal on a given frequency. These are functional broadcasts and are used only when necessary for the exchange of information. A certain amount of patience will pay off in much listening enjoyment. The Public (HBI) band will enable you to hear conversations between squad cars and headquarters as well as fire fighting calls, taxi, truck and other private mobile transmissions. Because of the high frequency of this band, it builds in another bonus the ability to pick up marine transmissions assigned to the new VHF/FM channels. The Telescopic Antenna should be fully extended, and tuning should be done very slowly and carefully to pick up all the signals above.

The VHF/FM marine frequencies provide you with a "total" radio.

[See Log of Marine Radio Information.]

Your radio is equipped with a squelch control to help eliminate these intrusive noises.

### 3. AIR BAND

The Aircraft band will enable you to listen to conversations between airplanes and control towers in your area. Again, the Telescopic Antenna should be fully extended, and tuning should be done very slowly and carefully to pick up these signals.

Unlike MW and FM broadcasts, aircraft transmissions are not continuous, and there are times when there is no signal on a given frequency. These are functional broadcasts and are used only when necessary for the exchange of information. A certain amount of patience on the part of the listener will pay off in listening enjoyment.

### 7. SHORTWAVE BANDS

To operate your radio on the Shortwave (SW1 and SW2) bands, the left Telescopic Antenna should be fully extended and pivoted in the direction that produces the best reception. Plug the external antenna into the proper jack, and if possible attach the other end to a window or screen or let it hang out in the open air. When tuning to various frequencies, remember that very small movements of the Tuning Control result in relatively large frequency changes.

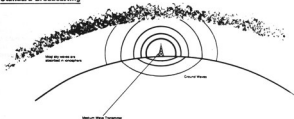
Move the control slowly and deliberately to pick up all signals within the range of your radio.

The best time for listening to shortwave broadcasts is during the evening and nighttime hours. "Ham" operators and foreign stations generally schedule their transmissions in this period. Broadcasts from Australia and the South Pacific are often best in the early morning hours.

Another thing to remember is that the quality of shortwave reception will vary according to the season of the year, prevailing weather conditions, changes in the atmosphere, and the frequency to which you are listening.

Fall and winter are generally the best seasons for shortwave reception, especially for European and Far East stations, while Australian and South Pacific stations are strongest in the spring. In any case, interference and intrusive noise are to be expected with any shortwave reception. Your radio is equipped with a tone control to help eliminate these intrusive noises. Patience and experimentation on the part of the listener, however, will be rewarded with a great deal of pleasure—and many moments of discovery—from this fascinating communications medium.

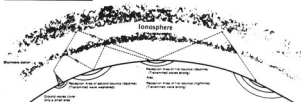
### Standard Broadcasting



Standard broadcast stations are assigned the medium wave lengths — those frequencies between 540 and 1600 KHz. Waves emanate outward from the transmitter as shown in the diagram. Since the longer waves penetrate the ionosphere (an electrically-charged layer sur-

rounding the earth at an altitude of about 25 miles) and travel out into space, signals on earth can only be received from those waves that stay close to the ground, limiting the area of effective broadcast.

### Shortwave Broadcasting



Shortwave stations are assigned those frequencies above 4.0 MHz. Since shortwave signals are transmitted directionally, ground waves cover only a small area around the transmitter. But, because the short, high-frequency waves tend to "bounce back" from the ionosphere, the signals may be received in any area to which the signals bounce back to earth (see diagram). Depending on

conditions of the ionosphere, the signal may bounce from the ionosphere to the earth, back to the ionosphere and back to earth again, carrying it around the world. By selecting its angle of transmission, a shortwave station can direct its signal to exactly the part of the world it chooses.

## TROUBLE SHOOTER

If you are unable to receive signals on your radio, follow these procedures to be sure it is not in need of repair.

### **I. If battery operated, check the following:**

1. Power switch set to "on" position.
2. AC/DC switch set to "DC" position.
3. PA/Radio switch set to "Radio" position.
4. Batteries correctly inserted.
5. Radio tuned to local MW station with volume set high.
6. SW, Air, & Police transmissions are not constant — set radio at desired band with volume control high and wait for transmissions.

### **II. If house current is being used, check the following:**

1. PA/Radio switch set to "Radio" position.
2. AC/DC switch set to "AC" position.
3. Power switch set to "ON" position.
4. Radio tuned to local MW station with volume control set high.

### **III. If 12-Volt battery operated, check the following:**

1. Ciger lighter adapter cord properly connected to working 12-Volt receptacle and firmly inserted in 12-Volt plug located on left side of radio cabinet.
2. PA/Radio switch set to "Radio" position.
3. AC/DC switch set to "DC" position.
4. Power switch set to "ON" position.
5. Radio tuned to local MW station with volume set high.

## DESCRIPTION OF CONTROLS

Keep your radio away from areas of excessive heat such as radiators, cooking appliances, windows or trunks of cars parked in bright sunlight for long periods.)

When the radio will not be in use for a substantial length of time, remove the batteries to avoid damage that can result from corrosion of the cells.

### **Power on/off Switch:**

Turn on or off by the power on/off switch.

### **Volume Control:**

Volume is controlled by rotating this control from the extreme left position to the extreme right position. Make your volume adjustments slowly and gradually.

### **Tuning Control:**

Turn this control to select the desired station or frequency using the dial markings as a reference.

### **Squelch Control:**

To provide clear, noiseless reception, your radio is equipped with a squelch control. Slowly rotate to the right until noises are reduced or eliminated. Continue to readjust for the clearest, most pleasant reception.

### **Tone Control:**

Bass sounds — minimum setting; treble sounds — maximum setting.

### **Fine Tuning Control:**

This control is designed to be used only on the short wave (SW) band and has no effect on other bands.

### **Telescopic Antenna:**

Be sure to fully extend the telescopic antenna and rotate to direction that gives the clearest sound. When receiving strong or nearby stations, it may be desirable to shorten the antenna to prevent distorted sound.

### **Band Selector:**

The function of the rotary band selector is as follows:

**MW :** Standard MW broadcast band; used to receive MW stations.

**SW1 :** Shortwave band 1 – 6.0 – 9.0 MHz

**SW2 :** Shortwave band 2 – 9.0 – 18.0 MHz

**FM/VHF:** FM broadcast band; used to receive FM stations.

**Aircraft:** Aircraft band; used to listen to airport control towers and nearby airplanes.

**HPB :** Public Service band; used to listen to Police, Fire, Civil Defense, Railroads, Taxis, Highway Trucks, Private Mobile Telephone, etc.

### **AFC Switch:**

Set this switch to "ON" to enjoy drift-free FM listening.

### **External Antenna:**

An external antenna is used for best results in tuning in weak Short Wave signals. Connect the external lead to the external antenna jack.

### **Earphone Jack:**

When the earphone is inserted into the earphone jack, the speaker is automatically cut off to seal in sound for private listening.

### **Headphone Jack:**

Used for mono headphone sets (not included).

### **Dial Light:**

Push button so marked to illuminate entire dial face when radio is used in dark locations.

### **Tuning/Battery Indicator:**

The needle will move from right to left as signal strength increases. The extreme left needle position indicates the best possible signal reception.

Battery condition is read when the radio is not receiving a signal. Extreme right indicates strong batteries. Extreme left readings indicate batteries are weak.

### **Public Address:**

To use your radio as a P.A. system, simply insert the microphone into the input receptacle on front. Increase volume to desired level. Caution, power switch must be in "on" position. Radio switch on the front must be in "P.A." position.

## **LOG OF MARINE RADIO INFORMATION**

In general, marine communication is not a continuous transmission. It is only used when a message has to be transmitted and it is kept as brief as possible to give the next person a chance to use the channel. Therefore, a lack of reception on the Marine Bands does not mean that the receiver is malfunctioning. It generally means that no one is using the band at that particular moment.

It should be noted that use of the various marine channels is in a state of change. Many operators still transmit on the older low-frequency MW range but many others have switched to the new VHF/FM channels, the 156.3 to 162.0 range on the High Police (HP) band.

The FM Log is in use nationwide, applicable regardless of the size of the body of water – ocean, gulf lake, river, etc. – you're near.

**VHF/FM MARINE CHANNELS  
(HP BAND) USED FOR:**

Safety, Ship-To-Ship  
 Business and General, Ship-To-Ship & Ship-To-Coast  
 Business and General, Ship-To-Ship  
 Business and General, Ship-To-Ship & Ship-To-Coast  
 Business and General, Ship-To-Ship & Ship-To-Coast  
 Business and General, Ship-To-Ship & Ship-To-Coast  
 Port Operations, Ship-To-Ship & Ship-To-Coast  
 Port Operation, Locks, Ship-To-Coast  
 Port Operations, Ship-To-Coast  
 Safety and Calling, Ship-To-Ship & Ship-To-Coast  
 Business and General, Ship-To-Ship & Ship-To-Coast  
 Business and General, Ship-To-Ship & Ship-To-Coast  
 Ship-To-Mainland Tel. Calls, Ship-To-Coast  
 Coast Guard Auxiliary  
 Ship-To-Mainland Tel. Calls, Ship-To-Coast

TRANSMIT FREQ.	RECEIVE FREQ.
156.3	156.3
156.35	156.35
156.4	156.4
156.45	156.45
156.5	156.5
156.55	156.55
156.6	156.6
156.65	156.65
156.7	156.7
156.8	156.8
156.9	156.9
156.95	156.95
157	161.6
157.1	157.1
157.2	161.8
157.25	161.85
157.3	161.9
157.35	161.95
157.4	162

**FREQUENCY DISPLAY**

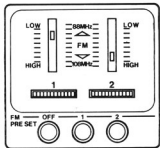
Set the display switch to the "on" position. When the rotary tuning knob is rotated the digital frequency counter will display the frequency that is tuned. NOTE! Some slight variance of stated station frequency is normal.

**FM PRESET OPERATION**

Two of your favorite FM stations may be preset for instant recall and enjoyment. For initial setting the following procedure should be used:

1. Radio must be turned on at power switch and volume set at listening level.
2. FM preset "set" button pushed to "on" position.
3. First, depress set button labeled No. 1, then rotate thumb knob labeled No. 1 to desired station. Once set, the station is recalled instantly by simply turning set on and pressing button No. 1. Repeat above for preset No. 2.

When you are not using the preset, turn button off. Other bands will not work when preset on-off button is in "on" position. The digital frequency display will work with preset feature if display switch is in "on" position.



## LOG OF SHORT WAVE STATIONS



The following tables list major locations from which short wave broadcasts originate, times of broadcasts and the frequencies on which they broadcast. Because of weather conditions, interference and frequent changes in broadcast times and frequencies, you will not be able to receive all of them. However, you may also get some that are not listed here.

Keep a log of these stations. It's all part of the fun!

Broadcast times are shown in Eastern Standard Time. If you live in the Central Zone, subtract one hour, subtract 2 hours in the Mountain Zone and 3 hours in the Pacific Zone. Make allowance for Daylight Savings Time when required.

LOCATION	CALL LETTERS	POWER (Watt)	FREQ. (MHz)	TRANSMISSION PERIOD (EST)
<b>AFGHANISTAN</b>				
Steamer Point	—	10	7.1	10:00 pm - 4:00 pm
Kabul	—	50	6.0	8:00 pm - Midnight
Kabul	—	50	9.7	1:00 pm - 3:00 pm
<b>ALGERIA</b>				
Algiers	—	50	6.1	4:00 pm - 8:00 pm
Algiers	—	50	11.8	1:00 am - 8:00 pm
<b>ANGOLA</b>				
Luanda	CRGRF	10	9.5	1:00 am - 8:00 pm
Luanda	CRGRF	10	7.3	1:00 am - 8:00 pm
<b>ARGENTINA</b>				
Buenos Aires	LRA	100	6.0	6:00 am - 11:00 pm
Buenos Aires	LRA	100	6.9	7:00 pm - 2:00 am
Buenos Aires	LRA	100	11.7	2:00 pm - 9:00 pm
<b>AUSTRALIA</b>				
Melbourne	VIA	100	7.1	2:00 am - 7:00 am
Melbourne	VLH	50	9.6	1:00 pm - 4:00 pm
Melbourne	VLC	100	17.8	8:00 pm - 11:00 pm
Sydney	VLI	50	11.8	7:00 am - 8:00 am
<b>AUSTRIA</b>				
Innsbruck	OE1120	5	7.3	1:00 pm - 3:00 pm
Vienna	OE1	50	6.0	11:00 pm - 7:00 pm
Vienna	OE1	50	9.7	7:00 pm - 11:00 pm 4:00 am - Noon
<b>BECHUANALAND</b>				
Mafeking	—	10	7.2	8:00 am - 7:00 am
<b>BELGIUM</b>				
Brussels	ORU	100	6.1	8:00 pm - 8:00 pm
Brussels	ORU	100	9.7	8:00 pm - 8:00 pm
Brussels	ORU	100	11.8	11:00 am - 4:00 pm
<b>BENIN</b>				
Cotonou	—	30	7.1	3:00 am - 1:00 pm



LOCATION	CALL LETTERS	POWER (Mw)	FREQ. (MHz)	TRANSMISSION PERIOD (EST)
BOLIVIA				
La Paz	CP6	10	9.5	6:00 am - 11:00 pm
BORNEO (NORTH) (See Malaysia)				
BRAZIL				
Rio de Janeiro	ZY235	100	6.1	3:00 am - 10:00 pm
Rio de Janeiro	PRE-8	50	11.7	3:00 am - 10:00 pm
BRITISH HONDURAS				
Belize	—	10	6.1	11:00 am - 4:00 pm
BRITISH WEST INDIES				
Grenada	—	10	9.5	8:00 pm - 10:00 pm
BULGARIA				
Sofia	—	120	6.0	10:00 am - 5:00 pm
Sofia	—	120	9.7	6:00 pm - Midnight
Sofia	—	50	11.8	5:00 pm - Midnight
Sofia	—	50	17.8	6:00 am - 9:00 am
BRUNEI				
Brunei	—	10	11.9	6:00 pm - 11:00 am
BURMA				
Rangoon	X2K	50	6.0	8:00 pm - 10:00 pm
Rangoon	X2K	50	7.1	3:00 am - 3:00 am
BURUNDI (KINGDOM OF)				
Bujumbura	—	50	6.1	11:00 pm - 1:00 am
CAMBODIA				
Phnom-Penh	—	50	11.9	3:00 pm - 4:00 pm
CAMEROON				
Yaounde	—	30	6.0	2:00 am - Noon
CANADA				
Montreal	CKN	10	5.9	7:00 am - 9:00 am
Montreal	CKY	50	9.6	2:00 am - 4:00 am
Montreal	CHO	50	11.7	7:00 am - 9:00 am
CENTRAL AFRICA				
Bangui	—	30	7.3	2:00 am - Noon
CEYLON				
Colombo	—	35	11.8	7:00 am - 9:00 am
CHAD				
Fort Lamy	—	30	6.1	2:00 am - Noon
Fort Lamy	—	10	9.6	2:00 am - Noon
CHILE				
Santiago	CE970	10	9.7	6:00 am - 11:00 pm
Santiago	CE1190	10	11.9	6:00 am - 11:00 pm
COLOMBIA				
Bogota	HJ2	10	6.0	6:00 am - 9:00 am
Bogota	HUC	25	6.1	7:00 am - Midnight
COMORO ISLANDS				
Gravouze	—	5	7.3	Midnight - 10:00 am
CONGO (WEST)				
Brazzaville	—	50	5.9	10:00 am - 5:00 pm
Brazzaville	—	15	7.1	4:00 am - 6:00 am
Brazzaville	—	50	11.7	5:00 pm - 9:00 pm
COSTA RICA				
San Jose	TIH	10	6.0	7:00 am - Midnight
San Jose	TIDCR	3	9.6	6:00 am - Midnight
CUBA				
Havana	COCH	100	6.0	6:00 am - 2:00 am
Havana	COCH	100	11.8	2:00 pm - 5:00 pm
CZECHOSLOVAKIA				
Prague	OLR	100	6.0	8:00 pm - 1:00 am
Prague	OLR	100	9.5	7:00 am - Noon
Prague	OLR	100	11.7	7:00 am - 9:00 am
DENMARK				
Copenhagen	OZF	50	9.5	11:00 am - 1:00 pm
DOMINICAN REPUBLIC				
Santo Domingo	HEAT	7.5	5.9	6:00 am - Midnight
Santo Domingo	HI	50	9.5	6:00 am - Midnight

LOCATION	CALL LETTERS	POWER (Mw)	FREQ. (MHz)	TRANSMISSION PERIOD (EST)
<b>EQUADOR</b>				
Quito	HCJB	30	6.0	7:00 pm - Midnight
Quito	HCJB	30	9.7	7:00 pm - Midnight
Quito	HCJB	30	11.9	7:00 pm - Midnight
<b>EL SALVADOR</b>				
Santa Ana	—	1	5.9	1:00 pm - 3:00 pm
Santa Ana	—	5	9.5	6:00 pm - 11:00 pm
Santa Ana	—	5	11.7	1:00 pm - 11:00 pm
<b>ENGLAND</b>				
London	—	75	5.9	Noon - 3:00 pm
London	—	75	6.0	1:00 am - 3:00 pm
London	—	75	6.1	4:00 pm - 6:00 pm
London	—	75	7.1	6:00 am - 9:00 am
London	—	75	9.7	2:00 am - 5:00 am
London	—	75	11.7	8:00 pm - Midnight
London	—	75	11.8	4:00 pm - 7:00 pm
<b>EGYPT (See United Arab Republic)</b>				
<b>ETHIOPIA</b>				
Addis Ababa	—	20	11.7	10:00 am - 2:00 pm
<b>FJI ISLANDS</b>				
Suva	VRH	10	6.0	5:00 am - 1:00 pm
<b>FINLAND</b>				
Helsinki	OIX	15	6.1	11:00 pm - 5:00 pm
Helsinki	OIX	15	9.5	5:00 am - 9:00 am
Helsinki	OIX	10	11.8	6:00 am - 11:00 am
<b>FORMOSA (See Taiwan)</b>				
<b>FRANCE</b>				
Paris	—	100	5.9	4:00 pm - 6:00 pm
Paris	—	100	6.1	Noon - 3:00 pm
Paris	—	100	7.1	Noon - 3:00 pm
Paris	—	100	11.8	10:00 pm - 2:00 am
<b>FRENCH GULANA</b>				
Cayenne	—	10	6.1	5:00 am - 9:00 pm
<b>FRENCH POLYNESIA</b>				
Papeete	—	4	6.1	11:00 am - 6:00 pm
Papeete	—	4	11.8	2:00 pm - 6:00 pm
<b>FRENCH SOMALILAND</b>				
Djibouti	—	4	6.0	Midnight - 10:00 am
<b>GABON</b>				
Libreville	—	25	7.2	3:00 am - Noon
<b>GAMBIA</b>				
Bathurst	—	1	5.9	Noon - 3:00 pm
<b>GERMANY (EAST)</b>				
Berlin (East)	—	50	9.7	Midnight - 1:00 pm
Berlin (East)	—	5	6.1	10:00 am - 1:00 pm
Naumburg	—	50	11.7	3:00 am - 6:00 am
Naumburg	—	50	6.0	10:00 am - 6:00 pm
Naumburg	—	50	6.0	4:00 pm - 10:00 pm
<b>GERMANY (WEST)</b>				
Berlin (West)	DMR24	10	6.0	11:00 pm - 7:00 pm
Berlin (West)	DMR32	100	7.2	11:00 pm - 7:00 pm
Berlin (West)	DMO	100	9.8	8:00 pm - Midnight
Berlin (West)	DMO	100	11.7	6:00 am - 11:00 am
Munich*	—	10	6.0	Noon - 6:00 pm
Munich*	—	20	7.1	2:00 am - 11:00 am
Munich*	—	50	9.7	3:00 am - 4:00 pm
Munich*	—	20	11.8	11:00 pm - 5:00 am
<b>GHANA</b>				
Accra	—	10	7.2	1:00 pm - 3:00 pm
Tema	—	100	9.5	2:00 am - 7:00 am
<b>GREECE</b>				
Athens	—	5	6.0	5:00 am - 6:00 pm
Athens	—	5	11.7	Noon - 2:00 pm

\* Radio Free Europe

LOCATION	CALL LETTERS	POWER (Ww)	FREQ. (MHz)	TRANSMISSION PERIOD (EST)
GUATEMALA				6:00 pm - 7:00 pm
Guatemala City	TGW	10	5.9	7:00 am - Midnight
Guatemala City	TGQ	10	11.7	7:00 am - 1:00 pm
GUINEA				
Conakry	---	50	6.1	3:00 am - 9:00 am
Conakry	---	50	9.6	11:00 am - 7:00 pm
GUYANA				
Speardem	ZFY	10	5.9	4:00 am - 1:00 pm
HAITI				
Cap-Haitien	4VE	10	9.7	7:00 pm - 10:00 pm
Cap-Haitien	4VWI	25	11.8	5:00 am - 7:00 pm
HONDURAS				
Tapucigalpa	HRV	10	5.9	9:00 am - Midnight
Tapucigalpa	HRT	10	6.1	7:00 am - Midnight
HUNGARY				
Budapest	---	100	5.9	7:00 pm - 9:00 pm
Budapest	---	100	9.5	8:00 am - 11:00 am
Budapest	---	100	11.9	7:00 pm - 9:00 pm
ICELAND				
Reykjavik	TFU	10	11.7	8:00 am - 10:00 am
Reykjavik	---	---	---	2:00 pm - 4:00 pm
INDIA				
Delhi	---	100	6.0	7:00 pm - Noon
INDONESIA				
Djakarta	YDE	10	11.7	11:00 pm - 3:00 am
IRAN				
Tehran	EOB	75	6.1	9:00 pm - 2:00 pm
IRAQ				
Baghdad	YIH	200	6.1	10:00 pm - 5:00 pm
IRIAN (WEST)				
Suk	---	5	9.7	6:00 pm - 8:00 pm
ISRAEL				
Tel Aviv	4XB	50	9.6	Noon - 4:00 pm
Tel Aviv	4XB	21	11.9	Noon - 4:00 pm
ITALY				
Rome	---	60	5.9	Noon - 6:00 pm
Rome	---	25	7.1	3:00 am - 5:00 pm
Rome	---	100	9.5	Noon - 4:00 pm
Rome	---	60	11.9	1:00 am - 4:00 am
IVORY COAST				
Abidjan	---	100	6.0	1:00 pm - 7:00 pm
Abidjan	---	100	11.8	2:00 am - 1:00 pm
JAPAN				
Tokyo	JO86	100	6.0	4:00 pm - 6:00 pm
Tokyo	JO8	100	9.5	Midnight - 10:00 am
Tokyo	JO2	50	9.5	24 hours
Tokyo	---	100	11.7	24 hours
JORDAN				
Amman	---	100	7.5	10:00 pm - 3:00 am
Amman	---	50	9.5	8:00 am - 11:00 pm
KENYA				
Nairobi	ZGWSZ	10	7.2	10:00 pm - 10:00 am
Nairobi	ZGWSB	10	9.6	10:00 pm - 10:00 pm
KOREA				
Seoul	---	50	9.6	3:00 am - 10:00 am
Seoul	---	50	11.9	6:00 pm - Midnight
Seoul	---	---	---	9:00 am - 11:00 am
KUWAIT				
Kuwait City	9K V	10	6.0	9:00 pm - 4:00 pm
Kuwait City	9K V29	10	9.5	4:00 am - 4:00 pm
LAOS				
Vientiane	---	10	6.1	Midnight - 1:00 pm
Vientiane	---	10	7.1	6:00 pm - 8:00 pm

LOCATION	CALL LETTERS	POWER (mW)	FREQ. (MHz)	TRANSMISSION PERIOD (EST)	
LEBANON	Beirut	100	9.7	8:00 pm - 11:00 pm	
	Beirut	100	11.8	4:00 pm - 6:00 pm	
LIBERIA	Monrovia	ELWA	50	8:00 pm - 11:00 pm	
	Monrovia	ELWA	50	11:00 pm - 9:00 am	
LIBYA	Benghazi	---	100	7:00 am - 9:00 am	
	Benghazi	---	100	7:00 am - 9:00 am	
LUXEMBOURG	Junglinster	---	50	6.0	Midnight - 7:00 pm
MADAGASCAR	Tananarive	---	4	7.1	Midnight - 10:00 am
	Tananarive	---	4	5.6	Midnight - 10:00 am
MALAWI	Zomba	---	10	7.2	4:00 am - 8:00 am
MALAYA (See Malaysia)					
MALAYSIA	Jessellon	---	100	7.1	5:00 pm - 11:00 am
	Kuala Lumpur	---	100	6.1	6:00 pm - 7:00 pm
		---	---	---	5:00 am - 6:00 am
	Kuala Lumpur	---	10	7.1	6:00 pm - 9:00 pm
		---	---	---	4:00 am - 11:00 am
	Kuala Lumpur	---	50	9.7	6:00 pm - 9:00 pm
		---	100	11.9	6:00 pm - 9:00 pm
Tebrau	---	25	6.1	5:00 am - 11:00 am	
MALI	Bamako	---	50	7.1	1:00 pm - 6:00 pm
	---	---	---	---	---
MARTINIQUE	Fort-de-France	---	8	5.9	5:00 am - 11:00 pm
MAURITANIA	Nouakchott	---	30	6.0	7:00 am - 9:00 am
MAURITIUS	Curieuse	---	10	9.7	2:00 am - 8:00 am
MEXICO	Acapulco	XTRGL	20	6.1	9:00 am - 11:00 pm
	Mexico City	XEPH	20	6.0	7:00 pm - 1:00 am
	Mexico City	XEWW	20	9.5	8:00 pm - 1:00 am
	Mexico City	XEOG	10	9.6	8:00 pm - 3:00 am
	Mexico City	XENN	10	11.8	8:00 am - 1:00 am
	Mexico City	XBO	10	11.9	9:00 am - 11:00 pm
MONACO	Monte Carlo	3AM	10	6.0	1:00 am - 6:00 pm
	Monte Carlo	3AM4	100	7.2	8:00 am - 1:00 pm
	Monte Carlo	---	100	11.7	11:00 am - Noon
MOROCCO	Tanger	---	100	6.0	9:00 pm - 3:00 am
	Tanger	---	25	9.6	9:00 pm - 3:00 am
	Tanger	---	50	11.8	1:00 am - 3:00 am
MOZAMBIQUE	Lourenco Marques	---	7.5	9.6	Midnight - 4:00 am
NETHERLANDS	Hilversum	---	100	9.7	Midnight - 4:00 am
	Hilversum	---	100	9.5	3:00 pm - 6:00 pm
	Hilversum	---	100	11.7	10:00 am - Noon
	Hilversum	---	100	11.7	4:00 pm - 6:00 pm
NETHERLANDS ANTILLES	Willemstad	---	5	6.0	6:00 am - Midnight
NEPAL	Katmandu	9NB7	5	7.1	7:00 am - Noon
	Katmandu	9NB7	10	11.9	7:00 am - Noon
NEW CALEDONIA	Nouméa	---	4	7.1	1:00 pm - 8:00 am
NEW ZEALAND	Wellington	ZLZ	8	9.5	Noon - 6:00 pm
	Wellington	ZLZ	8	11.7	4:00 am - 10:00 am

LOCATION	CALL LETTERS	POWER (Mw)	FREQ. (MHz)	TRANSMISSION PERIOD (EST)
NICARAGUA				
Managua	YNWA	5	6.1	7:00 am - Midnight
NIGER				
Namby	---	30	7.1	3:00 am - 1:00 pm
NIGERIA				
Enugu	---	10	6.0	8:00 am - 5:00 pm
Enugu	---	10	9.6	11:00 am - 5:00 pm
Enugu	---	10	11.9	11:00 am - 3:00 pm
NORTHERN RHODESIA (See Zambia)				
NORWAY				
Oslo	LKJ	100	6.1	11:00 pm - 1:00 am
Oslo	LIG	100	9.6	11:00 pm - 1:00 am
Oslo	LLK	10	11.8	10:00 am - 1:00 pm
OKINAWA (See Ryukyu Islands)				
PAKISTAN				
Karachi	---	75	5.9	8:00 pm - 11:00 pm
Karachi	---	50	9.5	7:00 pm - 10:00 pm
Karachi	---	50	11.8	7:00 pm - 9:00 pm
PANAMA				
Panama City	HQJ	10	5.9	7:00 am - 1:00 pm
Panama City	HQF	10	9.6	7:00 am - 1:00 pm
PAPUA				
Port Moresby	VLT	5	6.1	1:00 pm - 9:00 pm
Port Moresby	VLT	5	9.6	5:00 pm - 2:00 am
PARAGUAY				
Asuncion	ZPA	10	6.0	5:00 am - 2:00 pm
Asuncion	ZPA	10	9.7	6:00 am - Noon
Asuncion	ZPA	10	11.8	9:00 am - 6:00 pm
PERU				
Lima	OAX	10	5.9	6:00 am - Midnight
PHILIPPINES				
Manila	DZH	30	9.7	10:00 am - 1:00 pm
Manila	DZHB	10	11.8	2:00 pm - 5:00 pm
Manila	DZFD	50	11.9	11:00 am - Noon
POLAND				
Warsaw	---	100	6.0	10:00 am - 4:00 pm
Warsaw	---	15	7.1	4:00 pm - 6:00 pm
Warsaw	---	15	9.5	8:00 am - 10:00 am
Warsaw	---	100	11.8	11:00 am - 2:00 pm
PORTUGAL				
Lisbon	CS45Z	10	6.0	1:00 pm - 7:00 pm
Lisbon	CSA10	100	6.1	7:00 pm - Midnight
Lisbon	CSA2F	100	9.7	7:00 pm - 11:00 pm
Lisbon	CSA30	100	11.8	7:00 pm - Midnight
Lisbon*	CSB	50	5.9	11:00 pm - 2:00 am
				1:00 pm - 6:00 pm
Lisbon*	CSB	100	7.1	1:00 pm - 6:00 pm
Lisbon*	CSB	100	7.2	11:00 pm - 3:00 am
Lisbon*	CSB	50	9.6	1:00 pm - 6:00 pm
Lisbon*	CSB	50	11.7	9:00 am - 3:00 pm
Lisbon*	CSB	100	15.2	3:00 pm - 4:00 pm
Lisbon*	CSB	50	17.8	11:00 am - 3:00 pm
RUMANIA				
Bucharest	---	30	5.9	8:00 pm - Midnight
Bucharest	---	20	6.1	4:00 pm - 9:00 pm
Bucharest	---	17	9.5	8:00 pm - Midnight
Bucharest	---	30	11.8	11:00 pm - Midnight
RWANDA				
Kigali	---	5	6.0	Midnight - 7:00 am
RYUKYU ISLANDS				
Osaka	---	35	6.0	3:00 am - Noon
Osaka	---	100	11.9	7:00 pm - 9:00 pm

\* Radio Free Europe

LOCATION	CALL LETTERS	POWER (Watt)	FREQ. (MHz)	TRANSMISSION PERIOD (EST)
<b>SARAWAK</b>				
Kuching	—	10	7.1	5:00 pm – 6:00 am
<b>SAUDI ARABIA</b>				
Mecca	—	50	9.8	1:00 am – 11:00 am
Mecca	—	10	11.9	10:00 pm – 4:00 pm
<b>SENEGAL</b>				
Dakar	—	25	5.9	5:00 am – 1:00 pm
Dakar	—	100	11.8	9:00 am – 6:00 pm
<b>SIERRA LEONE</b>				
Freetown	—	5	5.9	10:00 am – 6:00 pm
<b>SINGAPORE</b>				
Singapore	—	10	6.1	5:00 pm – Noon
Singapore	—	50	11.9	5:00 pm – Noon
<b>SOLOMON ISLANDS</b>				
Honara	—	5	5.9	3:00 am – 6:00 am
<b>SOMALI</b>				
Hargeisa	—	10	7.1	10:00 pm – 1:00 am 5:00 am – 3:00 pm
<b>SOUTH AFRICA</b>				
Bloemfontein	—	20	6.1	10:00 pm – 5:00 pm
Bloemfontein	—	20	7.2	10:00 pm – 5:00 pm
Bloemfontein	—	20	9.5	1:00 am – 10:00 am
Bloemfontein	—	20	11.9	1:00 pm – 5:00 pm
<b>SOUTHERN RHODESIA</b>				
Salisbury	—	20	6.0	11:00 pm – 7:00 am
Salisbury	—	20	7.1	5:00 am – 10:00 am
Salisbury	—	20	9.5	1:00 am – 10:00 am
<b>SPAIN</b>				
Madrid	—	40	5.9	2:00 am – 7:00 pm
Madrid	—	100	6.1	10:00 pm – 3:00 am
Madrid	—	100	9.5	10:00 am – 2:00 am
Madrid	—	100	11.9	3:00 am – 8:00 am
<b>SUDAN</b>				
Omdurman	—	20	9.5	10:00 pm – 8:00 pm
Omdurman	—	50	11.8	1:00 pm – 5:00 pm
<b>SWEDEN</b>				
Stockholm	—	100	6.0	9:00 pm – 4:00 am
Stockholm	—	100	9.6	4:00 am – 8:00 pm
Stockholm	—	100	11.7	Noon – 4:00 pm
<b>SWITZERLAND</b>				
Berne	HER	100	6.1	1:00 am – 6:00 pm
Berne	HER	100	9.6	1:00 pm – 6:00 pm
Berne	HER	100	11.8	3:00 pm – 9:00 pm
<b>SYRIA</b>				
Damascus	—	50	9.6	11:00 pm – 7:00 pm
Damascus	—	50	11.8	7:00 pm – 11:00 pm
<b>TAIWAN</b>				
Minglung	8ED26	50	6.0	8:00 pm – 11:00 pm
Pan Chiao	8ED26	25	11.8	8:00 pm – 11:00 pm
Taipei	8EC24	50	7.2	9:00 pm – 10:00 am
Taipei	8EC	50	9.7	6:00 am – 7:00 pm
<b>TANGANYIKA (See Tanzania)</b>				
<b>TANZANIA</b>				
Dar es Salaam	—	20	7.1	Midnight – 9:00 am
Dar es Salaam	—	20	9.5	3:00 am – 6:00 pm
Morohi	—	25	6.0	5:00 am – Noon
Morohi	—	25	9.5	8:00 am – Noon
<b>THAILAND</b>				
Bangkok	HSA	25	7.1	4:00 am – 10:00 am
Bangkok	HSK	50	11.9	4:00 am – 9:00 am
<b>TOGO</b>				
Lome	—	25	7.2	3:00 am – 1:00 pm

LOCATION	CALL LETTERS	POWER (Mw)	FREQ. (MHz)	TRANSMISSION PERIOD (EST)
<b>TUNISIA</b>				
Tunis	—	50	6.1	10:00 am – 7:00 pm
Tunis	—	50	11.9	1:00 pm – 10:00 am
<b>TURKEY</b>				
Ankara	—	5	6.0	2:00 pm – 6:00 pm
Ankara	—	100	7.2	11:00 am – 6:00 pm
Ankara	—	100	9.5	Noon – 6:00 pm
<b>UGANDA</b>				
Kampala	—	10	7.1	1:00 pm – 10:00 am
Kampala	—	10	9.6	1:00 pm – 10:00 am
<b>UNITED ARAB REPUBLIC (EGYPT)</b>				
Cairo	—	100	7.2	11:00 am – 7:00 pm
Cairo	—	100	11.7	7:00 pm – 11:00 pm
<b>UPPER VOLTA</b>				
Ouagadougou	—	25	7.2	3:00 pm – Noon
Ouagadougou	—	25	9.5	3:00 pm – 1:00 pm
<b>URUGUAY</b>				
Montevideo	CXA	10	9.6	8:00 pm – 1:00 am
Montevideo	CXA15	10	11.8	7:00 pm – 10:00 pm
<b>UNITED STATES OF AMERICA (VOA)</b>				
Cincinnati	WLWD	100	6.1	6:00 am – 8:00 am
Cincinnati	WLWD	100	9.7	10:00 pm – 3:00 am
Cincinnati	WLWD	100	11.8	6:00 pm – 10:00 am
Los Angeles	KCBR	100	6.0	1:00 am – Noon
Los Angeles	KCBR	200	9.5	11:00 am – 1:00 pm
Los Angeles	KCBR	50	11.7	5:00 pm – 1:00 am
New York	WDSI	100	9.5	5:00 pm – 11:00 pm
San Francisco	KGEL	50	9.5	8:00 pm – Midnight
<b>U.S.S.R. (Byelorussia)</b>				
Minsk	—	100	7.1	10:00 pm – 10:00 am
Minsk	—	100	9.6	10:00 pm – 4:00 pm
Minsk	—	100	11.9	10:00 pm – Noon
<b>U.S.S.R. (European)</b>				
Moscow	—	50	5.9	3:00 pm – 8:00 pm
Moscow	—	50	6.1	9:00 pm – 6:00 pm
Moscow	—	50	7.2	2:00 pm – 10:00 am
Moscow	—	100	9.7	11:00 am – 5:00 pm
Moscow	—	100	11.8	8:00 am – 2:00 am
Moscow	—	50	11.9	7:00 am – 8:00 am
<b>U.S.S.R. (Ukrainian)</b>				
Kharkov	—	15	11.9	9:00 pm – 2:00 pm
Kiev	—	100	6.1	7:00 pm – 1:00 am
Kiev	—	100	9.7	8:00 pm – 3:00 am
<b>VATICAN CITY</b>				
Vatican City	—	100	6.1	11:00 am – 4:00 pm
Vatican City	—	100	7.2	11:00 am – 5:00 pm
Vatican City	—	100	9.6	2:00 pm – 6:00 pm
Vatican City	—	100	11.7	6:00 pm – 9:00 pm
<b>VENEZUELA</b>				
Caracas	—	10	11.7	8:00 pm – Midnight
<b>VIETNAM</b>				
Ho Chi Minh City	—	50	7.2	10:00 pm – 3:00 am
Ho Chi Minh City	—	50	9.2	4:00 am – 10:00 am
Ho Chi Minh City	—	50	11.9	6:00 pm – 1:00 am
<b>YUGOSLAVIA</b>				
Belgrad	—	100	6.1	9:00 am – 2:00 pm
Belgrad	—	10	7.2	1:00 pm – 3:00 pm
Belgrad	—	100	11.7	7:00 pm – 10:00 pm
<b>ZAIRE</b>				
Kinshasa	GRG	100	11.8	10:00 am – 4:00 pm
Kinshasa	GRST	10	6.0	10:00 am – 3:00 pm
<b>ZAMBIA (NORTHERN RHODESIA)</b>				
Lusaka	—	20	7.2	11:00 pm – 3:00 am
Lusaka	—	20	9.5	5:00 am – 10:00 am

