

## **Hitachi KH-WS1 WorldSpace Radio Receiver**

Listen to over 40 channels of crystal clear, fade-free digital audio programming direct from geostationary satellites around the world with the Hitachi WorldSpace Digital Receiver.

In addition to the satellite WorldSpace programming, it receives terrestrial AM, FM and SW broadcasts.

It has a 1-line, 8-character display area, a built-in monaural speaker, connectors for stereo output, and presets for 10 channels.

### **Personalising Available Programmes**

The Hitachi KH-WS1 WorldSpace receiver displays a scrollable menus of available channels. You can then customise the types of channels the receiver shows by pre-selecting preferred language and programme types. For example, an Arabic speaking user who wants to receive a wide variety of global news can preset the receiver to display only the WorldSpace array of Arabic language news channels.

### **Standard Features**

- Portable, battery powered (4 D-cell batteries) with AC adaptor
- Built-in monaural speaker (0.5 Watt output)
- Stereo headphone socket
- Stereo line out connectors for integration with your stereo or home theatre system
- Built-in easy-to-aim antenna
- WorldSpace satellite radio stations
- FM: 87.5 - 108MHz
- MW: 522 - 1620 KHz (9/10 KHz)
- SW1: 2.3 - 7.3 MHz
- SW2: 9.5 - 26.1 MHz
- Decryption and narrowcast capability
- Program selection by language and category
- 10 presets and last station memory
- 1-line, 8-character LC display
- Port for easy attachment to the WorldSpace PC card to enjoy



### **Weight:**

1.5kg without batteries

### **Dimensions:**

246.5 x 162.5 x 93mm

(9.7 x 6.4 x 3.6 inches)

including antenna and handle

### **Battery Requirement:**

6V 4 x D cell

## Basic Operation

- After turning on the receiver and positioning the antenna, the first WorldSpace broadcaster should be audible.
- If there is adequate signal strength and no WorldSpace audio is available, search for the broadcasters (see Search Mode section)
- Press Broadcaster/Frequency Up (BC/FREQ UP) or Broadcaster/Frequency Down (BC/FREQ DOWN) repeatedly to select the broadcaster:
  - \*\* BC/FREQ UP to move up 1 broadcaster
  - \*\* BC/FREQ DOWN to move down 1 broadcaster
- As the BC Select buttons are pressed, the broadcaster label is displayed on the screen.
- For each BC, the Service Channel programs (SC)s are shown. Press the Service Components Select UP and DOWN button to select the SC within the BC.

## Search Mode

This section does not apply if after completing basic set-up and basic operation you are receiving WorldSpace audio content. If no broadcasters can be heard and the display window shows an adequate signal strength, please follow these instructions:

- Press the mode button; "MODE" is displayed for 10 seconds.
- Press the BEAM SEEK button while "MODE" is lit. "SEEK" flashes and the unit searches for a receivable beam. When the unit receives a beam the beam name appears for 2 seconds then the unit begins to search for the next beam.
- If the unit cannot receive any WS beam "NO BEAM" appears in the display window.
- If the search is successful, the first broadcaster will be audible and the rest of the broadcasters will be in memory. Follow the directions in the Basic Operations section to manually tune through the broadcasters.

## What about Headphones, or amplifiers?

Each receiver has a headphone jack that can be used with currently available earphones for privacy. Also, each receiver has a lineout jack so it can be connected to an amplifier.

## Reception: Indoors

For in-building reception of the WorldSpace signal when there is no line-of-sight (LOS), an antenna must be aimed out of a glass window, or must be placed outside.

## Reception: Interference

Interference - what is it and what will cause it?

Interference of the WorldSpace signal is caused by one or more unwanted signals near the WorldSpace frequency. These disturbances may make reception of the WorldSpace signal difficult.

## Reception: Line-of-Sight (LOS)

Line-of-Sight (LOS), refers to uninterrupted or "obstruction-free" sight to the WorldSpace satellite. LOS is a very important precondition for receiving any satellite service.

## How do you obtain Line-of-Sight (LOS)?

Very simple - your reception antenna (e.g. patch antenna, high gain antenna, dish, ...) must have direct LOS to the satellite – with no obstructions such as trees, houses, bridges or the like.

Imagine the satellite as a point in the sky in the direction determined by consulting the [antenna pointing guide](#). Check for anything obstructing clear line-of-sight. Avoid or remove any such objects.

Also, consider that objects may move or be moved in front of your reception antenna without your control, such as a car, bus, or truck. Therefore, carefully select the location for placing or mounting the antenna. In general, the basic guidelines for LOS of TV satellite reception systems apply to the WorldSpace system as well.

## Can I connect it to my stereo system?

Yes. Each receiver has a line-out jack that can be hooked up to an amplifier and connected to your stereo system's speakers for better fidelity.

**Can I use the receiver in my car? Is it mobile?**

The current line of WorldSpace receivers is not designed for in-car use. However, we have heard from receiver owners who have safely secured the receiver antenna on their dashboard and have been able to pick up reception. In areas where there are few obstructions such as tall buildings or trees, you should be able to maintain line-of-sight with the satellite while in motion.

**Can I listen to WorldSpace on ships/boats at sea?**

Yes, you can listen to WorldSpace on ships/boats at sea. However, depending upon where you are located and the degree to which your ship/boat shifts direction, you may need to reorient the receiver's antenna periodically to insure that you maintain a line-of-sight to the satellite.