

# INSTRUCTION MANUAL

## JSRA-WS0110



WorldSpace® Satellite Digital Receiver

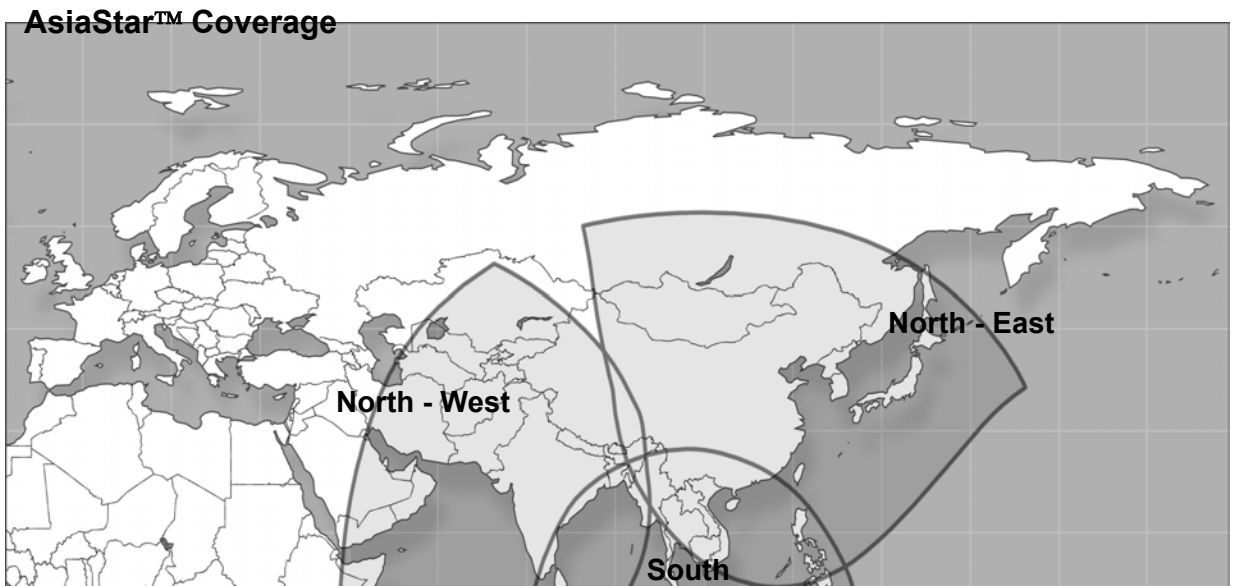


## JSinfo Best Quality Digital Radio System

### Contents

Coverage Map .....	3
Azimuth & Elevation Guide .....	5
Structure & Part Names .....	7

LCD Panel & Icons -----	7
Features -----	8
Precautions -----	8
Controls -----	8
Connections -----	9
Power Supply -----	9
Antenna -----	9
1. To install the antenna	
2. To attach the antenna	
3. To detach the antenna	
Basic Setup -----	10
Operations -----	10
1. Power ON/OFF -----	10
2. Receiving signals -----	10
3. Selecting broadcasters -----	11
4. Selecting service components -----	12
5. Listening to presets -----	13
6. Presetting/deleting service components -----	13
7. Password input (Pay service) -----	13
8. Bass sound ON/OFF -----	14
9. Submenus -----	15
Specifications -----	16



Note :

Each coverage shows an aim of the area that the receiver can receive broadcasts. Place the antenna in a position to acquire the satellite. By an area and a place or if an interference occurs, the receiver may not receive broadcasts.

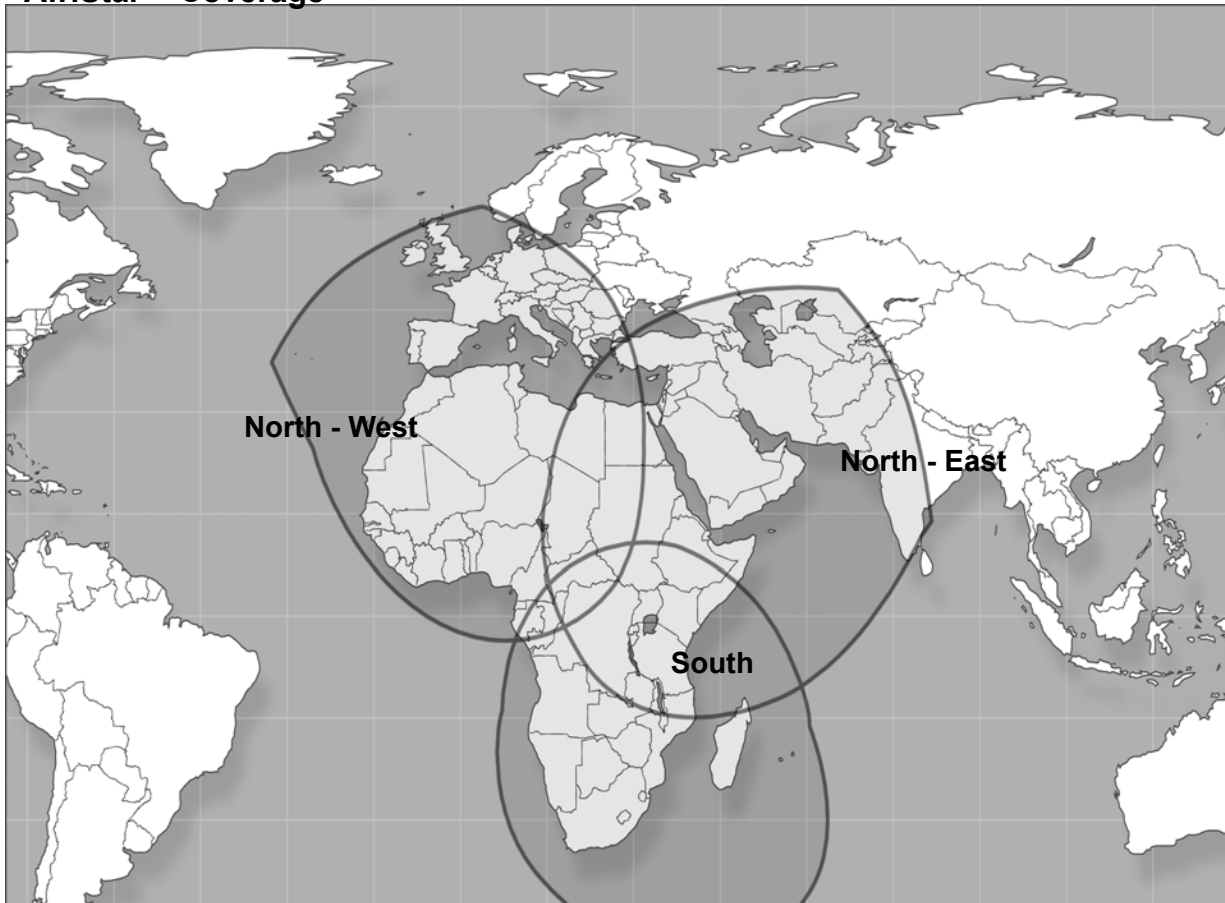
## **AfriStar™ Coverage**

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## **AfriStar™ Coverage**



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Each coverage shows an aim of the area that the receiver can receive broadcasts. Place the antenna in a position to acquire the satellite. By an area and a place or if an interference occurs, the receiver may not receive broadcasts.



## Country-List for AsiaStar™

This country coverage list is valid only for an unobstructed line of sight connection to the satellite, using the standard 6 dBi antenna of the receiver kit.

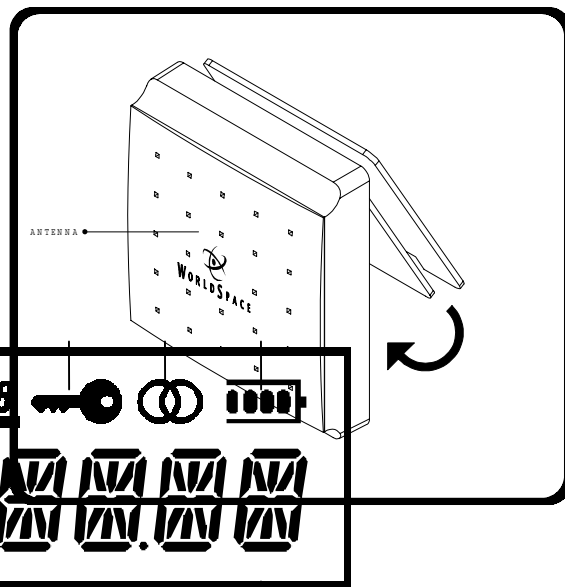
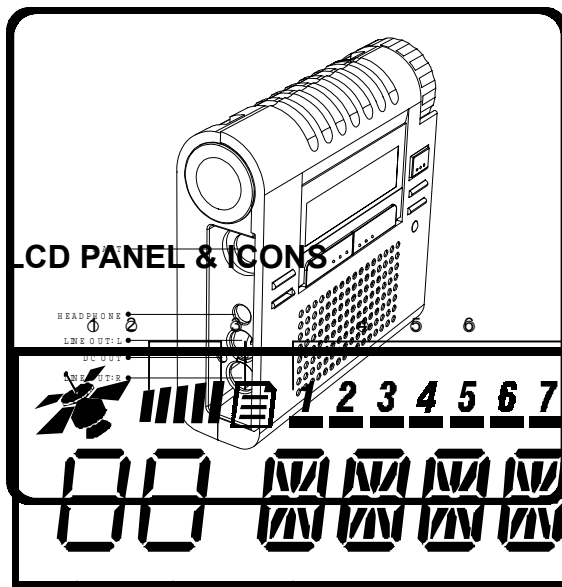
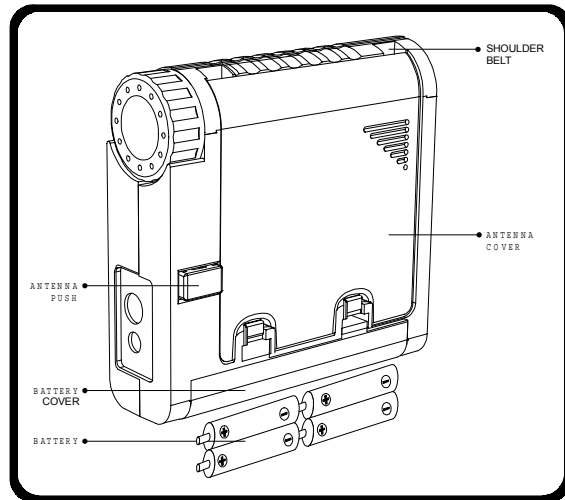
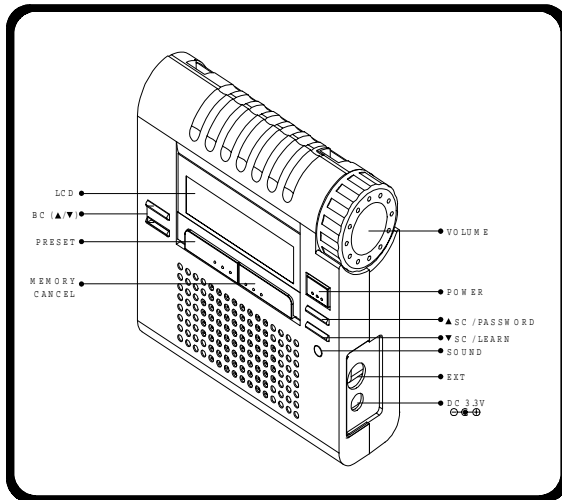
Country	Azimuth	Elevation	Country	Azimuth	Elevation
Afghanistan	125	33	Kyrgyzstan	139	33
Christm. Isl. (Australia)	357	78	Laos	177	68
Bahrain	108	24	Malaysia	231	84
Bangladesh	147	58	(Kuala Lumpur)	134	85
Bhutan	150	54	(Kuching)	254	84
Brunei	245	78	Maldives	97	53
Cambodia	180	75	Mongolia	178	37
China	177	51	North Korea	212	38
(Yining)	148	34	Oman	107	31
(Chongqing)	183	56	Pakistan	125	38
(Canton)	200	61	Palau	259	56
(Shanghai)	210	49	Philippines	238	66
India	128	52	Qatar	107	24
(Bombay)	118	47	Russian Federation	164	17
(Madras)	116	58	(Irkutsk)	179	30
(Kalkutta)	143	58	(Magadan)	230	12
Indonesia	280	76	(Chabarowsk)	218	27
(Medan)	120	82	Saudi Arabia	103	20
(Jambi)	41	88	Singapore	137	88
(Jakarta)	344	82	Somalia	93	24
(Surabaya)	315	77	South Korea	216	42
(Manado)	266	67	Sri Lanka	106	60
Iran	114	25	Taiwan	215	57
Japan	228	36	Tajikistan	133	33
(Naha)	223	50	Thailand	162	74
(Osaka)	226	38	Turkmenistan	121	25
(Tokyo)	230	35	United Arab. Emirates	109	28
(Sapporo)	227	28	Uzbekistan	127	27
Kazakhstan	135	24	Vietnam	184	71
Kuwait	107	20	Yemen	100	23

## Country-List for AfriStar™

This country coverage list is valid only for an unobstructed line of sight connection to the satellite, using the standard 6 dBi antenna of the receiver kit.

Country	Azimuth	Elevation	Country	Azimuth	Elevation
Afghanistan	240	29	Libya	173	58
Algeria	144	52	Madagascar	305	53
Andorra	152	37	Malawi	315	69
Angola	14	75	Mali	123	56
Armenia	214	37	Malta	169	48
Azerbaijan	218	36	Mauritania	119	47
Bahrain	232	45	Mayotte (France)	296	58
Benin	116	65	Mocambique	321	63
Botswana	352	64	Morocco	135	42
Burkina Faso	118	60	Namibia	10	64
Burundi	291	79	Niger	146	66
Cameroon	124	78	Nigeria	124	71
Cape Verde	105	36	Oman	244	43
Centr. African. Repub.	172	82	Pakistan	246	28
Chad	172	72	Portugal	139	36
Comores	296	60	Portugal (Azores)	119	24
Congo	78	83	Portugal (Madeira)	125	34
Corse (France)	163	40	Qatar	234	45
Cyprus	201	47	Rwanda	283	79
Dem. Rep. Of Congo	316	86	Sao Tome and Princi.	91	73
Djibouti	243	62	Sardegna (Italy)	162	42
Egypt	199	57	Saudi Arabia	229	51
Equatorial Guinea	98	77	Senegal	109	46
Eritrea	232	62	Seychelles	281	52
Ethiopia	244	66	Sierra Leone	103	51
France	155	33	Socotra (Yemen)	251	50
Gabon	87	79	Somalia	259	59
Gambia	109	46	South Africa	351	56
Georgia	212	36	Spain	145	37
Ghana	109	63	Spain (Isl. Balears)	152	40
Guinea	107	51	Spain (Isl. Canarias)	122	38
Guinea-Bissau	106	46	Sudan	213	71
Iran	231	38	Swaziland	338	57
Iraq	218	45	Syria	209	45
Israel	205	50	Tanzania	295	72
Italy	167	40	Togo	112	65
Ivory Coast	105	58	Tunisia	160	48
Jemen	242	54	Turkey	202	43
Jordan	208	50	Turkmenistan	231	30
Kenya	269	70	Uganda	264	76
Kriti (Greece)	186	49	Unit. Arab. Emirate	239	44
Kuwait	225	45	Vatican City	167	41
Lebanon	206	47	Western Sahara	121	42
Lesotho	346	55	Zambia	334	72
Liberia	101	54	Zimbabwe	335	65

## STRUCTURE & PART NAMES



## LCD PANEL & ICONS

- 1 Signal strength indicator
- 2 Preset mode indicator
- 3 Service components
- 4 Service lock (for pay service)
- 5 Stereo broadcasting
- 6 Battery amount
- 7 TDM number (Broadcasting signal range)
- 8 Display : Information on broadcaster ID, program type, system operations, and other functions

## FEATURES

- High quality digital sound
- Compact, portable
- Large LCD providing various information on stations, program types and other system information
- 10 presets and last station memory
- Detachable/attachable antenna
- External socket

**PRECAUTIONS**

- Do not expose the unit to dripping or splashing.
- Do not use the unit at an extreme temperature or a badly ventilated place.
- Do not use benzene or thinner to the unit as the surface finish could be damaged.

**CONTROLS**

<b>PART NAME</b>	<b>FUNCTIONS</b>
LCD	Display
VOLUME	Volume control
POWER	Power on/off
LEARN	Channel scanning (press for 3+ seconds)
BC+/- (Broadcaster)	Broadcaster selection, Number selection in password mode, Preset channel selection, Submenu selection
SC+/- (Service Component)	Service component selection, Cursor moving in password mode
PRESET	Preset mode toggle, Submenu access (press with the power button), <b>Password enter/store</b>
MEMORY/CANCEL	Presetting/deleting service components, Learn mode or password mode cancel Submenu exit
PASSWORD	Password mode access (press for 3+ seconds)
SOUND	Bass sound on/off

**CONNECTIONS**

1. Auxiliary equipment  
Other equipments(amplifier, stereo audio system, etc) can be used with the unit. Connect audio lead from the line input socket of auxiliary equipment to the LINE OUT socket of the unit.

2. Headphones

Connect stereo headphones(not supplied) to the HEADPHONE socket for private listening or stereo-sound listening. The built-in speaker is automatically disconnected.

3. EXT socket (for multi media services)

## POWER SUPPLY

1. AC Power (AC/DC adapter : DC output 3.3V, 600mA)


Connect an AC/DC adapter into the **DC OUT socket** and an AC outlet. The loaded batteries are automatically disconnected when the adapter is in use.

2. Battery Power (4 “AA” batteries)

① Loading batteries

Open the battery cover and insert 4 “AA” batteries as marked on the battery cover.

② Replacing batteries

Replace the old batteries when “  ” appears on the LCD.

### Cautions!

To prevent battery electrolyte leakage, which may cause injury and damage to human body or the unit, the following precautions should be taken :

- All batteries must be installed with the proper polarity. (See the diagram on the battery cover)
- Do not mix old and new batteries together, or mix different types of batteries.
- Remove the batteries from the unit when they are not to be used for a long time.
- Discharged batteries must be disposed of in a safe manner that complies with all applicable laws.

ANT

1. To install the antenna

- Connect the antenna cable into the WS ANT socket located on the left side of the unit. Place and adjust the antenna in a position to acquire signals from the satellite. (Refer to page 5~6 for details on how to position and angle the antenna for best possible reception.) If a line of site is obstructed, the receiver may not receive signals.
- As the signal reception can be weakened by window glass, etc., put the antenna outdoors when reception is poor.
- To minimize noise, keep the AC/DC adapter 30cm or more from the antenna or the antenna cable.
- The waterproof cover is not intended to leave out in an extreme weather condition.
- Do not set up the antenna in confined places, such as a bookcase or a cabinet.

2. To attach the antenna

The antenna can be used, attached onto the back of the unit.

- Remove the antenna cover by pushing it up while pressing the ANTENNA PUSH button located in the back panel of the unit.

- Unwind the antenna cable as desired.
  - Fit the antenna into the groove.
3. To detach the antenna
- While pressing the ANTENNA PUSH button, remove the antenna by pushing it up. Fit the antenna cover into the unit again.

**Cautions!**

- Make sure to use the supplied WS antenna or an antenna that agrees with the WorldSpace™ specification only. Otherwise, the unit may be damaged.

**BASIC SETUP**

- Press the “POWER” button to turn the power on. “WELCOME” appears in the display briefly.  
Because there are no channels to have been scanned at an initial stage, “NO DATA” will be showed. Press the LEARN button to initiate WorldSpace™ radio signal reception. (Refer to “2. Receiving signals” on page 10.)
- Adjust the antenna to the proper orientation and check the signal strength shown on left top of the display : the strength is marked with 5 bars at maximum and sound is audible from 2 bars.

**OPERATIONS**

**1. Power ON/OFF**

Press the POWER button to turn it on or off.

**2. Receiving signals**

**\* What is “LEARN” function?**

“LEARN” function is to scan all broadcasting channels available. Signal carriers, called TDM, to contain broadcasting channels are automatically scanned from 0 to 81. Whenever a receivable TDM is found, that contents are set in memory.  
(While the “LEARN” function is in practice, all keys are not in operation. Just press the MEMORY/CANCEL button to cancel this mode.)

Press the LEARN button for 3 seconds or more to start.

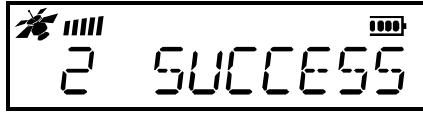
**⌀ 1 AUT SCAN**

Use the BC+/- button to select 1 AUT SCAN and press the PRESET button.

While scanning the whole carriers (TDM) available, if a TDM to contain broadcasting channels is detected, it is automatically memorized.

When the search is completed, the total number of TDMs memorized is displayed as

shown below.



### 2 MAN SCAN

This function is used when a user knows a TDM number that is liked to be set.

Use the BC+/- button to select 2 MAN SCAN and press the PRESET button.

Press the BC+/- button repeatedly until the desired TDM number is displayed. Press the PRESET button to set the TDM number in memory.

\* If no channel is found even after the “LEARN” function is run, “CHK ANT” and “TDM GONE” appear in turn. Check if the antenna is connected and placed well as per the instruction.

### 3. Selecting broadcasters

**BC** : Broadcaster (Every BC has its own ID and station name.)

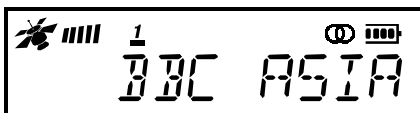
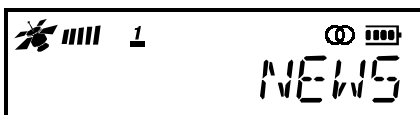
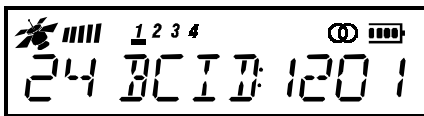
**SC** : Service Component is a program – a minimum unit of broadcast.

One broadcaster can have 8 SCs at maximum.

Press the BC+/- button repeatedly until the desired BC ID is displayed.

(If “NO DATA” appears on the display, start the “LEARN” function to catch channels available.)

Once you select a BC, the display shows BC ID, program type and station name in succession as below.

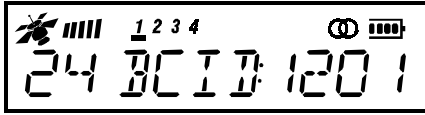


#### <Note>

When you turn on, the last listened program is tuned in. If a channel is no longer in service, “BC GONE” or “TDM GONE” appears.

#### 4. Selecting service components

Once you select a BC, service components(programs) provided by the broadcaster are displayed in small number as shown below.



Press the SC+/- button repeatedly until the desired SC is tuned in. The cursor moves accordingly whenever you press the SC+/- button.

\* While listening to a program, the program type is displayed on the LCD. For circumstances of editing, example indications in this instruction manual are not always same as actual indications of display.

#### **Program Type**

No Ptype : No specific program type

NEWS : News

INFO : Information on health, culture or community events

SPORT : Sports

EDUCAT : Education/Development

CHILDREN : Children's programs

TALK : Talk shows, issue-oriented shows, call-in shows or others

WORD ENT : Storytelling, radio dramas or other world entertainment

CLASIC : European classical music

SOUNT T : Sound track music

JAZZ : Jazz music

COUNTRY : Country music

POP : Contemporary popular music

ROCK : Rock music

URBAN : R&B, soul, rap, dance music

OTHERS : alternative programs

5.



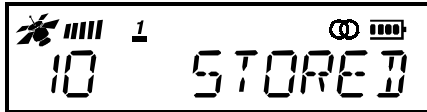
Press the BC+/- button repeatedly to select a stored preset. (Available only if there are SCs stored by the "PRESET" function.)

If there is no SC stored at all, "EMPTY" is displayed briefly.

## 6. Presetting/deleting service components

1 To preset (in the NORMAL mode)

Select a SC to be preset and press the MEMORY/CANCEL button. Repeat the step to add more SCs in storage. The SCs are stored at preset number 1, 2, 3...in sequence and up to 10 SCs can be stored as shown below.



If you preset a SC that already exists in storage, "FR EXIST" appears and the normal mode remains. If the preset storage is full, "FR FULL" appears briefly.

2 To delete (in the PRESET mode)

Press the PRESET button to start the preset mode.

Select a preset number to be deleted with the BC+/- button.

Press the MEMORY/CANCEL button. The SC is deleted and the next SC stored is tuned in.

## 7. PASSWORD INPUT (PAY SERVICE)

\* Pay service will be offered in the near future. To use a pay service, it is necessary to subscribe to a pay service and get a password (22 digits) from a provider. Please consult your provider for more detail. (When using a pay program, "P" appears on the display.

1 To input/store a password

Up to two passwords can be stored in PWR1 and PWR2.

Press the SC/PASSWORD button for 3 seconds or more to start the "PASSWORD" mode. Select either PWR1 or PWR2 with the BC+/- button. Press the PRESET button to start inputting.

One password consists of 22 digits divided into 5 different alphabet groups:

A00000 – B00000 – C00000 – D00000 – E00 → One password (22 digits)  
5      5      5      5      2

The first group A is displayed and the cursor blinks at the first digit of the group as



shown below.

Press the BC+/- button repeatedly to select a number to be set.

Press the SC+/- button to move the cursor to the next or the previous digit.

At the last digit of A group, press the SC+ button to move to the next alphabet group B.

Whenever you press the SC+/- button, the alphabet group changes as A...→ B...→ C...→ D...→ E... or in reverse.

Repeat the above step until the whole password is completely input.

- **BC+/-** : *Number selection*
- **SC+/-** : *Cursor moving*

If you would like to cancel this mode while inputting the password, press the MEMORY/CANCEL button.

To get your password verified, press the PRESET button. "CHECKING" is displayed for a few seconds. If the password is correct, "ACCEPTED" is displayed and the password is automatically memorized. If it is incorrect, "REJECTED" is displayed.

## 2 To select a stored password

Press the SC/PASSWORD button for 3 seconds or more to start the "PASSWORD" mode. Select either PWR1 or PWR2 with the BC+/- button. Press the PRESET button to enter the password you want.

### \* Tips on the Password System

- Once you input a password for a certain pay program, there is no need to input the same password again whenever you use the program next time, unless the corresponding password is changed.
- If you input a new password, the existing password in memory is automatically replaced with the new one and "REPLACED" is displayed.

## 8. **BAS**

Press the "SOUND" button to turn the bass sound on or off.

## 9. **SUBMENUS**

### 1 To access/exit the submenu mode

When the power is off, press and hold the PRESET button and then press the POWER button at the same time.

Whenever you press the BC+/- button, 7 different menus are displayed in turn.

To exit this submenu mode, press the MEMORY/CANCEL button. The last listened program is tuned in.

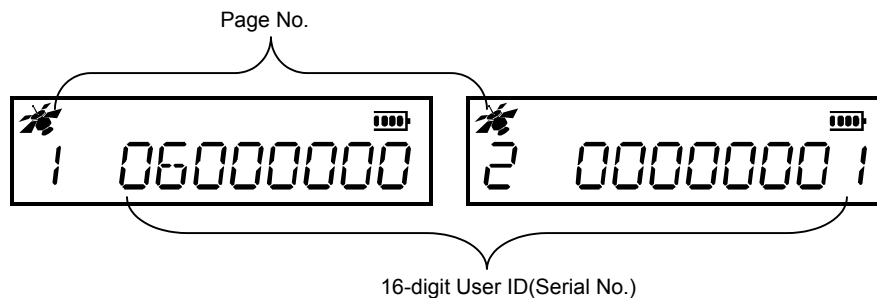
## 2 Submenus

### “1 VERSION” : Product version

Press the PRESET button to check the product version.

### “2 USER ID” : User ID

Press the PRESET button to check user ID provided to each unit. It is necessary for pay service subscription. The 16-digit ID is displayed throughout two consecutive pages.



### “3 EEP CLR” : Clearing broadcaster data

To clear all channels in memory, press the PRESET button.

### “4 PW CLR” : Clearing passwords

To clear all the passwords stored, press the PRESET button.

### “5 ANTENNA” : Checking antenna type

Press the PRESET button to check the antenna type. “CIRCULAR”, the basic antenna type for this product, is displayed. You can change it to other types such as “LINEAR” or “CABLE” by pressing the PRESET button repeatedly.

Once you press the PRESET button to change the antenna type, the selected type is automatically memorized in a few seconds.

After the “EEP CLR” function is executed, the antenna type is automatically set to “CIRCULAR” .

### “6 AGC SET”

This submenu should be always set to “AGC AUTO” mode. If this mode is set to “AGC ON” or “AGC OFF”, select “AGC AUTO” with the PRESET button. The other modes are for technical check-up.

After the “EEP CLR” function is executed, the mode is automatically set to “AGC AUTO”.

**“7 LEARN” :**

The LEARN mode can be set to either “FAST” or “NORMAL” type.

After the “EEP CLR” function is executed, the mode is automatically set to “FAST” type.

**SPECIFICATIONS**

- Band : WorldSpace band
- RF frequency : 1452 – 1492 MHz
- Modulation : QPSK
- Audio Coding : MPEG 2.5 Layer 3
- Terminals : Input) DC 3.3V(Adopter),  
WS ANT(for WorldSpace band)  
Output) Headphones 8 –32 ohms,  
LINE OUT 1500mV
- Power Output : 600mW
- Loud Speaker : 50mm(dia)
- Power source : AC / DC Adapter  
DC 3.3V 4 “AA” batteries
- Dimensions : 130(W) x 130(D) x 40(H) mm
- Weight : Approx. 0.52kg (without the antenna)
- Antenna : Dim./127(W) x 127(D) x 30(H)mm  
Weight /Approx. 0.4kg  
Cable length/2.5m
- Accessory : Shoulder strap

*\* Specifications subject to change without notice.*