

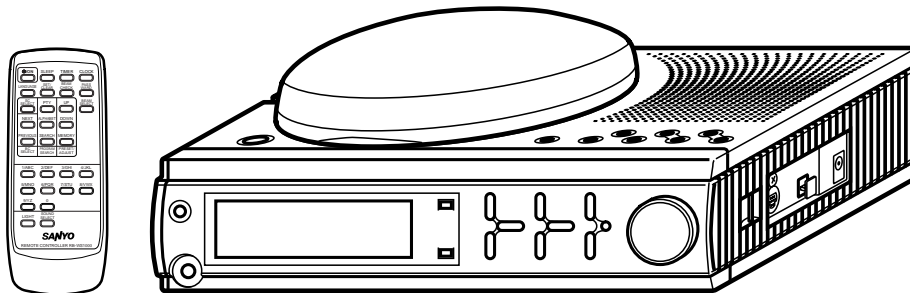


# SANYO

## INSTRUCTION MANUAL

## DSB-WS1000

### WorldSpace™ Digital Receiver



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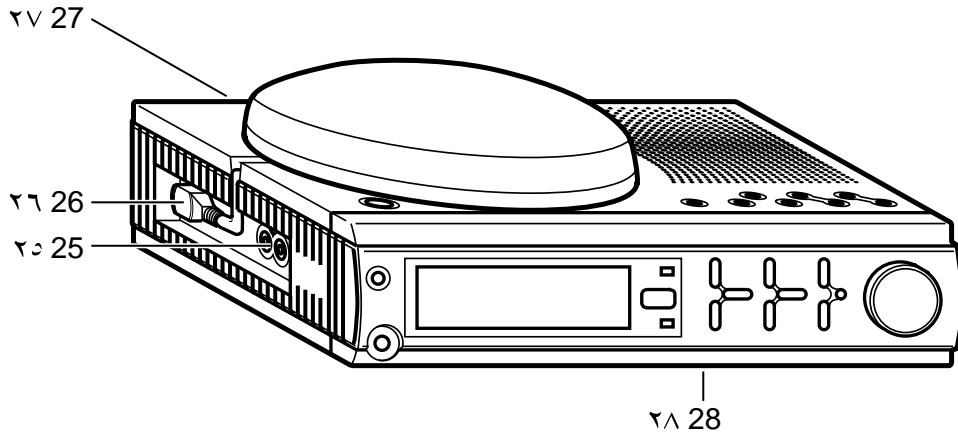
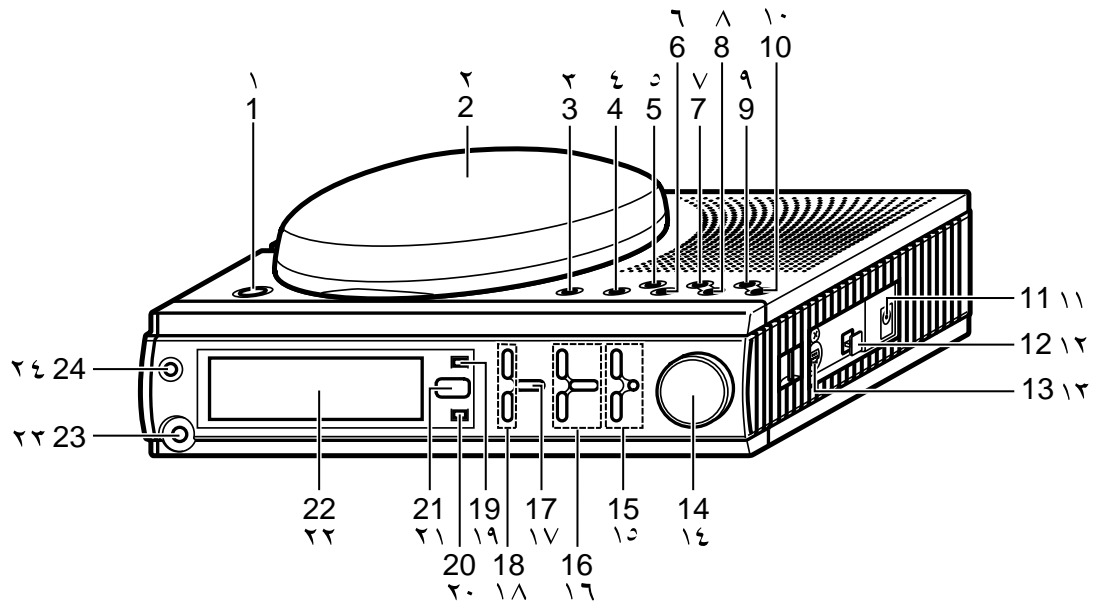


Fig./圖 1

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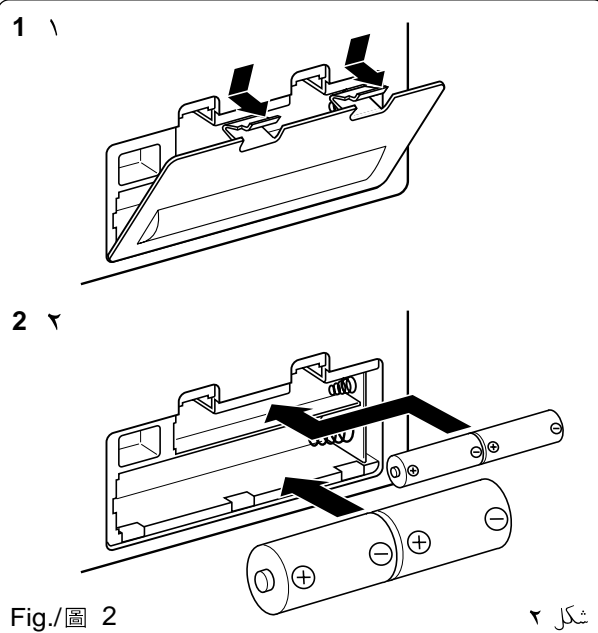


Fig./圖 2

شکل ۲

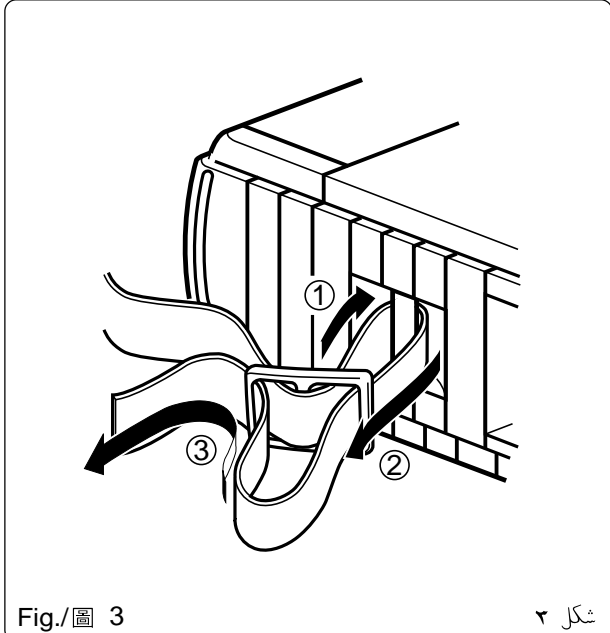
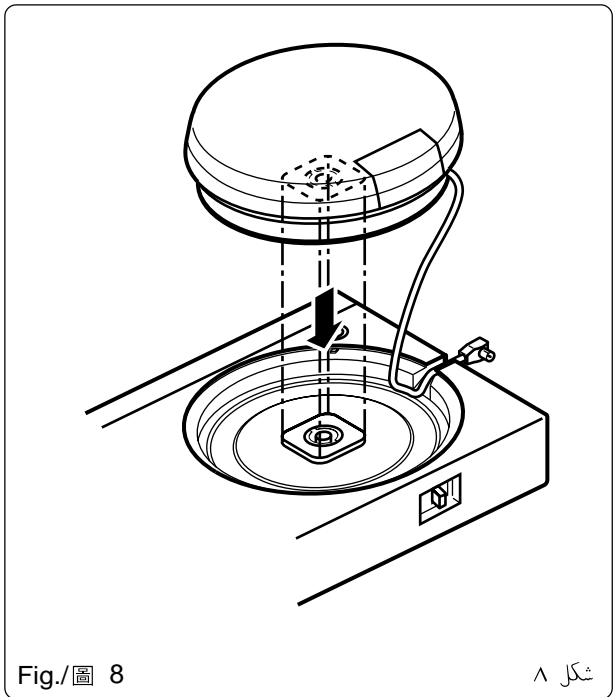
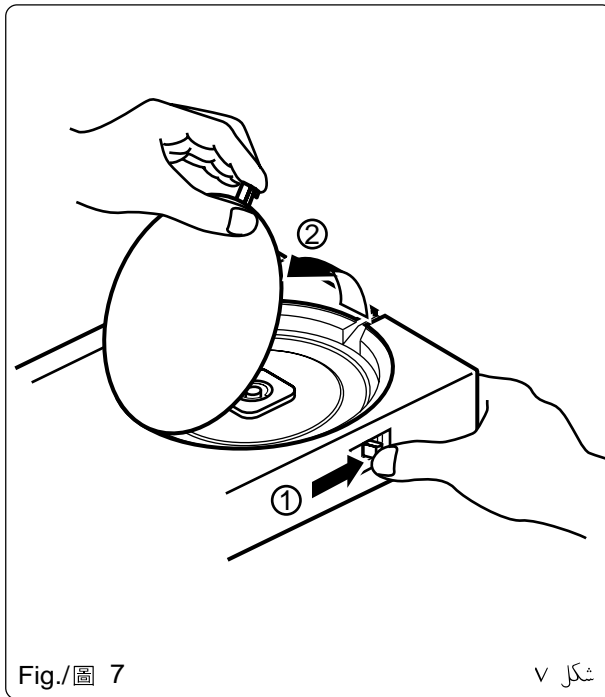
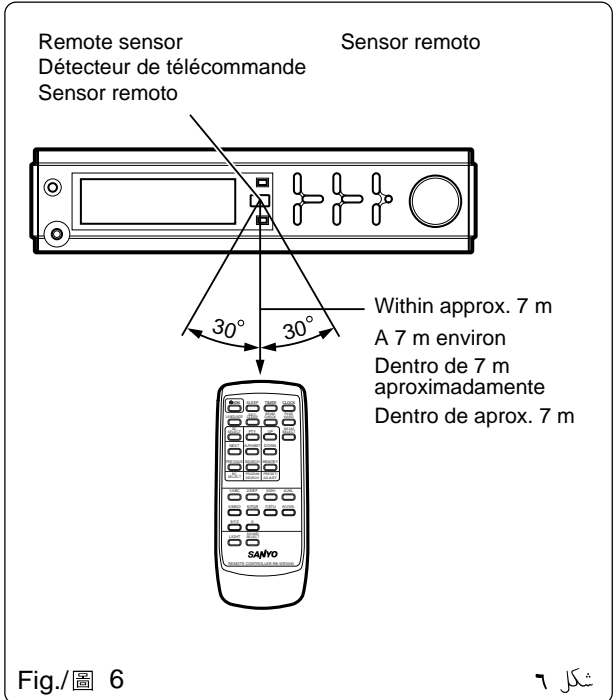
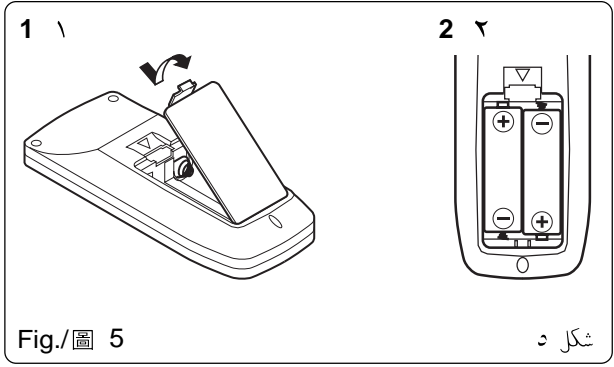
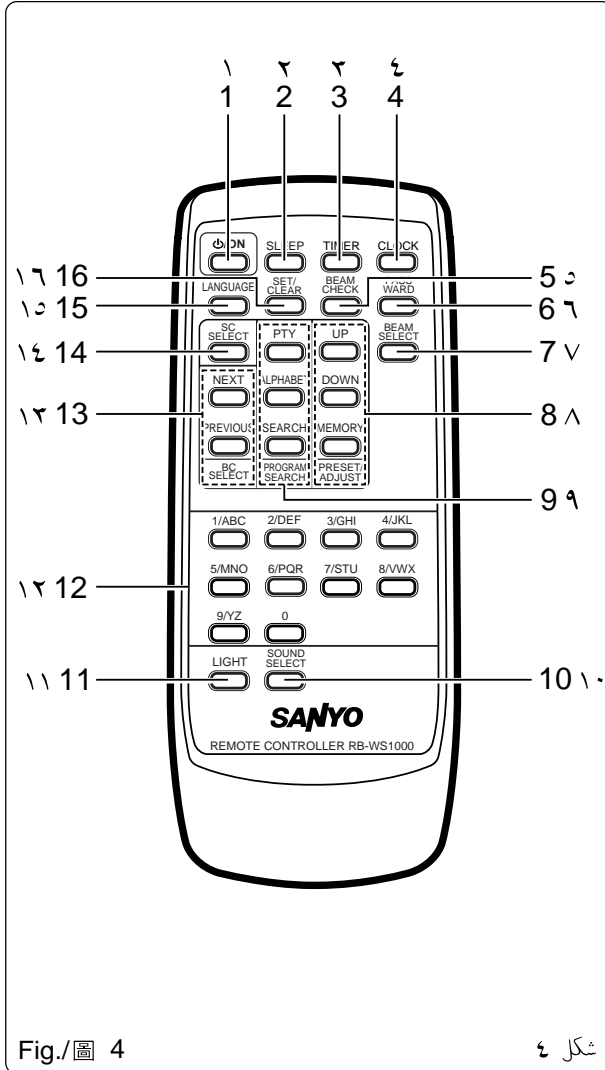
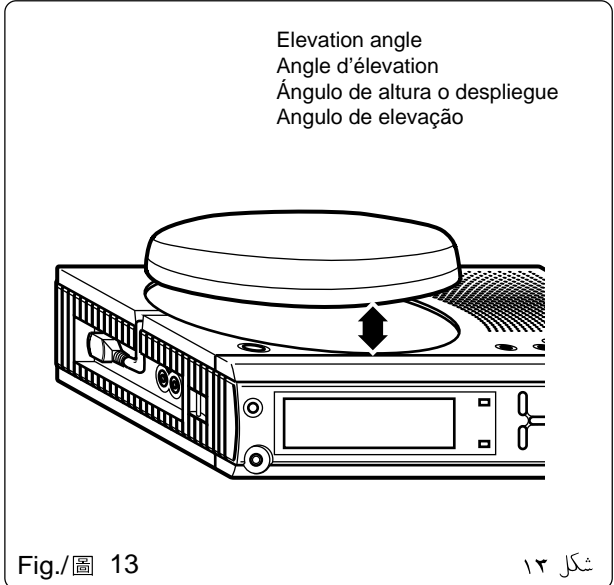
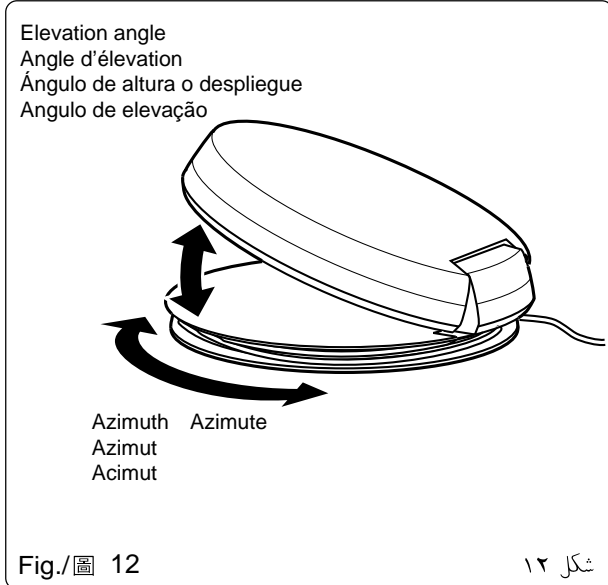
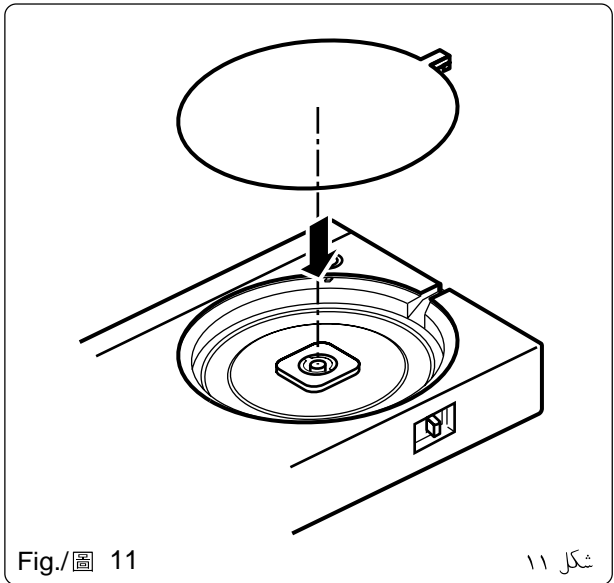
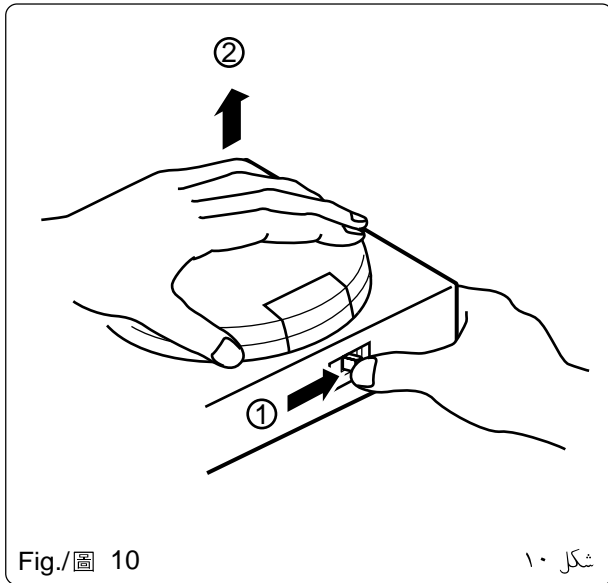
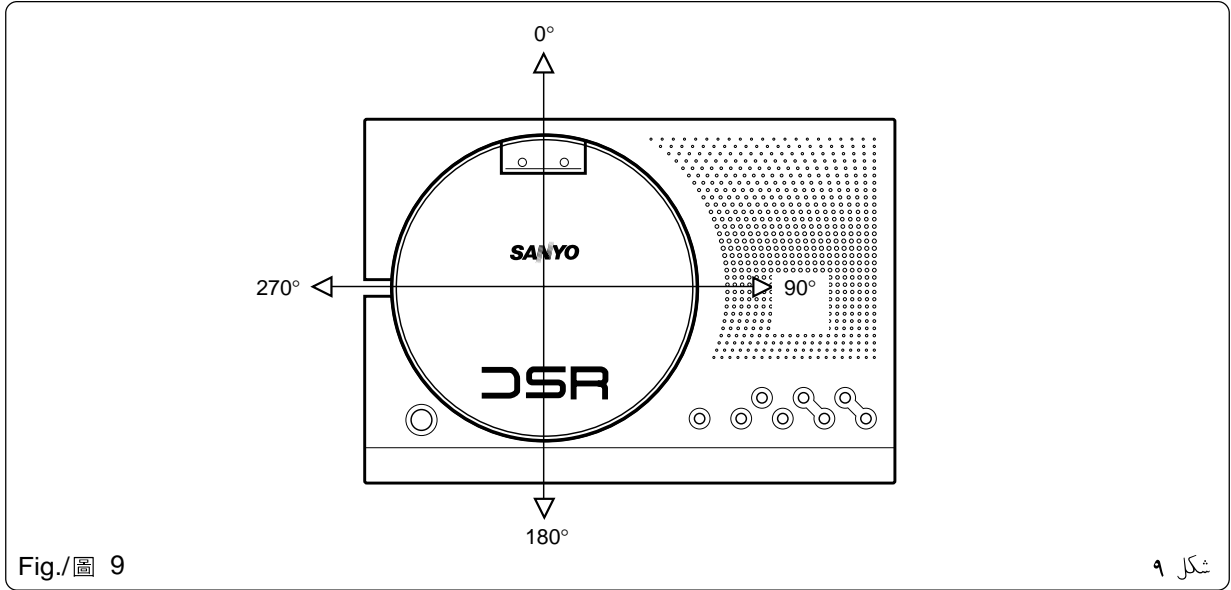


Fig./圖 3

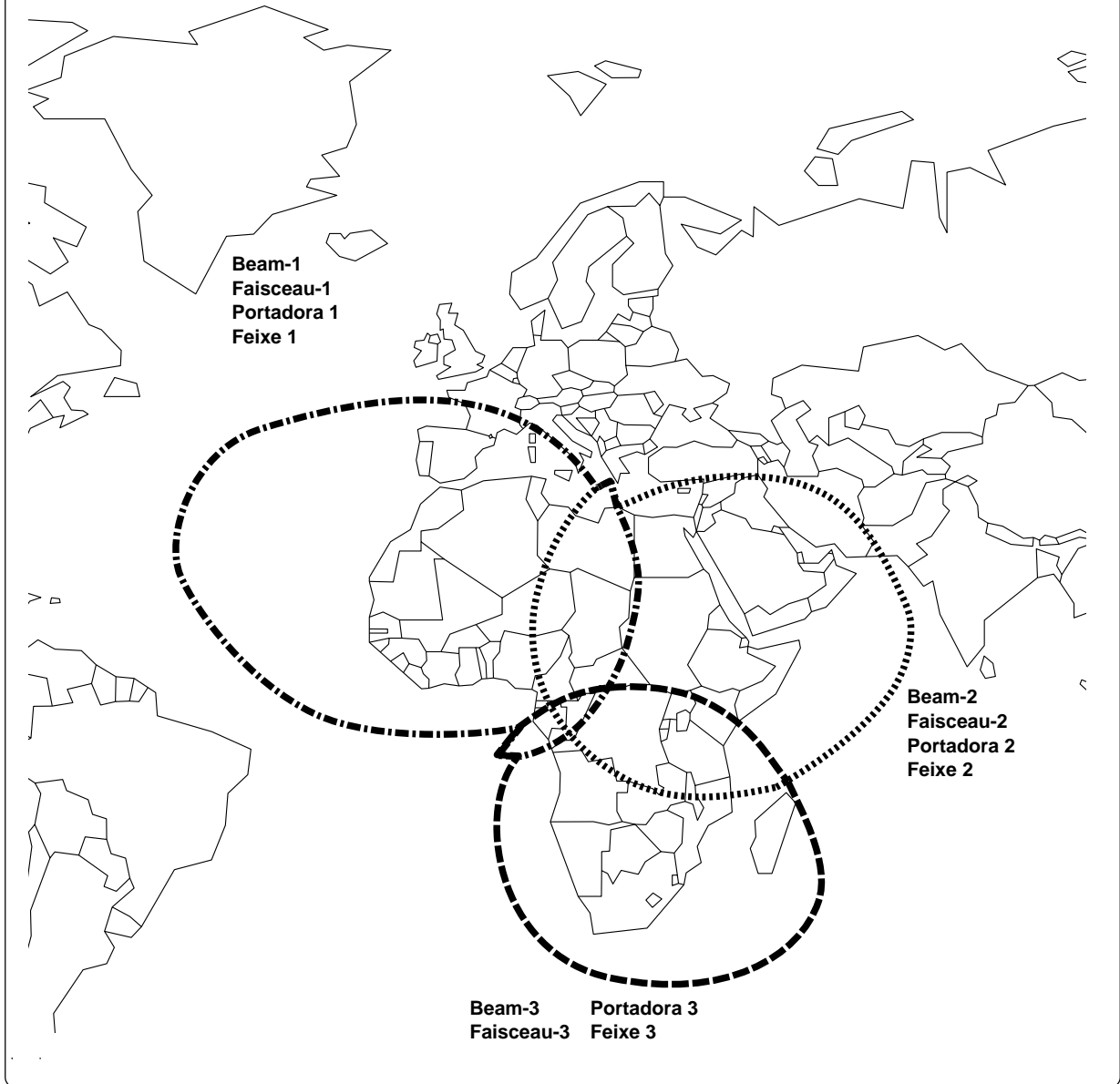
شکل ۳







**AfriStar™ Coverage/Zone de couverture AfriStar™/Cobertura de AfriStar™/Cobertura do AfriStar™/**



Map 1/Carte 1/Mapa 1/Mapa 1/Map 1/

**Note:**

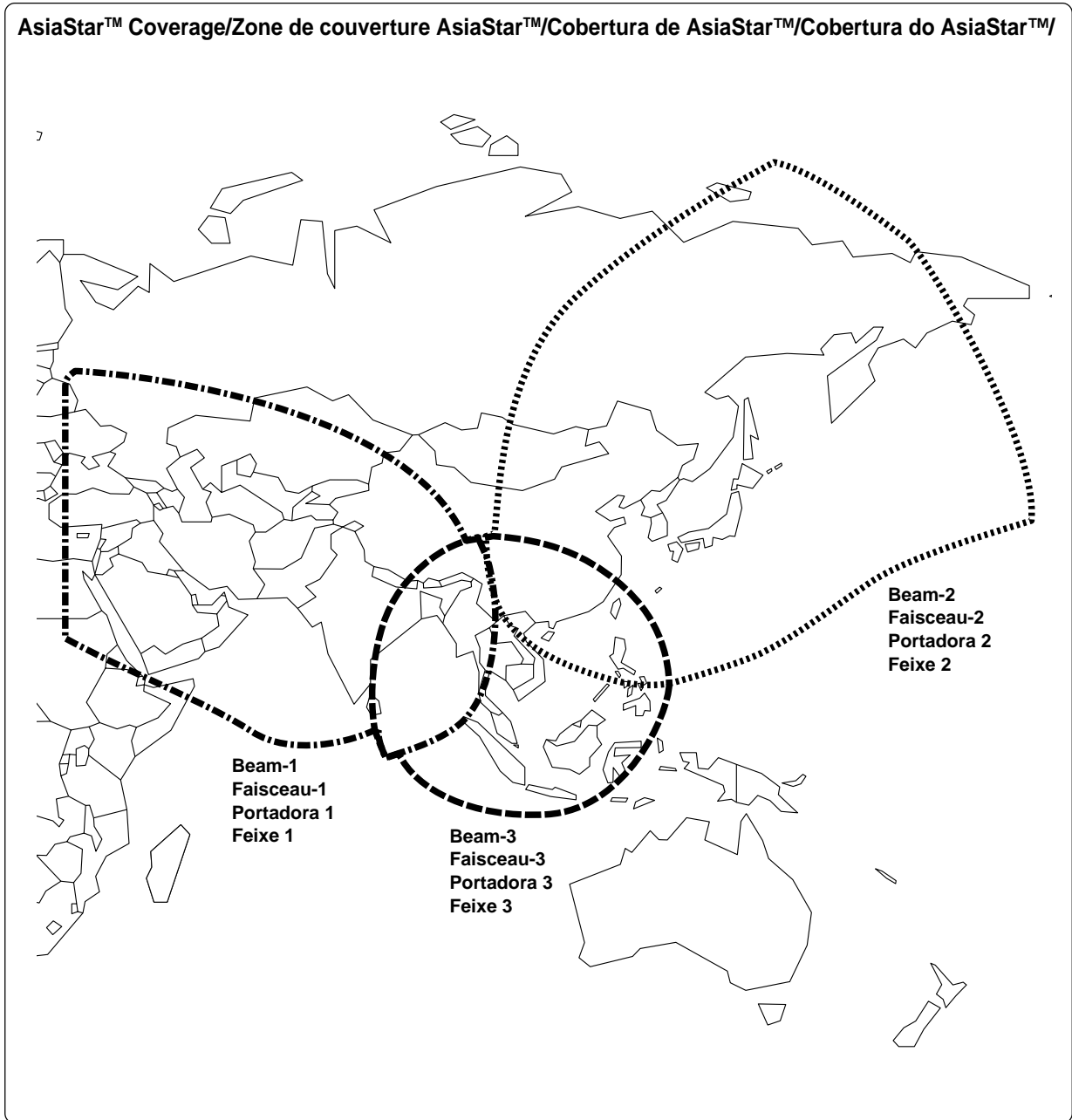
Each coverage shows an aim of the area that the receiver can receive broadcasts. Place the antenna in a position to acquire the satellite. By an area and a place or if an interference occurs, the receiver may not receive broadcasts.

**Remarque:**

Chaque zone de couverture couvre une zone où le récepteur peut recevoir les programmes. Placer l'antenne dans une position pour capter le satellite. Dans certaines zones ou endroits ou s'il y a une interférence, le récepteur peut ne pas recevoir les programmes.



**AsiaStar™ Coverage/Zone de couverture AsiaStar™/Cobertura de AsiaStar™/Cobertura do AsiaStar™/**



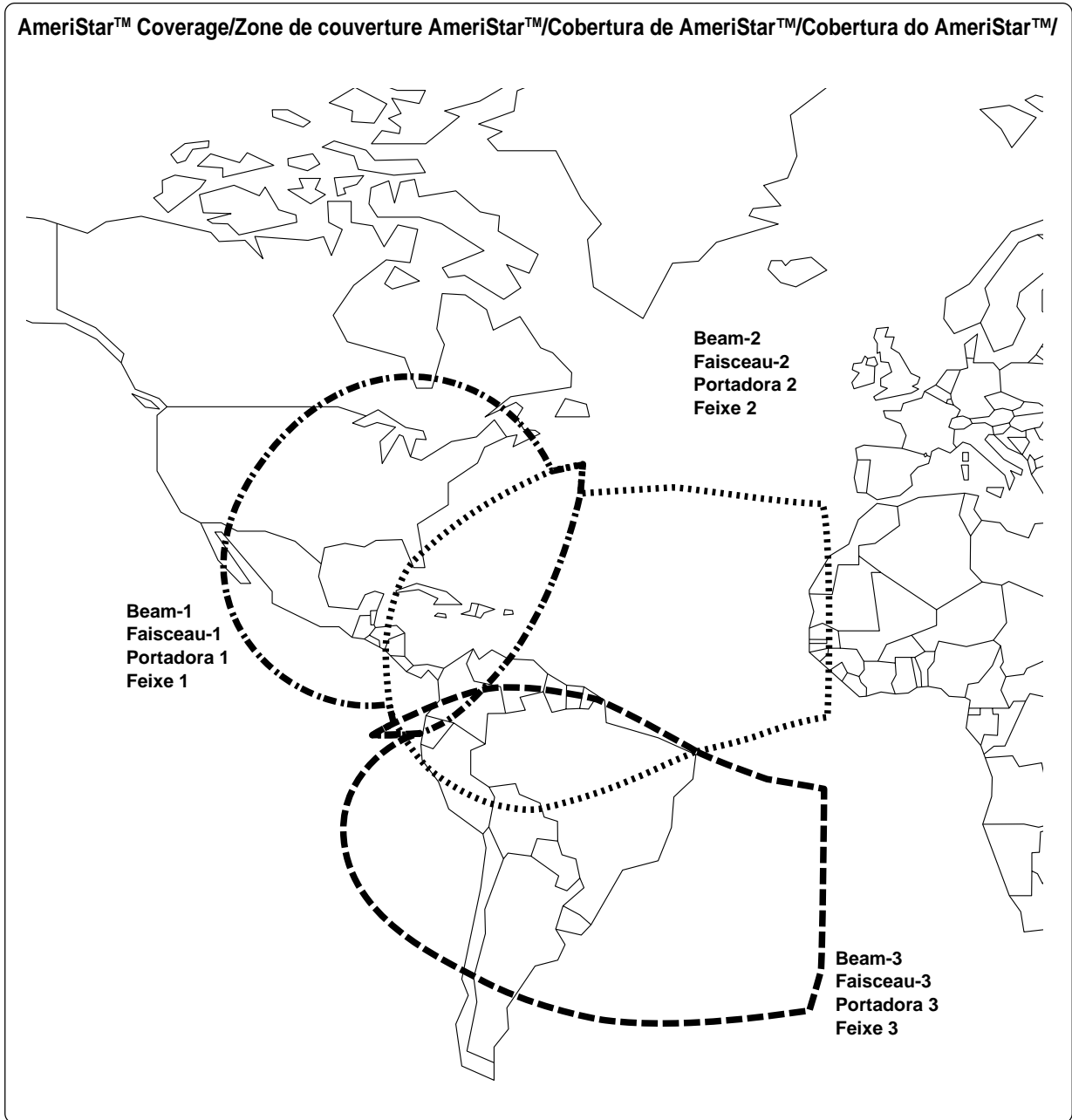
Map 2/Carte 2/Mapa 2/Mapa 2/Map 2/

Nota:  
Cada cobertura indica la zona en la que el receptor puede recibir transmisiones. Coloque la antena en la posición en la que pueda captar el satélite. Puede haber zonas y lugares en los que el receptor no pueda recibir transmisiones, e igualmente puede ocurrir esto si existen interferencias.

Nota:  
Cada cobertura indica um alvo da área em que o receptor pode receber emissões. Coloque a antena numa posição em que possa captar o satélite. Em algumas áreas ou locais ou caso ocorra uma interferência, o receptor poderá não receber emissões.



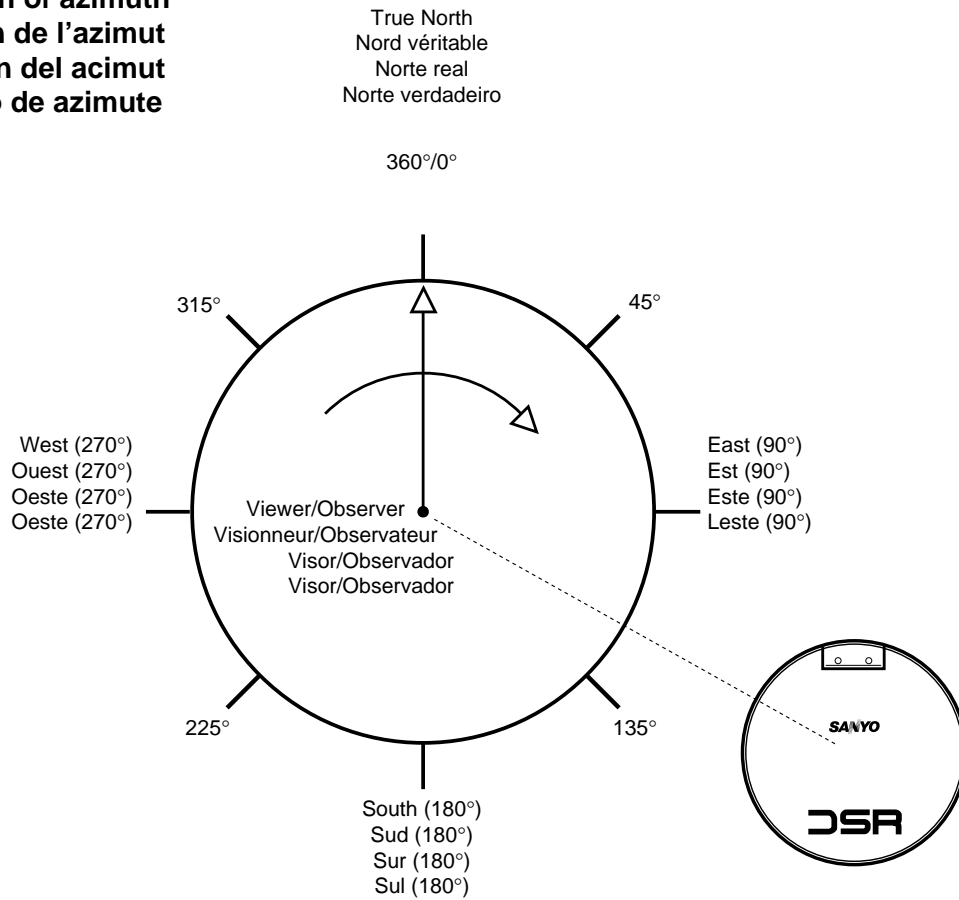
**AmeriStar™ Coverage/Zone de couverture AmeriStar™/Cobertura de AmeriStar™/Cobertura do AmeriStar™/**



Map 3/Carte 3/Mapa 3/Mapa 3/Map 3/



**Explanation of azimuth**  
**Explication de l'azimut**  
**Explicación del acimut**  
**Explicação de azimute**



**Explanation of elevation**  
**Explication de l'élevation**  
**Explicación de la altura o despliegue**  
**Explicação de elevação**

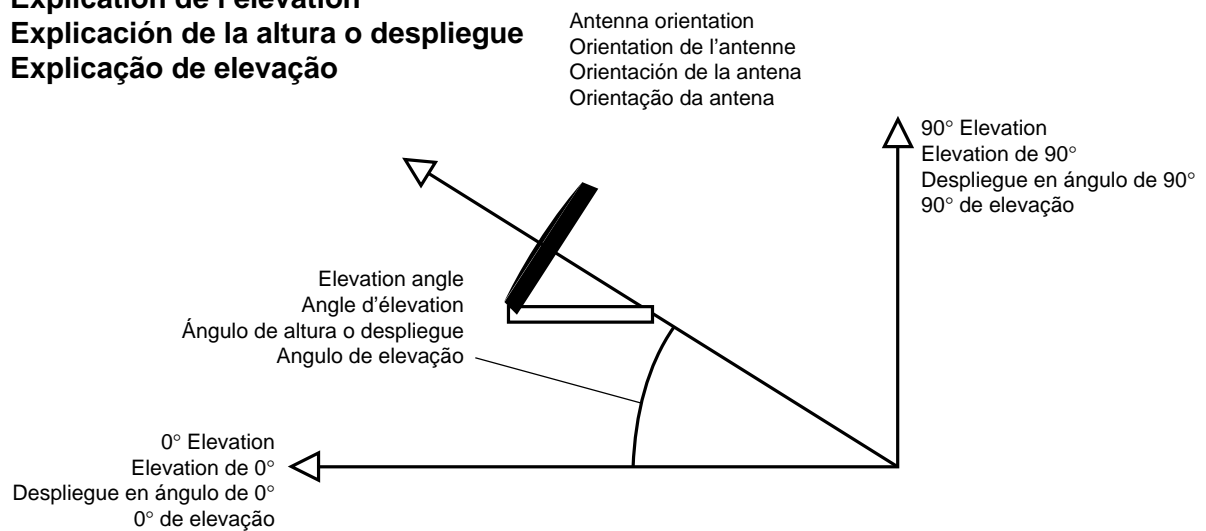


Table 1/Tableau 1/Cuadro 1/Tabela 1/



**Country-List for AfriStar™      Liste des pays pour AfriStar™      Lista de países para AfriStar™**  
**Lista de países para o AfriStar™**

This country coverage list is valid only for an unobstructed line of side connection to the satellite.  
 Using the standard 6 dBi antenna of the receiver kit.  
 Cette liste de zone de couverture de pays est valable uniquement pour une ligne non obstruée de la connexion latérale au satellite.  
 Utilisation de l'antenne 6 dB du kit récepteur.

Esta lista de cobertura de países solamente es válida si la línea de dirección hacia el satélite está libre de obstáculos.  
 Utilizando la antena estándar 6 dBi del conjunto del receptor.  
 Esta lista de cobertura de países só é válida para uma linha desobstruída em direção ao satélite.  
 Usando a antena normal de 6 dBi do conjunto do receptor.

Country Pays País País	Azimuth Azimut Acimut Azimute	Elevation Elevation Despliegue Elevação	Country Pays País País	Azimuth Azimut Acimut Azimute	Elevation Elevation Despliegue Elevação
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. Baleares)	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

Table 2/Tableau 2/Cuadro 2/Tabela 2/





**Country-List for AsiaStar™**      **Liste des pays pour AsiaStar™**      **Lista de países para AsiaStar™**  
**Lista de países para o AsiaStar™**

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

Cette liste de zone de couverture de pays est valable uniquement pour une ligne non obstruée de la connexion latérale au satellite.  
 Utilisation de l'antenne 6 dB du kit récepteur.

Esta lista de cobertura de países solamente es válida si la línea de dirección hacia el satélite está libre de obstáculos.  
 Utilizando la antena estándar 6 dBi del conjunto del receptor.

Esta lista de cobertura de países só é válida para uma linha desobstruída em direção ao satélite.  
 Usando a antena normal de 6 dBi do conjunto do receptor.

Country Pays País País	Azimuth Azimut Acimut Azimute	Elevation Elevation Despliegue Elevação	Country Pays País País	Azimuth Azimut Acimut Azimute	Elevation Elevation Despliegue Elevação
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
Burma	156	64	Mongolia	178	37
Cambodia	180	75	Nepal	141	50
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

Table 3/Tableau 3/Cuadro 3/Tabela 3/





**Country-List for AmeriStar™      Liste des pays pour AmeriStar™      Lista de países para AmeriStar™**  
**Lista de países para o AmeriStar™**

This country coverage list is valid only for an unobstructed line of side connection to the satellite.  
 Using the standard 6 dBi antenna of the receiver kit.  
 Cette liste de zone de couverture de pays est valable uniquement pour une ligne non obstruée de la connexion latérale au satellite.  
 Utilisation de l'antenne 6 dB du kit récepteur.

Esta lista de cobertura de países solamente es válida si la línea de dirección hacia el satélite está libre de obstáculos.  
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 Usando a antena normal de 6 dBi do conjunto do receptor.

Country Pays País País	Azimuth Azimut Acimut Azimute	Elevation Elevation Despliegue Elevação	Country Pays País País	Azimuth Azimut Acimut Azimute	Elevation Elevation Despliegue Elevação
Antigua and Barbuda	247	48	Guatemala	197	71
Antillen (Netherland)	247	57	Guyana	263	48
Argentina	314	39	Guyane (France)	266	42
Bahamas	221	54	Haiti	232	56
Barbados	252	47	Honduras	210	70
Belize	201	69	Jamaica	226	61
Bermuda Isl. (UK)	227	40	Martinique (France)	249	48
Bolivia	297	50	Mexico	163	61
Brazil	280	39	Nicaragua	218	71
Caiman Isl. (UK)	218	62	Panama	241	70
Canada	174	20	Paraguay	298	41
Chile	322	43	Peru	294	64
Colombia	259	64	Puerto Rico (USA)	240	51
Costa Rica	228	73	St. Christ. and Nevis	245	48
Cuba	218	59	St. Lucia	250	48
Dominica	248	48	St. Vincent/Grenadin	251	48
Dominkan. Republic	235	54	Suriname	265	45
Ecuador	274	71	Trinidad and Tobago	255	49
El Salvador	204	72	Turks/Caicos Isl. (UK)	229	53
Galapagos (Ecuador)	280	85	United States of Am.	176	46
Grenada	252	49	Uruguay	304	34
Guadeloupe (France)	247	47	Venezuela	258	55

Table 4/Tableau 4/Cuadro 4/Tabela 4/





**ENGLISH**

## INTRODUCTION

### WorldSpace™ Digital System

Beginning in 1999 WorldSpace will introduce a digital system. This system combines two unique features – quality sound and extensive coverage. The service will provide digital sound to over 4.3 billion people (80% of the world population). With this system, listeners will be able to choose from an incredible selection of real-time information, education and entertainment programmes in many different languages. And the system produces crisp, fade-free digital sound.

The system consists of four components:

Broadcast segment:

Sends signals to satellites.

Space segment:

Launches and controls 3 satellites.

Mission segment:

Controls broadcasters' access to satellites.

Receiver segment:

Lets listeners select and receive signals.

### Global coverage

To deliver the system's quality programmes throughout the world, WorldSpace will launch three solar-powered geostationary satellites: AfriStar™, AsiaStar™, and AmeriStar™.

Coverages of each satellite are shown in Maps 1 - 3 on Pages 4 - 6.

### Advanced technology

The basic building block of the WorldSpace™ broadcast scheme is the 16 kbps PRC (Prime Rate Channel). Each WorldSpace™ L-band carrier (2 per beam) will be the equivalent of 96 PRCs stacked in a TDM (Time Division Multiplex) bit-stream of about 1.5 Mbps.

WorldSpace will deliver a wide variety of programmes including everything from news, educational, medical and religious information to the latest music and entertainment to meet the specific needs and tastes of each listener.

### Receiving programme

WorldSpace™ receivers will deliver unprecedented breadth of programming. International and regional content providers will ensure that listeners have access to news and educational programming content and that all musical tastes are represented. Listeners will enjoy the best audio services currently available from around the world as well as new unique services being created specifically for WorldSpace™ audiences and available only on WorldSpace™. WorldSpace™ listeners will have the opportunity to select the programme of their choice from a menu list of many channels, ranging in quality from AM (16 kbps) to near-CD stereo (128 kbps).

In addition, a multimedia service will be offered in the near future.

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### Main features of the DSB-WS1000 Receiver

The DSB-WS1000 receives signals of the WorldSpace™ digital system.

- A compact, easy-to-use unit capable of receiving up to 96 digital channels per beam carrier.
- Large LCD display  
8 English characters/numbers x 2 lines.
- Connect the receiver to stereo audio system for CD-quality digital sound.
- Detachable, adjustable-angle antenna with 5 m cable.
- Digital optical output socket reproduces WorldSpace™'s crisp digital sound to your digital equipment.

## PRECAUTIONS

- The apparatus shall not be exposed to dripping or splashing.
- Do not use where there are extremes of temperature.
- Do not install this equipment in a confined space, such as a book case or built in cabinet.

For circumstances of editing, example indications written with this instruction manual are not always same as actual indications of display.  
Some indication may be different from a actual indication.

## CONTROLS (Fig. 1)

1. Antenna open button (ANTENNA OPEN)
2. Antenna
3. Password button (PASSWORD)
4. Beam check button (BEAM CHECK)
5. Beam select button (BEAM SELECT)
6. Language button (LANGUAGE)
7. Set/Clear button (SET/CLEAR)
8. Timer button (TIMER)
9. Sleep timer button (SLEEP)
10. Clock button (CLOCK)
11. External DC socket (DC 4.5V)
12. Digital output (optical) socket (DIGITAL OUT OPTICAL)
13. External input/output socket (EXT)
14. Volume control (VOLUME)
15. Preset/Adjust controls (PRESET/ADJUST)
  - UP: Up button
  - DOWN: Down button
  - MEMORY: Memory button
16. Programme search controls (PROGRAM SEARCH)
  - PTY: Programme type button
  - ALPHABET: Alphabet button
  - SEARCH: Search button
17. Service components select button (SERVICE COMPONENTS SELECT)
18. BC (Broadcaster) select controls (BC SELECT)
  - NEXT: Next button
  - PREVIOUS: Previous button
19. Sound select button (SOUND SELECT)



20. Light button (LIGHT)
21. Remote sensor
22. Display
23. Headphones socket (HEADPHONE)
24. Power button (⏻/ON)
25. Line output sockets (LINE OUT)
26. Antenna input socket (WS ANT)
27. Antenna release lever (RELEASE) (rear)
28. Battery compartment (bottom)

## POWER SUPPLY

### AC Power (AC adaptor)

Plug one end of the AC adaptor into the DC 4.5V socket, then plug the other end into an AC outlet.

Note:

- The installed batteries are automatically disconnected when the AC adaptor is connected to the unit.
- The unit is not completely disconnected from the mains when the ⏻/ON button is set to the ⏻ position.

### Clock backup batteries

Install two "AA/SUM-3/R6" batteries (not supplied) as shown in Fig. 2. The clock function will be retained even if the power should fail or the "D/SUM-1/R20" batteries should run down. The life of backup batteries will shorten if the AC adaptor is disconnected or the "D/SUM-1/R20" batteries are removed from the unit for a long time.

### Battery power

#### Installing batteries

Install two "D/SUM-1/R20" batteries (not supplied) as shown in Fig. 2.

#### Replacing the batteries

Replace the old batteries when "🔋" appears on the display.

#### Cautions on batteries

To prevent battery electrolyte leakage, which may result in injury and damage to the unit or other objects, observe the following precautions:

1. All batteries must be installed with the proper polarity (see diagramme on the rear of the unit).
2. Do not mix new with old or used batteries.
3. Only use batteries of the same type and brand.
4. Remove the batteries when they are not to be used for a long period time.
5. When the batteries have become discharged, they must be disposed of in a safe manner which complies with all applicable laws.

## CONNECTIONS

### Auxiliary equipment

Connect audio leads (not supplied) from the line input sockets of an auxiliary equipment (amplifier, stereo audio system, etc.) to the LINE OUT sockets.

### Digital equipment

The DIGITAL OUT OPTICAL socket (optical) can be connected directly to the digital equipment (amplifier, MD recorder, etc.) which has an optical input socket. Before connecting, remove the cap on this socket.

Note:

- A sampling frequency from the DIGITAL OUT OPTICAL socket is 48 kHz or 32 kHz. Use the digital equipment corresponding to the sampling frequency.
- A time lag may occur in a sound reproduced from the DIGITAL OUT OPTICAL socket and LINE OUT sockets (or speaker).
- First, select the station to be recorded when recording to the MD recorder or DAT through the DIGITAL OUT OPTICAL socket. When changing the receiving station during recording, set the MD recorder or DAT to the record-pause or stop mode. Then re-start recording.

### Headphones

Connect stereo headphones (not supplied) to the HEADPHONE socket for listening in stereo sound. The speaker is automatically disconnected when headphones are connected.

### EXT socket

This is expansion socket for the future.

### To attach the shoulder belt (See Fig. 3)



## REMOTE CONTROL

### Controls (Fig. 4)

1. Power button (⏻/ON)
2. Sleep timer button (SLEEP)
3. Timer button (TIMER)
4. Clock button (CLOCK)
5. Beam check button (BEAM CHECK)
6. Password button (PASSWORD)
7. Beam select button (BEAM SELECT)
8. Preset/Adjust controls (PRESET/ADJUST)
  - UP: Up button
  - DOWN: Down button
  - MEMORY: Memory button
9. Programme search controls (PROGRAM SEARCH)
  - PTY: Programme type button
  - ALPHABET: Alphabet button
  - SEARCH: Search button
10. Sound select button (SOUND SELECT)
11. Light button (LIGHT)
12. Number/Character buttons (1/ABC - 9/YZ, 0)
13. BC (Broadcaster) select controls (BC SELECT)
  - NEXT: Next button
  - PREVIOUS: Previous button
14. SC (Service Components) select button (SC SELECT)
15. Language button (LANGUAGE)
16. Set/Clear button (SET/CLEAR)

### Installing batteries

Install two "AA/SUM-3/R6" batteries (not supplied) as shown in Fig. 5.

### Remote control range (Fig. 6)

The buttons on the remote control perform similar functions to similarly marked buttons on the front panel.

## GENERAL OPERATION

### Turning the power on and off

Press the ⏻/ON button to turn the power on. "WELCOME TO WORLD SPACE", "COME ON IN WORLD SPACE" or "LETS ENJOY WORLD SPACE" appears briefly.

Press the ⏻/ON button again to turn the power off. The clock display remains lit.

- When the AC adaptor is connected, the unit will respond to commands from the remote control.

#### Note:

If the unit is being powered by batteries, the ⏻/ON button on the remote control does not work. In which case, press the ⏻/ON button on the front panel to turn the power on. Then operate the remote control.

### Adjusting the volume

Turn the VOLUME control.

### Selecting the sound mode

Press the SOUND SELECT button to enhance the bass sound. "BASS ON" appears on the display. Press the button again to return the original setting. "BASS OFF" appears.

### Display backlight

Press the LIGHT button to turn the backlight on. Press the button again to turn it off. When the unit is being powered by batteries, the backlight goes out after several seconds.

### WHAT TO DO IF . . . .

If the operation of the unit or display is not normal,

1. Disconnect the AC adaptor from the unit.
2. Remove all batteries (D/SUM-1/R20 and AA/SUM-3/R6).
3. Wait approximately 1 minute.
4. Connect the AC adaptor, and install all batteries.
5. Operate the unit.

## ANTENNA

### Placing the antenna

Place the antenna in a position to acquire the satellite. If a line of site is obstructed, the receiver may not receive signals.

- Because a signal is weakened by window glass, etc. place the antenna outdoors when reception is poor.
- The supplied antenna is water proof. But the antenna is not usable under extreme weather/condition.
- To minimize noise, the AC adaptor lead and any other leads should not come close to the antenna and antenna cable.  
Keep the AC adaptor/AC adaptor lead 30 cm or more from the antenna/antenna cable.

### To attach the antenna

1. While pressing the RELEASE lever, remove the antenna compartment lid as shown in Fig. 7.
2. Before attaching the antenna, unwind the antenna cable as desired.
3. Attach the antenna to the unit as shown in Fig. 8.

#### Note:

- Match the convex part of antenna compartment on the unit to the concave part of antenna when attaching the antenna.  
The antenna can be attached to the unit with four directions (0°, 90°, 180° and 270°) as shown in Fig. 9.
- Pay attention not to pinch the antenna cable into the antenna and unit.
- Attach the antenna completely until a click sound is heard.

### To detach the antenna

1. While pressing the RELEASE lever, detach the antenna as shown in Fig. 10.
2. Replace the antenna compartment lid as shown in Fig. 11.

#### Note:

Use only the supplied antenna or an antenna of WorldSpace™ specification. Do not use other conventional TV or FM antennas, or the unit may be damaged.



## TO RECEIVE SIGNALS

To receive signals of the WorldSpace™ digital system, follow steps below.

1. Set and place the antenna to the direction of the satellite.
2. Select the beam to be received.
3. Readjust the antenna for better reception.

### Setting and placing the antenna

1. Select the satellite and country name (city name) of your nearest area in Tables 1 - 4 on Pages 7 - 13. Then find the corresponding azimuth and elevation angle on the listed table.
2. Set and place the antenna to match the azimuth and elevation angle found from the table. (Refer to "Adjusting the antenna" and "Placing the antenna".)
3. Connect the antenna cable to the WS ANT socket.

### Adjusting the antenna

When using the antenna detached from the unit:

Adjust its azimuth and elevation as shown in Fig. 12.

When using the antenna attached on the unit:

Press the ANTENNA OPEN button to release the antenna lock, then adjust its elevation as shown in Fig. 13.

Note:

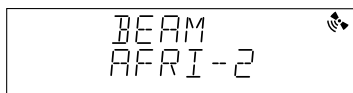
**Do not turn the antenna** to adjust its azimuth.

To adjust the azimuth, attach the antenna again with the desired direction (Fig. 9), then rotate the main unit.

### Selecting beam

Find the corresponding beam to be received in Maps 1 - 3 on Pages 4 - 6.

- If your area is covered by two or three beams, select the beam that the centre of coverage is near your area.
1. Press the  $\odot$ /ON button to turn the power on.
  2. Press the BEAM SELECT button repeatedly to select the beam.
    - Each time the button is pressed, the beam display changes as shown below:  
AFRI-1 → AFRI-2 → AFRI-3 → ASIA-1 → ...  
→ AMER-3 → AFRI-1 → ...



(In this example, AfriStar™, Beam-2)

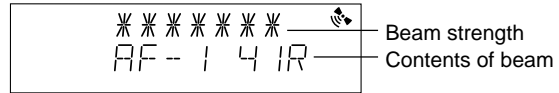
- If a signal is received, the satellite mark appears on the display and the normal receiving mode is set after 5 seconds.
- If your area is covered by two or three beams on the same satellite, the receiving beam can be changed.

### Readjusting the antenna

This operation is unnecessary if a reception is good.

### Checking the receiving beam

1. Press the BEAM CHECK button once. The contents of the right-band on the receiving beam appears.



2. Press the BEAM CHECK button again. The contents of the left-band on the receiving beam appears.

Slightly adjust the antenna as "\*" marks appear most.

If "CHECK A" appears, check the antenna connection.

- Press the BEAM CHECK button again. The original display returns.

Note:

If no signal is received, follow steps "Signal search" below, after procedure "Setting and placing the antenna".

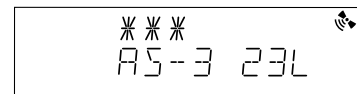
Then follow steps "Selecting beam" and "Readjusting the antenna" again.

- If the receiver still does not receive signals, please consult your WorldSpace™ service office.
- If your area, or the satellite to be received is changed, perform from the first of "TO RECEIVE SIGNALS".

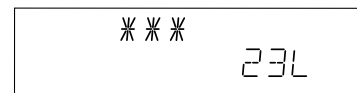
### Signal search

1. Press the BEAM CHECK button for at least 3 seconds. "SEARCH MODE" appears and the signal search mode is set.

When detecting a signal of WorldSpace™



When detecting no signal of WorldSpace™ (the satellite mark disappears)



2. **Automatic search:**

Press the "SEARCH" PROGRAM SEARCH button.

The automatic search mode is set and automatic signal search begins from channel 1.

Whenever the receivable channel is found, that contents are memorized.

#### Manual search:

Press the "UP" or "DOWN" PRESET/ADJUST button briefly until the desired signal (TDM ID) number is displayed.

1L → 1R → 2L → ... → 82L → 82R → 1L →

...

(or in the reverse sequence)

If the selected channel is receivable, that contents are memorized.

3. Press the SET/CLEAR button to cancel the signal search mode.





## ADJUSTING THE CLOCK

For easy operation, connect the AC adaptor and press the  $\text{ON/OFF}$  button to turn the power off. Only the clock display appears.



**Example: To set "6:30" ,**

1. Press the "MEMORY" PRESET/ADJUST button. The hours display blinks.



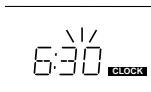
2. Press the "UP" or "DOWN" PRESET/ADJUST button to set the "hours".



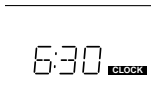
3. Press the MEMORY button. The minutes display blinks.



4. Press the UP or DOWN button to set the "minutes".



5. Press the MEMORY button. The clock starts and the original display returns.



- The time can be set accurately by pressing the MEMORY button when a time signal is heard.

- To display the clock during operation, press the CLOCK button. Press it again to return to the original display.
- If either UP or DOWN button is kept depressed, the display changes continuously until the button is released.
- If the next step is not taken within 10 seconds or the SET/CLEAR button is pressed while performing "ADJUSTING THE CLOCK", the operation is cancelled and the original display returns.

### Changing the clock to the 12-hour display

1. Connect the AC adaptor and press the  $\text{ON/OFF}$  button to turn the power off.
2. While pressing the CLOCK button on the front panel, press the MEMORY button on the front panel.

Example: 13:00  $\rightarrow$  PM 1:00

To return the original setting, repeat steps above.

## SELECTING A SC ON BC

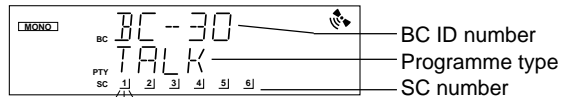
**SC:** Service Component

SC is a programme – a minimum unit of broadcast.

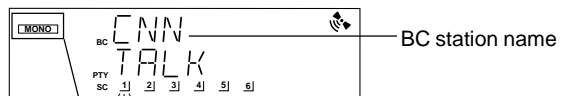
**BC:** Broadcaster

Every BC has its ID number and station name. A BC consists of maximum eight SCs.

Press the  $\text{ON/OFF}$  button to turn the power on. The last received SC on the BC is received.



- The received BC ID number appears briefly, then the BC station name appears (or scrolls).



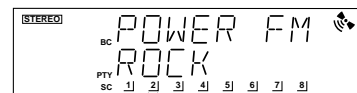
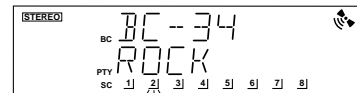
STEREO: Stereo programme  
MONO: Monaural programme

- If the corresponding SC is not found, a receivable SC on the same BC receives.
- If the corresponding BC is not found, "BC-XXX GONE" appears. (Follow step "Selecting BC" below)
- If any signal is not received, "CHECK ANTENNA" appears. (See "If CHECK ANTENNA appears")



### Selecting BC

Press the "NEXT" or "PREVIOUS" BC SELECT button briefly until the desired BC ID number is displayed.



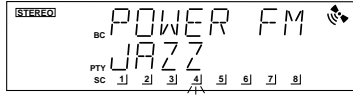
- If the language filter is on, only BCs in the selected languages will receive.



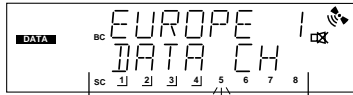
### Selecting SC

Press the SERVICE COMPONENTS SELECT button to select the desired SC on the receiving BC.

- Each time the button is pressed, the SC display changes as shown below:  
SC 1 → 2 → ... → 7 → 8 → 1 → ...



- When receiving a data channel SC, "DATA" and " " appear and no sound will be heard.



#### SC display

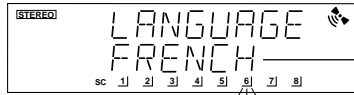
- 1, 2, ... : Audio channel SCs
- 5, 6, ... : Except audio channel SCs

## LANGUAGE SELECT FILTER

This feature lets you set your choice of up to 3 languages, so that the unit only receives programmes in those languages.

### Checking the language filter

Press the LANGUAGE button once. The language filter setting of current receiving SC appears briefly.



Language

### Setting the language filter

1. Press the LANGUAGE button repeatedly to select the language filter number to be set.

LANG-1 → LANG-2 → LANG-3 → Original display returns



2. While the language is displaying, press the "MEMORY" PRESET/ADJUST button.



The selected language blinks.

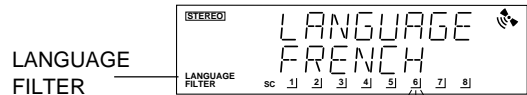
3. Press the "UP" or "DOWN" PRESET/ADJUST button to select the desired language.

ENGLISH → SPANISH → ARABIC → ... →  
THAI → OTHER → ENGLISH → ...  
(or in the reverse sequence)

Basic language list	
ENGLISH: English	TAGALOG: Tagalog
SPANISH: Spanish	SWAHILI: Swahili
ARABIC: Arabic	HAUSA: Hausa
PORTUG: Portuguese	URDU: Urdu
FRENCH: French	KOREAN: Korean
MANDARIN: Mandarin	THAI: Thai
HINDI: Hindi	OTHER: Other languages
BAHASA: Bahasa	

4. Press the MEMORY button. The next language filter setting appears.
5. Repeat steps 2 - 4 to set other two language filters.

- While "LANGUAGE" is displaying ("Checking the language filter" above), press the SET/CLEAR button repeatedly. The language filter turns on and off alternately ("LANGUAGE FILTER" appears and disappears).



- While the language is blinking (step 2 above), press the SET/CLEAR button. "NO SEL" appears and no language is selected.
- If the next step is not taken within 10 seconds while performing steps 2 - 4, the operation is cancelled and the original display returns.



## PROGRAMME SEARCH

The programme type search function lets you specify the kind of programme you want from a total of 15 different categories. And if you know the station name you want to listen to, the alphabet select search will find it for you instantly.

### PTY (Programme type) search

1. Press the "PTY" PROGRAM SEARCH button. The PTY search mode is set.



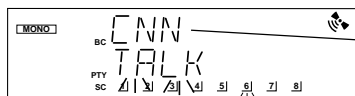
Programme type

2. Press the "UP" or "DOWN" PRESET/ADJUST button to select the desired PTY.

NEWS → INFO → SPORT → ... → URBAN  
→ OTHER → NEWS → ...  
(or in the reverse sequence)

Programme type list
NEWS: News
INFO: Information
SPORT: Sports
EDUCAT: Education/Development
CHILDREN: Children's programming
TALK: Talk
WORD ENT: Spoken word entertainment
CLASSIC: European classical
SOUND T: Soundtrack
JAZZ: Jazz
COUNTRY: Country
POP: Pop music
ROCK: Rock music
URBAN: R & B/Urban/Blues
OTHER: Other programme types

3. Press the "SEARCH" PROGRAM SEARCH button. The unit searches SCs and stops 5 seconds when it finds a SC of the PTY code you have selected, then searches again.



BC station name

4. When the desired SC has been tuned in, press the SEARCH button again to keep the reception locked at that SC.

- If the next step is not taken within 10 seconds while performing steps 1 - 3, the operation is cancelled and the original display returns.
- If the language filter is on, only SCs in the selected languages will receive.
- If corresponding SC is not found, "NO FOUND" appears, then the original SC receives.

### Language select search

1. After setting the language filter, press the "SEARCH" PROGRAM SEARCH button. The unit searches SCs and stops 5 seconds when it finds a SC of the languages you have selected, then searches again.
2. When the desired SC has been tuned in, press the SEARCH button again to keep the reception locked at that SC.

- If corresponding SC is not found, "NO FOUND" appears, then the original SC receives.

### Alphabet select search

1. Press the ALPHABET button. The alphabet select search mode is set.



2. Press the UP or DOWN button to select the desired character (the first character of station name).

A → B → C → ... → Y → Z → A → ...  
(or in the reverse sequence)

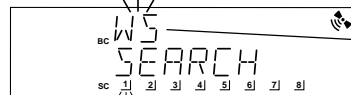
- The number/character buttons on the remote control can also be used.

Example:

A: Press the 1/ABC button once.

R: Press the 6/PQR button three times.

3. Press the SEARCH button. The unit searches BCs and stops 5 seconds when it finds a BC of the character you have selected, then searches again.



BC station name

4. When the desired BC has been tuned in, press the SEARCH button again to keep the reception locked at that BC.

- If the next step is not taken within 10 seconds while performing steps 1 - 3, the operation is cancelled and the original display returns.

- If corresponding BC is not found, "NO FOUND" appears, then the original BC receives.

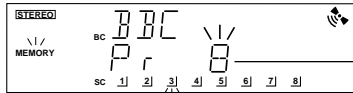


## PRESET SCs

### To preset SCs

Up to 32 SCs can be preset.

1. Tune in the SC to be preset as described above.
2. Press the "MEMORY" PRESET/ADJUST button. The preset memory mode is set and "MEMORY" blinks on the display.
3. Press the "UP" or "DOWN" PRESET/ADJUST button to select the channel number to be preset.  
1 → 2 → ... → 31 → 32 → 1 → ...  
(or in the reverse sequence)
  - The number/character buttons on the remote control can also be used. In this example, press 0, then 8.



Channel number

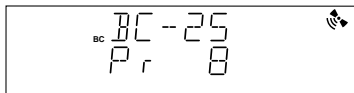
4. Press the MEMORY button.
    - In this example, "3" SC on BBC broadcaster is preset on channel number 8.
  5. Repeat steps above to add more preset SCs.
- If the next step is not taken within 10 seconds while performing steps 2 - 4, "MEMORY" disappears and the preset operation is cancelled. Press the MEMORY button to continue.
  - When presetting a new SC, the previous preset SC is cleared.

### Clearing the preset SC

1. Press the MEMORY button.
2. Select a channel number to be cleared as explained above, then press the SET/CLEAR button.

### Listening to preset SCs

Press the UP or DOWN button or two number/character buttons on the remote control to select the desired preset SC.



After this, the normal display returns.

- If no SC is preset, the UP and DOWN buttons will not function.
- If non-memorized channel number is selected, "NO DATA" appears, then the original display returns.

## PAY SERVICE

Pay service will be offered in the near future. To receive a pay broadcast station, it is necessary to make a receiving contract to a provider and to get a **Password** (22 digits number).

**Please consult your provider for more detail.**

- When receiving a pay broadcast station, "CODED" appears on the display.

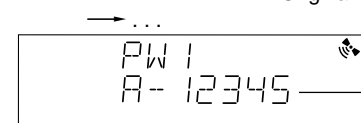
### Initial setting of password

00000 - 00000 - 00000 - 00000 - 00  
(A-block) (B-block) (C-block) (D-block) (E-block)

### Setting the password

Up to 2 passwords can be set.

1. Press the PASSWORD button repeatedly to display the password to be set (PW1 or PW2).  
PW1 → PW2 → Original display returns → PW1



Password (A-block)

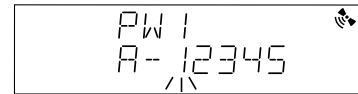
2. While the password is displaying, press the "UP" or "DOWN" PRESET/ADJUST button to display the block of password to be set. The block of password changes as follows.

A-... → B-... → C-... → D-... → E-... → A-... →

...

(or in the reverse sequence)

3. Press the "MEMORY" PRESET/ADJUST button.



The first number (in this example, "1") blinks.

### (Using the main unit)

4. Press the UP or DOWN button to select the number to be entered.
5. Press the MEMORY button. The next number (in this example, "2") blinks.
6. Repeat steps 4 - 5 to set other numbers on the A-block.
7. After the A-block has been set, the B-block setting appears.
8. Set the other blocks in the same way.
9. After the E-block has been set, the original display returns.

### (Using the remote control)

4. The number/character buttons can also be used.  
Example: To set "3 4 5 6 7" on the A-block, press 3, 4, 5, 6, then 7.
5. After the A-block has been set, the B-block setting appears.
6. Set the other blocks in the same way.
7. After the E-block has been set, press the MEMORY button. The original display returns.

- If the entered password is incorrect, "ERROR" appears, then the A-block setting display returns.

### Checking the password

1. Press the PASSWORD button repeatedly to display the password to be checked.
2. While the password is displaying, press the UP or DOWN button to display the block of password to be checked.

- If the next step is not taken within 10 seconds or the SET/CLEAR button is pressed while performing "PAY SERVICE", the operation is cancelled and the original display returns.





### Checking the User ID number

**User ID number** is a peculiar characteristic number of each unit.

- The ID number is necessary to make a receiving contract of pay service.

Press the PASSWORD button for at least 3 seconds. The user ID numbers appear on the display.



Press the SET/CLEAR button to return the original display.

- The ID number is mentioned in a label on the bottom of the unit.

## TIMER OPERATION

### Using the timer

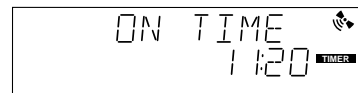
Set the on and off times. Operation will start with the selected station at the on time and the power will be switched off at the off time. The timer will function every day unless it is released.

#### Preparation

- Make absolutely sure that the clock is set to the correct time before setting the timer.
- Tune in the desired SC on the BC for timer operation.
- Adjust the volume level as desired.

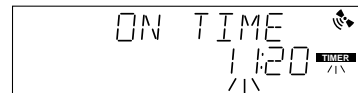
#### Operation

1. Press the TIMER button.

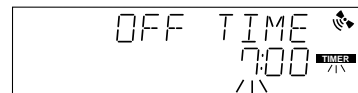
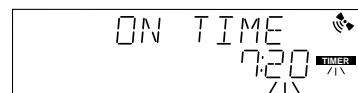


The previous timer on time setting appears.

2. Press the "MEMORY" PRESET/ADJUST button.

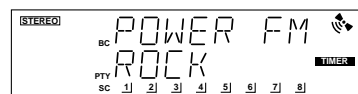
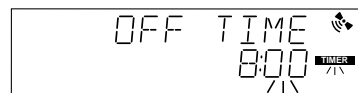


3. Set the timer on time by pressing the "UP" or "DOWN" PRESET/ADJUST button, then press the MEMORY button (as described under "ADJUSTING THE CLOCK").



The timer off time setting appears.

4. Set the timer off time as described in step 3.



The original display returns, then the timer operation standby mode is activated. "TIMER" remains lit.

5. Press the ON/OFF button to switch off the power.

- "TIMER" blinks during a timer controlled operation.
- To switch off the power during a timer controlled operation, press the ON/OFF button. The timer will be set in the standby mode.



### To check the timer settings

Press the TIMER button repeatedly. The timer settings are displayed in the following order:

On time → Off time → Original display returns

To change the settings, press the TIMER button to select the setting to be changed, then press the MEMORY button so that the display blinks. Change the setting as explained above.

### To release the timer

After turning the power on, press the TIMER button, then press the SET/CLEAR.

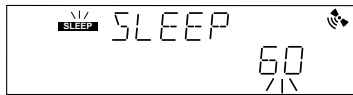
### To set the timer again with the same settings

1. Press the TIMER button, then press the SET/CLEAR.
2. Press the  $\text{ON}$  button to switch off the power.

### Using the sleep timer

The sleep timer automatically switches off the power after a preset time has elapsed. There are 12 time periods available: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, and 120 minutes.

1. Press the SLEEP button. The previous sleep time setting appears.
2. Press the MEMORY button.



3. Select the sleep time by pressing the UP or DOWN button.  
60 → 70 → ... → 110 → 120 → 10 → 20 → ... → 50 → 60 → ...  
(or in the reverse sequence)
4. Press the MEMORY button. The original display returns and "SLEEP" blinks.

### To check the remaining sleep time

Press the SLEEP button once. The remaining time is displayed. Press the SLEEP button again or allow 10 seconds to elapse, the original display returns.

### To release the sleep timer while in operation

Press the SLEEP button, then press the SET/CLEAR. The timer is also released if the power is switched off.

Note:

If the next step is not taken within 10 seconds or the SET/CLEAR button is pressed while performing "TIMER OPERATION", the operation is cancelled and the original display returns.

## MAINTENANCE

### Cleaning the unit

Clean the outside of the unit with a clean soft cloth, moistened with lukewarm water. Do not use benzene, thinner or alcohol since they will mar the finish of the surfaces.

### If "CHECK ANTENNA" appears

Check the following items.

- The antenna is connected correctly.
- The antenna is placed in a position to acquire the satellite.
- An azimuth and an elevation angle of the antenna are set to the direction of the satellite.
- A line of site is unobstructed.
- A corresponding beam of the satellite is selected correctly

If an electromagnetic wave interference occurs, the receiver may not receive signals.



## Creative Services Regional Office Reference Guide

WorldSpace Entity	WorldSpace Asia
<p><b>WorldSpace Corporate Services</b></p> <p><b>WorldSpace Management Corporation</b> Am Weichselgarten 23 91058 Erlangen, Germany Tel: 49 9131 6061 0 Fax: 49 9131 6061 99</p> <p><b>WorldSpace Management Corporation</b> 4 - 6 Soho Square London, England W1V 5DE Tel: 44 171 494 8200 Fax: 44 171 494 8201</p> <p><b>WorldSpace – France</b> 1, Impasse de Candie 31100 Toulouse, France Tel: 33 5 61 43 82 82 Fax: 33 5 61 43 82 99</p> <p><b>WorldSpace Management Corporation</b> Green House Building 2F Nihonbashi-Tomisawacho Chuo-ku, Tokyo 103-0006, Japan Tel: 81 3 5643 8163 Fax: 81 3 5643 7254</p>	<p><b>AsiaSpace Ltd.</b> Level 4, 6 Riverside Quay South Bank, Melbourne Victoria 3006, Australia Tel: 61 3 9693 8555 Fax: 61 3 9693 8585</p> <p><b>WorldSpace Management Corporation</b> WISMA 46, Kota Bni 34<sup>th</sup> Fl. Jalan Jend Sudirman Kav. 1 Jakarta 10220 Indonesia Tel: 62 21 574 7513 Fax: 62 21 574 7514</p> <p><b>WorldSpace Management Corporation</b> Regus Office 6 C203 Beijing Lufthansa Centre Offices No. 50 Liangmaqiao Road Chaoyang District Beijing 100016 PRC Tel: 8610 6465 1248 Tel: 8610 6465 1326 Fax: 8610 6465 1240</p> <p><b>WorldSpace India</b> 9<sup>th</sup> Floor, Shankarnarayana Towers 25/2, M.G. Road Bangalore 560 001 India Tel: 91 80 559 5183 Fax: 91 80 559 5181</p>
WorldSpace Africa/Middle East	WorldSpace Americas
<p><b>WorldSpace Ghana Ltd.</b> 42 Independence Avenue P.O. Box C838, Cantonments Accra, Ghana Tel: 233 21 22 6667 Fax: 233 21 23 8147</p> <p><b>WorldSpace Southern Africa (Pty.) Ltd.</b> 391 Jan Smuts Avenue Craighall, 2196, Johannesburg, S.A. P.O. Box 412466 Craighall, 2024, Johannesburg, S.A. Tel: 27 11 789 9191 Fax: 27 11 886 6394</p> <p><b>WorldSpace Ethiopia</b> W17, K23 Hse. No. 2173 P.O. Box 986 Addis Ababa, Ethiopia Tel: 251 1 61 32 80 Fax: 251 1 61 32 99</p> <p><b>AfriSpace (Kenya) Limited</b> 16<sup>th</sup> Floor, Lonrho House Standard Street P.O. Box 43305 Nairobi, Kenya Tel: 254 2 210805 Fax: 254 2 210845</p>	<p><b>WorldSpace Americas – Miami</b> 815 NW 57<sup>th</sup> Avenue, Suite 441 Miami, FL 33126 USA Tel: 305 265 0750 Fax: 305 265 0790</p> <p><b>WorldSpace Caribbean</b> 1-A Dere Street, Suite 5 Port of Spain Trinidad &amp; Tobago Tel: 868 624 0172 Fax: 868 624 0202</p>

## SPECIFICATIONS

Band:  
WorldSpace band

RF frequency:  
1452 - 1492 MHz

Modulation:  
QPSK

Audio coding:  
MPEG 2.5 Layer 3

Terminals:

Inputs:

WS ANT: For WorldSpace band  
EXT: For future use

Outputs:

HEADPHONE: 8 - 32 ohms  
LINE OUT: 700 mV/10k ohms  
DIGITAL OUT OPTICAL: Digital optical output  
EXT: For future use

Power output:  
500 mW

Loud speaker:  
80 mm (dia.)

Power source:

AC: AC adaptor

DC: 3 V, 2 "D/SUM-1/R20" batteries

Back-up: DC: 3 V, 2 "AA/SUM-3/R6" batteries

Dimensions:

260(W) x 190(D) x 85(H) mm

Weight:

Approx. 1 kg (without antenna)

Antenna:

Dimensions:

147(dia.) x 45(H) mm

Weight:

Approx. 0.5 kg

Cable length:

5 m

Accessories:

AC adaptor, Shoulder belt, Remote control

Specifications subject to change without notice.

# SANYO

SANYO Electric Co., Ltd.