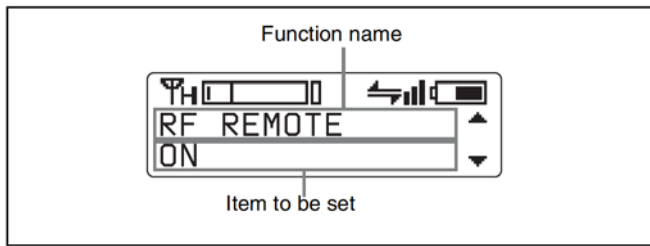


Basic Menu Operations



- 1 Press the + or – button repeatedly until the function to be set appears.
- 2 Hold down the SET button until the item to be set flashes.
- 3 Press the + or – button to change the setting.
- 4 Press the SET button to enter the setting.

Types of menu:

- NAME (transmitter name) setting
- BAND (frequency band) selection
- GP/CH (group/channel) selection
- RF POWER (RF transmission power) setting
- INPUT LEVEL (audio input level) setting
- LCF (low-cut filter) setting
- POWER SAVE setting
- BATTERY TYPE (battery type) setting
- TIME (accumulated use time) indication
- ENCRYPTION (encrypted transmission function) setting
- CODEC MODE (audio codec mode) setting
- MAX RF POWER (maximum RF output power) setting
- INTERNAL SG (internal signal generator) function
- POWER SW LOCK (POWER switch lock) function
- RF REMOTE (wireless remote control) function
- BRIGHTNESS (display brightness) setting
- DIMMER MODE (automatic dimming of the display) setting
- FACTORY PRESET (factory setting) function
- VERSION (software version) indication

Setting Menus

The functions and parameters of the settings menu are explained here. Underlined items are the factory setting.

Naming of transmitter (NAME)

You can specify a transmitter name of up to 16 characters. The factory setting for the transmitter name is the model name and serial number. The transmitter name is sent to the receiver as metadata and is used by the receiver to distinguish between different transmitters.

+: The first press on the + button displays the character set. You can then use the + and – buttons to select the desired character. And then, pressing the SET button adds the selected character to the end of the current name.

–: Deletes the last character in the current name.

SET: Enters the character or edited name.

Note

You cannot insert or delete a character in the middle of the name.

Using wireless remote control, this function can be controlled from the receiver and other devices.

For details on wireless remote control function, see “Using the Cross Remote” on page 7.

To edit with a keyboard

You can enter data from an optional keyboard connected to the USB connector.

For details, see “Using a USB Keyboard” on page 9.

Selecting the frequency band (BAND)

Match the frequency range on this transmitter to that of the Sony digital wireless receiver.

See “Carrier Frequencies and Channel Steps” on page 19 for differences in frequency ranges that can be set for optional receivers combined with this transmitter.

For details about the frequency range of each band, refer to “Sony Digital Wireless Microphone System Frequency Lists” on the supplied CD-ROM.

Using wireless remote control, this function can be controlled from the receiver and other devices.

For details on wireless remote control function, see “Using the Cross Remote” on page 7.

Notes

- The setting for this function cannot be changed during actual signal transmission. To change the setting, turn

off the transmitter first. Then, while holding down the SET button, turn the power on. Then change the setting after the signal transmission has stopped.

- Be sure to select the group/channel right after selecting the frequency band. To start signal transmission with the selected frequency band/group/channel, turn off the power and then turn it on again.

Selecting the group/channel (GP/CH)

See “Carrier Frequencies and Channel Steps” on page 19 for factory settings.

For details, see “Selecting the group/channel” on page 6.

Using wireless remote control, this function can be controlled from the receiver and other devices.

For details on wireless remote control function, see “Using the Cross Remote” on page 7.

Setting the RF output power (RF POWER)

You can set the RF output power.

- 1 mW (LOW):** transmitted by 1 mW
10 mW (MID): transmitted by 10 mW
50 mW (HIGH): transmitted by 50 mW

Notes

- The setting for this function cannot be changed during actual signal transmission. To change the setting, turn off the transmitter first. Then, while holding down the SET button, turn the power on. And then, change the setting after the signal transmission has stopped.
- To start signal transmission with the selected RF output power setting, turn off the power and then turn it on again.

Using wireless remote control, this function can be controlled from the receiver and other devices.

For details on wireless remote control function, see “Using the Cross Remote” on page 7.

The maximum RF output power can be configured on the unit.

For details, see “Setting the maximum RF output power (MAX RF POWER)” on page 12.

Setting the audio input level (INPUT LEVEL)

You can set the input level to the analog head amp. Select LINE or MIC, depending on the audio source connected to the audio input connector. When MIC is selected, ATT (attenuation level) will flash next. With the microphone connected, speak into the

microphone as you monitor the input level meter and press the + or – button repeatedly to select the appropriate attenuation level.

The reference levels for the various settings are as follows:

Input	Attenuation (dB)	Reference input level (dB)	Maximum input level (dBU)	Headroom (dB)
MIC	0	-58	-22	36
	3	-55	-19	
	6	-52	-16	
	9	-49	-13	
	3 dB steps	3 dB steps	3 dB steps	
	45	-13	+23	
	48	-10	+24	34
LINE	-	+4	+24	20

MIC/LINE settings and attenuator settings for the audio input level can be changed from the receiver and other devices via the wireless remote control function.

For details on wireless remote control function, see “Using the Cross Remote” on page 7.

Low-cut filter setting (LCF)

The frequency of the low-cut filter can be set.

OFF: Turns off the low-cut filter.

20 30 40 50 60 70 80 90 100

120 140 160 180 200 220 (Hz): Low-cut filter is set according to the selected frequency.

Using wireless remote control, this function can be controlled from the receiver and other devices.

For details on wireless remote control function, see “Using the Cross Remote” on page 7.

Power save setting (POWER SAVE)

To conserve power, this setting allows you to put all transmitter functions to sleep.

ACTIVE: The transmitter operates normally.

SLEEP: The sleep function is on. During sleep, the POWER indicator flashes at 2-second intervals.

To change back to normal operation

During sleep, press the SET, +, or – button.

You can also use the wireless remote control to change the receiver back to normal operation.

For details on wireless remote control function, see “Using the Cross Remote” on page 7.

Setting the battery type (BATTERY TYPE)

Set this item according to the type of batteries you use to obtain accurate battery power status indication.

TYPE1: The power status is indicated based on characteristics of new LR6 (size AA) Sony Alkaline batteries. Select this for LR6 (size AA) alkaline batteries.

TYPE2: Select this for rechargeable nickel-metal-hydride batteries.

TYPE3: Select this for lithium batteries.

Note

The characteristics of batteries change according to battery type and environmental conditions. It is recommended that you learn the characteristics of batteries you use before using them.

Displaying the accumulated use time (TIME)

You can display the accumulated battery use time as a rough estimate of total transmitter usage. The factory setting is “00:00”.

To reset the accumulated time indication

- 1 Hold down the SET button until the time indication flashes.
- 2 Press the – button so “00:00 RESET” appears, and then press the SET button.

Using wireless remote control, this function can be controlled from the receiver and other devices.

For details on wireless remote control function, see “Using the Cross Remote” on page 7.

Setting the encrypted transmission function (ENCRYPTION)

You can set the encrypted transmission function.

SECURE KEY: Sets the secure key method.

PASSWORD: Sets the password method.

OFF: The encrypted transmission function is not used.

For details, see “Using the Encrypted Transmission Function” on page 8.

Setting the audio codec mode (CODEC MODE)

MODE1: This audio codec mode is compatible with the first generation DWX series.

MODE2: Delay times are reduced in this audio codec mode. Audio quality is also improved when compared to

MODE1. We recommend using this mode under normal circumstances.

MODE3: This audio codec mode prioritizes stable transmission performance. Additional signal processing is used to suppress noise and audio interruptions caused by unexpected interference, resulting in more reliable transmission.

The audio delay durations that occur when transmitting and receiving with each mode will differ depending on the receiver’s operating environment.

For details, refer to the operating instructions supplied with the receiver.

The audio codec mode setting can be configured via the wireless remote control function from the the receiver, for example.

For details, see “Using the Cross Remote” on page 7.

Setting the maximum RF output power (MAX RF POWER)

You can set the maximum RF output power of the unit.

1mW MAX: Sets the maximum to 1 mW.

10mW MAX: Sets the maximum to 10 mW.

50mW MAX: Sets the maximum to 50 mW.

Notes

- The setting for this function cannot be changed during actual signal transmission. To change the setting, turn off the transmitter first. Then, while holding down the SET button, turn the power on. And then, change the setting after the signal transmission has stopped.
- To start signal transmission with the selected RF output power setting, turn off the power and then turn it on again.
- Always perform pairing after changing the maximum RF output power setting for a transmitter. If you fail to do so, configuration of RF output power settings via the wireless remote control function may become impossible.

For details on pairing, see “Using the Cross Remote” on page 7.

Generating an internal signal (INTERNAL SG)

This transmitter generates a 1-kHz reference level sine wave that can be used to adjust or check the audio level of the receiver or the system that you are using. This internal signal is outside the control of the attenuator.

1 kHz: A 1-kHz internal signal is generated.

OFF: An internal signal is not generated.

Note

If the transmitter is turned off while the reference signal function is on, the function will turn off automatically.

Using wireless remote control, this function can be controlled from the receiver and other devices.

For details on wireless remote control function, see “Using the Cross Remote” on page 7.

Locking the POWER switch (POWER SW LOCK)

The POWER switch can be locked to prevent the transmitter from being accidentally turned off or on. Even when the POWER switch is locked, all parts of the transmitter other than the POWER switch remain functional.

UNLOCK: The POWER switch is not locked.

LOCK: The POWER switch is locked.

When LOCK is selected, the POWER switch lock icon appears in the display.

Using wireless remote control, this function can be controlled from the receiver and other devices.

For details on wireless remote control function, see “Using the Cross Remote” on page 7.

Cross Remote (RF REMOTE)

This function must be set to allow the wireless remote control function to be used between the transmitter and receiver.

OFF: Stops the wireless remote control function.

ON: Starts the wireless remote control function with the previously paired receiver.

PAIRING: Executes a new pairing.

For details, see “Pairing with a receiver” on page 7.

Note

If “RESTRICTED BY GP/CH SETTING” appears on the RF REMOTE screen, the wireless remote control function cannot be used. To use the wireless remote control function, select a different transmission channel.

For details on how to change the transmission channel, see “Setting the Transmission Channel” on page 6.

Setting the brightness of the display (BRIGHTNESS)

Ten levels of brightness can be selected for the organic light-emitting diode display.

The selectable settings are the following:

(Dark) **1 2 3 4 5 6 7 8 9 10** (Bright)

Automatic dimming of the display (DIMMER MODE)

The organic light-emitting diode display can be set to dim or turn off after a certain amount of time.

AUTO OFF: The display turns off after 30 seconds. The display goes on again when you press the SET, +, or – button.

AUTO DIMMER: The display dims after 30 seconds. The display becomes bright again when you press the SET, +, or – button.

ALWAYS ON: The display stays on at the brightness level set with the BRIGHTNESS function.

Resetting parameters to their factory settings (FACTORY PRESET)

All parameter settings can be returned to their factory settings.

Holding down the SET button until a message appears asking for confirmation. Press the + or – button repeatedly to select YES, and then press the SET button to enter. The transmitter parameters are reset to their factory settings.

Notes

- The setting for this function cannot be changed during actual signal transmission. To change the setting, turn off the power first. Then while holding down the SET button, turn the power on. Then change the setting after the signal transmission has stopped.
- To start signal transmission with the factory parameter settings, turn off the power and then turn it on again.

Displaying the software version (VERSION)

The version of the transmitter software can be displayed.

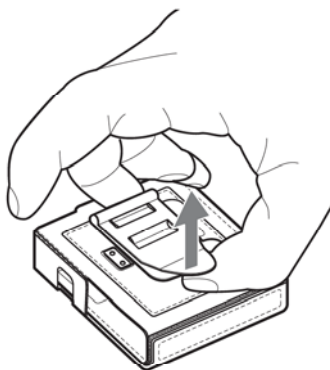
Attaching With the Soft Case

The transmitter can be attached to the user with the supplied soft case. All operations are possible when the transmitter is attached with the soft case. The clip can be attached to the soft case at an angle of 0, 90, 180, or 270 degrees, allowing you to attach the transmitter in a variety of positions.

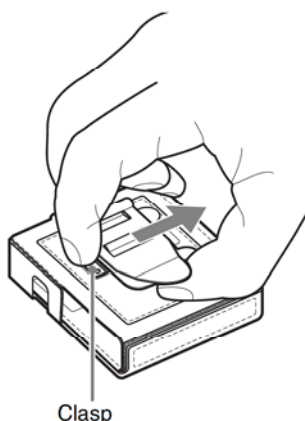
Removing the clip

Remove the transmitter from the soft case before attaching or removing the supplied clip.

- 1 Remove the transmitter from the soft case.
- 2 Insert your fingers between the clip and the soft case as shown in the illustration and pull the clip in the direction of the arrow.



- 3 Press down on the clasp as shown in the illustration and slide the clip in the direction of the arrow.



Attaching the Antenna Tubes

Noise may occur if the antenna attachment areas come into contact with metallic objects. Attaching the antenna tubes will prevent accidental contact of the antenna attachment areas with metallic objects.

Note

Do not pull on the antennas when attaching or removing the antenna tubes. In addition, do not attach or remove the antenna tubes while holding the antennas. Doing so may damage the antennas.

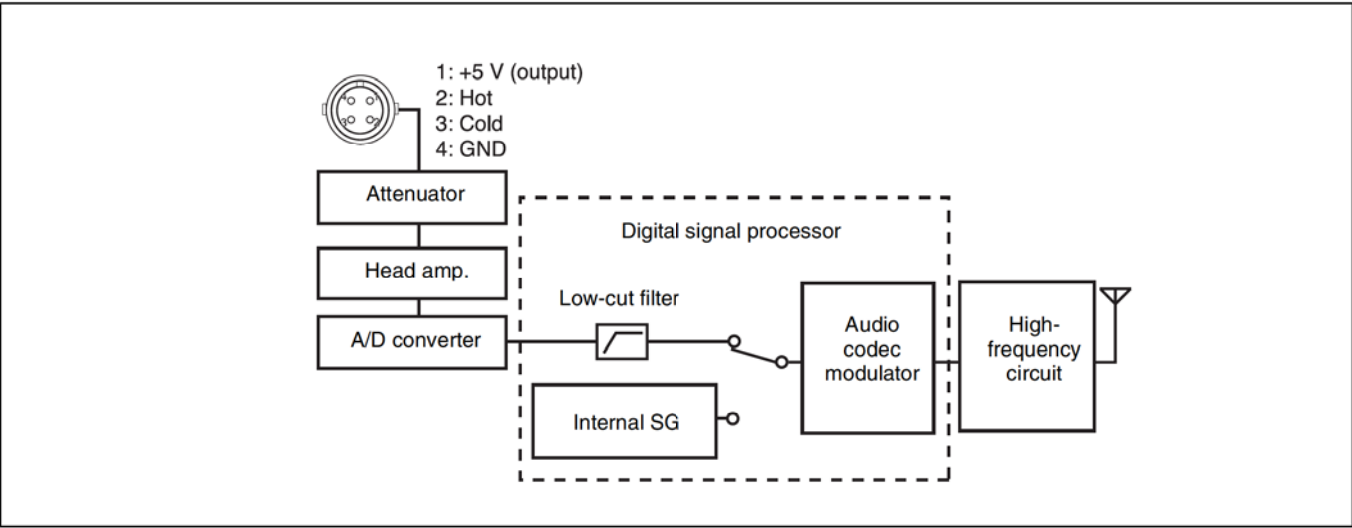
Attaching the antenna tubes

Hold the unit by its body with the antennas attached. Gently grasp the antenna tube, and slowly slide it onto the antenna all the way to the base of the antenna attachment area.

Removing the antenna tubes

Hold the unit by its body with the antennas attached. Gently grasp the antenna tube, and slowly slide it off the antenna from the base of the antenna attachment area.

Block Diagram



Troubleshooting

If you encounter a problem using this transmitter, use the following checklist to find a solution. For any problems with the receiver or adapter, refer to the operating instructions supplied with the respective device. If the problem persists, consult your Sony dealer.

Symptom	Meanings	Remedy
The transmitter does not turn on.	The batteries are inserted backwards in the battery compartment.	Reinsert the batteries with the correct orientation (<i>see page 5</i>).
	The batteries are exhausted.	Replace the batteries with new ones.
The batteries drain quickly.	Manganese batteries are being used.	Use alkaline batteries.
	The transmitter is being used under cold conditions.	The batteries drain quickly under cold conditions.
Interruptions in the reception occurs.	The transmitter is too far from the receiver.	Decrease the distance to the receiver and check the reception.
	The transmission power setting is set to "L: 1mW".	Increase the transmission power (<i>see page 11</i>).
There is no sound.	The channel setting on the transmitter is different from that on the receiver.	Use the same channel setting on both the transmitter and receiver.
	The setting of the encrypted transmission function on the receiver is different from that on the transmitter.	Confirm that the setting of the encrypted transmission function is the same on both the transmitter and the receiver (<i>see page 8</i>).
	The audio codec mode settings on the receiver and transmitter do not match.	Configure the same audio codec mode setting for both the receiver and transmitter (<i>see page 12</i>).
The sound is weak.	The audio input level of the transmitter is set to LINE or the attenuation level is too high.	If a microphone is connected to the transmitter, set the audio input to MIC (<i>see page 11</i>). While monitoring the audio input level meter, set the attenuator to an appropriate level.
There is distortion in the sound.	The attenuator is set too low for the audio input level of the transmitter.	While monitoring the audio input level meter, set the attenuator to a level that does not produce distortion.
The bass is weak.	The frequency of the low-cut filter is set too high.	While monitoring the sound, decrease the low-cut filter frequency to a level that produces the proper sound quality (<i>see page 11</i>).
There is too much bass.	The microphone connected to the transmitter produces excessive bass because the frequency response of the transmitter extends into the low 20-Hz range.	Use the low-cut filter to cut the bass (<i>see page 11</i>).
The power does not turn off even though the POWER switch is turned to OFF.	The POWER switch is locked.	Turn off the POWER SW LOCK function (<i>see page 13</i>).
Wireless remote control is not possible.	Pairing has not been established between the transmitter and receiver.	Carry out pairing (<i>see page 7</i>).
	The receiver is too far from the transmitter for communication to occur.	Check the wireless remote control condition level. If it is low, decrease the distance between the transmitter and the receiver (<i>see page 5</i>).
	The transmitter that was paired with the receiver has been paired with another receiver.	On the receiver, carry out pairing again with the transmitter that you want to control.
The USB keyboard does not work.	You are using a USB keyboard that is not compatible with the transmitter.	Check the conditions for using a USB keyboard with the transmitter (<i>see page 9</i>).
The display is too dark.	The display brightness is set to low.	Adjust the brightness of the display (<i>see page 13</i>).
The RF output power cannot be configured.	The maximum RF output power function may be set to limit the RF output power.	Check and adjust the setting.

Important Notes on Operation

Notes on using the transmitter

- The digital wireless microphone system product must be used within a temperature range of 0 °C to 50 °C (32 °F to 122 °F).
- Operating the transmitter near electrical equipment (motors, transformers, or dimmers) may cause it to be affected by electromagnetic induction. Keep the transmitter as far from such equipment as possible.
- The presence of the lighting equipment may produce electrical interference over the entire frequency range. Position the transmitter so that interference is minimized.
- To avoid degradation of the signal-to-noise ratio, do not use the transmitter in noisy places or in locations subject to vibration, such as the following:
 - near electrical equipment, such as motors, transformers or dimmers
 - near air conditioning equipment or places subject to direct air flow from an air conditioner
 - near public address loudspeakers
 - where adjacent equipment might knock against the tunerKeep the transmitter as far from such equipment as possible or use buffering material.

On cleaning

- If the transmitter is used in a very humid or dusty place or in a place subject to an active gas, clean its surface as well as the connectors with a dry, soft cloth soon after use. Lengthy use of the transmitter in such places or not cleaning it after its use in such places may shorten its life.
- Clean the surface and the connectors of the transmitter with a dry, soft cloth. Never use thinner, benzene, alcohol or any other chemicals, since these may mar the finish.

Notes on simultaneous multi-channel operation

- Keep the microphone at least 30 cm (11 ⁷/₈ inches) away from another transmitter/microphone. When the distances between transmitters need to be closer than the distances above, use a grouping system for multi-channel systems that include both digital wireless and analog wireless devices.

For details, refer to “Sony Digital Wireless Microphone System Frequency Lists” on the supplied CD-ROM.

- When only digital wireless microphones are being used, keep the transmitter at least 4 meters (13 feet) away from

the antenna of a receiver for up to 10 channels, and at least 6 meters (20 feet) away for 11 or more channels.

- When a mixture of digital and analog wireless microphones is being used, keep the transmitter at least 6 meters (20 feet) away from the antenna of a receiver.
- This system should be kept at least 100 meters (328 feet) away from any analog wireless systems using the same frequency when both are being used in a wide area with no walls or obstructions.
- If you experience noise, increase the distance between the transmitter and receiver or decrease the transmission power on the transmitter.

Note on microphone and transmitter combinations

It is recommended that you use the ECM-77BC/9X Sony lavalier microphone with this transmitter. The transmission signal may cause noise on some microphones. If you experience noise, you may be able to reduce it by changing the position of the microphone cable, moving the microphone connection away from the antenna, or lowering the transmission power.

To prevent electromagnetic interference from portable communication devices
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The use of portable telephones and other communication devices near the DWT-B01N may result in malfunction and interference with audio signals. It is recommended that portable communication devices near the DWT-B01N be turned off.
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Specifications

Transmitting section

Oscillator type	Crystal-controlled PLL synthesizer
RF power output	1 mW/10 mW/50 mW (e.r.p) selectable
Antenna type	$\lambda/4$ flexible wire
Occupied RF bandwidth	192 kHz or less
Audio delay	MODE1: 1.5 ms MODE2: 1.0 ms MODE3: 2.1 ms
Allowable deviation of transmission frequency	± 6.5 ppm
Type of emission	G1E or G1D
Modulation method	$\pi/4$ Shift QPSK

Audio section

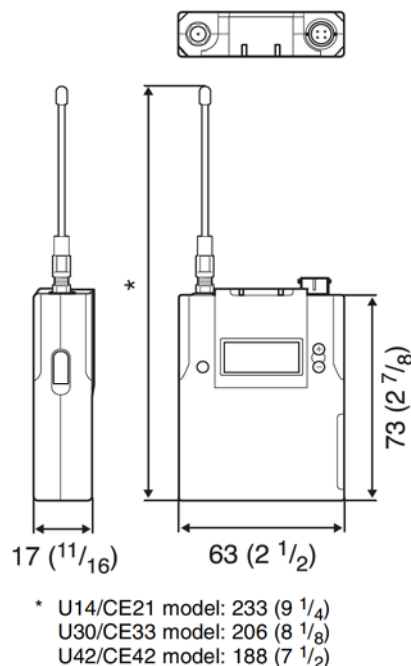
Maximum input level	MIC: -22 dBu (with 0 dB attenuator) LINE: +24 dBu
Audio attenuator adjustment range (pad)	0 to 48 dB (3 dB steps, MIC input mode only)
Microphone input connector	Sony 4-pin (SMC9-4S) (female)
Input impedance	4.7 kohms or more
Frequency response	20 Hz to 22,000 Hz
T.H.D	MODE1, MODE2: 0.03% or less MODE3 : 0.3% or less
Dynamic range	106 dB or more

0 dBu = 0.775 V

General

Operating voltage	3 V DC, with two LR6 (AA) alkaline batteries
Battery life	Continuous operating time 5 hours (at 25 °C (77 °F), 10-mW output using Sony LR6 (AA)-size alkaline batteries with CODEC MODE set to MODE1 and the wireless remote control function off and DIMMER MODE set to AUTO OFF)
Operating temperature	0 °C to 50 °C (32 °F to 122 °F)
Storage temperature	-20 °C to +60 °C (-4 °F to +140 °F)
Wireless remote control	2.4-GHz IEEE802.15.4 compliant

Dimensions (unit: mm (inches))



Mass	Approx. 125 g (4.4 oz) including batteries
Supplied accessories	Spare battery case (1) Soft case (1) Microphone cable (4-pin to XLR-type 3-pin) (1) USB adapter cable (1) Carrying case (1) Scribble sheet (1) Antenna tubes (2) Before Using this Unit (3) CD-ROM (1)
Optional accessories	ECM-77BC/9X lavalier microphones

Design and specifications are subject to change without notice.

Notes

- Always verify that the unit is operating properly before use. SONY WILL NOT BE LIABLE FOR DAMAGES OF ANY KIND INCLUDING, BUT NOT LIMITED TO, COMPENSATION OR REIMBURSEMENT ON ACCOUNT OF THE LOSS OF PRESENT OR PROSPECTIVE PROFITS DUE TO FAILURE OF THIS UNIT, EITHER DURING THE WARRANTY PERIOD OR AFTER EXPIRATION OF THE WARRANTY, OR FOR ANY OTHER REASON WHATSOEVER.
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Carrier Frequencies and Channel Steps

Underlined items are the factory setting.

US models

Channel step: 25 kHz

Model No.	Frequency band	Frequency	Group/channel (factory setting)
U14 (TV14-25)	TV14-17	470.125 - 493.875 MHz	<u>00 1801 494.125 MHz</u>
	<u>TV18-21</u>	494.125 - 517.875 MHz	
	TV22-25	518.125 - 541.875 MHz	
U30 (TV30-41)	<u>TV30-33</u>	566.125 - 589.875 MHz	<u>00 3001 566.125 MHz</u>
	TV34-36	590.125 - 607.875 MHz	
	TV37	Not available	
	TV38-41	614.125 - 637.875 MHz	
U42 (TV42-51)	<u>TV42-45</u>	638.125 - 661.875 MHz	<u>00 4201 638.125 MHz</u>
	TV46-49	662.125 - 685.875 MHz	
	TV50-51	686.125 - 697.875 MHz	

European models

Channel step: 25 kHz

Model No.	Frequency band	Frequency	Group/channel (factory setting)
CE21 (TV21-29)	<u>TV21-23</u>	470.025 - 494.000 MHz	<u>00 2101 470.125 MHz</u>
	TV24-26	494.025 - 518.000 MHz	
	TV27-29	518.025 - 542.000 MHz	
CE33 (TV33-40)	<u>TV33-35</u>	566.025 - 590.000 MHz	<u>00 3301 566.125 MHz</u>
	TV36-37	590.025 - 606.000 MHz	
	TV38-40	606.025 - 630.000 MHz	
CE42 (TV42-50)	<u>TV42-44</u>	638.025 - 662.000 MHz	<u>00 4201 638.125 MHz</u>
	TV45-47	662.025 - 686.000 MHz	
	TV48-50	686.025 - 710.000 MHz	

<http://www.sony.net/>

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