

# ICF-EX5MK2

## SONY® FM / Radio NIKKEI / MW 3 Band Radio

Congratulations and thank you.

Please follow the precautions for the safety of electrical products to avoid a fire or personal injury. Fully read and understand these instructions and the separate "safety" precautions.

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\* 4 1 3 5 7 3 3 0 3 \* (1)

# ICF-EX5MK2

## Main Features

- FM and Shortwave broadcasts (Radio NIKKEI No. 1 broadcast and no. 2 broadcast), Medium-Wave Broadcasting (MW/AM) 3 band portable radio.
  - A built-in ferrite bar antenna, Length 18 cm & Diameter 12mm, for a high-sensitivity Medium-Wave broadcasting (MW/AM) receiver.
  - A Synchronous Detection Circuit to reduce interference and beats by neighboring stations.
  - Large, easy to read display listing Japan National's main medium-wave radio stations
  - Radio NIKKEI preset tuning using the Crystal 3 frequency one-touch switching.
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## Precautions on Use

Handling:

Do not place the receiver in the location of:

- Very high temperature (over 40 ° C) or very low temperature (below 0 ° C).
  - Direct sunlight or heating appliances.
  - A humid bathroom or office (or within a closed car - especially in summer).
  - A dusty location.
  - Please keep liquids or foreign objects from getting inside the radio, especially in the DCIN 6V Jack (water or foreign material may cause damage.).
  - Please do not give the receiver a strong shock or drop.
  - If dirty, rub gently with a soft cloth. Thinner & other chemicals will damage the surface.
  - Keep the receiver away from magnetic card and speakers.
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# ICF-EX5MK2

## Warranty and After-Sales Service

Certificate of guarantee:

Please complete the registration. The warranty period is one year from the date of purchase.

After-sale service

When the tone is bad, please check the instruction manual. If the problem cannot be corrected, please contact Sony or your dealer. Repairs during the guarantee period based on the contents of the warranty will be covered. For more information, see warranty certificate. After expiration of the warranty, consumers will be charged for repairs.

Radio aftermarket performance parts, to maintain the features of the product components as required, may be discontinued 6 years after the product is discontinued.

In a situation of failure, the product may be repaired or replaced.

Please examine the following before requesting repair:

Absolutely no radio sound:

- ✓ Check volume to ensure it is not at the minimum
- ✓ Are ear buds plugged-in to the (earphone) Jack
- ✓ Are batteries installed properly (in the correct polarity orientation)
- ✓ Are the batteries dead

When used with the external power supply/AC:

- ✓ Is AC power adapter not plugged in or not securely plugged in

When used with the DC Adapter:

- ✓ Is DC power adapter not plugged in or not securely plugged in

If there is noise or the sound is bad/distorted:

- ✓ Are the batteries weak
- ✓ Is the receiver incorrectly tuned (especially Radio NIKKEI broadcasting for Radio NIKKEI frequency - try switching the channel)
- ✓ Is it the correct broadcasting time

If the radio is weak:

- ✓ In buildings and vehicles, move as close as possible to a window

If poor sensitivity:

- ✓ Check SENS switch
- ✓ If using an external antenna, ensure it is properly grounded

If you cannot correct the problem, consult your retailer or Sony service representative.

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# ICF-EX5MK2

## Main Specifications

<b>Receiving Band &amp; Frequency</b>	FM Wide	76.0 MHz - 108 MHz
	AM (MW)	530 kHz - 1605 kHz
	Radio Nikkei 1	3.925 MHz, 6.055 MHz, 9.595 MHz
	Radio Nikkei 2	3.945 MHz, 6.115 MHz, 9.760 MHz
<b>Battery Duration (approx.)</b>  <b>* Measured by JEITA</b>	FM Reception	Manganese Battery: 44-hours Alkaline Battery: 120-hours
	AM (MW) Reception	Manganese Battery: 29-hours Alkaline Battery: 85-hours
	Radio Nikkei Reception	Manganese Battery: 28-hours Alkaline Battery: 82-hours
<b>Speaker Output (* JEITA / DC)</b>	Speaker Diameter	10 cm
	Speaker Output (JEITA / DC)	1.3 W
<b>Input / Output Terminal</b>	Earphone / Headphone	3.5 mm Mini
<b>Basic Specifications</b>	Size (* JEITA) W x H x D (mm)	264 x 149 x 63
	Weight (g) (Incl. batteries; other accessories not incl.)	1,050
	Ferrite Bar Antenna (mm)	180
	Power Supply	Household 100/110V DC IN 6V Jack: DC 6V rated Optional AC Adapter: AC-D4L Dry Battery 4 x "C"
	Included Accessories	Carry Belt 4 x "C" Manganese Batteries Manual Warranty Card

\* Measured by JEITA (Electronics and Information Technology Industries Association) standards. Actual battery duration time can vary depending on the equipment used.

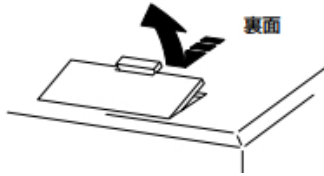
*Specifications and appearance may change without notice.*

# ICF-EX5MK2

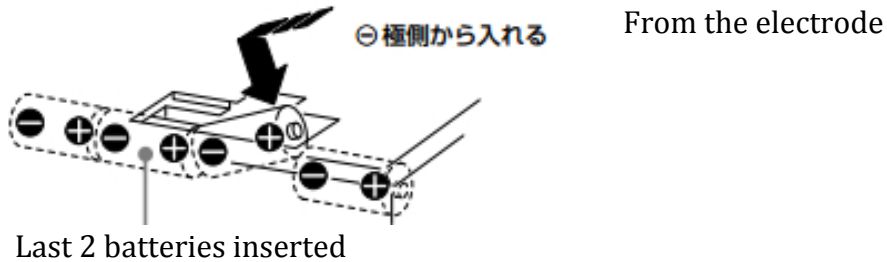
## Power Supplies

Use battery-powered by:

1 Open the battery lid.

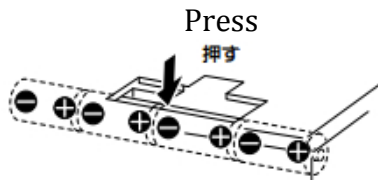


2 Insert 4 "C" size batteries paying attention to the correct (+)/(-) polarity.



3 Close the lid.

When you remove the battery, press the (-) side, as shown in figure.



*Please note:*

*Unplug the AC power adapter DC IN 6V Jack when using battery-power. Batteries are deactivated when the 6V Jack is connected.*

*It is time to replace the batteries when sound is reduced, crackled or distorted. In that case replace all four batteries.*

# ICF-EX5MK2

## AC Use (AC 100v/110v power)

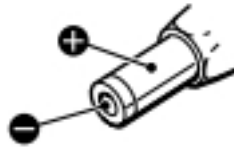
The only recommended power supply is the optional Global DC 6V AC Adapter For SONY AC-D4L (aka ACD4L).

**1** Insert AC power adapter tip into the DC IN 6V Jack and firmly insert the other end into the outlet.

Even if batteries are in the unit, the batteries are automatically disabled and the power is switched to household power.

*Please note:*

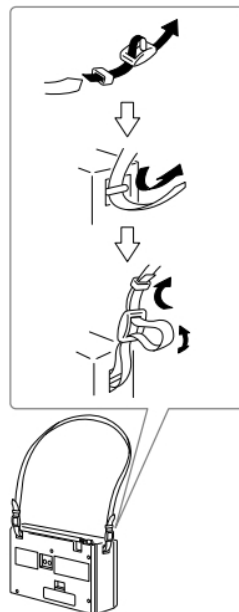
- To prevent battery liquid leaks, remove the batteries if you will not be using the receiver for an extended period.
- When not in use for long periods, unplug the receiver from the electrical outlet and unplug the AC power adapter tip from the DC IN 6V Jack.
- AC power adapter: please use products recommended by Sony or the equivalent. Other AC Adapters may have other specifications and performance that may not be sufficient. A JEITA standard polarized type Plug with the correct voltage and polarity is authorized if the original Sony AC power adapter is not available.



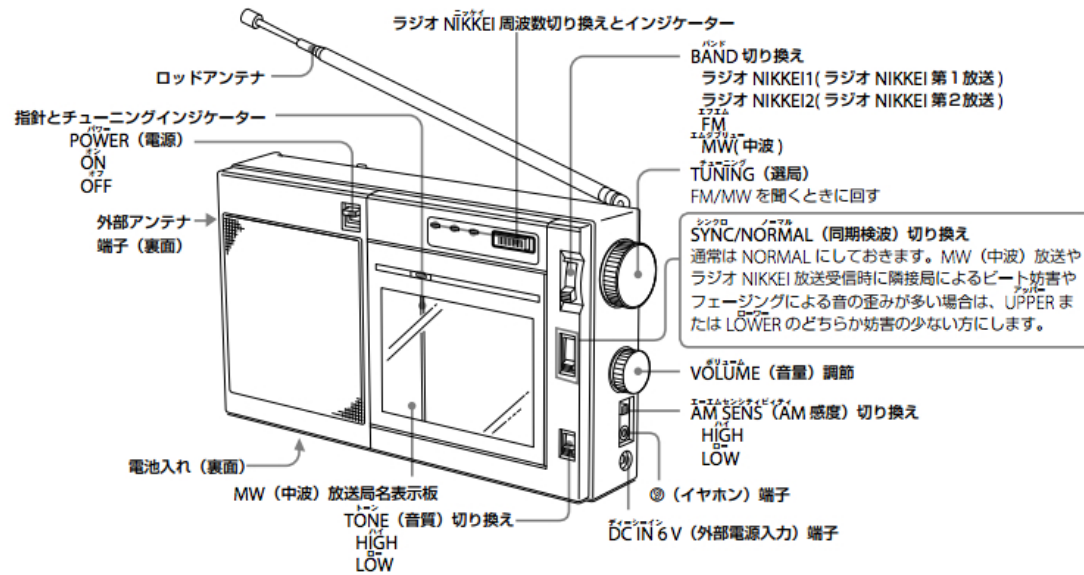
Polarity of the Sony Plug Tip is Center (-)

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## How to Instal the Carrying Belt



# ICF-EX5MK2



## Listening to the Radio:

- 1 POWER switch to ON (power switch up).  
Select the band with:
- 2 BAND switch to the setting you want to hear.
- 3 VOLUME adjustment turning the knob to the right or clockwise to increase.

### Listening to FM or MW

- 4 FM or MW (Medium-Wave) radio TUNING.  
(Frequency Indicator light will indicate the band you are tuned to).

### Listening to Radio NIKKEI

Radio NIKKEI frequency switch for 3 MHz, 6 MHz, & 9 MHz..  
Selected frequency and check Frequency Indicator Light.

- 5 VOLUME control knob to adjust the volume.  
Select the sound quality with
- 6 TONE switch  
Under normal listening conditions, generally keep the setting at the HIGH setting.  
When there is noise or uneven reception, tune TONE to the LOW setting.

When you are finished listening, Turn the POWER switch to the OFF position.

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# ICF-EX5MK2

## Optimal Tuning for MW (Medium-Wave)

Receive MW broadcasts in the SYNC/Normal setting. To find the optimal synchronization point, you may need to toggle to the LOWER or UPPER setting (see *Synchronous Detection Circuit* section later in this booklet).

### MW (Medium-Wave) Radio Station Display Board

Japan National Radio is divided into 10 districts. Each district has a main 10 kW transmission power MW (Medium-Wave) broadcasting station. Each broadcasting station's name is on the radio display board. Without knowing the frequency of a station, you can "tune" to the broadcasting station's name on the display board to receive the broadcast.

The radio station display board also shows 1 NHK and 2 NHK broadcasting and commercial broadcasting stations (except relays). See the MW (Medium-Wave) Broadcast station list at the end of this document.

### Radio NIKKEI Frequency Switch

Radio NIKKEI reception will sometimes be inaudible due to Season, time and location. Also broadcast time may differ by day of the week and the frequency. To tune Radio NIKKEI, adjust the switch located above the Indicator Light. Radio NIKKEI broadcasts at the same time on three different frequencies (3, 6, 9 MHz). This radio has 6 built-in crystal oscillators to receive all six frequencies. To change between these frequencies, move this switch.

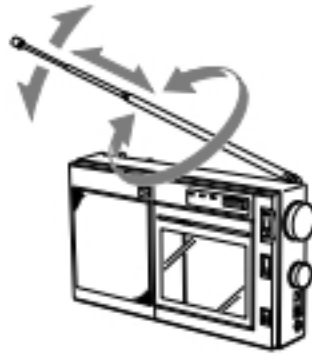
Radio NIKKEI Frequency	Radio NIKKEI 1	Radio NIKKEI 2
3 MHz	3.925 MHz	3.945 MHz
6 MHz	6.055 MHz	6.115 MHz
9 MHz	9.595 MHz	9.760 MHz

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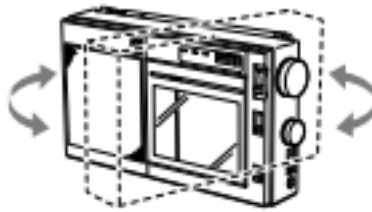
# ICF-EX5MK2

## Tuning



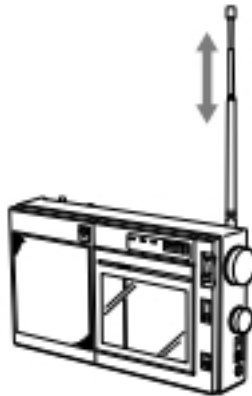
### FM Band

Tune via the receiver's Rod Antenna. Fully extend the rod, and then adjust its length and angle to properly tune a station.



### MW (Medium-wave) Band

The receiver has a built-in directional Ferrite Rod Antenna. Change the orientation of the radio to tune.



### Radio NIKKEI Band

Fully extend the Rod Antenna. To tune, adjust the length of the Rod Antenna.



*Please note:*

*Applying excess pressure to the ball of the Rod Antenna may result in damage.*

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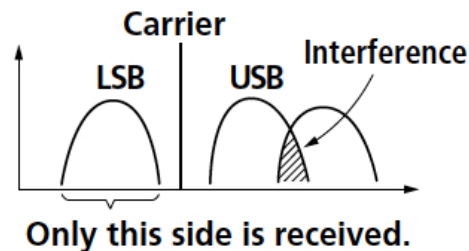
## ICF-EX5MK2

### Synchronous Detection Circuit

MW (Medium-Wave) and Radio NIKKEI have mirror images on the top (UPPER) and bottom (LOWER) of their carrier signal, or double sideband, resulting from frequency band amplitude modulation.

Beat interference from adjacent stations often occurs in one frequency band of the double sideband signal. You can extract interference from a sideband, through the Synchronous Detection Circuit, so clearer reception may be possible. This is accomplished through the Sync/NORMAL switch.

In the illustration below, there is interference from an adjacent channel above the channel we wish to listen to (shaded black).



Since there is *interference* in the UPPER sideband due to the adjacent station, set the Sync/NORMAL switch to the LOWER setting to isolate the LOWER sideband and *extract* the UPPER sideband (with interference) from the signal so *only the lower, or LSB, is received*.

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### AM SENS (AM Sensitivity) Switch

As you listen to MW (Medium-Wave) and Radio NIKKEI – and under normal conditions - keep the AM SENS switch on the HIGH (high sensitivity) setting. When you are listening to very strong radio stations, nearby stations, or are getting interference, move the AM SENS switch to the LOW setting.

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# ICF-EX5MK2

## External Antenna Connection

Inbound MW (Medium-Wave) broadcasts and Radio NIKKEI

For MW (Medium-Wave) reception, the orientation of the radio should be changed to improve reception by the built-in ferrite antenna.

For Radio NIKKEI, vertically and fully extend the rod antenna to improve reception.

Under *noisy* conditions even with the AM SENS set to LOW, consider a grounded external antenna connected to the terminal leads on the back of the receiver.



Unscrew connection.

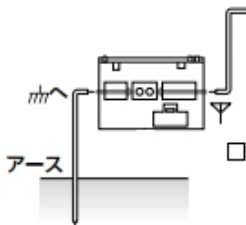


Wrap wire around the connection.



Then securely tighten the screw & pull the line to check your connection.

1: Place Lead Wire as high as possible, such as an outdoor place.



P-2: Use copper for the Ground Wire and bury in the earth.

*Note about the Ground Wire:*

The copper ground wire should be buried as deeply into the ground as possible (commercial ground wire and a grounding rod are useful). Be careful not to bury the Ground Wire near an underground gas pipe. Flammable gas is dangerous.

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# ICF-EX5MK2

## MW (Medium-Wave) Radio Station Name Board

### Private Broadcasters List

District	Station Name	Broadcaster	Freq (KHz)	City
01-Hokkaido	HBC	Hokkaido Broadcasting	1287	Sapporo
	STV	Sapporo Television	1440	Sapporo
02-Tohoku	Northeast IBC	Eisei Iwate Broadcasting	684	Morioka
	YBC	YBC Television	918	Yamagata
	ABS	Akita Broadcasting	936	Akita
	RAB	Aomori Broadcasting	1233	Aomori
	TBC	Tohoku Broadcasting	1260	Senda
	RFC	Radio Fukushima	1458	Fukushima
03-Hokuriku	KNB	North Japan Broadcasting	738	Toyama
	FBC	Fukui Broadcasting	864	Fukui
	SBC	Shin-ETSU Broadcasting	1098	Nagano
	MRO	Hokuriku Broadcasting	1107	Kanazawa
	BSN	Niigata Broadcasting	1116	Niigata
	YBS	YBS Yamanashi Broadcasting	765	Kofu
04-Kanto	AFN		810	Tokyo
	TBS	TBS Radio	954	Tokyo
	Nippon Cultural Broadcasting	Culture Broadcasting	1134	Tokyo
	IBS	Ibaraki Broadcast	1197	Mito
		Nippon Broadcasting	1242	Tokyo
	Radio Japan	Earl f Radio Japan	1422	Yokohama
	CRT	Tochigi Broadcasting	1530	Utsunomiya
	CBC	Central Japan Broadcasting	1053	Nagoya
05-Tokai	Tokai Radio	Tokai Radio Broadcasting	1332	Nagoya
	SBS	Shizuoka Broadcasting	1404	Shizuoka
	GBS	Gifu Broadcasting	1431	Gifu
	Radio Kansai		558	Kobe
06-Kinki	ABC	Asahi Broadcasting	1008	Osaka
	KBS	Kyoto Broadcasting	1143	Kyoto
	MBS	Mainichi Broadcasting System	1179	Osaka
	OBC	Radio Osaka	1314	Osaka
	WBS	Wakayama Broadcasting	1431	Wakayama
	KRY	Yamaguchi Broadcasting	765	Tokuyama
07-China	BSS	Sanin Broadcasting	900	Yonago
	RCC	China Broadcasting	1350	Hiroshima
	RSK	Sanyo Broadcasting	1494	Okayama
	RKC	Kochi Broadcasting	900	Kochi
08-Shikoku	RNB	Nankai Broadcasting	1116	Matsuyama
	JRT	Shikoku Broadcasting	1269	Tokushima
	RNC	West Japan Broadcasting	1449	Takamatsu
	MRT	Miyazaki Broadcasting	936	Miyazaki
09-Kyushu	OBS	Oita Broadcasting	1098	Oita
	MBC	Southern Japan Broadcasting	1107	Kagoshima
	RKK	Kumamoto Broadcasting	1197	Kumamoto
	NBC	Nagasaki Broadcasting	1233	Nagasaki
	RKB	Mainichi Broadcasting	1278	Fukuoka
	KBC	Kyushu Asahi Broadcasting	1413	Fukuoka
	RBC	Ryukyu Broadcasting	738	Naha
10-Okinawa	ROK	ROK Radio	864	Naha