TECSUN
RADIOS AUSTRALIA

Internet Radio
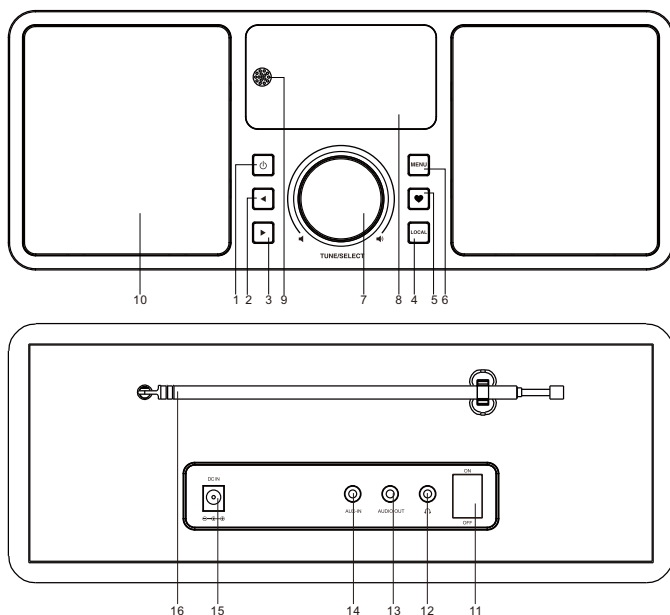## WR-230SF - Q3065

User Manual

Please read this user manual carefully before using the receiver

TECSUN
RADIOS AUSTRALIA

Contents

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Location of Controls


1. **Power**
   Standby on/off

2. **Left**
   Back to previous menu/left cursor

3. **Right**
   Right cursor/Enter edit menu under Favourite list /View the big clock & radio info under playing screen

4. **Local**
   Access the internet station locally

5. **Favourite ♥**
   Press and hold to add particular station to favourite list
   Press to recall the favourite list

6. **Menu**
   Access main menu/press this button to return to the playing screen

7. **Tune/Select/ Volume**
   Dial / Select: Rotate to scroll up / down on the main menu / Push to confirm /select menu options / Push to stop / resume playback of radio channel
   Volume control: Rotate the knob to adjust volume level in playing screen

8. **TFT 2.4" color screen**

9. **Infrared sensor for remote control**

10. **Speaker**

11. **Power on/off switch**

12. **Earphone socket 3.5 mm**

13. **Audio out socket 3.5 mm**

14. **Aux in socket 3.5 mm**

15. **DC IN socket**

16. **Telescopic antenna**

Remote Control

1. 🔇 : Mute

2. **0-9** : Input index number on the list / input characters for WiFi security code

3. ♥ : Preset the current playing station to Favorite

4. ▲ : Cursor up

5. ◄ : Cursor left / back to previous menu

6. ⏰ : Alarm button

7. 💤 : Sleep Timer

8. **Mode**: Switch between Internet radio/FM/Bluetooth/Media Centre

9. 🏠 : Main Menu

10. ⏮ : Previous station on the list/previous track on bluetooth / Media Centre

11. **Local**: Access the local station list
     (Local area set up in Configuration)

12. ⏻ : Press to toggle between Standby and Operation

13. ♥ : Recall the favorite list

14. **OK** : confirm button

15. ► : Cursor right

16. ▼: Cursor down

17. **Vol+** : Volume up

18. **Vol-** : Volume down

19. **EQ** : Equalizer

20. ⏭ : Next station on the list/next track on bluetooth/Media Centre

21. ⏯ : Play/pause for Bluetooth/Media Centre Play/stop for Internet radio

22. **Dimmer**: Access the Dimmer menu to adjust the brightness of the display

23. **Info**: Quick access to Network and System information
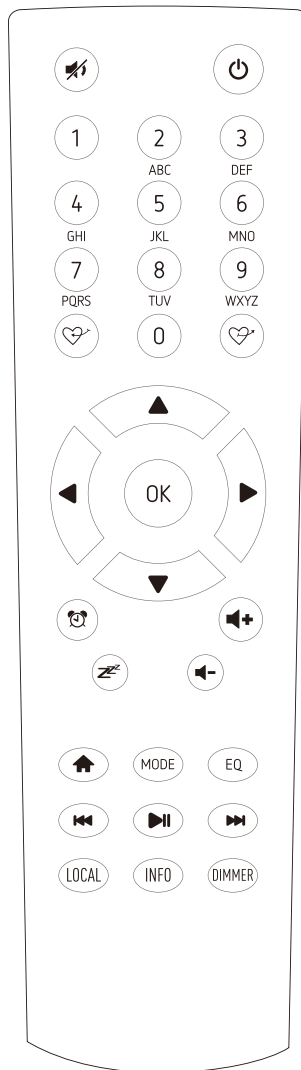
How to input security code for your wireless network

Using remote control

On the alpha-numerical keypad, press each button repeatedly to cycle through the letters, numbers and symbols as listed below.

To input a character, scroll to the correct one and when it is highlighted, press the ► button to input the next character. When it comes to the last character of the password and it is highlighted, press **[OK]** to confirm.

Button 1: 1 and different kind of symbols !@#$%^&*()_+[]{};:'"\|,./<>?
Button 2: 2ABCabc
Button 3: 3DEFdef
Button 4: 4GHIghi
Button 5: 5JKLjkl
Button 6: 6MNOmno
Button 7: 7PQRSpqrs
Button 8: 8TUVtuv
Button 9: 9WXYZwxyz
Button 0: 0

Using control button on the radio unit

Use the **[Tune/Select]** knob to scroll through the characters, when the correct one is highlighted, press **[►]** button to input the next character. When it comes to the last character of the password and it is highlighted, press **[Tune/Select]** to confirm.
Note: The security code is case sensitive.

Before you start / Precautions

Before you start

Please ensure the following is ready:

You have a broadband internet connection.

A wireless broadband router is connected to the internet successfully. The radio supports Wireless B, G and N connection (Wireless N router can also be used with the setting on B or G). You should know the Wired Equivalent Privacy (WEP) or Wi-Fi Protected Access (WPA) data encryption code/password. You need to key in the correct code when the radio is connected to the wireless router for network connection. If you do not know the code/password, please contact the person /technician who set up the router/network for you.

The radio can work via Wireless network connection (Wi-Fi connection)

Precautions

The radio should not be used in a high temperature or high humidity environment over prolonged periods of time as this may damage the unit.

Keep the radio away from liquids as it may get damaged. Please switch off the radio immediately if water or liquids are spilled into the radio.

Avoid using or storing the unit in dusty or sandy environment.

Do not open and repair the radio by yourself.

Use only the AC adaptor supplied with the radio. Connecting a power supply with a different rating will cause permanent damage to the radio and may be hazardous. Clean only with dry cloth.

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1. To start up

• Remove internet radio from the package box.

• Plug in the power adapter and switch the Power on/off switch (on the rear cabinet) to ON. Press [⏻] button on the front.

◦ Caution: Use only the adaptor supplied with the radio. Connecting a power supply with a different rating will cause permanent damage to the radio and may be hazardous. The correct adaptor is 9V DC 1 Amp, wired centre positive.

2. Network Setup

Internet connection must be setup via Wireless LAN (WiFi).
Your Radio requires a broadband Internet connection through WiFi. The easiest way is use a Wifi router, which connects to an Adsl modem or a cable modem provided by your ISP.

WPS connection is available if your router has a WPS button.
To configure the network via remote app, see Chapter 12 for more details
[under Wi-Fi Network > Add AP (SmartConfig)].

Wireless LAN (Wi-Fi)

• If this is first time use, the Configure Network wizard will be displayed. Choose Yes to start configuring network. Press the **[◄]** button to highlight Yes and press **[Tune/Select]** to confirm.

```
Configure Network?
    <Yes>   No
```
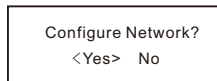
• Select Add/Remove AP from the list, use the **[Tune/Select]** knob to scroll and press it to confirm, then choose Add AP (Scan):

```
Add/Remove AP
AP:[ ]
```
```
Add AP
Remove AP
```
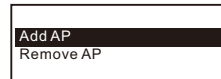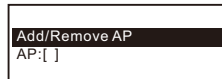
• It will start scanning all available Wi-Fi networks in the area. Scroll to your network and press **[OK]** to confirm. If your wifi network has a security code protected, it will ask you to enter the passphrase/password. Please refer to the above section '**How to input security code for your wireless network**' on P.3.

Note: The password is case sensitive. Please consult with the one who setup your network if you don't know the password.

• When the Wi-Fi connection is successful, the Association Complete will be shown briefly. The The Wi-Fi signal bar will appear on the top left corner of the display:

Wi-Fi signal bar ——
```
  ᴛ⃗ᵢ⃗ᵢ⃗ᵢ                    12:09

   ⚙       ♥       🌐

          My Favourite
  <       28 Apr, 2018        >
```
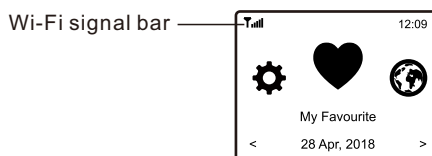
3. Overview of features and functions

Press **[Menu]** to enter the main menu or the ⌂ on the remote control. Scroll by rotating the **[Tune/Select]** knob or the **[◄ / ►]** button on remote:

My Favorite - To show the list of favorite stations which have been assigned to the presets. There are up to 99 presets available.

Internet Radio - Start exploring the worldwide radio stations and music here.

Media Centre - You can browse and stream music from your network via UPnP or DLNA Compatible devices.

FM Radio - Receive ordinary FM radio stations in your local area (no internet connection required).

Bluetooth - Bluetooth playback, to play audio stream (receive) from another Bluetooth enabled device after pairing/connected each other.
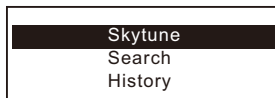
Alarm - Alarm clock. Two alarm settings available.

Sleep Timer - Enable the timer to turn the radio in standby after the selected time elapsed.

Configuration - More options/settings available to personalize as you desire.

4. Internet Radio

On the main menu, choose Internet Radio and you will find the options below:

```
Skytune
Search
History
```

Skytune
Select Skytune to start enjoying thousands of radio stations over the world. You can filter your search by Region, Music genre and talks.
The **Local Radio** let you access quickly the stations available in your local area through internet connection.

```
Local Radio
Globe All
Globe By Genre
Globe By Region
```
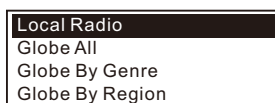
Note - You can change the Local Radio area under **Configuration> Local radio setup**. Please refer to section 11 for the details.

Note - When you scroll along the list of **Globe All** and want to quickly reach to a certain point of the long list, input the index number on the remote control to quickly jump to that point. For example, on the remote control, input 2 8 and press OK, it will highlight the station no. 28.

Search
Instead of browsing the radio station list, you can input a few characters of the desired station to filter out / short list the stations.

History
The radio memorizes the stations you have listened up to 99 stations.
If you have listened more than 99 stations, it will supersede the first station that you have listened.

Start playing internet radio
When a radio station starts playing, more radio information can be displayed.
Press the ► button in the state of the playing screen below:

```
  ▼ⁿⁱⁱ 🕐₁  ►          Internet Radio

              Top 40 Dance

  TOP40          IMANY - Don't
  Dance          Be So Shy


  <           3/30           0:06 >
```
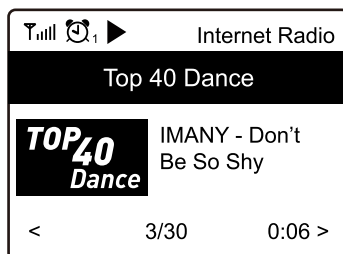
4. Internet Radio

Every time you press the ► button, it will show various information at a time such as the streaming bit rate, name of the song, artist name (if available), the big time clock and the radio's station logo (if available):

```
  📶 ⏰₁ ▶              10:37
  ┌─────────────────────────┐
  │     Top 40 Dance        │
  ├─────────────────────────┤
  │ ⓘ Pop                   │
  │ ⓘ MP3,128Kbps           │
  │ ⓘ 44100Hz,2ch           │
  │ ⓘ Peter Fox - Haus am See│
  │                         │
  │ <      3/30      0:14 > │
  └─────────────────────────┘
```
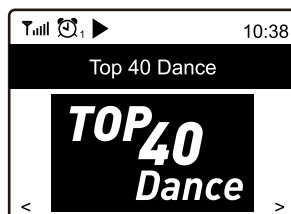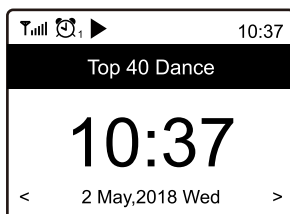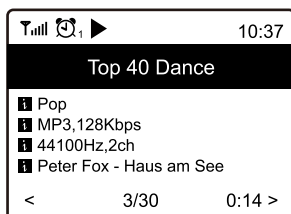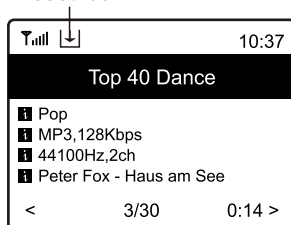
```
  📶 ⏰₁ ▶              10:37
  ┌─────────────────────────┐
  │     Top 40 Dance        │
  ├─────────────────────────┤
  │                         │
  │      10:37              │
  │                         │
  │ <   2 May,2018 Wed    > │
  └─────────────────────────┘
```

```
  📶 ⏰₁ ▶              10:38
  ┌─────────────────────────┐
  │     Top 40 Dance        │
  ├─────────────────────────┤
  │     TOP 40              │
  │     Dance              │
  │ <                     > │
  └─────────────────────────┘
```

My Favorite
This is to show the list of your Favorite stations which have been assigned to the presets.

Preset a station
When a radio station is playing, press the ⏦ button on the remote control or press and hold the ❤ on the unit, you will see the ⏏ icon appears as below. It means the station is added to the Favorite list.

Preset icon

```
  📶 ⏏                 10:37
  ┌─────────────────────────┐
  │     Top 40 Dance        │
  ├─────────────────────────┤
  │ ⓘ Pop                   │
  │ ⓘ MP3,128Kbps           │
  │ ⓘ 44100Hz,2ch           │
  │ ⓘ Peter Fox - Haus am See│
  │                         │
  │ <      3/30      0:14 > │
  └─────────────────────────┘
```

The new added station will always show in the last item on the Favorite list.
You can store up to 99 presets.

Recall a station
Press the ⏦ button on the remote control or press the ❤ briefly on the radio unit to recall the list of presets, or navigate to **My Favourite** on the main menu and select it to confirm.

Edit your favorite list
On the Favorite list, choose the radio station you want to edit then press the **[►]** button on the remote control (or press **[►]** on the unit). It will enter the Edit menu with the following options:
Move down - To move down the ranking of a station
Move up - To move up the ranking of a station
Delete - To delete a particular station

5. Media Centre

The device supports UPnP and is DLNA-compatible.
This provides the opportunity to stream music from your network. However, this requires you to have a compatible device in your network that can function as a server. This can be e.g., a network hard drive or a conventional PC with e.g., Windows 8 via which access to the shared folder or media sharing is permitted. The folders can then be browsed and played on the radio.

Note - Please make sure your computer laptop is on the same Wi-Fi network as the Radio before you start using this function.

Music streaming
• Once the UPnP/DLNA compatible server is configure to share media files with your radio, you can start music streaming.
• On the main menu, select **Media Centre and choose UPnP.**
• It may take a few seconds for the radio to complete the scan for available UPnP servers. If no UPnP servers are found, it will show **Empty List.**
• After a successful scan is done, select your UPnP server.
• The radio will show the media categories available from the UPnP server, e.g. 'Music', 'Playlists' etc.
• Choose the media files that you wish to play.
You can set the mode of playback under **Configuration > Playback setup.**

My Playlist
You can make your own playlist for the UPnP music files. Choose and highlight the song you want to add to playlist, press and hold the **[Tune/Select]** knob or press and hold the **[OK]** button on remote, until the sign ⊡ appears. The song will be added to **My playlist**.

Clear My Playlist
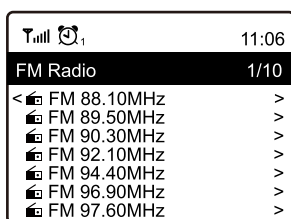Remove all songs in "My Playlist" to allow a new playlist to be prepared.

Note - If you have DLNA compatible servers available, follow the steps described above to browse the audio files from DLNA compatible device on the radio to play.

6. FM Radio

To receive the ordinary FM stations (no internet connection is required), place the radio close to the window and extend the antenna as far as it can go to get the best reception. You may need to adjust the direction of the antenna to improve reception.

On the main menu, scroll to FM Radio or use the **[Mode]** button on remote to switch to FM Radio. Press **[OK]** to start.

It will ask whether you want to Scan FM Station. Press **OK** to start scanning and it will show the progress on the number of channels are found. When it is done, it will automatically save the found channels on presets and display the list for your action.
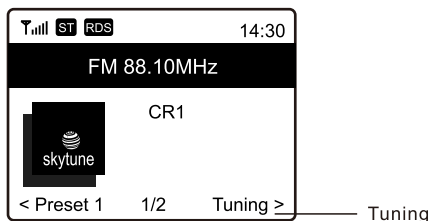
```
 ▽ull ☺₁                    11:06
 FM Radio                   1/10
<  FM 88.10MHz              >
   FM 89.50MHz              >
   FM 90.30MHz              >
   FM 92.10MHz              >
   FM 94.40MHz              >
   FM 96.90MHz              >
   FM 97.60MHz              >
```

You can select the channel and start listening to it. Whenever you want to add to **My Favourite,** press the ⌁ button on remote or press and hold the ♥ button on the unit, and it will add to the favourite list.

Always press the **[◄]** button to return to the Preset list.

Note - When it is playing FM radio, press the **[►]** button to view more radio information, each time you press the **[►]** button, it will display various information at a time such as radio frequency and big clock display.

Manual Tune

To manual tune to the frequency, long press the **[OK]** on remote or long press **[Tune/Select]** on the unit, until you see the **"Tuning"** appeared on the display, at the bottom right corner. Use the **<◄ / ►>** button on remote to tune the frequency. When done, long press the **[OK]** button to exit manual tune.

```
 ▽ull ST RDS               14:30
        FM 88.10MHz
             CR1
   skytune
< Preset 1    1/2    Tuning >        Tuning
```

7. Bluetooth playback

Before transmission between your Bluetooth device and the radio is possible, both devices must be coupled. This process is called "pairing". The radio is served as a receiver, to receive music stream to play on the radio.

If you have already coupled to a Bluetooth device before, this connection will be restored automatically when both devices are in range and Bluetooth operation has been selected on the radio. "Pairing" does not have to be repeated. This function may need to be activated in your Bluetooth device, however.
• Push the Menu button to display the selection menu for the different operating modes.
• Use the up/down button to select the operating mode Bluetooth and push the dial switch.
• Switch your Bluetooth device to which you want to connect the radio on and activate the pairing mode here. The device scans for Bluetooth devices in the reception range.
• When the radio is found, your bluetooth device shows its name WR-230SF-XXXX (the XXXX is an identification code for your radio unit).
• Select the radio at your bluetooth device.
• Start playback on your bluetooth device.
• Playback now takes place using the radio.

8. Aux-In

You can listen to the music stored in other audio device or smart phone on the radio, through the connection to the 3.5 mm aux-in jack on the rear side. Use the cable with both ends in 3.5 mm pin, one end to the aux-in jack on the radio, the other end to the earphone jack on the audio device or if it has line out socket.

9. Alarm Setting

• Choose **Alarm** from the main menu or press the **[Alarm]** button on the remote control.

• Select either Alarm 1 or Alarm 2, choose **Turn on** to activate the Alarm.

• Follow the alarm wizard instructions to set the alarm.

• The wizard will guide you through the settings below:

Time - Set the time for the alarm

Sound - You can choose **Wake to Tone, My Favourite, Wake to FM Radio** as the alarm source.

Note - Wake to FM Radio - only the preset stations can be used for the radio alarm (if the preset scan has been completed).

Wake to My Favourite - Please preset your favorite station before setting this as the alarm source.

Repeat - You can schedule the alarm as you desire -Everyday, Once or multiple days.

Alarm Volume - Adjust the volume of the alarm as you like by rotating the **[Tune/Select]** knob or **[▲/▼]** button on remote.

Alarm duration - Set the duration of the alarm from the preset options ranging from 30 to 180 minutes. The radio will be turned to standby when the selected duration of time is due.

• After the above settings are completed, press the **[◄]** button to exit and make sure the Alarm is turned on. You will see the Alarm icon appeared on the display if it is activated.

Stopping the Alarm/Activate the Snooze function
When the alarm goes off, press the [⏻] to stop the alarm or press the **[Tune/Select]** knob to activate the Snooze feature.
When the Snooze is activated, the alarm is muted for 9 minutes and sounds again when the time is due. You can repeat the process multiple times.
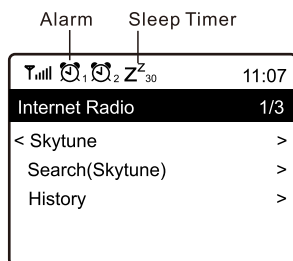To stop the "Snooze" function, press the [⏻].

```
📶 ⏰₁ ⏰₂                    12:09 am

          Snooze
          9:00
        Press POWER to stop
```

10. Sleep Timer Setting

You can set the timer to let the radio goes standby after the selected time elapsed in the range of 15 minutes to 180 minutes.

Press [✍] button on the remote control to set the timer.
You will see the icon appeared on the display if the timer is set.

Alarm   Sleep Timer

$\mathbb{Y}_{ill}$ $\circ_1$ $\circ_2$ Z$^Z_{30}$	11:07
Internet Radio	**1/3**
< Skytune	>
Search(Skytune)	>
History	>

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+61 2 9939 4377 hello@tecsunradios.com.au

11. Configuration

Here you will find the complete settings / options available to configure your own radio. On the main menu, navigate to Configuration setting. Press OK and you will see a list of options available.

Network
• Network Options
Always on: The WLAN function remains switched on (faster access when switching from FM mode to Internet radio).
Auto off in 30s: The WLAN function shuts down after 30 seconds when not in use (to save energy).

• Wi-Fi Channels
Not all of the Wi-Fi channels are available in every country. There may be variation between different countries. Therefore it is necessary to choose the Wi-Fi channels to ensure the Wi-Fi performs satisfactory.
We have already set the channels according to the requirement in different countries. Choose the country you are staying from the list to get the correct channel.

• Wi-Fi Network
 • Add / Remove AP
 It will search all nearby Wi-Fi networks
 Add AP (WPS button) - Choose this option to connect your Wi-Fi router via WPS if the router has a WPS button.

 Add AP (SmartConfig) - Choose this option to configure the Wi-Fi network with a smart phone through an app. It is available on iOS App Store and android play store. Search and install the app "Esptouch".

 Have your smart phone connected to the Wi-Fi network which the radio will be connected to.

 It is recommended to place the radio within 2 meters from the router for better successful rate.

 Follow the steps below:
 1. On the radio, navigate to Configuration > Network > Add/Remove AP > Add AP (SmartConfig), press OK to confirm
 2. Launch the App on your smart phone
 3. The name of the SSID (your Wi-Fi network) will show up as follows:

11. Configuration

4. Enter the password of your network.
5. Tap "Multicast" followed by "Confirm" to complete.

6. The radio will start associating with the network and followed with the message "Association complete" if network is successfully connected.

Remove AP - If you have already added a router and want to remove it, choose this option.

Note - Always bring the radio within 2 meters of the Wi-Fi router for setup.

• **AP: [ ]**
If you have added more than one routers on the radio and want to switch to another one, select this option to change.

• **Signal**
This is to show the strength of the Wi-Fi Signal of the Wi-Fi router as received by the radio. Usually signal levels lower than -70dBm is at weaker level and if it affects the reception of your radio, you may need to optimize the router location or check any problem of the router itself.

• **IP**
The IP is set **Dynamic** by default. Select to change **Fixed** IP according to your network condition.

11. Configuration

• DNS
The DNS is set **Dynamic** by default. Select to change **<Fixed>** DNS according to your network condition.

Date and Time
The radio will set your local time automatically after the internet connection is completed. If you want to do manual setting, change it by the following options:

• Time zone
Auto - set Time Zone: This option is set by default.
Manual - set Time Zone: Choose this option if you want to set the time in another region.
Choose and highlight the region/city you prefer and press OK to confirm.
Coupled with NTP (use network time) and DST (Daylight time saving) will be adjusted automatically if you choose to use network time (NTP).

• Set Time Format
Choose either 12-hour or 24-hour notation you prefer.

• Set Date Format

• DST (Day Light Saving)
Enable on/off

• NTP (Use network time)
NTP is designed to synchronize a device's clock with a time server. Your radio will synchronize the time server by default every time it powers up and connects to Internet. This ensures a very high degree of accuracy in the radio's clock. You can change to use other time server by inputting the URL address (see below NTP server). You can choose "**Do not** use network time" if you don't want it to.
If you choose not to use NTP for clock synchronization, highlight the NTP (Network time protocal) and press **OK** to make the change. You will see the Set Date & Time appeared on the menu. Select it and adjust the date and time as you desire.

• NTP Server
NTP is designed to synchronize a device's clock with a time server. Here it shows the server being used for the tuner.

Language
You can choose other languages as preferred. Scroll with the ▲▼ buttons on remote or **[Tune/Select]** knob to the item with 🏳 and press **OK**. Scroll to highlight and press **OK** to select your language of choice. English, French, Spanish, Italian, German, Dutch, Polish, Russian and Simplified Chinese are available.

11. Configuration

Local Radio

The radio is set by default to detect the radio stations in your local area automatically through internet connection and these stations can be accessed by a press of **[Local]** button on remote. You can also set **Local** in another region if you want. Highlight the **Local Radio** and press **OK**. Choose **Manual-set Local radio** to change the region setting.

FM Setup

• **FM Area**

Choose the Region according to your physical location to define the search range for the radio.

• **FM Preset Scan**

You can always carry out a new scanning of FM channels by selecting this option. All current presets and channels will be erased.
The radio at the lowest frequency of the scanned values will be highlighted. The preset list will be saved unless a new preset scan is carried out.

• **FM Radio Presets**

You can adjust the preset ranking by Move down, Move up or Delete it. Highlight one of the preset, then press the **[▶]** button, it will enter into the Edit menu. Always press the **[◀]** button to return to the Preset list.

Playback Setup

This is to set the mode of playback under UPnP/DLNA compatible streaming: Repeat All, Repeat Once or Shuffle.

Resume when Power on

This function is ON by default. The radio will resume to the last state of mode when the radio is power on next time, e.g. if it was playing radio station before power off, it will resume playing the last listened station when it is power on the next time.

Power-On Options

This is to select the state of the radio after a power reset or power cut, whether to return to the Standby mode or back to the main menu (Home screen).

Dimmer

You can set the backlight level for the display as you prefer.
There are two settings: Mode and Level

• **Mode - Normal or Power Saving**

Normal - the display will stay with the same level of brightness all the time without dim down.
Dim - the display will dim down after 20 seconds if no operation is made on the radio.

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11. Configuration

• Level - Bright and Dim
Bright - This is to adjust the level of brightness in Normal mode.
Dim - This is to adjust the level of brightness in Dim mode.

• Dimmer in Standby
When the radio is in Standby, rotate the **[Tune/Select]** knob to adjust the backlight level at your preference which you feel comfortable especially during night time.

EQ(Equaliser)
Various music genres can be set.

Buffer Time
Sometimes you may experience uneven playback of the internet radio. This can happen if the internet connection is slow or network congestion occurs. To help improving the situation, you can choose longer buffer time to get a few seconds of radio stream before beginning to play.
The default value is 2 seconds. You can choose 5 seconds if you prefer to have a longer buffering time.

Information
View the Network and System Information of your radio.
To access quickly to this information, press the [Info] button on the remote control.
When you use your PC to manage the My favorite stations, you have to use the IP address and you can view this info from here. Then type in the IP address (Configuration > Info > Network > IP) to your PC's browser input window

Software Update
There may be software release to upgrade features of the radio from time to time. Check the update regularly to keep your radio up to date with the latest software.

Reset to Default
You can do the reset to clear all the settings and return to default settings.
**Please note all the Station presets, Settings and configuration will be erased after you have performed the Reset.

12. Remote control via PC / Smart phone
- Tuning internet radio & manage favourite

Experience an easy way to control tuning internet radio channels and manage your favourite list via PC or Smart phone's web browser.
The supported browsers are Internet Explorer and Chrome.

- Connect your PC or Smart phone to the same Wi-Fi network as your radio.
- Visit **www.skytune.net**
- On the home page, click "Browse/Search"
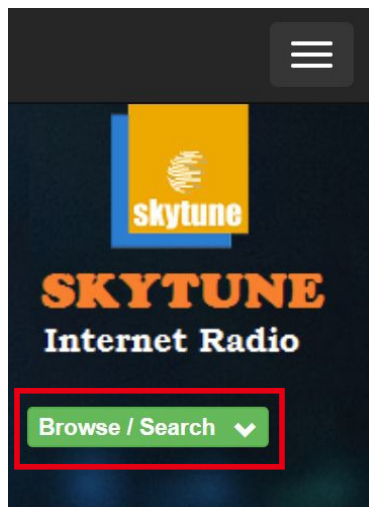
- Browse or enter the name to search the radio channel, a list of internet radio channels will be displayed.
- Click the " ❤ "symbol

12. Remote control via PC / Smart phone
- Tuning internet radio & manage favourite

- It will prompt you whether to "Add Favourite" or "Listen to Station". Enter the IP address of your radio (e.g. 192.168.1.11):

Add Favourite / Listen to Station ✕

Which operation do you want to apply to the station ?

1.fm Dance One

◉ Add station to my radio device favourite

◯ Listen to station on my radio device

Please enter your radio device's IP below.

192 . 168 . 1 . 11

Send   Close

The IP address can be located on the radio unit as follow:
* On the remote control, press the **[Info]** button, choose Network and scroll to IP to view the IP address
* On the radio, return to the main menu. Navigate to **Configuration > Information > Network Information > IP**

- Select "Listen to Station", click "Send" and the radio unit will switch playing the channel and the "My Favourite" page will pop up on the web browser.

You can then choose to add the playing station to favourite or manage your list by other edit options. Any changes will synchronize to the radio unit immediately.

12. Remote control via PC / Smart phone
   - Tuning internet radio & manage favourite

You can also add the radio channel if you know the published audio stream URL with the streaming format as follow:
1. Audio formats: MP3, AAC, AAC+
2. Stream formats: Shoutcast, Icecast (HTTP, HTTPS) and HLS
3. Playlist formats: PLS, M3U
4. Sampling frequency: 44.1 KHz and 48 KHz

English

Problem	Cause	Solutions
Cannot connect to Wi-Fi network	Network down	• Confirm that a Wi-Fi or Ethernet Wired connected PC can access the internet (i.e. can browse the web) using the same network. • Check that a DHCP server is available, or that you have configured a static IP address on the radio. • Check that you firewall is not blocking any outgoing ports. As a minimum the radio needs access to UDP and TCP ports 80,443 and 8008, DNS port 53.
	Router restricts access to listed MAC addresses	Obtain the MAC address from Configuration > Information > Network > Wi-Fi MAC and add to the allowed equipment list on your access point. Note: The radio has separate MAC addresses for wired and wireless networks;
	Insufficient Wi-Fi signal strength	• Check distance to router; see if a computer can connect to the network in this location • Optimize the distance of the router's location
	Unknown encryption method	Change encryption method on router. The radio supports WEP, WPA, WPA2
	Firewall preventing access	Windows Media Player: varies —non-Microsoft firewalls may require configuration for UPnP.
If your radio can connect to the network successfully, but is unable to play particular stations		• The station is not broadcasting at this time of the day (remember it may be located in a different time zone). • The station has too many people trying to attach to the radio station server and the server capacity is not large enough. • The station has reached the maximum allowed number of simultaneous listeners. • The link on the radio is out of date. This is updated automatically every day, so the next time you turn on the link will be recognised.
No FM reception		• Please carry out "Factory Reset" on the radio and extend the antenna. • Move the radio close to the window.
FM Radio reception is poor		• Please check that the aerial is extended for the maximum signal strength and adjust the direction to improve reception. • Check that you do not have other electrical equipment too close to your radio, causing interference.
No sound		• Adjust the volume level of the external powered speaker. • Please check if the power of the external powered speaker is switched on.

Helpful Tips

1. If the Internet Radio keeps re-buffering radio station:
The Internet Radio is streaming the data from the radio station via your broadband connection, if there is a high error rate on your broadband connection, or the connection is intermittent, then it will cause the Internet Radio to pause until the connection is re-established and it has received enough data to start playing again. If your Internet Radio keeps stopping, please check the DSL modem to ensure that the Broadband line is not suffering a high error rate or disconnections. If you are experiencing these problems, you will need to contact your broadband supplier.

2. What is Buffering?
When playing a stream, the Internet Radio/Media player, downloads a small amount of the stream before it starts playing. This is used to fill in any gaps in the stream that may occur if the internet or the wireless network is busy.
The Internet Radio streams music data from the PC while you are listening. If a stream gets blocked or experiences Internet congestion while transferring it may stop/interfere with the quality of play. If this happens, check your internet connection speed- it must be faster than the speed of the streams.

3. My radio is working but some stations cannot be played.
The problem may be due to one or more of the followings:
a. The radio station is no longer broadcasting.
b. The radio station has reached the maximum allowed number of simultaneous listeners.
c. The radio station has changed the stream arrangement and the link is no longer valid.
d. The radio station is not broadcasting at the time of the day (not all stations are broadcasting 24 hours throughout the day).
e. The Internet connection between your radio and the radio station server is too slow or unstable to support the data rate of the broadcast.

Technical Specification

Model	WR-230SF
Power input	9V ⎓ 2A
Power voltage	100-240V~50/60Hz
Wireless Network	IEEE802.11b/g/n
Wireless network frequency	Typical transmission power 14 dBm (72.2 Mbps) 20 dBm (11b mode)
Security Protocol	WEP/WPA/WPA2
Bluetooth version	V4.2 BR/EDR compliant
Bluetooth frequency	2.4 GHz
Bluetooth range	10 meters (line of sight)
FM frequency range	87.5-108MHz
Audio output	Stereo earphone jack 3.5 mm Stereo audio out
Audio input	Aux in jack 3.5mm
Telescopic antenna	60cm extended, 19cm retracted
Unit Dimension	295 x 143 x 115mm

Remark: Specification may vary without notice

TECSUN
RADIOS AUSTRALIA

In the box

* Internet Radio
* Power adaptor
* Remote control (without batteries)
* User manual

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