

XR-M1400

User Manual



XRadio Yeonhwa M Tech Co., Ltd.

XR-M1400

Xradio Fixed Mesh XR-M1400

Quick Start Guide

This document provides basic operating instructions for Xradio XR-M1400 series Meshs.

For full operating instructions and further information see our website linked www.xradio.co.kr.

Please read this manual before use. Regarding the configuration and operation of working modes such as regular mode and cluster mode, please consult with the dealer.

	Environmental requirements for use: • Antennas and accessories that meet the standards must be installed.
	Input power requirements: • DC power supply is required. • Powered by a power adapter, the working range is DC 14.8V $\pm$ 15%, and the power supply current is not less than 10A. • Powered by batteries, consisting of four series lithium batteries with a nominal voltage of 14.8V. • Do not use battery chargers as the working power source for the device. Note: The battery must be charged using a standard charger!
	Danger and Protection: • Please use the backpack carrying equipment provided by our company. Improper carrying of bags can cause excessive physical burden or even injury. • It is prohibited to use and work during thunderstorms. Using equipment during thunderstorms can easily lead to lightning accidents, resulting in casualties. • Please choose the appropriate assembly location, power supply voltage, and antenna feeder system. Non compliant installation methods and power equipment can cause equipment damage. • Please place the antenna in a reasonable location and take lightning protection measures, with good grounding.
	Do not use the device in the following situations: • Near explosive sites. • Near the aircraft. • Near locations with high levels of outdoor sandstorms. • Near the gas station.
	RF radiation safety: • As a professional communication equipment, it will generate a certain power of radio frequency radiation. Understanding radiation and mastering the correct usage methods can help users avoid unnecessary exposure to radiation. The equipment produced by our company is designed and manufactured strictly in accordance with national standards, and meets the radiation limit requirements of the country. However, when using it correctly, it will better protect the user's physical health and reduce radiation interference to other surrounding equipment. • The antenna should be installed as high as possible to improve the communication distance of the equipment. Users should not approach the antenna, and the distance should not be less than 0.5m.

1. Appearance of XR-M1400 Series Mesh



Figure 1-1) XR-M1400 Front Appearance Description



Figure 1-2) XR-M1400 Right Side Description

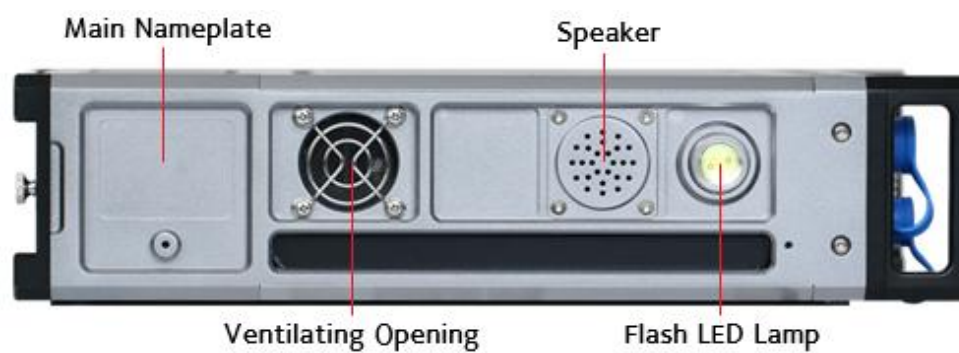


Figure 1-3) XR-M1400 Left Side Description

2. Button, Status Indication LED & LCD screen Description

2.1 Button Description

Icon	Name	Description
	CH+	Change Channel
	CH-	Change Channel
	Directional Buttons	Used to control menu up and down, adjust volume, LCD brightness and other operations
	Menu Button	Used for selection, confirmation and other functions, the standby interface brings up the main menu
	Return Button	Return
	Power ON/OFF	Power ON or OFF Button

Figure 2-1) Photographs of LEDs and buttons

2.2 Status Indication LED

Indicator	LED	Description
TX	 Red	Red LED light when TX
RX	 GREEN	Red LED light when RX

2.3 LCD screen display

The screen of this Mesh is displayed as follows.

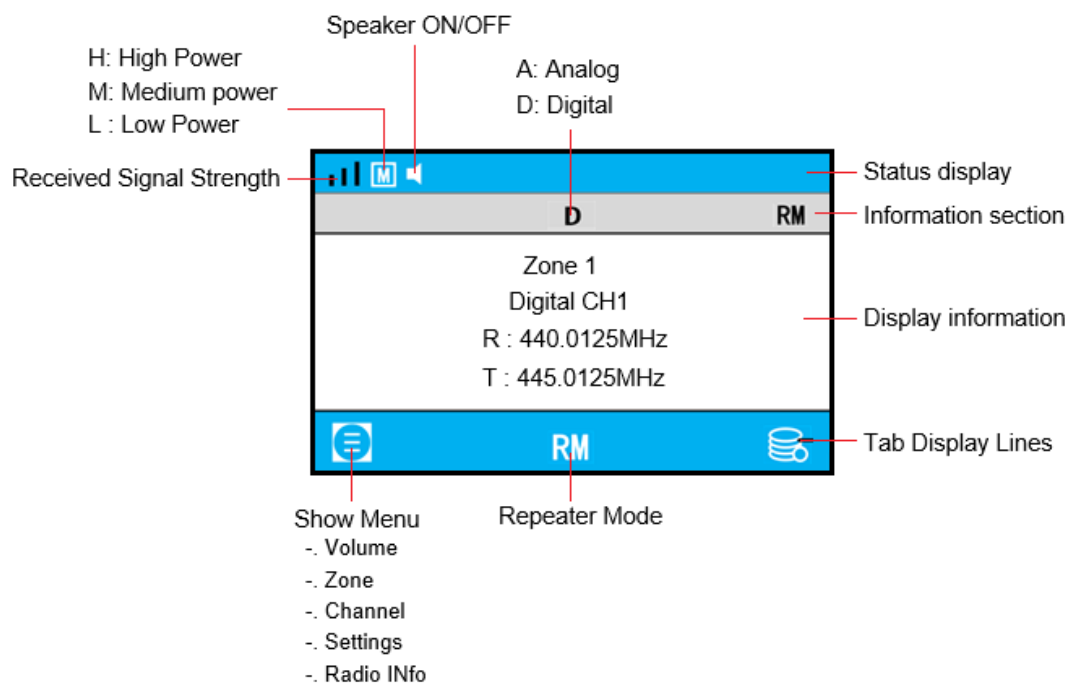


Figure 2-3) LCD display type

2.4 Main menu interface

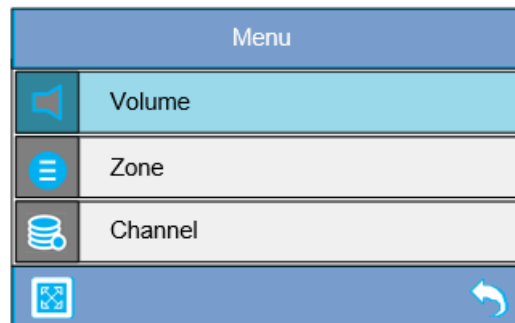


Figure 2-4) LCD Menu

The standby interface is mainly divided into three display areas:

Status bar: Display the current functional status through icons

Information bar: can display information such as region, channel type, actual operating frequency of the channel, etc

Label bar: icons and button positions correspond, with the left being the main menu entrance and the right being the channel switching shortcut entrance

Main menu interface

After entering the main menu interface, you can use the directional keys to select the corresponding menu up and down

Use the P1 button to select and enter the next level submenu

By pressing the P2 button, you can return to the previous menu

2.5 LCD Details on XR-M1400 Mesh

NO	Icon Name	Icon displayed	Identify the meaning of the content
1	Signal strength indicator		Signal strength indicates a strong signal with a large number of bars
2	Operation status	D	Digital Channel
		A	Analog Channel
3	Power intensity indicator	L	Low Power
		M	Medium Power
		H	High Power
4	Speaker identifier		Local monitoring enabled
			Local monitoring disabled
5	Transfer sign		Transfer in progress

3. Usage Instructions

3.1 Power on and off ()

- 1) Power on: Press and hold the power button on the panel for 5 seconds to turn on the device.
- 2) Shutdown: When the device is turned on, long press the power button to shut it down.

The device will automatically turn on when connected to the power supply for the first time;

3.2 Channel selection

- 1) Press CH+/CH - on the standby interface to enter the channel menu.
- 2) Press the up and down buttons or switch channels.
- 3) Press the P1 key to confirm the selection.

3.3 Volume adjustment

- 1) Press P1 on the standby interface to enter the main menu.
- 2) Select the volume submenu to enter the volume adjustment mode.
- 3) Press the left and right directional keys to adjust the volume.

 WARNING	• The monitoring function needs to be turned on • The hand microphone shortcut key can directly adjust the volume
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3.4 listen mode

- 1) Enable this function through CPS software.
- 2) Press P1 on the standby interface to enter the main menu.
- 3) Select Settings - Listening Settings - Enable.

3.5 PTT allows calling

- 1) Enable this function through CPS software.
- 2) On the standby interface, press P1 to enter the main menu.
- 3) Select Settings ->PTT Call Settings ->Allow

3.6 PTT call

- 1) Connect the microphone
- 2) CPS software configuration allows PTT calling.
- 3) Press and hold PTT continuously, the transmission indicator light will turn on, aim at the microphone 5-10 cm, and you can start speaking.
- 4) Release PTT, call ends

4. Assembly equipment

4.1 Install and use equipment

Install the host to the protection box

1. Insert the host into the host installation position of the protective frame

The direction of the front panel is consistent with the direction of the handle

2. After aligning the installation holes, tighten the screws on both sides of the outer side to fix them

Install the battery onto the protective frame

1. Insert the battery into the battery installation position of the protective frame

The direction of the front panel is consistent with the direction of the handle

2. After aligning the installation holes, tighten the screws on both sides of the outer side to fix them

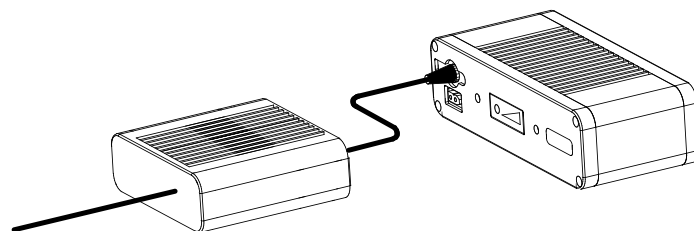
5. Electrical connection



Battery charging

Battery charging requires removing the battery and using the matching charger to charge it.

A matching charger must be used, otherwise it will damage the battery and easily cause a fire



6. Attachment interface

6.1 Data interface



The data interface is located on the upper left side of the panel.

For specific functions and core point definitions, please consult the dealer.



When using this interface attachment, it is necessary to provide our standard accessory products,

Using accessories that do not comply with the product may result in damage to the interface or device

7. Antenna feeder system

7.1 RF antenna connection

- 1) The RF feeder must be connected to the corresponding interfaces for receiving and transmitting, and the plug must be an M-type male head (thick pin).
- 2) In order to achieve good communication performance, there must be sufficient isolation between antennas, or if one antenna is used, the duplexer must have sufficient isolation between the TX and RX ports.

The isolation requirements for each frequency band are shown in the table below:

Band	Frequency Bandwidth	Isolation
UHF	400 ~ 470MHz	75 dB

7.2 Antenna selection

- 1) The selection of antennas is crucial for communication performance.
- 2) An antenna with an impedance of 50 ohms and a power capacity of at least 50 watts must be selected. High gain antennas can be used or the antenna height can be increased to increase communication coverage.
- 3) The frequency used by the equipment needs to be reported and approved by the local radio management department.

The antenna and duplexer must be connected using a 50 ohm impedance matched feeder with a power capacity of at least 50 watts. The feeder must be equipped with interfaces that match the duplexer interface and antenna interface.

8. Check

- 1) Ensure that the RF antenna is securely connected.
- 2) Ensure that the power supply method is correct.
- 3) Check the display status on the power on panel.
- 4) Test using a DMR Radio for communication.



If this device operates continuously at high power for a long time, a good ventilation environment must be ensured, and the auxiliary cooling equipment must work normally.

If you need assistance, please contact the dealer's technical support department.

9. Clean cleaning

- 1) Please regularly use a clean and dry lint free cloth or brush to wipe off the dust attached to the surface of this product and the charging electrode.
- 2) The keys, display glass and housing of this product are easy to use. Neutral detergent and non-woven fabric can be used to clean them. Do not use detergent, alcohol, spray or petroleum preparation and other chemicals to avoid damage to their surfaces and housings. After cleaning, be sure to ensure that this product is completely dry, otherwise do not use it.

FCC Statement :

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:(1)This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. This equipment has been tested and found to comply with the limits for a Class B digital device,

Pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This equipment complies with FCC radiation exposure limits set forth for a controlled environment. This equipment should be installed and operated with minimum distance 1.09m between the radiator and your body.

Product Model: XR-M1400

PMN: MESH

IC: 184A-XRM1400

HVIN: XR-M1400

ISED Statement :

-English: This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) This device must accept any interference, including interference that may cause undesired operation of the device.

The digital apparatus complies with Canadian CAN ICES-3 (B)/NMB-3(B).

- French: Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

(1) l'appareil ne doit pas produire de brouillage,
et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

l'appareil numérique du ciem conforme canadien peut - 3 (b) / nmb - 3 (b).

This equipment complies with Canada radiation exposure limits set forth for a controlled environment.

Cet équipement est conforme aux limites d'exposition au rayonnement établies par le Canada pour un environnement non contrôlé.

This equipment should be installed and operated with minimum distance 1.11 m between the radiator & your body.

Cet équipement est conforme Canada limites d'exposition aux radiations dans un environnement contrôlé.

Cet équipement doit être installé et utilisé avec une distance minimale de 1.11 m entre le radiateur et votre corps.

CANADA LICENSING INFORMATION

Before using this radio, read this booklet which contains important operating instructions. For information on product details, brochures, user manuals and approved accessories.

Compliance with RF Exposure Standards

National and international regulations require manufacturers to comply with the RF energy exposure limits for Mobile Land Mobile Radio before they can be marketed. Your Mobile Land Mobile Radio is designed, manufactured, and tested to comply with all applicable national and international regulations for human exposure to radio frequency electromagnetic energy. When Mobile Land Mobile Radio are used as a consequence of employment, applicable regulations may require users to be fully aware of and able to control their exposure to meet occupational requirements.

RF Energy Exposure Awareness and Control Information and Operational instructions for Occupational Use

NOTE: This radio is intended for use in occupational/controlled conditions where users are aware of their exposure and can exercise control over their exposure to meet the requirements in national and international regulations. This radio device is not authorized for general population, consumer use. For more information on what RF energy exposure is, and how to control your exposure to ensure compliance with established RF exposure limits, consult the following websites:

<https://www.fcc.gov/>

<http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf11467.html>

<http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf01904.html>

RF Exposure Compliance and Control Guidelines

This radio transmitter has been approved by FCC/ISED to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. It is up to the user to properly operate this radio transmitter to insure safe operation. Please adhere to the following: Use only the supplied or an approved antenna. Unauthorized antennas, modifications, or attachments could impair call quality, damage the radio, or result in violation of FCC/ISED regulations.

"Do not use the radio with a damaged antenna. If a damaged antenna comes into contact with the skin, a minor burn may result. Please contact your local dealer for a replacement antenna." Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

External Antenna: Maximum Antenna Gain: 8dBi Antenna impedance: 50 Ohms

To control your exposure, and ensure compliance with the relevant RF exposure limits, always adhere to the following guidelines:

Do not remove any of the RF Exposure Labels if present from this device or its related accessories.

Attach these instructions to the device when you transfer it to other users.

Do not use this device if the operational requirements described herein are not met.

The License Application

1. Fill in the items as per the instructions. If you need additional space for any item, use the reverse side of the application.
2. Be sure to print legibly
3. Make a copy for your files.
4. Prepare a cheque or money made out to the "Receiver General for Canada", for an amount, which is on the following schedule, for each radio purchased. (License is renewed on April 1st each year, and issued for a period of 12 months).
5. Mail your completed application, along with your cheque or money order to the closest ISED District office, according to the list on pages. To obtain the latest Canadian License Application form, please go to <http://www.ic.gc.ca/ic/wp-pa.htm>

WARNING:

This product has been factory set to comply with the requirements of the US/Canada/European Union, and the user cannot program the product or manually enable the product to operate outside of the frequency bands regulated by the respective regulations. Users must comply with the laws of their region and must not use unofficial software or illegal techniques to enable the product to operate outside of the offending frequency bands. You will be penalized by law.

Informations sur les licences au Canada

Avant d'utiliser cette radio, veuillez lire ce livret qui contient d'importantes instructions de fonctionnement. Pour plus d'informations sur les détails du produit, les brochures, les manuels d'utilisation et les accessoires approuvés, veuillez consulter la documentation fournie.

Conformité aux normes d'exposition RF

Les réglementations nationales et internationales exigent que les fabricants respectent les limites d'exposition à l'énergie RF pour les radios mobiles terrestres avant qu'elles ne puissent être commercialisées. Votre radio mobile terrestre a été conçue, fabriquée et testée pour se conformer à toutes les réglementations nationales et internationales applicables relatives à l'exposition humaine aux champs électromagnétiques de radiofréquence.

Lorsque les radios mobiles terrestres sont utilisées dans le cadre professionnel, les réglementations applicables peuvent exiger que les utilisateurs soient pleinement conscients de leur exposition et en mesure de la contrôler afin de répondre aux exigences professionnelles.

Informations et instructions d'utilisation pour la sensibilisation et le contrôle de l'exposition RF en usage professionnel

REMARQUE : Cette radio est destinée à une utilisation en conditions professionnelles/contrôlées, où les utilisateurs sont conscients de leur exposition et peuvent la maîtriser afin de satisfaire aux exigences des réglementations nationales et internationales. Cet appareil radio n'est pas autorisé pour le grand public ou une utilisation grand consommateur.

Pour plus d'informations sur ce qu'est l'exposition à l'énergie RF et sur la manière de la contrôler afin d'assurer la conformité aux limites d'exposition établies, veuillez consulter les sites suivants :

- <https://www.fcc.gov/>
- <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf11467.html>
- <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf01904.html>

Directives de conformité et de contrôle de l'exposition RF

Cet émetteur radio a été approuvé par la FCC/ISED pour fonctionner avec les types d'antennes indiqués ci-dessous, avec le gain maximal admissible et l'impédance d'antenne requise pour chaque type d'antenne. Il appartient à l'utilisateur d'utiliser correctement cet émetteur radio afin d'assurer un fonctionnement sûr. Veuillez respecter les consignes suivantes :

- Utilisez uniquement l'antenne fournie ou une antenne approuvée.
- Les antennes non autorisées, les modifications ou les accessoires non conformes peuvent dégrader la qualité des communications, endommager la radio ou entraîner une violation des réglementations FCC/ISED.

Ne pas utiliser la radio avec une antenne endommagée.

Si une antenne endommagée entre en contact avec la peau, une légère brûlure peut survenir. Veuillez contacter votre revendeur local pour obtenir une antenne de remplacement.

Les types d'antennes non inclus dans cette liste, ou présentant un gain supérieur au gain maximal indiqué pour ce type, sont strictement interdits avec cet appareil.

Antenne externe : Gain maximal : 8 dBi — Impédance : 50 Ohms

Pour contrôler votre exposition et assurer la conformité aux limites d'exposition RF :

- Ne retirez pas les étiquettes d'exposition RF présentes sur l'appareil ou ses accessoires.
- Joignez ces instructions à l'appareil lorsque vous le transférez à d'autres utilisateurs.
- N'utilisez pas cet appareil si les exigences de fonctionnement décrites dans ce document ne sont pas respectées.

Demande de licence

1. Remplissez les rubriques conformément aux instructions. Si vous avez besoin de plus d'espace, utilisez le verso du formulaire.
2. Écrivez lisiblement en lettres moulées.
3. Faites une copie pour vos dossiers.
4. Préparez un chèque ou un mandat libellé à l'ordre du « Receiver General for Canada » pour le montant correspondant, selon le barème indiqué, pour chaque radio achetée. (La licence est renouvelée le 1er avril de chaque année et est délivrée pour une période de 12 mois.)
5. Envoyez votre demande complétée, accompagnée de votre chèque ou mandat, au bureau de district d'ISED le plus proche (liste des bureaux dans les annexes). Pour obtenir le formulaire le plus récent de demande de licence canadienne, veuillez consulter :

http://www.ic.gc.ca/ic_wp-pa.htm

Avertissement

Ce produit a été configuré en usine afin de se conformer aux exigences des États-Unis, du Canada et de l'Union européenne. L'utilisateur ne peut pas programmer le produit ou activer manuellement son fonctionnement en dehors des bandes de fréquences réglementées par les autorités compétentes.

Les utilisateurs doivent se conformer aux lois de leur région et ne doivent pas utiliser de logiciels non officiels ou de techniques illégales pour activer le fonctionnement du produit en dehors des bandes autorisées. Toute infraction est passible de sanctions légales.

Warranty Card

Thank you for purchasing XR-M1400 Series.

1. This product has passed strict quality control and testing process.
2. Warranty is one year from the day the factory.
 - Failure of the product under normal operating conditions, during the warranty period may be repaired by YeonHwa M Tech Co.,Ltd or our authorized service organization free of charge.
3. For the following cases, some service fees will be charged.
 - It occurs after the warranty period has passed, performance failure, malfunction or damage.
 - When the product is damaged due to user's mishandling, abuse or improper operation.
 - When the product is damaged due to user's modification, attempted repair or otherwise access to sealed/non-user serviceable items.
 - When the product is damaged due to fires, pollution, earthquakes and any other natural or unnatural conditions, accidents, etc.
4. Product check list

Model No		XR-M1400
Serial No		
Purchase Date		
Purchaser	Name	
	Address	

※ When you purchasing, please fill out this check list.

YeonHwa M Tech Co.,Ltd

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