



PH660

Quick Start Guide

Digital Portable Radio

LEGAL INFORMATION

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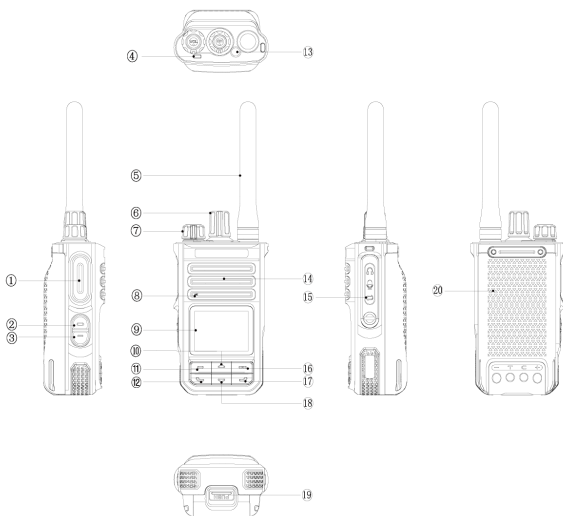
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Violators Will Be Prosecuted.

CALTTA TECHNOLOGIES CO., LTD. reserves the right to make modifications on typographical errors or update specifications in this guide without prior notice.

The figures in this manual are for reference only. For the product structure and specifications of the battery and charger, please refer to the actual product. The accessories provided with the product may vary with product models and functions.

Components



NOTE:

Before using the radio, read all the instructions contained in the manual and, with special care, those relative to safety.

COMPONENT DESCRIPTIONS

No.	Name	No.	Name
1	PTT key	11	OK/Menu key
2	Side key 1	12	Call/Answer key
3	Side key 2	13	Top key
4	LED indicator	14	Speaker
5	Antenna	15	Accessory interface
6	Channel selection rotary knob	16	Back/Group call management key
7	Power /Volume rotary knob	17	Hook key
8	Microphone	18	Down key
9	LCD	19	Battery button
10	Up key	20	Battery

PROGRAMMABLE KEYS

To facilitate operations, your radio provides three programmable keys (Side key 1, Side key 2, and the Top key), and each programmable key can be assigned with one of the following functions by the product distributor through setting shown as the following table.

No.	Function	Description
1	Non-function	Do not assign function
2	Keypad lock	Lock or unlock keypad immediately.
3	Power level	Adjust transmit power level quickly.
4	Call logs	Open the Call Logs menu directly.
5	Contact list	Open the contact list menu directly.
6	Message	Open the message menu directly.
7	Channel up/down adjust	Switch channel through button
8	Hunt	Enable or disable Hunt function
9	Squelch	Enable or disable squelch function
10	Roaming	Enable or disable roaming function
11	One touch call	One touch to initiate a call, text message, etc. (5 call objects can be programmed)



NOTE:

The functions of a programmable key may vary with the operation (press or press and hold). For details, contact the local distributor.

SYMBOLS DISPLAY

The following icons may be displayed on the LCD.

Name	Icon	Status
Signal strength		No signal
		The more the signal bars are, the stronger the signal is.
Message		Message unread.
		The message box is full.
Hunt		Your radio is in Hunt status.
Roaming		Your radio is in roaming status.
Transmitted power		The current channel transmits signals in low power.
		The current channel transmits signals in high power.
Battery level		The longer the battery bar is, the higher the battery level is.

Name	Icon	Status
Speaker		The speaker is on.

LED INDICATOR

The LED indicator indicates the operating status of the radio.

Indicator	Status
Lit green	Your radio is receiving voice signals.
Lit red	Your radio is transmitting voice signals.
Flashing orange	Your radio is in Hunt status.
Lit orange	After a call is established, there is no voice transmitted or received in the service channel. You can press PTT key to speak.

BASIC OPERATIONS

Power On/Off Your Radio

To power on your radio, rotate the Power/Volume rotary knob clockwise until a click is heard.

To power off your radio, rotate the Power/Volume rotary knob counterclockwise until a click is heard.

Turn Up/down the Volume

After powering on your radio, rotating the Power/Volume rotary knob clockwise can turn up the volume, and rotating the Power/ Volume rotary knob counterclockwise can turn down the volume.

Select a Zone

You can add channels in one zone to manage the channels efficiently. Your radio supports up to 64 zones. One zone contains up to 32 channels.

After powering on your radio, press the OK/Menu key and enter the zone menu,- press the Up or Down key to select the required zone, then press OK/Menu key to switch to the selected zone.

Select a Channel

When the home screen is displayed, you can rotate the Channel selection rotary knob and switch the current working channel. Rotating clockwise can turn down the channel, and rotating counterclockwise can turn up the channel.

Lock/Unlock Keypad

If the keypad is unnecessary temporary, you can lock the keypad to prevent misoperations. You can lock or unlock the keypad through one of the following ways:

- Programmable key

If your distributor sets a Keypad Lock shortcut key, you can press the shortcut key to lock or unlock the keypad.

- **Menu**

Enter the main menu, select Setting > Radio Setting > Keypad Lock, and select a time option or Disable. If you select a time option and there is no operation within the specified period, the keypad will be locked automatically. If you select Disable, the keypad will not be locked automatically. In such cases you still can press the key combination or Keypad Lock shortcut key to lock or unlock the keypad.



NOTE:

If there is no Keypad Lock in the Radio Setting menu, you can ask your distributor to set the automatic keypad lock function.

Call

To ensure that the called party can hear you clearly, keep the microphone 2.5 cm to 5 cm away from your mouth when speak.

Private Call

Initiate a private call

You can initiate a private call through one of the following ways.

- **Initiate the call through Contacts or Call Logs**

Press OK/Menu key to enter the home menu.

Select Contacts > Private Contacts or select Call Logs to display Outgoing calls, Incoming calls or Missed calls.

Press Up or Down key to select the contact that you want to call.

Press PTT key to initiate the private call.

- **Initiate a call in Missed calls**

In the Missed calls menu, select a missed call and press PTT key to initiate the call.

Answer a private call

After receiving a private call, it is not required to press Call/Answer key, your radio shall establish the call automatically. After the call is successful, your radio plays a reminding tone. If the call is not answered, the missed icon is displayed on the LCD to notify you that you missed a call.

Group Call

Initiate a group call

You can initiate a group call through one of the following ways:

- **Initiate a group call to a preset group contact**

When the home screen is displayed, press the PTT key to initiate a group call to the group contact preset for the channel selection rotary knob.

- **Through the address book in groups**

When the home screen is displayed, press the OK/Menu key and enter the home menu.

Select Contacts > Group Contact, or select Call Logs to display Outgoing calls, Incoming calls.

Press Up or Down key to select the Group Contact that you want to call.

Press PTT key to initiate a group call.

- **Initiate a group call via the programmable key**

If your local distributor sets a programmable key for a one touch call, you can initiate a group call via the programmable key

Answer a call

After receiving a group call, it is not required to press Call/Answer key, your radio shall establish the call automatically. After the call is successful, your radio plays a reminding tone. If the call is not answered, the missed icon is displayed on the LCD to notify you that you missed a call.

Late Entry

After the group call is established, it is allowed that the member, which has not joined the group call, to be connected to the group call again during call communication.

MAIN TECHNICAL SPECIFICATIONS

Frequency Bands	UHF1: 400-470MHz / VHF 136-174 MHz
Max. Power Output	Low power mode:1W High power mode: 4W(UHF1) / 5W(VHF)
FM Modulation	12.5KHz: 11K0F3E
4FSK Digital Modulation(Data Only)	12.5KHz: 7K60F1D
4FSK Digital Modulation(Voice Only)	12.5KHz: 7K60F1E
4FSK Digital Modulation(Voice and Data)	12.5KHz: 7K60F1D&7K60F1E
Sensitivity(Analog)	0.22uV(12dB SINAD)
Sensitivity(Digital)	0.22uV (5% BER)

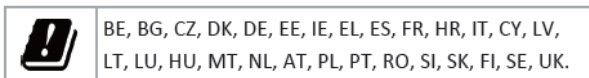
SOFTWARE RELEASE

This radio is configured to work with the main software version 3.x or 4.x.(x means 0, 1, 2, 3,...9 Arabic numbers).

This equipment is marked



According to the requirements specified in the "Radio Equipment " 2014/53/EU Directive, the radio equipment PH660 series is Class 2 and can be used in any European Union countries subject to authorization by the competent Authority for



This device can be used in any country not belonging to the European Union that has approved its use.

ENGLISH-EN

CALTTA declares that the radio equipment type PH660 is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: <http://www.caltta.com/en/download.aspx>

SPANISH-ES

Por la presente, CALTTA declara que el tipo de equipo radioeléctrico PH660 es conforme con la Directiva 2014/53/UE. El texto completo de la declaración UE de conformidad está disponible en la dirección Internet siguiente: <http://www.caltta.com/en/download.aspx>

ITALIAN-IT

CALTTA, dichiara che il tipo di apparato radio PH660, è conforme alla direttiva 2014/53/UE. Il testo completo della dichiarazione di conformità UE è disponibile al seguente indirizzo Internet: <http://www.caltta.com/en/download.aspx>

GERMAN-DE

Hiermit erklärt CALTTA, dass der Funkanlagentyp PH660 der Richtlinie 2014/53/EU entspricht. Der vollständige Text der EU-Konformitätserklärung ist unter der folgenden Internetadresse verfügbar: <http://www.caltta.com/en/download.aspx>

FRENCH-FR

Le soussigné, CALTTA, déclare que l'équipement radioélectrique du type PH660 est conforme à la directive 2014/53/UE. Le texte complet de la déclaration UE de conformité est disponible à l'adresse internet suivante: <http://www.caltta.com/en/download.aspx>

DUTCH-NL

Hierbij verklaar ik, CALTTA, dat het type radioapparatuur PH660 conform is met Richtlijn 2014/53/EU. De volledige tekst van de EU-conformiteitsverklaring kan worden geraadpleegd op het volgende internetadres: <http://www.caltta.com/en/download.aspx>

BULGARIAN-BG

С настоящото CALTTA декларира, че този тип радиосъоръжение PH660 е в съответствие с Директива 2014/53/ЕС. Цялостният текст на ЕС декларацията

за съответствие може да се намери на следния интернет адрес: <http://www.caltta.com/en/download.aspx>

CZECH-CS

Tímto CALTTA prohlašuje, že typ rádiového zařízení PH660 je v souladu se směrnicí 2014/53/EU. Úplné znění EU prohlášení o shodě je k dispozici na této internetové adrese: <http://www.caltta.com/en/download.aspx>

CROATIAN-HR

CALTTA ovime izjavljuje da je radijska oprema tipa PH660 u skladu s Direktivom 2014/53/EU. Cjeloviti tekst EU izjave o sukladnosti dostupan je na sljedećoj internetskoj adresi: <http://www.caltta.com/en/download.aspx>

DANISH-DA

Hermed erklærer CALTTA, at radioudstyrstypen PH660 er i overensstemmelse med direktiv 2014/53/EU. EU-overensstemmelseserklæringens fulde tekst kan findes på følgende internetadresse: <http://www.caltta.com/en/download.aspx>

ESTONIAN-ET

Käesolevaga deklareerib CALTTA, et käesolev raadioseadme tüüp PH660 vastab direktiivi 2014/53/EL nõuetele. ELi vastavusdeklaratsiooni täielik tekst on kättesaadav järgmisel internetiaadressil: <http://www.caltta.com/en/download.aspx>

FINNISH-FI

CALTTA vakuuttaa, että radiolaitetyypin PH660 on direktiivin 2014/53/EU mukainen. EU-vaatimustenmukaisuusvakuutuksen täysimittainen teksti on saatavilla seuraavassa internetosoitteessa: <http://www.caltta.com/en/download.aspx>

GREEK-EL

Με την παρούσα ο/η CALTTA, δηλώνει ότι ο ραδιοεξοπλισμός PH660 πληροί την οδηγία 2014/53/ΕΕ. Το πλήρες κείμενο της δήλωσης συμμόρφωσης ΕΕ διατίθεται στην ακόλουθη ιστοσελίδα στο διαδίκτυο: <http://www.caltta.com/en/download.aspx>

HUNGARIAN-HU

CALTTA igazolja, hogy a PH660 típusú rádióberendezés megfelel a 2014/53/EU irányelvnek. Az EU-megfelelőségi nyilatkozat teljes szövege elérhető a következő internetes címen: <http://www.caltta.com/en/download.aspx>

LATVIAN-LV

Ar šo CALTTA deklarē, ka radioiekārta PH660 atbilst Direktīvai 2014/53/ES. Pilns ES atbilstības deklarācijas teksts ir pieejams šādā interneta vietnē: <http://www.caltta.com/en/download.aspx>

LITHUANIAN-LT

Aš, CALTTA, patvirtinu, kad radijo įrenginių tipas PH660 atitinka Direktyvą 2014/53/ES. Visas ES atitikties deklaracijos tekstas prieinamas šiuo interneto adresu: <http://www.caltta.com/en/download.aspx>

MALTESE-MT

B'dan, CALTTA, niddikjara li dan it-tip ta' tagħmir tar-radju PH660 huwa konformi

mad-Direttiva 2014/53/UE. It-test kollu tad-dikjarazzjoni ta' konformità tal-UE huwa disponibbli f'dan l-indirizz tal-Internet li ġej: <http://www.caltta.com/en/download.aspx>

POLISH-PL

CALTTA niniejszym oświadcza, że typ urządzenia radiowego PH660 jest zgodny z dyrektywą 2014/53/UE. Pełny tekst deklaracji zgodności UE jest dostępny pod następującym adresem internetowym: <http://www.caltta.com/en/download.aspx>

PORTUGUESE-PT

O(a) abaixo assinado(a) CALTTA declara que o presente tipo de equipamento de rádio PH660 está em conformidade com a Diretiva 2014/53/UE. O texto integral da declaração de conformidade está disponível no seguinte endereço de Internet: <http://www.caltta.com/en/download.aspx>

ROMANIAN-RO

O(a) abaixo assinado(a) CALTTA declara que o presente tipo de equipamento de rádio PH660 está em conformidade com a Diretiva 2014/53/UE. O texto integral da declaração de conformidade está disponível no seguinte endereço de Internet: <http://www.caltta.com/en/download.aspx>

SLOVAK-SK

CALTTA týmto vyhlasuje, že rádiové zariadenie typu PH660 je v súlade so smernicou 2014/53/EÚ. Úplné EÚ vyhlásenie o zhode je k dispozícii na tejto internetovej adrese: <http://www.caltta.com/en/download.aspx>

SLOVENIAN-SL

CALTTA potrjuje, da je tip radijske opreme PH660 skladen z Direktivo 2014/53/EU. Celotno besedilo izjave EU o skladnosti je na voljo na naslednjem spletnem naslovu: <http://www.caltta.com/en/download.aspx>

SWEDISH-SV

Härmed försäkrar CALTTA att denna typ av radioutrustning PH660 överensstämmer med direktiv 2014/53/EU. Den fullständiga texten till EU-försäkran om överensstämmelse finns på följande webbadress: <http://www.caltta.com/en/download.aspx>

SAFETY INFORMATION



Please read all warnings carefully before using the radio:

- Do not use the radio equipment for different uses other than those indicated in this Guide.
- For the correct use of the radio read what is listed in the relative User Guide firstly.
- Protect the radio from spray of water and/or other liquids and from dust.
- Do not bring the radio close to heat sources.
- Do not place the portable radio above the airbags or in their area of action. If the airbag is activated, it may not swell correctly and/or hurl the portable unit, with great force, inside the compartment where are located the passengers.
- Protecting the external antenna connector with proper cover when it isn't used in normal operative conditions.
- It is advisable to cover the connector when it isn't used in normal operative conditions.
- Replace the batteries with equivalent, which are approved by the manufacture.
- Replace the batteries following the instructions given in the technical manual.
- Make sure that batteries aren't damaged and don't have liquid leaks or evident gaseous emissions.
- Do not use the radio if the battery is damaged.
- Put the battery charger far from heat resources and in such a way as to guarantee its correct aeration as well as safe accessibility to the network power supply outlet. Do not use the battery charger outside of the environments for which it was specified (eg. external environment).
- Use only battery chargers recommended by the manufacture and follow the instructions described in the user manual to recharge the battery.
- Do not use the radio if the antenna is damaged.
- Turn off the radio or inhibit transmission, if the equipment allows it, in the electromagnetically sensitive environments (ex. hospitals, airports, etc.).
- The electronic devices are sensitive to electromagnetic interference (EMI) if not adequately shielded, designed or configured differently for electromagnetic fields immunity. If electromedical equipment (ex. pace-makers, acoustical equipment, etc.) is used together with the portable radio, make sure that it is adequately shielded from external electromagnetic fields.
- Carry out the maintenance interventions on the portable radio following the instructions given in the technical manual.
- Follow all accident prevention standards when carrying out maintenance interventions on the portable radio equipment and use the proper tools (spanners, screwdrivers, etc.).
- First and second maintenance level interventions on the equipment are to be car-

ried out by authorized technicians only.

- Third maintenance level interventions are to be carried out by CALTTA technicians only.
- Use only original accessories and spare parts, approved by the manufacturer, suitable for the PH660. The use of different accessories and/or spare parts (earphone, antenna, etc.) makes the safety and electromagnetic compatibility certifications to be valid no more and it could lower the user safety level and/or generate electromagnetic fields that exceed the accepted limits.
- Follow the battery charger instructions in order to use it correctly.
- During voice calls, the PH660 use with its proper bag is not recommended in environments which temperature can be over 45°C.
- The emergency call is a priority type call. The portable radio, like all mobile telephony equipment, operates with radio frequency signals, therefore, the forwarding of the call depends on the network coverage during the call.
- If you need send an emergency call, keep pressing the emergency button for at least 2 seconds, when the radio is switched on.
- Do not cause short circuits between the battery terminals. Do not set the batteries on metal surfaces. Do not set metal tools on the battery terminals. Be careful when handling ant battery, when placing it in a pocket, purse/bag or any other.
- Do not use the battery charger if the power supply cable and/or the plug are damaged.
- If the battery is incorrectly replaced existing the dangerous risk of explosion.
- Even if the battery is discharge, the risk of explosion exists if the battery is disposed on fire.
- Do not take the radio into environments that have a potentially explosive atmosphere(ex. fuel storage sites, filling stations, etc.). Even when it is off, the radio, being equipped with battery, might casually generate sparks that could trigger fires and/or explosions.
- Do not use the battery charger in environments that have a potentially explosive atmosphere(ex. fuel storage sites, filling stations, etc.). The use of battery charger might generate sparks that could trigger fires and/or explosions.
- In order to further increase the level of user safety, you have to observe the following precautions:
 - The PH660 radio is equipped with an automatic system to control the power transmitted so that the radio transmits at the maximum power only in exceptional cases (radio coverage limit, emergency call). Avoid touching the antenna when the radio is on and especially during transmission because the ability of transmitting power gets worse.
 - During voice communications in earphone mode hold the portable radio with the antenna straight and above your shoulder and speak directly into the microphone.
 - Hold the portable radio in the vertical position and always at least 2.5 cm away from your head during voice communications in loudspeaker mode.

COMPLIANCE WITH RF EXPOSURE STANDARDS

CALTTA two-way radio is designed and tested to comply with a number of national and international standards and guidelines for human exposure to radio frequency electromagnetic energy.

This radio complies with the IEEE (FCC) and ICNIRP exposure limits for occupational/controlled RF exposure environments at operating duty factors of up to 50% talk-50% listen and is authorized by the IEE/ICNIRP for occupational use only.

To control your exposure and ensure compliance with the occupational/controlled environment exposure limits always adhere to the following procedures.

Control Guidelines:

Do not remove the RF Exposure Label from the device.

User awareness instructions should accompany device when transferred to other users.

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

Operating Instructions:

Transmit no more than the rated duty factor of 50% of the time. To receive calls, release PTT button. Transmitting 50% of the time, or less, is important because this radio generates measurable RF energy exposure only when transmitting (in terms of measuring for standards compliance).

Hold the radio in vertical position in front of the face with the microphone (and other parts of the radio including the antenna) at least 2.5 cm (1 inch) away from the nose or lips. Antenna should be kept away from the eye. Keeping the radio at a proper distance is important since RF exposures decrease as the distance from antenna increases.

When worn on the body, always place the radio in approved clip, holder, holster, case, or body harness for this product. Use of non-approved accessories may result in exposure levels, which exceed the occupational/controlled environment RF exposure limits.

Use only manufacturer's name approved supplied or replacement antennas, batteries, and accessories. Use of non-manufacturer-name approved antennas, batteries, and accessories may exceed the FCC RF exposure guidelines.

For a list approved accessories please consult your local dealer for information.

FCC STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates 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. 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.

Note: Any Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Bluetooth guide

Enter the main menu, select Accessories>Bluetooth>Bluetooth switch, and select the "on" menu item. Enter the main menu, select Accessories>Bluetooth>Matching device, select the confirm menu item, the Radio will enter the device search status, and will display searching.... After pairing the Bluetooth accessories, like Bluetooth headset, the interface will display the information of the Bluetooth accessories that have been successfully connected.



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