User Guide – HX400 Series

v11/07

Professional compact handheld transceivers

Common Information
(all models)

HX402/412/422/482
Entry

HX402S/412S/422S/482S
Entry Selcall

HX405/415/425/485
Advanced Selcall, 8-key

HX406/416/426/486
Advanced Selcall, Full Keypad

Introduction

This guide covers the 'basics' of your radio's operation. To meet your exact requirements the radio may have been customised by your Entel authorised dealer. These features will be explained in a separate guide issued by the dealer.

Table of Contents

CE Compliance Statement

The HX400 series transceiver displays "CE" on the serial number label, indicating its compliance with the essential requirements of the EEC directive for Electromagnetic Compatibility.

Declaration Of Conformity

We Entel UK Limited

OF:

4 Elstree Gate,
Elstree Way
Borehamwood
Hertfordshire
WD6 1JD
United Kingdom

Declare under our sole responsibility that the product:-
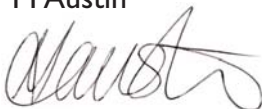HX400 series VHF/UHF handheld transceiver

Serial Number_____
To which this declaration relates, is in accordance with directive 95/5/EC and conforms to the following standard or other nominative documents:-
EN 300 086-2 V1.1.1, EN 301 489-1 V1.5.1:2003, EN 60065:2002
Following provisions of the R&TTE directive.

M Austin

Quality Manager

QM
S
ISO 9001
REGISTERED FIRM

Radio Care

Advice

- Do not use options or accessories not specified by Entel

- Ensure that the radio is used within the parameters for which it was designed

- Please switch the transceiver off before connecting optional accessories

Warning

Turn the transceiver off in the following locations:

- In explosive atmospheres (flammable gas, dust including metallic & grain powders etc)

- Whilst taking on fuel or while parked near a fuel station

- Near explosives or blasting sites

- In aircraft, medical institutions or near persons known to be wearing a pacemaker

Caution

- Do not disassemble or modify the transceiver for any reason

- Do not transmit while touching the antenna terminal or any exposed metallic parts of the aerial as this may result in a burn

- Please check and observe regulations in your country with regards to use whilst driving

End of Life Disposal

- When your Entel transceiver reaches the end of its useful life, please ensure that the unit is disposed of in an environmentally friendly way. For country specific information please see www.entel.co.uk/recycling

Battery Care

Introduction

Your Entel radio is supplied with a high performance Lithium-Ion (Li-Ion) battery.

These batteries:

- Extend talk time

- Reduce the batteries' size and weight

- Do not suffer from 'memory effect' that reduces the life of Ni-Cad and NiMH batteries

- Have a low toxicity, therefore reducing the impact on the environment

Battery Pack Precautions

- Switch the transceiver OFF before charging

- Charge the battery pack before use

- Do not recharge the battery pack if it is already fully charged as this will use one its charge cycles and may shorten its life

- Charge the battery in accordance with the instructions enclosed with your charger

- Do not charge the transceiver and/or battery pack if they are wet

Battery Care / Information

The battery pack includes potentially hazardous components. Please:

- Do not disassemble or reconstruct battery
- Do not short-circuit the battery
- Do not incinerate or apply heat to the battery
- Do not immerse the battery in water or get it wet by other means
- Do not charge the battery near fires or under direct sunlight
- Use only the specified charger and observe charging requirements
- Do not pierce the battery with any object or strike it with an instrument
- Do not use the battery pack if it is damaged in any way
- Do not reverse-charge or reverse-connect the battery
- Do not touch a ruptured or leaking battery

If liquids from the battery get on your skin or into your eyes, immediately:

- Wash your eyes out with fresh water avoiding rubbing them.
- Seek medical treatment.

Battery Pack

- If a battery is not to be used for an extended period of time (e.g. several months) remove the battery pack from the equipment and store in a cool and dry location (around 0°C) part charged. Do not fully discharge the battery before storage.
- Each charge cycle reduces the battery's life. Minimise the number of times you charge your battery especially in hotter environments which further shortens a battery's life.

Battery Communications

Each battery used with your radio has a microprocessor fitted, which logs the number of times your battery has been charged. On the advanced 8-key and 20-key display models, the number of times the battery has been charged, together with the remaining charge cycles available, will be shown during switch on. This information may also be accessed and displayed via the menu. (If not de-activated by your dealer)

CHARGE COUNT METER
USED:076   LEFT:374
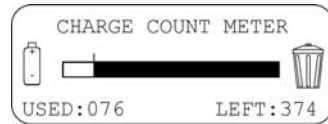
The warranty on all batteries is 12 months from new, or 450 charge cycles, whichever is the sooner. After 420 cycles, at switch on the radio will emit a series of short tones, and on LCD models a waste bin icon will flash to alert you to the need to buy a new battery.

CHARGE COUNT METER
USED:420   LEFT:030
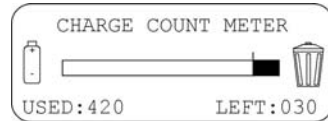
After 450 cycles, at switch on the radio will emit a series of long beeps, and LCD models the message will change to CHARGE COUNT EXCEEDED REPLACE BATTERY. The radio will continue to operate but its operational time may be reduced, eventually failing all together

BATTERY COUNT EXCEEDED
REPLACE BATTERY
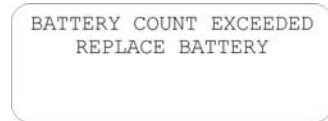
Note: only genuine Entel batteries should be used. Only genuine batteries offer the battery charge count feature informing you when the battery is reaching the end of its useful life. Genuine batteries ensure customer satisfaction delivering the expected capacity and endurance. This cannot be guaranteed with sub standard, potentially dangerous battery packs from 3rd party manufacturers.

Packing List

- HX4XX Radio
- CNB450E Rechargeable 1800mAh Li-Ion battery
- CBH450 Spring loaded belt clip
- CATXXX Antenna
- UG400 User guide
- CSAHX Intelligent rapid charger (only supplied with HX4X2 & HX4X2S models)

Optional Accessories

Battery & Charger Options

CNB450E	Spare 1800mAh Lithium-Ion battery pack with rear clip
CSAHX	1-way dual slot intelligent rapid charger, 110-230v
CSBHX	6-way dual slot intelligent, rapid charger, 110-230v
CCAHX-12	1-way dual slot trickle charger with cigar lighter lead, 12V DC operation

Carry Options

CFC450	HX4X2 & HX4X5 soft leatherette case finished in black with carry strap
CFC456	HX4X6 soft leatherette case finished in black with carry strap
CLC452	HX4X2 heavy duty black leather case with strap & belt loop
CLC455	HX4X5 heavy duty black leather case with strap & belt loop
CLC456	HX4X6 heavy duty black leather case with strap & belt loop
CBH450	Spare spring loaded belt clip

Audio Accessory Options

CMP1/450	Compact medium duty speaker microphone with earpiece jack
CMP450	Heavy duty submersible speaker microphone
EHP9	D-shaped earpiece (plugs into CMP1/450 or CMP450 above)
EA12/450	D-shaped earpiece with in-line PTT/microphone & VOX*
EA15/450	Transparent acoustic tube earpiece with inline PTT/microphone & VOX*
EA19/450	D-shaped earpiece with boom microphone and in-line PTT & VOX*
EHP450	D-shaped earpiece (connects directly to radio)
MSP01/450	Crash helmet earpiece microphone with remote PTT
EPT40/450	Bone conductive earpiece microphone with PTT
CXR5/450	Bone conductive skull microphone with in-line PTT
CXR16/450	D-shaped earpiece and throat microphone with in-line PTT
CHP1/450	Lightweight single earpiece headset with in-line PTT & VOX*
CHP450HS	Single earpiece heavy duty ear defender headset with boom mic for hard hat & VOX*
CHP450HD	Double earpiece heavy duty ear defender headset with boom mic for hard hat & VOX*
CHP450D	Double earpiece headband defender headset with boom mic & VOX*
CBH450	Spare spring loaded belt clip

*VOX = Voice Operated Transmit (hands free operation)

Optional Accessories cont...

Antenna Options

CXW400	Antenna adapter for external aerial connection
CAT400V	Helical antenna VHF
CAT400VS	Stubby antenna VHF
CAT400U	Whip antenna UHF
CAT400US	Stubby antenna UHF
CAT410-78	78MHz compressed antenna
CAT410-85	85MHz compressed antenna
CAT410-Full/Y	66-77MHz full length antenna
CAT410-Full/G	77-88MHz full length antenna
CAT400-40	30-50MHz antenna

For complete up to date list of optional accessories visit www.entel.co.uk

Preparing Your Radio For Use

Attaching / Removing The Battery Pack

1 To attach, locate the pegs on the bottom of the battery and place into the slots on the radio. Then press the top of the battery against the radio until you hear a click.

2 To remove, slide the two latches on the side of the battery down and pull the battery away from the top of the radio.

Attaching / Removing The Belt Clip

1 To attach, press the clip into the slot on the back of the battery and slide down until you hear a "click".

2 To remove, pull the tab (**a**) towards the belt clip. Then slide the belt clip upwards (**b**).

6

Attaching / Removing the Aerial

1 To attach, carefully align the aerial with the socket. Screw in the aerial clockwise (taking care not to cross the thread) until it is seated firmly against the top of the radio.

2 To remove, unscrew the aerial anti-clockwise.

Attaching / Removing Audio Accessories

1 To attach, remove the accessory cover by unscrewing the locking screw anti-clockwise (store the cover in a safe place). Connect the accessory plug into the radio's socket. Carefully tighten the locking screw clockwise until finger tight (do not tighten with a screwdriver etc).

2 To remove, unscrew the locking screw by hand in an anti-clockwise direction (carefully use a coin or screwdriver if too tight). Ensure you re-fit the accessory cover so as to protect the socket.

Charging Your Radio

Several charger options are available. Please refer to your charger user guide.

Turning your radio on

Turn your radio on using the on / off / volume control on the top of the radio. The radio will beep and the LED will briefly illuminate yellow. The beep may be disabled by the dealer.

HX402/412/422/482

Standard Features:

- 16 programmable channels
- Full transmit power output (5 Watts VHF, 4 Watts UHF)
- CTCSS & DCS (analogue & digital squelch) with squelch tail elimination (removes the 'shh' noise)
- Exceptionally loud and clear audio
- Robust design, exceeds MILSTD-810C/D/E/F
- Environmentally protected to IP55
- 1800mAH Lithium-Ion battery for superior operational time
- Full band switching allows access to all channels in each band
- Low battery alert indicates when the battery needs recharging via a warning bleep and a slowly flashing red LED

Dealer programmable features:

- VOX for hands free operation
- High/Low transmit power
- Normal & priority scan (programmable per channel position)
- Panic (personal attack) button causes high pitch, high volume, siren tone to be emitted from the radio's speaker
- Key lock button
- Prefixed minimum volume level and fixed bleep level
- Channel monitor (CTCSS/DCS Defeat)
- Talkaround (allows communication away from a base station)
- Transmit time out-timer (ensures channels are not blocked)
- Voice scrambler with 1 code per channel (option)
- Automatic power save to further increase operational time
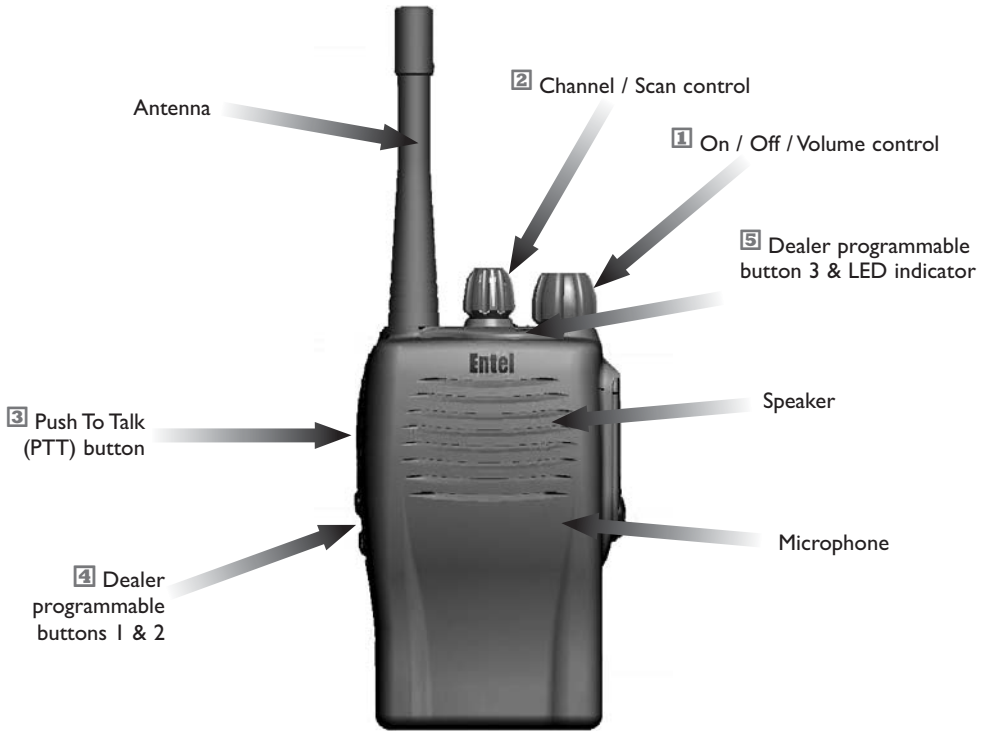
HX4X2

Entel

HX4X2

Antenna

② Channel / Scan control

① On / Off / Volume control

⑤ Dealer programmable button 3 & LED indicator

Speaker

③ Push To Talk (PTT) button

Microphone

④ Dealer programmable buttons 1 & 2

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① On / Off / Volume control. Rotate clockwise to turn on and increase volume, anticlockwise to reduce volume and turn off.

② Channel / Scan control. Rotate to select the desired channel or scan setting.

③ Push To Talk (PTT) button. Press to speak and release to listen.

④ Dealer programmable buttons 1 & 2 (ask your dealer for more information).

⑤ Dealer programmable button 3 (ask your dealer for more information) and LED indicator.

- RED steady = Transmitting
- RED flashing slowly = Battery needs re-charging
- GREEN steady = Receiving
- YELLOW steady = Non valid signal detected
- YELLOW flashing rapidly = Scanning

HX402S/412S/422S/482S

All the features of the HX402/412/422/482 (see page 8) plus the following features:

Standard Features:

- Entry level selective calling
- Voice scrambler with 1 code per channel included as standard

Dealer programmable features:

- Open or closed channel modes (allows private conversations)
- Call a group, individual or all radios at once
- Up to 16 pre-programmed contacts
- Multiple ringtones
- Stun (disable) a lost or stolen radio
- Revive (enable) a recovered radio
- Panic button with remote alert
- Emergency microphone live
- Automatic Lone-Worker alarm mode
- Automatic Man-Down alarm mode (option)
- Silent alarm call mode
- Continue emergency alarm even if radio switched off

Controls & Indicators
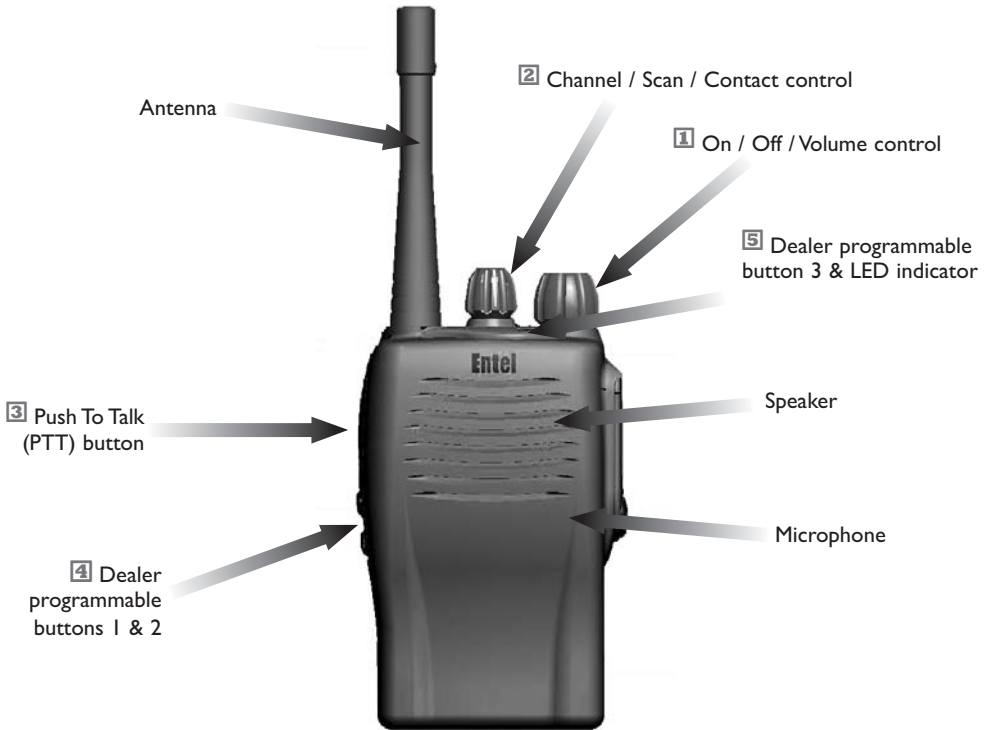
Antenna

2 Channel / Scan / Contact control

1 On / Off / Volume control

5 Dealer programmable button 3 & LED indicator

Speaker

3 Push To Talk (PTT) button

Microphone

4 Dealer programmable buttons 1 & 2

HX4X2S

1 On / Off / Volume control. Rotate clockwise to turn on and increase volume, anticlockwise to reduce volume and turn off.

2 Channel / Scan / Contact Control. Rotate to select the desired channel or scan setting.

3 Push To Talk (PTT) button. Press to speak and release to listen.

4 Dealer programmable buttons 1 & 2 (ask your dealer for more information).

5 Dealer programmable button 3 (ask your dealer for more information) and LED indicator.

- RED steady = Transmitting
- RED flashing slowly = Battery needs re-charging
- GREEN steady = Receiving
- GREEN flashing slowly = Selcall received
- YELLOW steady = Non valid signal detected
- YELLOW flashing rapidly = Scanning

HX405/415/425/485

All the features of the HX402S/412S/422S/482S (see page 10) plus the following features:

Standard Features:

- LCD screen
- 255 channel capacity
- Voice scrambler with up to 4 codes per channel
- Intuitive menus (like a mobile phone)
- Info button (user guide built-in to radio)

Dealer programmable features:

- Speed dial
- Who's calling (caller ID)
- 255 user contact list (just like a mobile phone)
- Missed, received & dialled numbers lists
- Multiple ring / alert tones
- Selectable "profiles" General, Silent & DND (do not disturb)
- Temporary group membership
- Power on password option
- Manual location information sent with emergency call
- Fully automatic indoor location (option)
- Fully automatic GPS outdoor location with "navigate to"(option)
- Send / Receive status, text and email messages
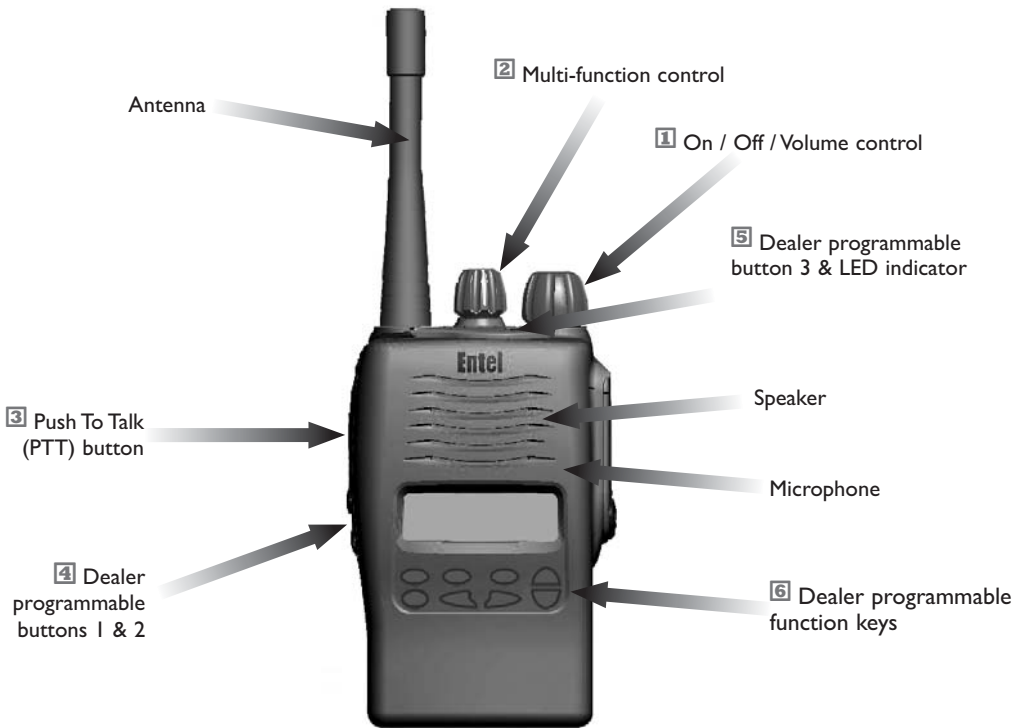
Antenna

2 Multi-function control

1 On / Off / Volume control

5 Dealer programmable button 3 & LED indicator

Speaker

3 Push To Talk (PTT) button

Microphone

4 Dealer programmable buttons 1 & 2

6 Dealer programmable function keys

1   On / Off / Volume control. Rotate clockwise to turn on and increase volume, anticlockwise to reduce volume and turn off.

2   Multi-function dealer programmable control. (ask your dealer for more information).

3   Push To Talk button (PTT), press to speak and release to listen.

4   Dealer programmable buttons 1 & 2 (ask your dealer for more information).

5   Dealer programmable button 3 (ask your dealer for more information) and LED indicator.

6   Dealer programmable buttons (ask your dealer for more information).

- • RED steady = Transmitting
- • RED flashing slowly = Battery needs re-charging
- • GREEN steady = Receiving
- • GREEN flashing slowly = Selcall / message received
- • YELLOW steady = Non valid signal detected
- • YELLOW flashing rapidly = Scanning

HX4X5

LCD Indicators

- Message Received

- Missed Call

- Key Bleeps Off

- Silent Profile

- Keypad Locked

- Man Down

- Lone Worker

- Bluetooth Device Connected

- Accessory Connected

- GPS Connected

- VOX Enabled

- Scramble Enabled

- Do Not Disturb

- Whisper Mode

- Battery State

- Receive Strength / TX Output Low / Mid / High

- Call Diverted

- Speaker Muted

- Speaker Unmuted

- Talkaround Enabled

- Channel Scanning

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HX406/416/426/486

All the features of the HX405/415/425/485 (see page 12) plus the following features:

Standard Features:

- Keypad

Dealer programmable features:

- Type free format text and email messages
- Edit contact list
- Free dial radio contacts
- Free dial telephone numbers
- Free dial DTMF numbers

Controls & Indicators

Antenna

2 Multi-function control

1 On / Off / Volume control

5 Dealer programmable button 3 & LED indicator

3 Push To Talk (PTT) button

Speaker

Microphone

4 Dealer programmable buttons 1 & 2

6 Dealer programmable function keys

Keypad

1 On / Off / Volume control. Rotate clockwise to turn on and increase volume, anticlockwise to reduce volume and turn off.

2 Multi-function dealer programmable control. (ask your dealer for more information).

3 Push To Talk (PTT) button, press to speak and release to listen.

4 Dealer programmable buttons 1 & 2 (ask your dealer for more information).

5 Dealer programmable button 3 (ask your dealer for more information) and LED indicator.

6 Dealer programmable buttons (ask your dealer for more information).
- RED steady = Transmitting
- RED flashing slowly = Battery needs re-charging
- GREEN steady = Receiving
- GREEN flashing slowly = Selcall received
- YELLOW steady = Non valid signal detected
- YELLOW flashing rapidly = Scanning

HX4X6

LCD Indicators

- Message Received

- Missed Call

- Key Bleeps Off

- Silent Profile

- Keypad Locked

- Man Down

- Lone Worker

- Bluetooth Device Connected

- Accessory Connected

- GPS Connected

- VOX Enabled

- Scramble Enabled

- Do Not Disturb

- Whisper Mode

- Battery State

- Receive Strength / TX Output Low / Mid / High

- Call Diverted

- Speaker Muted

- Speaker Unmuted

- Talkaround Enabled

- Channel Scanning

'the
professional's
choice'

<Intended Country Of Use>

☐ BE	☐ EL	☐ LU	☐ RO
☐ BG	☐ ES	☐ HU	☐ SI
☐ CZ	☐ FR	☐ MT	☐ SK
☐ DK	☐ IT	☐ NL	☐ FI
☐ DE	☐ CY	☐ AT	☐ SE
☐ EE	☐ LV	☐ PL	☐ UK
☐ IE	☐ LT	☐ PT	

CE 0891 ⚠

Headquarters: United Kingdom **www.entel.co.uk**