KENWOOD

INSTRUCTION MANUAL

UHF TETRA TRANSCEIVER

TK-T300
TK-T300G

Kenwood Corporation

© B62-2270-00 (E)

THANK YOU

We are grateful you have chosen **Kenwood** for your land mobile radio applications.

NOTICES TO THE USER

◆ Government law prohibits the operation of unlicensed radio transmitters within the territories under government control.
◆ Illegal operation is punishable by fine and/or imprisonment.
◆ Refer service to qualified technicians only.

Safety: It is important that the operator is aware of, and understands, hazards common to the operation of any transceiver.

PRECAUTION

Kenwood will not, under any circumstances, be held responsible for problems or damage caused by any accessory or auxiliary element that has not been approved or supplied by Kenwood. Kenwood will not guarantee that this product will function in conjunction with an auxiliary unit or accessory that has not been approved or supplied by Kenwood.

Information on Disposal of Old Electrical and Electronic Equipment and Batteries (applicable for EU countries that have adopted separate waste collection systems)

Products and batteries with the symbol (crossed-out wheeled bin) cannot be disposed as household waste.
Old electrical and electronic equipment and batteries should be recycled at a facility capable of handling these items and their waste byproducts.
Contact your local authority for details in locating a recycle facility nearest to you.
Proper recycling and waste disposal will help conserve resources whilst preventing detrimental effects on our health and the environment.

CONTENTS

FOR YOUR SAFETY

GENERAL

Kenwood has approved a wide range of accessories for the TK-T300/G terminal: antennas, batteries, chargers, cases, audio accessories, etc. These accessories have passed all types of tests that ensure their suitability and safety for the use for which they are intended. So, it is recommended only to use approved accessories.

For your safety, only allow Kenwood qualified staff to repair the terminal or its accessories. If the installation or repair is not correct, it may be dangerous and may void the guarantee of the terminal.

EXPOSURE TO RADIOFREQUENCY ENERGY

Your TK-T300/G terminal and the accessories approved by Kenwood are designed and manufactured not to exceed the limits of exposure to radiofrequency energy, in compliance with the international regulations for this purpose.

These regulations, which are result of periodical scientific trials by independent organisations, include a considerable safety margin, designed to guarantee the safety of all staff, regardless of their age or state of health.

ELECTROMAGNETIC COMPATIBILITY

The majority of electronic devices are susceptible to electromagnetic interference if they are not adequately shielded, designed or configured for electromagnetic compatibility. To avoid these compatibility conflicts, respect the current regulations of the area you are in, and turn off the terminal whenever its use is prohibited, when it may cause interference or be hazardous, for example, at hospitals or health care premises, where equipment sensitive to external RF radiation may be being used.

Aircraft

Follow all existing restrictions, according to the regulations of the airlines or the instructions of the crew.

Pacemakers

Pacemaker manufacturers recommend keeping a minimum safety distance of 15 cm between a portable radio terminal and a pacemaker, to avoid possible interferences with the latter.

People with pacemakers should:

- When switched on, always keep the terminal more than 15 cm away from the pacemaker.
- Not carry the terminal in your breast pocket.
- Use the terminal with the ear on the opposite side to the pacemaker to minimize possible interference.
- Turn off the terminal immediately if, for any reason, you suspect it is causing interference.

Hearing aids or other medical devices

Some digital mobile devices may interfere with these appliances. If this interference occurs, contact your service supplier or the manufacturer of the hearing aid or medical device.

Using two TETRA terminals nearby may cause interference between them, for example when two of these devices are in the same vehicle. If this happens, separate the terminals until the interference disappears.

OTHER OPERATIONAL WARNINGS

Vehicles

The RF signals may affect the electronic systems of motor vehicles that are not well installed or protected, for example, electronic injection systems, electronic anti-locking brake systems (ABS), speed control systems or airbag systems. For further information, verify these aspects of your vehicle, or equipment that has been added, with the corresponding manufacturers.

Do not place the terminal in the area above the airbag or in the area where it would inflate.

Airbags inflate with great force and the terminal may be thrown, causing serious injury to the occupants of the vehicle.

Potentially explosive environments

Disconnect the terminal when it is in an area where explosions may occur and obey all signs and instructions.

The areas where explosions may occur are usually, but not always, marked. These areas include fuel loading areas, such as ship decks, petrol stations, premises for storage and transport of motor fuel or chemical products, vehicles that use liquid gas petroleum and areas where the air contains chemical particles or elements, as grain, powder or metallic particles.

Sparks in these areas may cause explosions or fire, with the subsequent risk of injury or even death.

Driver safety

Check the laws and regulations about the use of mobile telephones and radiotelephones in the area where you are driving and always respect them. While driving, pay full attention, and always keep your hands free for operating the vehicle.

As measure of caution, whenever possible, park off the road before making or answering a call.

Acoustic shock

The terminal has a low power front speaker, only used for duplex calls, and a high power rear speaker for half-duplex calls. Only keep the terminal near to your ear (as if it were a mobile phone) when you make or receive duplex calls, otherwise it may damage your ear.

ANTENNA

- Do not use the terminal without the antenna.
- To guarantee the safety requirements, always use antennas validated by Kenwood.
- To position the antenna, turn it clockwise, until it is suitably secured. (Do not force the thread of the connector).
- Never use a terminal that has a damaged antenna. If a damaged antenna comes into contact with your skin, it may cause burns.

BATTERY AND CHARGERS

Kenwood batteries have electronic intelligence and have protection circuits to protect the battery from abnormal charge and discharge conditions.

Battery use conditions

- Charge battery packs only with chargers approved by Kenwood. The use of any other type of packs or chargers will invalidate the guarantee and can lead to early breakdown or make them be useless.
- Do not throw battery packs into the fire or put them near heaters. Do not place them inside microwave ovens. Also, avoid putting them close to combustible materials.
- Avoid exposing battery packs to direct sunlight or putting them in places that, potentially, can reach high temperatures (for example, inside a vehicle). They could overheat or damage, then reducing their useful life.
- Do not submerge battery packs in water or another liquids, or touch their contacts with the hands wet or with damp materials.
- Do not allow metallic objects contact or short-circuit the battery pack's terminals. Avoid placing it on metallic surfaces or putting it into a pocket, bag or recipient with metallic elements.

- Do not try to drill, disassemble or modify the battery pack. Do not hit or handle it with sharpened objects.
- Charge the battery pack between 0ºC and +40ºC only.
- Do not expose battery packs to AC or DC voltages that could produce uncontrolled charge or discharge currents.
- It is advisable to put the battery charger on a clear place, free of elements that could prevent a proper ventilation during charging process.
- If a battery pack shows severe mechanical damage (greater than the scratches or small hits produced during normal use), its internal structure could be affected. In this case, do not use that battery pack any more.
- Charge a battery pack only when necessary. Do not recharge it if it's not completely discharged. It is advisable to carry a spare to replace the battery in use when it is fully discharged.
- Avoid leaving the TK-T300/G terminal connected to the charger once the battery pack is fully charged, since continuous charging processes shorten battery life. Do not use the battery charger as a radio stand.
- If a battery is very discharged, it can take up to half an hour to show the process of loading.
- When it is planned to use the equipment at low temperatures, it is recommended that the battery is fully charged.
- Do not return fully charged battery packs to the charger for an extra-recharge, since this reduces significantly cycle life. Short cycle charging should be avoided.
- Battery packs should be properly recycled at their end-of-life, in compliance with local regulations.

Emergency actions

If during charging, storage or use a battery pack gives off an odour, overheats, discolours, shows deformation (for example, swelling) or electrolyte leakage, or its appearance is abnormal, remove it from the terminal or charger immediately and do not use it any more. Its use could be harmful to health and besides, it could damage the TK-T300/G terminal or the charger.

In case that some electrolyte contacts the eyes, wash them immediately with clean water and go to the doctor's as soon as possible. Batteries electrolyte is harmful to the eyes.

If electrolyte leakage contacts skin or clothing, wash them away immediately with clean water.

Electrolyte is harmful to skin.

AUDIO ACCESSORIES

- Only use approved accessories by Kenwood.
- To connect them to left side connector of the terminal, turn the screw clockwise until it is suitably secured (do not force the thread of the connector).

TRANSPORT ACCESSORIES

When you place the terminal in the cover, check that it is well positioned with the holes for the terminal microphone and speakers.

CARE AND MAINTENANCE

The following recommendations will help to increase the useful life of your terminal and protect the cover of your guarantee:

- Do not use the terminal in dirty or dusty places. The mobile parts and electronic components could be damaged.
- Use a soft and damp cloth to clean the outer surfaces. Never use chemical aerosols or abrasive cleaners.
- To ensure efficient operation, periodically clean the contacts of the battery with a clean, dry cloth.
- Never expose the terminal to extreme temperatures, for example by a window with direct sunlight. The high temperatures may reduce the duration of the electronic devices, damage the battery and deform or melt the plastic.
- Do not keep the terminal in cold places. When the device returns to its normal temperature, moisture may form inside, which may damage the internal electronics.
- Do not hit or drop the terminal. The internal circuit boards and the more delicate mechanical parts may break.
- Do not paint the terminal. The paint may obstruct moving parts and impede proper functioning.
- If you observe an indication on the display of your terminal of an error that prevents normal operation, consult your service supplier.

    Do not try to repair the terminal yourself, by opening it or manipulating it in any way, as you will lose the cover of your guarantee.

FIRST STEPS

INSERTING THE BATTERY

1 Insert the battery as shown in the figure.

2 Press down until you hear a click, making sure that it is in place.

3 To remove, press the open button inwards.

4 Always remember to turn off the terminal and disconnect the charger before removing the battery.

CHARGING THE BATTERY

- Only use the battery charger provided by Kenwood.
- Before starting to use the terminal,make sure the battery is fully charged.

Procedure for charging the battery:

1 Connect the personal charger.

2 If the charger is connected with the terminal off, it may take a few seconds before the TK-T300/G is turned on, to ensure the battery is OK.

3 When the process is finished and the battery is fully charged, a message will inform you: "Battery charge completed".

4 Another message will indicate when the battery charge level is low. You should wait for this message before charging again.

5 Periodically, for example once a month, it is advisable to let the battery discharge completely before charging it again. This way you get a more accurate indication of the state of the battery charge.

Indicative icons:

The battery charge level is always shown on the display, both when the terminal is off (symbol in the centre of the screen), and when it is on (icon in the upper line of symbols).

TK-T300/G Icon		Function
	Flat battery, flashing	Battery flat.
	Low battery, flashing red	Very low charge state.
	Medium battery, flashing yellow	Low / medium charge state.
	Full battery, flashing green	High charge state.
	Full battery, green, continuous	Full charge.

START-UP PROCEDURE

1 Press and hold the ① button to turn the terminal on and off.

2 If the terminal requests a PIN code, enter the 4-digit code (by default, the preset code is 0000), which appears on the screen as ****, then press OK. You should change this code for a more secure code that you can easily remember.

3 While it is switching on, the terminal will show additional information on the display: welcome message, version and user information.

4 There are two operating modes, network mode and direct mode. In network mode, the terminal will be operative when it has successfully registered on the system.

5 During the registration process, the ((ŋ)) icon will flash. When the process is finished and the terminal is ready to work on the network, the icon will be constant, the message "In service" will appear on the screen and you will hear a characteristic tone.

6 If the terminal is configured to start up in direct mode, the main screen, displayed after start-up, will show the 👀 icon.
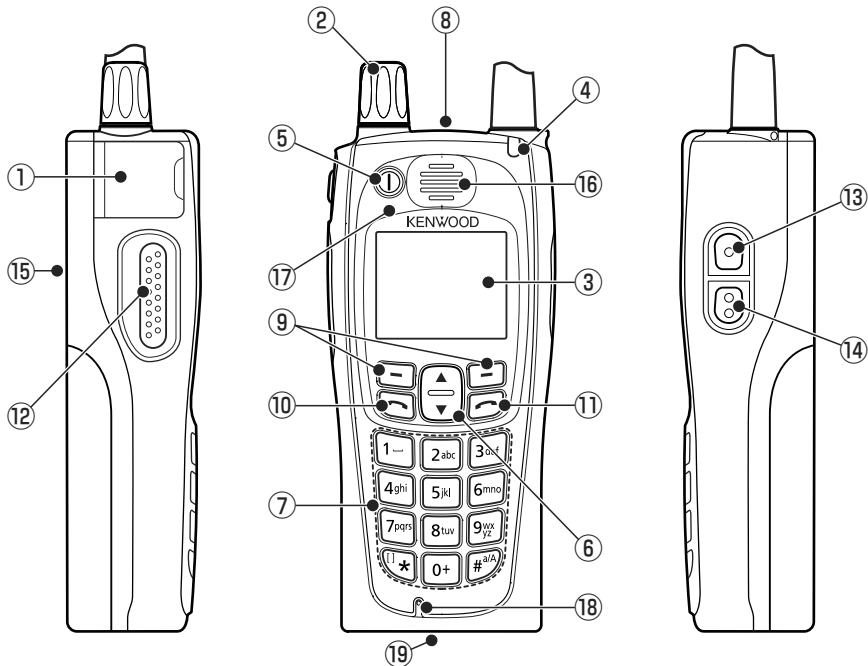
No.	Description	Observations
①	Audio accessory connector	Side connector to connect speaker microphone.
②	Rotary knob	This allows you to set the audio volume to the desired level. Programmed changes between ranges and groups after pulse Auxiliary button 1.
③	Screen	Colour display.
④	Indicator light	Bicolour LED with various associated functions.
⑤	On / off button	Hold it down for a few seconds to turn the terminal on / off.
⑥	Up / down arrows (2)	These help you navigate through the different menus and lists of options.
⑦	Alphanumeric keys	Keys 0 - 9, ✱, #.
⑧	Emergency button	Hold it down for a few seconds to make a priority call to the preset destination.
⑨	Soft keys (2)	Press these to select the option that appears on the lower left or right of the screen.
⑩	Green call key	Press this to make or answer a call. In standby mode, this allows you to access the list of calls made.
⑪	Red hang-up key	Its main function is to end a call. When you are not calling, pressing this key will take you to the main screen.
⑫	PTT	Press to talk button.
⑬	Auxiliary button 1	Quick access to the special function programmed on this button.
⑭	Auxiliary button 2	Quick access to the special function programmed on this button.
⑮	Speaker 1	Speaker for half-duplex calls.
⑯	Speaker 2	Speaker for duplex calls.
⑰	Microphone 1	Microphone for half-duplex calls.
⑱	Microphone 2	Microphone for duplex calls.
⑲	Auxiliary connector	Auxiliary connector for programming, charger, etc.

SCREEN INDICATORS

The screen indicators show information about terminal operation

Symbol	Description
(ᵢ)	Terminal registration status. (Blue) - Constant: Terminal registered. - Flashing: Seeking for registration.
(ᵢ)	Migration: Terminal registered on a network other than your local network. (Red)
▂▄▆	Level of coverage.
⚠	Emergency call.
✳	GPS module state. - Constant: GPS active and obtained connection with satellites. - Flashing: GPS module is synchronising and still does not have position information.
🖥	Data service. - Constant: Packet data session active. - Flashing: The icon flashes while transmitting or receiving packets.
🔭	Direct mode (DMO).
G	DMO-GAT presence detected in the selected DMO frequency.
R	DMO-REP presence detected in the selected DMO frequency.
✉	New message in inbox.
➥	Missed call.
�*️	Silent mode activated.
✖	All tones deactivated.

Symbol	Description
	Audio Profile selected. - Normal - Outdoor - Silent - Meeting - Car - Personal - Audio accessory connected
	Scan of active groups (group listening).
	Call active.
	Battery level. Green indicates a full battery; yellow, medium; and red, low. When the battery is flat and requires charging immediately, the flat icon will flash.
	Audio accessory connected.
	Discreet mode activated. Direct individual calls will be converted to on hook signalling. The icon will appear at the right side of the screen.
	Keypad locked.
	Man-down option activated. The icon will appear at the right side of the screen.

INDICATOR LIGHT

The indicator light provides additional information about the terminal operation:

LED state	Function
Registration	
Slowly flashes red	On standby and out of service.
Slowly flashes green	On standby and registered on the system.
Calls	
Red, constant	Transmitting.
Green, constant	Receiving.
Flashes red	Transmission request.
Flashes green	Standby, call active but nobody transmitting.
Battery charge (when terminal off)	
Flashes orange	Charging battery.
Flashes green	Final battery charging stage.
Green, continuous	Battery charged.

MAIN SCREEN

The main screen is the 'Voice call – Group mode' screen. The terminal is ready for you to press PTT (Press-to-talk) and launch the call directly to the selected group.

As shown in the following figure, the basic information displayed on the main screen consists of the folder or range the selected group belongs to, the name of the group, and its status.
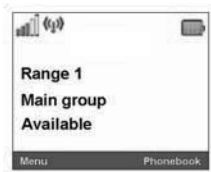
From the main screen, you can access a number of basic functions:

- Soft key 1: Access to the main menu.
- Soft key 2: Access to the phonebook (contacts list).
- Arrows: Navigate through the list of groups.
- Green key: Quick access to the last dialled calls.
- Numeric keypad: Dialling of the destination number for an individual call.

Your service supplier may configure other keys to quickly access specific functions. For example:

- Access to favourite menu screens.
- Sending of specific events (status messages, voice calls, etc…)
- Immediate actions (selection of preferred group, deactivation of some functions, etc…)

MAIN MENU

The terminal has a user-friendly menu and sub-menu system accessible using the Menu soft-key, which is always on the main screen.

It has a graphic format, and you use the arrow keys to navigate through the different options. If you know your desired screen number, you can access it directly by pressing that number.

By default, when you press the Menu soft-key, it starts from sub-menu 2: Groups.

Below you can see a diagram with the TK-T300/G menu structure:

1. PHONEBOOK

 Names list

....Name 1

View

Edit

Delete

....Name 2

New name

Mem Status

Delete

2. GROUPS

 Range

 Mem Status

 Preferred GRP

 Scanning lists

3. STATUS

 Inbox

 Outbox

 Delete inbox

4. TEXT

- New message
- Inbox
- Outbox
- Delete inbox
- Delete outbox
- Configure

5. CALL REGISTER

- Dialled calls
- Received calls
- Missed calls
- Delete All

6. MODES

- V+D
- DMO

7. EXTRAS

- GPS Info
- Man-down

8. APPLICATIONS

- Gateways
- Favourites
- Auxiliary buttons

9.SETTINGS

BASIC FUNCTIONS

GROUP CALLS

Group calls allow you to communicate with a group of users who have the option to participate in the communication enabled, by attaching the groups into the network.

The groups are organised into ranges or folders. Each range may have a variety of groups, the group distribution is programmed.

The name of the range and group you have selected appears on the main screen.

You can navigate through the different groups in the range using the arrows.

To change the range, access the Groups menu from the main menu.

Once you have selected the chosen group, press PTT to initiate the call. You will hear an acoustic warning and the indicator light will turn red when the network has given permission for transmission. Whenever you wish to stop speaking, release the button.

The terminal always shows the progress of the call and the identity of the speaker.

To disconnect the call, press the red hand-up key ⌒ or simply release the PTT and wait for the system to disconnect the call.

Calls using the PTT to speak:

To optimise the sound quality of the TK-T300/G, ensure that the terminal is vertical with the antenna pointing upwards, and that the microphone is between 2.5 and 10 cm from your mouth, while you are pressing the PTT.

You can configure the groups so that they are on listen (scanned groups), so that you will receive all the communications of the groups with this status. You can configure this by programming or using the menu: **Groups\Scanning lists**.

You do not require any specific action to receive a group call to the selected group or to those configured in scan. It will be received automatically and, on the screen, you can see the group receiving the call and the identifier of the user that has made it.

INDIVIDUAL CALLS

Individual calls are private calls between 2 users. No other user can hear the conversation. You can make these to numbers on the TETRA network (private calls) or to numbers on the external telephone network (PSTN or PABX telephone calls).

In addition, they may be half-duplex (to speak you must press the PTT) or, if the network allows it, duplex (the call is similar to a telephone call, and there is no need to press the PTT to speak).

To make a private half-duplex call:

- Enter the number of the person you wish to call or select it from the contacts list.
- With the **Mode** soft-key select the type of call you wish to make. Next to the number you have dialled, you will see the 🔧 icon, which indicates that it is a private TETRA call.
- Press the PTT button and speak into the microphone. When you wish to stop speaking, release the button.
- The other person can then do the same; pressing the PTT and speaking.
- Either of the two users may disconnect the call by pressing the red hang-up key 🔂.
- Instead of making a direct call, you can make a call so that the called user must hang up first. To do this, start the call with the programmable keys where you have programmed this function. For example, with one of the auxiliary buttons.

To make a private duplex call:

- Enter the number of the person you wish to call or select it from the contacts list.
- With the **Mode** soft-key select the type of call you wish to make. Next to the number you have dialled, you will see the 🔧 icon, which indicates that it is a private TETRA call.
- Press the green call key 🔂.

- During connection you will hear a ringing tone. Wait for the user that you have called to answer. Then you can start speaking without the need for pressing the PTT button.
- Either of the 2 users may disconnect the call by pressing the red hang-up key $\frown$.
- If you wish to make a telephone-type call, when dialling the number, use the Mode soft-key to select the 📞 icon. For telephone switching calls (PABX), select the mode 📟.

To receive an individual call, press the PTT button or the green call key $\frown$. On the display, you can see the type of call and the number of the calling user, or the name, if it is stored in the contacts list.

STATUS MESSAGES

A status message is a numeric code associated with a predefined fixed text. These messages are programmed into the terminal.

Select the message to send from the list found in the menu **Status\Outbox**.

After selecting the message, press the **Send** soft-key to select the destination.

You can send status messages to individual numbers (private TETRA addresses or telephone numbers) or group addresses stored in the group phonebook, or dial the destination number directly.

While you are entering the number, the **Mode** soft-key enables you to select the address type: TETRA or telephone.

Then press the green key $\frown$ to send the message.

The terminal will indicate the result of the operation with an information message.

No action is necessary to receive status messages. When you receive one, you will hear a characteristic tone and the 📧 icon will appear in the lower right of the screen, indicating a new message to read.

In the **Status\Inbox** menu you can consult all your received status messages.

TEXT MESSAGES

Another function of your TETRA terminal is sending text messages of up to 140 characters (160 if the destination address is a telephone number).

You can create a new message by using the keypad to type the text (**Text\New message** Menu), or select one of the messages stored in the outbox (**Text\Outbox** Menu).

Once you have written the message or selected one from the outbox, select the destination number, as explained in page 23 (status messages), then press the green key to send the message.

The terminal will indicate the result of the operation with an information message.

No action is necessary to receive text messages. When you receive one, you will hear a characteristic tone and the icon will appear in the lower right of the screen, indicating a new message to read.

In the Text\Inbox menu you can consult all received text messages, and in **Text\Configure** you can access the different parameters which can be modified in the text message service. For example, activating delivery reports.

SPECIAL FUNCTIONS

EMERGENCY CALL

There is a special orange button, at the top of the terminal, with which you can make emergency calls.

The emergency calls may be:

- Group call (to a specific group in the phonebook, to the selected group or to another special group not included in the user phonebook).
- Individual call (to a private TETRA address or to a telephone number, e.g. 112).
- A status message sent to an individual or group address.

The main characteristic of these calls is that they have maximum priority and interrupt any other ongoing calls.

The emergency ⚠ icon appears when the call is active, whether you have initiated the call or you are the recipient.

If the call is not connected, the terminal retries periodically until it connects, or until the action is cancelled by pressing the emergency button again.

If the emergency call is a half-duplex voice call, an initial time can be programmed when the terminal will transmit directly without having to press the PTT.

Besidesbeing able to send the standard emergency status (status code: 0), it can be configured just before sending the programmed event to the emergency key.

Another possible configuration is to set the PTT priority as pre-emptive. This option (only available by programming) will allow you to define priority users who will be able to interrupt the talking party within a call.

OPERATION MODES: DIRECT MODE

This special operation mode, called DMO, allows you to communicate directly with other TETRA terminals without having to use a network.

To access DMO mode, select the **Modes\DMO** menu or press the quick access key you have configured in the terminal for this function.

In DMO mode you can make group calls and individual calls. The emergency button is also available, with which you can make a maximum priority call (pre-emptive) as explained in the previous section.

Each group programmed to work in DMO mode is associated with a frequency, so changing the group involves changing the frequency and only terminals with the same group selected may communicate with each other in this operation mode.

Individual calls are made using the active channel, i.e., that associated with the selected group.

Group calls

To make a group call in DMO mode, select the group with the arrows, then press PTT. The procedure is similar to a group call in network mode.

Individual calls

To start a private call, dial the destination number or select it from the phonebook, then press PTT.

Before making the call, you can select a special function called **Presence check**, with which you will receive a message if the user you are calling is not operating in the selected DMO channel.

SECURITY

PIN code

From the menu **Settings\Security settings\PIN** code you can activate or deactivate the PIN code request when switching on the terminal, in addition to changing the code.

NETWORK SELECTION

After turning the power on, the Terminal always tries to register into the programmed home network. From the menu Settings\Network selection\, you can manually select a new network from the list of enabled networks.

SUPPLEMENTARY SERVICES

The following TETRA supplementary services are also available for your terminal TK-T300/G:

- Late Entry:

  Allows the terminal to enter in an ongoing group call.

- Ambience Listening:

  A control point may place a TETRA MS (or LS) into a special type of individual voice call teleservice so that the called MS transmits without any action from, or indication to, the called user. Ambience listening only is set-up if the called unit is not already engaged in a call.

  In the same way, the Ambience Listening service does not prevent to make or receive other calls to the affected user.

- DGNA:

  Dynamic Group Number Assignment.

- Fall-back mode (local mode):

  TK-T300/G supports working in cells in fallback mode (disconnected from the rest of the system) indicating this situation to the MMI user.

  The Terminal avoids registration in fall-back cells unless there are no other available cells. Services available in this mode will depend on the system configuration.

Consult your supplier for other available services and special options.

DATA SERVICES

From the menu **Settings\Data settings**, options 'Voice & Data' and 'Only Data' can be selected.

- With 'Voice & Data', voice services and short data messages (text messaging and status) will be activated simultaneously and managed through the user interface.
- With 'Only Data', voice services will be ignored and the terminal will enter into a data working mode, with which an external application will be able to use the terminal to send data.

Data connection is performed through the auxiliary connector and it will be configured with the following available methods:

- Packet Data (Mono and multislot TETRA services)
- Standard TETRA Protocol PEI: AT commands to remotely send short data messages (text messages and status messages).

Consult your service supplier for details on how to configure your terminal for this service.

GPS RECEIVER

The TK-T300/G may incorporate an internal GPS receiver that enables you to know its exact location at all times.

If the terminal has this option, you can access this information from the menu **Extras\ GPS info**. The current location position is displayed on the screen. When the GPS module gets a valid position, the text will be shown in black.

In addition, via programming, you can configure various parameters for sending the GPS position to a central application which will manage this location information. Consult your service supplier for details on how to configure your terminal for this service.

MAN-DOWN OPTION

The functionality "man down" is designated to increase the security of users who have been identified as high risk users.

It is based on the use of special hardware installed in the TK-T300/G, which will detect situations of possible danger,For instance, the immobility of the terminal during some time or if it is tilted at a certain angle, indicating that the user has fallen.

If the terminal has this option, you can activate it from the menu **Extras\Man down**.

Via programming, you can configure the option parameters, and the events associated with the different alarms detected.

Consult your service supplier for details on how to configure your terminal for this service.

OTHER FUNCTIONS

PHONEBOOKS

From the Phonebook menu you can configure your names list. You can consult your contacts, add new ones, delete them, or select them to make calls.

Each contact has a number of fields where you can store different information:

- User Name.
- TETRA individual address.
- Telephone number (PSTN).
- Telephone extension (PABX).
- Home telephone.
- Work telephone.

When you receive a call from any of the numbers associated with a contact stored in your contacts list, this name will appear on the screen.

CALL REGISTER

In the menu Call register you can access the following lists:

- Dialled calls.
- Received calls.
- Missed calls.

To access the last call made, press the green call key directly $\bigcap$.

DISPLAY SETTINGS

In the menu **Settings\User settings\Display** you can select the brightness for the screen when it is lit. You can change the brightness with the up/down arrow keys or with the rotary knob.

By default, the terminal is configured with an automatic lighting mode. The screen will light up whenever you press a key or receive a call, and will stay off in other situations to conserve battery power.

Press and hold key '5' for several seconds to turn the display 180º. It can be useful to view the display in this way in some situations. To return the display to its normal state, press and hold key '5' again.

The TK-T300/G terminal can program quick access keys. In the menu **Applications\ Auxiliary buttons** 🔄 you can visualize the programming quick access keys in your terminal.

LANGUAGE

The TK-T300/G terminal has a programmable multilingual interface.

From the menu **Settings\User settings\Language** you can select your desired language. You can change the language setting with the up / down arrow keys.

Consult your supplier for other languages for your terminal.

KEYPAD LOCKING

To lock the keypad, hold down the # key. To unlock it, press it again.

The ▦ icon will appear on the lower part of the screen.

With the keypad locked, you can still receive calls normally. When a call is received, the keys are enabled again so that you can answer the call. Once the call is finished, the keypad will return to its previous locked state.

There is an option in the menu **Settings\User settings\Keypad lock\Auto**, where the keypad will lock itself automatically after a period of inactivity.

Different locking levels can be programmed.

AUDIO SETTINGS

From the **Settings\Audio settings** menu you can perform the following:

- Select the audio profile.
- Modify the ring volume.
- Select the ring tone that will sound when you receive an individual call.
- Select the ring tone that will sound when you receive a message.
- Activate / deactivate the following sounds (independently):
  - o Keypad.
  - o Control: service / no service tones.
  - o Call.
  - o Call Rx permission: nobody is transmitting on the call underway.
  - o Call Tx permission: transmission permission granted.
  - o Received message.
  - o Sent message.
  - o All tones.

USE OF AUDIO ACCESSORIES

When you connect audio accessories to the side connector, the TK-T300/G automatically recognises them and, according to the accessory connected, modifies the use of the terminal:

Connection with the equipment

1. Connect the audio accessory connector plug into the side connector socket.
2. Screw the accessory in place by hand to ensure the lines into the audio accessory connector are suitably secured and attached to the radio (do not force the thread of the connector!).
3. Speak clearly into the microphone approximately 2.5cm away from it, taking care not to obstruct it with your hand. Operation of soft keys will depend on your customisation.

Warning

1. Do not use the audio accessory in the way depicted below. Always guide the cable up above the terminal.
2. Do not cause high levels of strain between the cable, the grommet protector and the left side connector. This excessive strain can significantly reduce the lifespan of the product, void the warranty and potentially cause damage to the hand-portable unit.
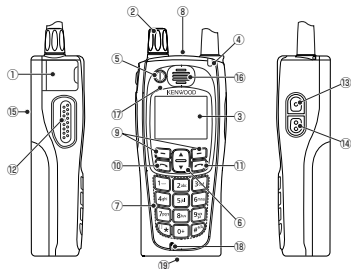
Speaker microphone

This accessory allows you to wear the terminal comfortably on your waist while you make/receive voice calls.

- It has a keypad with PTT, emergency button, and + and - keys which, by default, allow you to increase/decrease the volume.
- The audio is directed through the microphone and speaker of the accessory.
- It also has a vibration function, which you can program to activate when you receive each type of call.
- You can make half-duplex calls (pressing either of the PTTs; on the terminal or on the Speaker microphone), and duplex calls (when you wish to speak, you must press the PTT).

QUICK GUIDE

This section is a quick reference containing some basic tips about using the Kenwood TK-T300/G terminal. For detailed information, carefully read the rest of the sections.
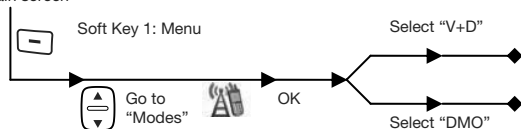

No.	Description	No.	Description
①	Speaker microphone connector	⑪	Red hang-up key
②	Volume control (rotary switch)	⑫	PTT
③	Screen	⑬	Auxiliary button 1
④	LED	⑭	Auxiliary button 2
⑤	On/off button	⑮	Speaker 1 (half-duplex calls)
⑥	Up/down arrows	⑯	Speaker 2 (duplex calls)
⑦	Alphanumeric keys	⑰	Microphone 1 (half-duplex calls)
⑧	Emergency button	⑱	Microphone 2 (duplex calls)
⑨	Soft keys	⑲	Auxiliary connector
⑩	Green call key		

SWITCHING ON AND OFF

Keep the button ① pressed for a few seconds.

CHANGING OPERATION MODE (V+D / DMO)
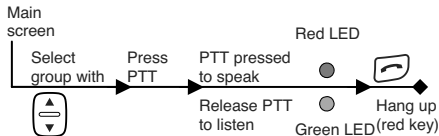

DESCRIPTION OF THE MAIN MENU

The arrows and soft-keys are for navigating through the different graphic menus.
The red hang-up key allows you to leave any menu or sub-menu and return to the main screen, cancelling any action underway.

⚠️ (ATTENTION) The configuration of the menus and certain options could vary according to the programming of the terminal. Consult your supplier about the functions available on your terminal.
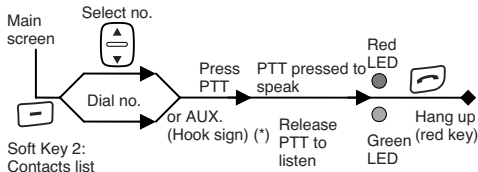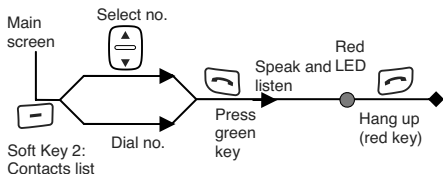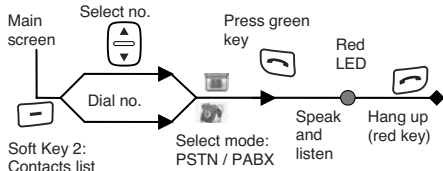
MAKING V+D CALLS

Group calls

Main screen → Select group with [▲▼] → Press PTT → PTT pressed to speak ● Red LED / Release PTT to listen ● Green LED → Hang up (red key) [☎]

Private half-duplex calls

Main screen → [—] Soft Key 2: Contacts list → Select no. [▲▼] / Dial no. → Press PTT or AUX. (Hook sign) (*) → PTT pressed to speak ● Red LED / Release PTT to listen ● Green LED → Hang up (red key) [☎]

Private duplex calls

Main screen → [—] Soft Key 2: Contacts list → Select no. [▲▼] / Dial no. → Press green key → Speak and listen ● Red LED → Hang up (red key) [☎]

Telephone calls

Main screen → Select no. [▲▼] / Dial no. → Press green key [☎] → Select mode: PSTN / PABX → Speak and listen ● Red LED → Hang up (red key) [☎]

MAKING DMO CALLS

Group calls

DMO Mode → Select group with [▲▼] → Press PTT → PTT pressed to speak ● Red LED / Release PTT to listen ● Green LED → Hang up (red key) [☎]

Private calls

Main screen → [—] Soft Key 2: Contacts list → Select no. [▲▼] / Dial no. / Presence check (yes / no) → Press PTT → PTT pressed to speak ● Red LED / Release PTT to listen ● Green LED → Hang up (red key) [☎]
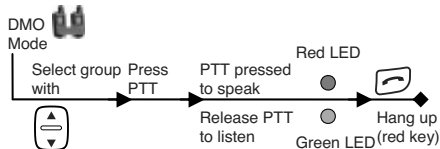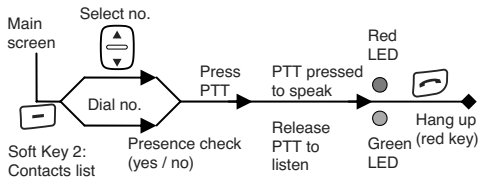
RECEIVING CALLS

Direct calls (individual or group)
You hear a tone and the LED turns green. Press PTT to speak.

Hook calls (private or telephone) (*)
You hear a tone and the LED turns orange.
To accept the call, press PTT or the green OK key.
To reject the call press the red hang-up key.

QUICK ACCESS KEYS

From the main screen, you can quickly access a number of basic functions:

MENU: Press soft key 1 to access the main menu screens
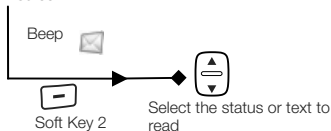CONTACTS: Press soft key 2 to access the contacts list directly.

GROUPS: On the main screen, use the arrows to change group.

RECALL: Pressing the green key takes you directly to the calls list sub-menu, where you can select calls made, received or missed.

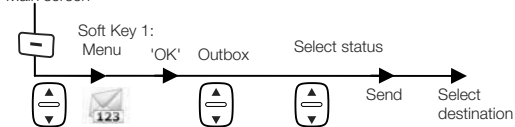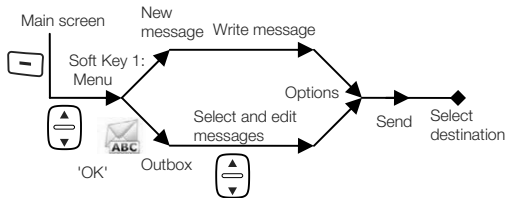## RECEIVING MESSAGES

Status / text messages
Main screen

Beep

Soft Key 2

Select the status or text to read

SENDING MESSAGES

Status messages

Main screen

Soft Key 1: Menu → 'OK' → Outbox → Select status → Send → Select destination

Text messages

Main screen

Soft Key 1: Menu → 'OK'

New message → Write message

Select and edit messages

Outbox

Options → Send → Select destination

Emergency call (V+D / DMO)

Keep the orange emergency button pressed for a few seconds. The call automatically retries until it connects. If you wish to cancel it during the connection stage, press the button again

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