T26/T27 Installation instructions





Transmitters

T26-01 T26-06, T26-07 T26-81, T26-82 T27-01

IM-HY-TX102-A05-CERT (IM-HY-TX102-CERT-v05) Language: English (original)



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CHAPTER 1: INTRODUCTION

THANK YOU FOR PURCHASING A TELE RADIO AB PRODUCT

READ ALL INSTRUCTIONS AND WARNINGS CAREFULLY BEFORE MOUNTING, INSTALLING, CONFIGURING AND OPERATING THE PRODUCTS.

These installation instructions have been published by Tele Radio AB and are not subject to any guarantees.

The Installation instructions may be withdrawn or revised by Tele Radio AB at any time and without further notice. Corrections and updates will be added to the latest version of the instructions. Always download the installation instructions from our website, www.tele-radio.com, for the latest available version. Keep the safety instructions for future reference.

IMPORTANT! These instructions are intended for installers and authorized service and distribution centers. The instructions containing information about the installation and configuration of the radio remote control unit on the machine are NOT intended to be passed on to the end user. Only information that is needed to operate the machine correctly by radio remote control may be passed on to the end user.

Tele Radio AB remote controls are often built into wider applications. Always refer to the applicable local regulations for installation and safety requirements relating to cranes, hoists or other material handling and/or lifting equipments using Tele Radio AB products, e.g.:

- applicable local and industrial standards and requirements,
- applicable occupational health and safety regulations,
- applicable safety rules and procedures for the factory where the equipment is being used,
- user and safety manuals or instructions of the manufacturer of the equipment where Tele Radio AB remote control systems are installed.

Tele Radio AB installation instructions do not include or address the specific instructions and safety warnings of the end product manufacturer.

For battery precautions, see "Battery precautions" on page 38.

Tele Radio AB products are covered by a guarantee/warranty against material, construction or manufacturing faults. See "Warranty, service, repairs, and maintenance" on page 40

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ABOUT THIS SYSTEM

Tele Radio AB's remote control systems are suitable for a wide variety of applications for e.g. stationary or mobile equipments, hydraulic machines, construction, forestry or agriculture equipments and more. Tele Radio AB's transmitters and receivers are highly customizable and can be configured to suit the most wide-ranging application requirements & usage habits.

Product label

Each standard product has a unique Serial Number (SN). It is important to keep this number and to use it in all communication with Tele Radio AB.

WWW.tele-radio.com	CE
Model: T26	\ ~ /
Frq.: 2405-2480MHz	
Contains FCC ID: ONFC1602A	SN:TX-XXXXXX
Contains IC: 4807A-C1602A	

The serial number is written on the product label located in the battery compartment (see "T26 bottom views " on page 20).

Record your serial number here:

Generated system number for customized systems

Each customized system has its own generated system number. It is important to keep this number and to use it in all communication with Tele Radio AB.

A new label, with the system number (system No.), is affixed on the original product label.¹



Record your system number here:



¹The original serial number (SN) is also indicated on the new label.

Ergonomics



Tele Radio AB transmitters are intended to be used together with a Tele Radio AB waist belt or neck strap, for better support and improved ergonomics while operating the transmitter.

Adjust the belt around the waist, then hook the transmitter into the waist belt straps.

Figure 1: Working position with a Tele Radio AB transmitter while using the Tele Radio AB waist belt

NOTE! Always hold the transmitter with the control panel towards you. You must be able to read any text on the control panel and understand the symbols on it.

Web Configuration Application

Transmitters can be customized using a Web Configuration App.

The Web Configuration App is a user-friendly tool for simple customization and configuration of T24, T26, transmitters. It has an intuitive user interface and allows the trained technician to perform all sorts of customization. e.g. design the faceplate, add expansion boards, define and connect the I/O's to the appropriate plug pin...

The Web Configuration App is a web-based tool accessible online for those with a customer account. Contact your representative for more information.

All information on how to use the Web Configuration App can be found in the application itself or in the corresponding documentation (PinConfig).

ABOUT THIS DOCUMENT

Before installing or operating the product, read the corresponding documentation carefully.

Tele Radio AB's product range is composed of transmitters and receivers intended for use together as a system.

T26 systems are mainly intended for the hydraulic and mobile equipment markets. These systems are not standardized but customized and adapted to each customer's needs. The installation instructions cover general safety issues, main technical specifications, standard installation, configuration and operating instructions, general troubleshooting and battery information.

Images shown in this document may therefore not show the exact position of buttons, paddles and are for illustrative purposes only.

How the outputs are connected to control the object depends on each specific installation and will not be covered in this document. For exact details, see the technical documentation provided for your specific system. Drawings, schematics and connection diagrams are unique and are also provided together with the system.

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Term and symbol definitions

The capitalized terms and symbol used herein shall have the following meaning:

- WARNING: indicates a hazardous situation which, if not avoided, could result in death or serious injury.
- CAUTION: indicates a hazardous situation which, if not avoided, will result in minor or moderate injury.
- IMPORTANT: is used for information that requires special consideration.
- NOTE: is used to address practices not related to physical injury.



This symbol is used to call attention to safety messages that would be assigned the signal words "WARNING" or "CAUTION".

CHAPTER 2: SAFETY

WARNINGS & RESTRICTIONS

Carefully read through the following safety instructions before proceeding with the installation, configuration, operation, or maintenance of the product. Failure to follow these warnings could result in death or serious injury.

This product must not be operated without having read and understood the Installation instructions, the specific technical documentation (when provided), and having received the appropriate training. The purchaser of this product has been instructed how to handle the system safely. The following information is intended for use as a complement to applicable local regulations and standards.

Installation and commission

This radio system must not be used in areas where there is a risk of explosion.

- Tele Radio AB remote controls are often built into wider applications. These systems should be equipped with:
 - a wired emergency stop where necessary
 - a brake
 - an audible or visual warning signal
 - Always switch off all electrical power from the equipment before installation procedure.
 - Only licensed or qualified personnel should be permitted to install the product.
 - To utilize the safety features of the system, use the stop relays in the safety circuitry of the object that you want to control.
 - Avoid registering transmitters in receivers where they are not being used.

Operation

- Only qualified personnel should be permitted to access the transmitter and operate the equipment. Make sure that the user satisfies the age requirements in your country for operating the equipment. Make sure that the user is not under the influence of drugs, alcohol and medications. Make sure that the user knows and follows operating and maintenance instructions as well as all applicable safety procedures and requirements. The user should: · always test the transmitter stop button before operating it. This test should be done on each shift, without a load. See "Stop button" on the facing page. never use a transmitter if the stop button is mechanically damaged. Contact your supervisor or representative for service immediately. never leave the transmitter unattended. always switch the transmitter off when not in use. Store in a safe place
 - keep a clear view of the work area at all times.

Maintenance

- Keep the safety instructions for future reference. Always download the Installation instructions from our website for the latest available version.
- Always contact your representative for service and maintenance work on the product.
- If error messages are shown, it is very important to find out what caused them. Contact your representative for help.
- The functionality of the stop button should be tested at least after every 200 hours' use (see "Stop button" on the facing page).
- If the stop button is mechanically damaged, do not use the transmitter. Contact your representative for service immediately.

Before maintenance intervention on any remote controlled equipments:

- always remove all electrical power from the equipment.
- always follow lockout procedures.

SAFETY FEATURES

Stop button



When the stop button is pressed, the safety relays on the receiver deactivate, unless otherwise stated in the corresponding technical documentation provided with each customized system.

IMPORTANT! Always use the stop button in an emergency.

T26

Figure 2: Example of possible locations for the stop button. Here on the right side of a T24 and T26 transmitter.

IMPORTANT! The stop button should always be tested before operating the transmitter. This test should be done on each shift, without a load.

To test the stop button:

- 1. Press the stop button.
- 2. Twist and release the stop button.

Safety relays (stop function)

Safety relays are designed to monitor the E-STOP functions and quickly interrupt the power to all the relays in the receiver when the stop button is pressed.

R20 and R21 receivers are equipped with 2 stop relays controlled by the stop button on the transmitter unit. Each safety relay is monitored and controlled by a dedicated micro-controller.

CHAPTER 3: TECHNICAL DATA

NOTE! The information below may differ in customized systems, please refer to the corresponding technical documentation provided with each system.

SYSTEM SPECIFICATIONS

Radio frequency band	2405 – 2480 MHz
Frequency management	Direct Sequence Spread Spectrum (DSSS) Field Strength Adaptation Feature
Number of Channels	16 (11–26)
Range (typical)	100 m (328 ft), adjustable depending on configuration
System address	32 bit – 4 294 967 295 possibilities
Data format	250 kbit/s
Hamming distance	6
Operating temperature	-20+70 °C (-4+158 °F)
Storage temperature	-30+80 °C (-22+176 °F)
Safety standards	IEC 61508 SIL 3, ISO EN 13849-1, CAT3 PLe
Pairing (registration)	Easy to pair without tools and without opening the receiver housing.
Bluetooth	Bluetooth connectivity for configuration & settings via the Web and mobile App.
Configuration	Web and mobile App for Android & iOS Settings Manager, PC configuration tool

TRANSMITTER SPECIFICATIONS

General specifications

IP code	IP65 (Better Nema 4)
Power supply	One (1) replaceable, rechargeable lithium-ion battery
Battery pack	3.7 V / 1600 mAh Li-ion – 1 battery compartment
Current consumption	From 120 mA (depending on the configuration)
Operating time	Up to 8 h (depending on the configuration)
HF Power	< 13 dBm ~20 mW
Antenna	Internal (external in option)
Functions	Up to 40 analog functions Up to 96 digital functions
Safety	IEC 61508 SIL 3, ISO EN 13849-1, CAT3 PLe Active & redundant E-Stop Redundant joystick and switch functions

Other specifications

T26

	T26-01	T26-06	T26-07	T26-81	T26-82
Number of joysticks	*	*	*	2, 2-axis with spring return for analogue control directions (see "Joystick directions" below).	
Number of paddles	*	*	*	-	
Number of switches	*	*	*	3, toggle switch (On)– None–(On) (spring return)	
Stop button	On the side	No predefine	d position	On the side	
Key switch	Yes	No	No	Yes	No
Display	LCD 45 x 35 mm (1.77 x 1.37 inches) Graphic / pixels with backlight sensor Standard and Custom configurations				
LED illuminated faceplate	Yes	No	Yes	Yes	Yes
RFID	Yes	No	No	Yes	Yes
Capacitive sensors in handlebar (Operator presence control)	Yes	No	Yes	Yes	Yes
Vibration motor for Haptic feedback	Yes				
Built-in impact, drop and tilt protection	Yes				
Cable backup	In option Yes			Yes	
Weight (typical)	~0.95 kg (~2.1 lbs) ~2 kg (~			~2 kg (~4.4	lbs)

*Depending on the configuration

Joystick directions

The T26-81 and T26-82 transmitters have two joysticks (2-axis with spring-to-centre) allowing a stepless control.

	T26-81, T26-82
Joystick 1 (XY)	Analog XY
Joystick 2 (XY)	Analog XY

Code (XY)	Movement control on X	Movement control on Y	Movement control on Z
0x2	-	2-step	-
2x2	2-step	2-step	-
2x0	2-step	-	-
4x4	4-step	4-step	-
4x0	4-step	-	-
Analog XY	stepless	stepless	-
Analog Y	-	stepless	-
Analog XYZ	stepless	stepless	stepless

Example:

Analog XY

Analog Y

The joystick operates on both X and Y axes with stepless movement from the center.



The joystick/paddle operates on the Y axe only with stepless movement from center and back.



T27

	T27-01
Number of joysticks	*
Number of paddles	*
Number of switches	*
Stop button	On the side
Key switch	No
Display	No
LED illuminated faceplate	No
RFID	No
Capacitive sensors in handlebar (Operator presence control)	No
Vibration motor for Haptic feedback	No
Built-in impact, drop and tilt protection	Yes
Cable backup	No
Weight (typical)	~0.95 kg (~2.1 lbs)

*Depending on the configuration

CHAPTER 4: PRODUCT GENERAL DESCRIPTION

NOTE! The pictures shown in this chapter are for illustrative purposes only. Depending on the configuration, the actual product appearance may differ from the basic model used for reference.

TRANSMITTER CASING



- 1. Side button 2
- 2. Side button 1
- 3. Status LED

* except T26-6.

- 4. LCD Display
- 5. Battery LED
- 6. Faceplate illumination LEDs*

TRANSMITTER DIMENSIONS



Transmitter top view





- 3. Handlebars 6
 - 6. Side button 4 (start button)
- 9. Key switch

NOTE! By default, the on/off control of the faceplate LEDs is set to the side button 3.

¹With integrated faceplate illumination LEDs and capacitive sensors for Operator Presence Control. ²Paddles, joysticks, buttons, etcs. depending on the configuration.

Transmitter top view



Transmitter side views



Left side

- 4. Side button 2
- 2. LCD display 5. Belt lo
- 3. Handlebars

1. Side button 1

- 5. Belt loops
- rs 6. Side button 4 (start button)

Right side

- 7. Side button 3 (start button)
- 8. Customizable area (e.g. for the stop button)
- 9. Customizable area (e.g. for a key switch)

¹Paddles, joysticks, buttons, etcs. depending on the configuration.

Transmitter top view



Transmitter side views



Left side

5. Belt loops

- 1. Side button 1
- 2. LCD display
- 3. Handlebars
- 4. Side button 2

- Right side
- 8. Customizable area (e.g. for the stop button)
- 9. Customizable area (e.g. for a key switch)

NOTE! By default, the on/off control of the faceplate LEDs is set to the side button 3.

6. Side button 4 (start button)

7. Side button 3 (start button)

¹With integrated faceplate illumination LEDs and capacitive sensors for Operator Presence Control. ²Paddles, joysticks, buttons, etcs. depending on the configuration.

Transmitter top view



- 1. Handlebars¹
- 2. Status LED
- 3. LCD display
- **Transmitter side views**



5. Joysticks 1-2

Left side

- 1. Side button 1
- 2. LCD display
- 3. Handlebars
- 4. Joysticks1-2
- 5. Toggle switches 1–3
- 6. Belt loops
 - 7. Side button 3 (start button)

Right side

6. Belt loops

7. Toggle switches 1-3

- 8. Stop button
- 9. Side button 4 (start button)
- Side button 2 10.
- 11. Key switch

NOTE! By default, the on/off control of the faceplate LEDs is set to the side button 3.

¹With integrated faceplate illumination LEDs and capacitive sensors for Operator Presence Control.

Transmitter top view



Transmitter side views

Left side

- 1. Side button 1
- 5. Toggle switches 1–3
- 6. Belt loops
- 3. Handlebars¹

2. LCD display

4. Joysticks1–2

NOTE! By default, the on/off control of the faceplate LEDs is set to the side button 3.

¹With integrated faceplate illumination LEDs and capacitive sensors for Operator Presence Control.

- Right side
- 8. Stop button
- 9. Side button 4 (start button)
- 7. Side button 3 (start button) 10. Side button 2

T26 BOTTOM VIEWS

T26-01, T26-81





- 1. Customizable area (e.g. for a key switch)
- 2. Belt loops
- 3. Battery compartment

- 5. Product label
- 6. RFID antenna (in option)
- 4. Customizable area (e.g. for the stop button)
- 7. Replaceable battery



- 1. Customizable area (e.g. for a key switch)
- 2. Belt loops
- 3. Battery compartment
- 4. Stop button

- 5. Product label
- 6. RFID antenna (in option)
- 7. Replaceable battery

T27-01

Transmitter top view



¹Paddles, joysticks, buttons, etcs. depending on the configuration.

Transmitter side views



Transmitter bottom view



- 1. Belt loops
- 2. Battery compartment
- 3. Stop button

- 4. Product label
- 5. RFID antenna (not implemented)
- 6. Replaceable battery

LEDS AND DISPLAY

The transmitters are equipped with 2 LEDs providing information about battery level, radio link status and other status (see the LEDs status and error codes in the table below).

The transmitter display is intended for receiving and visualizing feedback information from the system as well as for basic configuration. The T26 transmitter display is controlled by the transmitter's side buttons.



- 1. Status LED
- 2. Battery LED

LEDs and display on the T26 transmitter

LED indicators

The transmitter has 2 bi-color LEDs for status indication:

• Battery LED is for battery indication.

Green means that the battery level is good while red indicates that the battery level is low. When the battery LED turns red, the battery should be changed / recharged at the next convenient opportunity.

• Status LED is for radio link and system information.

Status and error indications

Display LEDs status and error codes

LED	Colour	On	Off	Flash	Indicates
Battery LED	green	Х			Battery level is good.
	red	Х			Battery level is low, must be charged.
	red			X	Battery is charging and is not yet fully charged.
	_		Х		No battery present in battery compartment.
Status LED	green	Х			When started, radio link ok.
	green			Х	When started, radio link not ok.
	red	Х			Fatal error. More information can be found on the display.
	red			X	Sending stop/ logout command. More information can be found on the display.

CHAPTER 5: OPERATION (T26)

GENERAL INFORMATION

To control a receiver, the transmitter must be registered and logged in to the receiver. If another transmitter is already logged in to the receiver, it must be logged out before a different transmitter can be logged in.

If no transmitter is logged in to the receiver, proceed with the login procedure before using the system. Once a transmitter has been logged in, it will remain logged in until it is manually logged out.

More than one transmitter can be registered in the receiver, but only one transmitter can be logged in at a time.

GENERAL NAVIGATION

By default, the Menu system is controlled by the transmitter's four side buttons.



- 1. Select button
- 2. Back button
- 3. Up button
- 4. Down button

Main menu

Button	Action
1 (Select)	Enter the selected menu
2 (Back)	Back / cancel
3 and 4 (Up/Down)	Move between the menu items

Enter numbers/ change a value

Button	Action
1 (Select)	Accept the updated value.
2 (Back)	Cancel and go back to the menu without confirmation
3 and 4 (Up/Down)	Increase/decrease the value displayed

Select a location in the menu

Button	Action
1 (Select)	Select/deselect the current location. Selected elements are indicated by a + sign on the left of the selection.
2 (Back)	Accept currently selected slots.
3 and 4 (Up/Down)	Move through the location list.

START-UP PROTECTION

RFID tags can be activated to prevent unauthorized personnel from operating the transmitter. To activate the RFID functions, contact your representative for assistance.

Once the RFID start-up protection functions have been activated, RFID tags need to be registered in the transmitter before they can be used.

If the RFID start-up protection functions have been activated but no RFID tag has been registered, this will be indicated on the display with the following warning message: [There are no RFID stored in the settings. Register tags in the config menu.]

Once RFID tags have been registered, the display will show: [Waiting for a valid tag to be presented...] each time the transmitter is started.

To register a RFID tag, see "Register RFID tags" on page 36.

FUNCTIONALITY TEST

NOTE! This list is intended for use as a support for the manufacturer of the equipment where Tele Radio AB remote control systems are installed.

Before operating the radio system, follow the procedure below.

IMPORTANT! This test should be performed at each shift, without a load, and should include but not be limited to the following steps

- Make sure that the controlled object can not cause any harm in the event of unexpected movement.
- Always follow local safety rules and start the equipment according to the corresponding instructions.
- Make sure that the transmitter can control the receiver by testing all functions.
- Make sure that the functions respond as expected.
- Make sure that all movements are as planned.
- Make sure that the stop button works correctly.
- Make sure that the stop function works correctly.
- Make sure the system stops when both batteries are removed from the transmitter.

LOG THE TRANSMITTER IN TO A RECEIVER

- 1. Make sure that the stop button is pressed.
- 2. Turn the key switch to the On position (horizontal).
- 3. Twist and release the stop button. *The initial start-up logo is displayed. Battery indicator(s) light(s). The display shows:* [Session Selection]

NOTE! Should the display show a warning message on zero position for the control switch or joystick, release the affected controls in order to proceed. If the controls are not released, the transmitter will block the corresponding inputs and display the following warning message: [Inputs have been blocked. IO board 0X: 0xXXXXXX]. Enter the configuration menu and clear the locked inputs before proceeding with the login procedure (see "Clear blocked inputs" on page 33).

 Press the Select button to select one or more receiver(s) for the session. *The display shows:* [Select one or more items] and the list of the registered receivers. Selected receivers are marked with a + sign.

Select/change one or more receiver(s)

- 4. Choose a receiver in the list using the Up/Down buttons.
- Press the Select button to select.
 A + sign is displayed in front of the selected receiver.
- 6. Repeat steps 4–5 if necessary.
- 7. Press the Back button to accept. *The display returns to the start screen:* [PUSH START BUTTONS]
- Press both Start buttons to start the session.
 The buzzer emits a beep. *The display shows:* [Logging in...].
- 9. Push the stop button to exit the session. *The display shows:* [Ending session...] The login settings are now stored/ saved in the transmitter.

START A SESSION

To be able to control a receiver using the transmitter, the transmitter must be registered and logged in to a receiver.



When not in use, transmitters must be switched off and stored in a secure storage space.

- Keep selected receiver(s)
 - 4. Press the Back button. *The display returns to the start screen:* [PUSH START BUTTONS]

Do not use the system if the stop button is damaged or if it does not stop the equipment. Doing so could result in serious injury or death.

NOTE! If the transmitter has never been logged in to the receiver before, the start-up procedure will fail and the transmitter will turn off.

Start the transmitter again and log in to a receiver before proceeding with the start-up procedure (see "Log the transmitter in to a receiver" on the previous page).

NOTE! The last accessed receiver(s) will automatically be selected the next time the transmitter is started.

- 1. Make sure that all safety measures have been followed.
- 2. Make sure the transmitter battery is charged.
- 3. Make sure that the stop button is pressed.
- 4. Turn the key switch to the 'On' position (horizontal).
- 5. Twist and release the stop button. *The initial start-up logo is displayed. Battery indicator(s) light(s). The display shows:* [PUSH START BUTTONS]

NOTE! If the display shows a warning message on zero position for the control switch or joystick, release the affected controls in order to proceed. If the controls are not released, the transmitter will block the corresponding outputs and display the following warning message: [Inputs have been blocked. IO board 0X: 0xxxxxxxx]. Enter menu mode to clear the locked inputs before proceeding with the start-up procedure (see "Clear blocked inputs" on page 33.

 Press the Select button to check if there are receiver(s) selected for the session. *The display shows:* [Select one or more items] and the list of registered receivers. Selected receivers are marked with a + sign.

If the correct receiver is already selected

- Press the Back button. *The display returns to the start screen:* [PUSH START BUTTONS]
- Proceed to step 11.

To select/change receiver(s):

- Proceed to next step.
- 7. Choose the receiver(s) to operate using the Up/Down buttons.
- 8. Press the Select button to select.
- 9. Repeat step(s) 7–8 if necessary.
- 10. Press the Back button to accept. *The display shows:* [PUSH START BUTTONS]
- 11. Press and hold both start buttons simultaneously for one second. *The buzzer emits a beep.*
- 12. Release both Start buttons. The Status LED flashes rapidly while waiting for the receiver confirmation.
 - If the transmitter has already been logged in to the receiver: The display shows: [Logging in...] The transmitter logs in to the receiver in which it has been registered. The Status LED lights green.

• If the transmitter has not been logged in to the receiver:

The display shows: [Login failed. invalid set of RX's.] *The transmitter turns off.* Start the transmitter again and log in to a receiver before proceeding with the start-up procedure ("Log the transmitter in to a receiver" on page 26).

NOTE! If the paired receiver is not detected within 30 s, the login process is canceled and the transmitter turns off.

13. Proceed with the functional test (see "Functionality test" on page 25).

LOG THE TRANSMITTER OUT FROM A RECEIVER

A transmitter already logged in to the receiver has to be logged out before any other transmitter can be logged in.

NOTE! Logout can only be performed when the transmitter is on and a radio link with one or more receivers has been established. The receiver must be powered-up for the logout procedure to be successful.

NOTE! The logout procedure will log the transmitter out from all receivers that are part of the radio session.

- 1. Press and hold both start buttons simultaneously.
- 2. Press the stop button *The display shows:* [Logging out from session] and [Logout successful. Powering down]
- 3. Release both Start buttons. *The transmitter turns off.*

SWITCH THE TRANSMITTER OFF

When the transmitter is active and the stop button is pressed, all relays on the receiver deactivate.

NOTE! When the transmitter is switched off, it remains logged in to the receiver(s). To log out, see "Log the transmitter out from a receiver" above

1. Press the stop button. *The display shows:* [Ending session] *The transmitter turns off. All relays on the receiver deactivate.*

CHAPTER 6: CONFIGURATION MENU (T26)

CONFIGURATION MENU AND STANDARD SETTINGS

The Configuration menu allows for certain settings to be set directly from the transmitter.

To access the configuration menu, turn on the transmitter, press the middle button on the right side of the transmitter and keep it pressed while pushing the Stop button. Once in menu mode, the following configuration menus will be available.



Configuration menu protection

PIN codes can be activated to prevent unauthorized personnel from entering the Configuration menu. To activate the PIN code functions, contact your representative for assistance. All PIN code settings require assistance.

The Configuration menu can be protected by PIN codes with different access levels (ex: standard and admin). Once the Configuration menu protection functions have been activated, a PIN code will always be required for accessing the Configuration menu.

NOTE! Default PIN code for the standard access level is 1234.

Enter the Configuration menu (no PIN code required)

- 1. Make sure that the stop button is pressed.
- 2. Turn the key switch to the 'On' position (horizontal).
- 3. Twist and release the stop button. *The initial start-up logo is displayed. Battery indicator(s) light(s). The display shows:* [Session Selection]
- 4. Press and hold side button 3.
- 5. Press the stop button.
- 6. Release side button 3. *The display shows the menu list.*
- 7. Select a menu by using the navigation and function buttons on the transmitter display (see "General navigation" on page 24).

Enter the Configuration menu (PIN code required)

- 1. Make sure that the stop button is pressed.
- 2. Turn the key switch to the 'On' position (horizontal).
- Twist and release the stop button. The initial start-up logo is displayed. Battery indicator(s) light(s). The display shows: [Ses[Session Selection] sion Selection]
- 4. Press and hold side button 3.
- 5. Press the stop button.
- 6. Release side button 3. The display shows: [Config Menu PIN 0000]
- 7. Enter the first digit using the Up/Down buttons.

NOTE! Once the Select button has been pressed, it is not possible to move back to the previous digit. Pressing the Back button will abort the procedure.

- 8. Press the Select button to accept and move to the next digit.
- 9. Repeat steps 7–8 until all four digits have been entered.
- 10. Press the Back button to accept.
 - If the entered PIN code is correct: The display returns to the menu list.
 - If the entered PIN code is incorrect: The display shows: [Config Menu PIN Incorrect PIN entered, shutting down device]. The transmitter turns off. Go back to step 1 and try again.

REGISTER A TRANSMITTER IN A RECEIVER

To control a receiver, the transmitter must be registered in the receiver, and logged in to the receiver. More than one transmitter can be registered in the receiver, but only one transmitter can be logged in at a time.

T26 transmitters can have up to 32 registered receivers (locations 1–32).

NOTE! The registration instructions require access to the receiver housing. For the registration procedure to be successful, the receiver must be powered up.

Do not perform this action when the receiver is in a session with another transmitter. The radio communication may be interrupted or broken.

On the Receiver



- 1. Power the receiver up. *LED 1 is flashing (red)*. If Bluetooth has been activated, the LED 5 will also flash (blue).
- Press and hold the cap sensor button until LED1 stops flashing. LEDs 2–5 flash (fast).
- Release the cap sensor button. LEDs 1–5 flash (slow). The receiver is now in registration mode. If no register command is received within 30 seconds, the receiver will exit registration mode.¹
- 4. Make sure that the stop button is

pressed.

On the Transmitter

- 5. Turn the key switch to the 'On' position (horizontal).
- Twist and release the stop button. The initial start-up logo is displayed. Battery indicator(s) light(s). The display shows: [Session Selection].
- Enter the Configuration menu (see "Enter the Configuration menu (no PIN code required)" on the previous page).
- 8. Navigate to the [Register] menu using the Up/Down buttons.
- 9. Press the Select button to enter.
- 10. Choose a location for the receiver to be registered in using the Up/Down buttons.
- Press the Select button to select.
 A + sign is displayed in front of the selected location.
- 12. Press the Back button to accept. *The display shows:* [Registration in progress...]

¹It is also possible to exit registration mode by briefly touching the receiver's cap sensor button.

When the transmitter's register command is received, ...

On the Receiver	On the Transmitter	
LEDs 1–5 flash (fast).	The display shows: [Confirm registration on	
	the receiver].	
13. Press the Cap sensor button for at least	The display shows: [Registration successful.	
2 s. LEDs 1–5 flash three times.	Transmitter was registered in HY-RX-xxxxx].	

The transmitter is now registered.

On the Receiver	On the Transmitter
LED 1 is flashing (slow).	The transmitter turns off.

If not successfully completed:

On the Receiver

The receiver exits registration mode. *LED 1 is flashing (red).* If Bluetooth has been activated, the LED 5 will also flash (blue).

On the Transmitter

The display shows: [Registration failed Timout]. The transmitter turns off. Go back and proceed from step 2.

ERASE A TRANSMITTER FROM A RECEIVER

This procedure erases the transmitter from the receiver and vice versa.

NOTE! The receiver must be powered up for the Erase procedure to be successful.

- 1. Make sure that the stop button is pressed.
- Twist and release the stop button. The Initial start-up logo is displayed. Battery indicator(s) light(s). The display shows: [Session Selection] [PUSH START BUTTONS].
- 3. Enter the Configuration menu (see "Enter the Configuration menu (no PIN code required)" on page 30)
- 4. Navigate to the [Erase] menu using the Up/Down buttons.
- 5. Press the Select button to enter.
- 6. Choose the receiver(s) to be erased from using the Up/Down buttons.
- Press the Select button to select.
 A + sign is displayed in front of the selected item(s).
- 8. Press the Back button to accept. *The display shows:* [Erase in progress...]
 - If successfully completed: The display shows: [Erase successful]. The transmitter turns off.
 - If not successfully completed: The display shows: [Erase failed. Timout]. The transmitter turns off. Go back to step 1 and try again.

CLEAR BLOCKED INPUTS

On start up, the T26 transmitters perform a zero position check for control switches, joysticks and/or paddles.

If the transmitter detects that some control commands are not in the zero position, the following warning message is displayed:

If the affected controls are not released, the transmitter will block the corresponding inputs and display the error message:

The next time the transmitter is started, the display will show the warning message:

[One or more inputs are not in the zero/startup position] [Release all controls to proceed.]

[Zero position problem identification in progress.] [Please wait for device to automatically restart]

[Inputs have been blocked.] [IO board OX: 0xXXXXXXX].

To clear the locked inputs:

- 1. Make sure that the stop button is pressed.
- 2. Turn the key switch to the 'On' position (horizontal).
- 3. Twist and release the stop button. *The initial start-up logo is displayed. Battery indicator(s) light(s). The display shows:* [Session Selection]
- 4. Enter the Configuration menu (see "Enter the Configuration menu (no PIN code required)" on page 30).
- 5. Navigate to the [Clear blocked input] menu using the Up/Down buttons.
- 6. Press the Select button to enter. *The display shows:* [Value: False]
- 7. Press the Up or Down button to change [False] to [True].
- 8. Press the Select button to confirm.
 - If successfully completed:

The display shows: [Clear blocked input successful]. The display returns to the menu list.

• If not successfully completed: The display shows: [Clear blocked input failed Timout]. The transmitter turns off. Go back to step 1 and try again.

SELECT A RADIO FREQUENCY CHANNEL

To change radio channel:

- 1. Make sure that the stop button is pressed.
- 2. Turn the key switch to the 'On' position (horizontal).
- 3. Twist and release the stop button. *The initial start-up logo is displayed. Battery indicator(s) light(s). The display shows:* [Session Selection]
- 4. Enter the Configuration menu (see "Enter the Configuration menu (no PIN code required)" on page 30).
- 5. Navigate to the [Radio Channel] menu using the Up/Down buttons.

6. Press the Select button to enter.

The display shows:

[Range: 11-26] [Value: XX]

7. Change the channel number using the Up/Down buttons.

Channel number	Frequency (MHz)	Channel number	Frequency (MHz)
11	2405	19	2445
12	2410	20	2450
13	2415	21	2455
14	2420	22	2460
15	2425	23	2465
16	2430	24	2470
17	2435	25	2475
18	2440	26	2480

SET THE BACKLIGHT INTENSITY

Set the LCD screen luminosity level (in %).

- 1. Make sure that the stop button is pressed.
- 2. Turn the key switch to the 'On' position (horizontal).
- 3. Twist and release the stop button. *The initial start-up logo is displayed. Battery indicator(s) light(s). The display shows:* [Session Selection]
- 4. Enter the Configuration menu (see "Enter the Configuration menu (no PIN code required)" on page 30).
- 5. Navigate to the [Backlight Intensity] menu using the Up/Down buttons.
- 6. Press the Select button to enter.
 - The display shows:

[Range: 0-100] [Value: XX]

- 7. Change the backlight intensity value using the Up/Down buttons.
- 8. Press the Select button to confirm. *The display returns to the menu list.*

SET BUZZER VOLUME

Set the buzzer volume level (in %).

- 1. Make sure that the stop button is pressed.
- 2. Turn the key switch to the On position (horizontal).
- Twist and release the stop button. The initial start-up logo is displayed. Battery indicator(s) light(s). The display shows: [Session Selection]
- 4. Enter the Configuration menu (see "Enter the Configuration menu (no PIN code required)" on page 30).
- 5. Navigate to the [Buzzer Volume] menu using the Up/Down buttons.
- 6. Press the Select button to enter.

The display shows:

[Range: 0-100] [Value: XX]

- 7. Change the buzzer volume value using the Up/Down buttons.
- 8. Press the Select button to confirm. *The display returns to the menu list.*

SET THE RADIO INACTIVITY TIMEOUT

Set the off delay (in seconds) before the transmitter automatically turns off.

- 1. Make sure that the stop button is pressed.
- 2. Turn the key switch to the On position (horizontal).
- Twist and release the stop button. The initial start-up logo is displayed. Battery indicator(s) light(s). The display shows: [Session Selection]
- 4. Enter the Configuration menu (see "Enter the Configuration menu (no PIN code required)" on page 30).
- 5. Navigate to the [Radio Inactivity Timeout] menu using the Up/Down buttons.
- 6. Press the Select button to enter.

The display shows:

[Range: 0-255] [Value: XX]

- 7. Change the off delay value using the Up/Down buttons.
- 8. Press the Select button to confirm. *The display returns to the menu list.*

REGISTER RFID TAGS

NOTE! If the RFID functions are not activated, contact your representative for assistance.

To register a RFID tag:

- 1. Make sure that the stop button is pressed.
- 2. Turn the key switch to the On position (horizontal).
- 3. Twist and release the stop button. *The initial start-up logo is displayed. Battery indicator(s) light(s). The display shows:* [Session Selection]
- 4. Enter the Configuration menu (see "Enter the Configuration menu (no PIN code required)" on page 30).
- 5. Navigate to the [Startup Protection RFID Learn] menu using the Up/Down buttons.
- 6. Press the Select button to enter. The display shows: [Select a single item] and the list showing the registered RFID tags' ID numbers.
- 7. Choose a location for the RFID tag to be registered in using the Up/Down buttons.
- Press the Select button to select.
 A + sign is displayed in front of the selected location.
- 9. Press the Back button to accept. *The display shows:* [Waiting for a valid tag to be presented...]
- 10. Turn the transmitter upside down and place the RFID tag against the RFID antenna.
 - If successfully completed: The buzzer emits 3 short beeps. The display returns to the menu list.
 - If no tag is presented within 20 s: The transmitter turns off. The next time the transmitter is started, the display will shows: [Waiting for a valid tag to be presented...]. Proceed with step 10 to complete the registration.

NOTE! To check that the RFID tag has been properly registered, repeat step 1 to 6.

ERASE RFID TAGS

NOTE! If the RFID functions are not activated, contact your representative for assistance.

To erase a RFID tag:

- 1. Make sure that the stop button is pressed.
- 2. Turn the key switch to the On position (horizontal).
- 3. Twist and release the stop button. *The initial start-up logo is displayed. Battery indicator(s) light(s). The display shows:* [Session Selection]
- 4. Enter the Configuration menu (see "Enter the Configuration menu (no PIN code required)" on page 30).
- 5. Navigate to the [Startup Protection RFID Erase] menu using the Up/Down buttons.

6. Press the Select button to enter.

The display shows: [Select a single item] and the list showing the registered RFID tags' ID numbers.

- 7. Choose the RFID tag to be erased using the Up/Down buttons.
- Press the Select button to select.
 A + sign is displayed in front of the selected item.
- 9. Press the Back button to accept. *The display shows:* [Confirmed]. *The display returns to the menu list.*

*To check that the RFID tag has been properly erased, see "Register RFID tags" on the previous page, steps 1 to 6.

SHOW THE DEVICE INFORMATION

Display the transmitter's series number and CPU versions .

To see the transmitter's information:

- 1. Make sure that the stop button is pressed.
- 2. Turn the key switch to the On position (horizontal).
- 3. Twist and release the stop button. *The initial start-up logo is displayed. Battery indicator(s) light(s). The display shows:* [Session Selection]
- 4. Enter the Configuration menu (see "Enter the Configuration menu (no PIN code required)" on page 30).
- 5. Navigate to the [Show device information] menu using the Up/Down buttons.
- 6. Press the Select button to enter.

The display shows:

[S/N: HY-TXXXX]* [CPU01: XXXX]** . . .

* S/N = serie number; HY= Tele Radio AB's internal product code; TX= transmitter

** CPU01–04: Id number of the software currently used in each of the transmitter's CPU cards.

CHAPTER 7: BATTERY

BATTERY PRECAUTIONS

Carefully read the following safety instructions and warnings before using, charging or disposing of the batteries.



Handling and storage

- Risk of explosion if battery is replaced with a battery of an incorrect type.
- Do not short circuit, disassemble, deform or heat batteries.
- Never attempt to charge a visibly damaged or frozen battery.
- Do not use or charge the battery if it appears to be leaking, deformed or damaged in any way.



- Do not solder directly onto batteries.
- Do not leave the battery in the charger once it is fully charged.
- Store in a cool location. Keep batteries away from direct sunlight, high temperature, and high humidity.
- Immediately discontinue use of the battery if, while using, charging, or storing the battery, the battery emits an unusual smell, feels hot, changes color, changes shape, or appears abnormal in any other way.
- Keep batteries out of reach of small children. Should a child swallow a battery, consult a physician immediately.

Disposal

When discarding batteries, insulate the + and - terminals of batteries with insulating/ masking tape.

Do not place multiple batteries in the same plastic bag.
Do not incinerate or dispose of batteries in fire.
Do not place used batteries in the household waste. Dispose of used batteries in accordance with the applicable regulations and legal requirements.
Batteries that have been disposed of incorrectly may short circuit, causing them to become hot, burst or ignite.

BATTERY INFORMATION

NOTE! Only batteries approved by Tele Radio AB should be used in T26 transmitters.

T26 transmitters are equipped with one battery. Battery level is indicated by the LED indicator on the transmitter's display (see "LED indicators" on page 23).

The battery can be recharged using a Tele Radio AB battery charger (e.g. table charger or car cigarette lighter adapter) or the AC main charger adapter.

BATTERY PACK	
Article number	M245060
Battery type	Replaceable, rechargeable lithium-ion battery
Weight (typical)	0.47 kg (1.04 lbs)
Voltage	3.7 V / 1600 mAh
Charging time	\sim 4 h with an empty battery
Charging cycle	600 cycles
Charging temperature	0+45 °C / +32+113 °F

CHARGERS ¹	M769746	M769780	M769755 + M769780
Charger type	Car cigarette lighter adapter	AC adapter	Table charger
Input/output power	12 – 24 V DC / 5 V DC	110 – 240 V AC / 5 V DC	5 V DC, 10 % (1A)
Weight (typical)	0.11 kg (0.25 lbs)	-	0.12 kg (0.26 lbs)
Dimensions	_	_	90 x 25 x 135 mm (3.5 x 1 x 5.3 in)
Other	_	Supplied with multiple connector types	Can be wall-mounted

NOTE! Electronics and batteries must be physically separated before disposal. Make sure that electronics or batteries are not disposed of in household waste.

Charge the battery in the table charger

NOTE! When approximately 10 % of a battery capacity remains, the corresponding battery LED will light red.

- 1. Remove the battery from its compartment and place it in the Tele Radio AB battery charger.
- 2. The charger's LED lights red while the battery is charging.
- 3. The charger's LED turns green when the battery is fully charged.
- 4. Put the battery back into the transmitter's corresponding compartment.

AC adapter

The AC adapter can be used for charging the batteries while they are being used. It can also power the transmitter while the batteries are removed and charged in the battery charger.

¹Must be purchased separately.

CHAPTER 8: WARRANTY, SERVICE, REPAIRS, AND MAINTENANCE

Tele Radio AB products are covered by a warranty against material, construction and manufacturing faults. During the warranty period, Tele Radio AB may replace the product or faulty parts. Work under warranty must be performed by Tele Radio AB or by an authorized service center specified by Tele Radio AB.

The following are **not** covered by the warranty:

- Faults resulting from normal wear and tear
- Parts of a consumable nature
- Products that have been subject to unauthorized modifications
- Faults resulting from incorrect installation and use
- Damp and water damage

MAINTENANCE

- Repairs and maintenance must be performed by qualified personnel
- Only use spare parts from Tele Radio AB
- Contact your representative for service or any other assistance
- Keep the product in a clean, dry place
- Keep contacts and antennas clean
- Wipe off dust using a slightly damp, clean cloth

NOTE! Never use cleaning solutions or high-pressure washer.

CHAPTER 9: REGULATORY INFORMATION

EUROPE

Applies to:

T26, T26-01, T26-06, T26-07, T26-81, T26-82

T27, T27-01

CE marking

Hereby, Tele Radio AB, declares that the radio equipment type(s) listed above is/ are in compliance with Directive 2014/53/EU.

The latest version of the complete EU Declaration of Conformity is available on the Tele Radio AB website, www.tele-radio.com.

WEEE directive



This symbol means that inoperative electrical and electronic products must not be mixed with household waste. The European Union has implemented a collection and recycling system for which producers are responsible. For proper treatment, recovery and recycling, please take this product to a designated collection point.

Tele Radio AB strives to minimize the use of hazardous materials, promotes reuse and recycling, and reduces emissions to air, soil and water. When a commercially viable alternative is available, Tele Radio AB strives to restrict or eliminate substances and materials that pose an environmental, health or safety risk.

NORTH AMERICA

Applies to:

T26, T26-01, T26-06, T26-07, T26-81, T26-82 T27, T27-01

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.

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

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.

To satisfy FCC RF exposure requirements, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation. To ensure compliance, operations at closer than this distance is not recommended.

IC Statement

This product complies with Industry Canada's licence-exempt RSSs. 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 device.

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;

2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

To satisfy IC RF exposure requirements, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation. To ensure compliance, operation at closer than this distance is not recommended.

Afin d'assurer la conformité aux exigences de la IC en matière d'exposition aux RF, une distance de séparation d'au moins 20 cm doit être maintenue entre l'antenne de cet appareil et toute personne à proximité pendant le fonctionnement de l'appareil. Pour assurer le respect de ces exigences, il n'est pas recommandé d'utiliser l'appareil à une distance inférieure à celle-ci.

FCC/IC labels

The radio module in this product is labeled with its own FCC ID and IC numbers. The FCC ID and IC numbers are not visible when the radio module is installed inside another device. Therefore, the outside of the device into which the module is installed must also display a label referring to the enclosed radio module. The final end device must be labeled in a visible area with the following:

"Contains ...

"Contains ...

The FCC and IC numbers are found on the product label.

RADIO MODULE

The products described in these instructions contain the radio modules:

PRODUCT	RADIO MODULE
T26	D00005-15

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NST



These installation instructions are subject to change without prior notice. Download the latest installation instructions from **www.tele-radio.com**.