JETI model

duplex

DC/DS-24 II

2.4GHz & 900MHz NG

Dual Band System

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EN

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1 Introduction

1.1 DUPLEX DC/DS-24II

Thank you for buying the JETI Duplex DC/DS-24II transmitter. This is a High-End transmitter that will surely satisfy all users. Duplex is a JETI model remote control system with maximum reliability and safety.
The DUPLEX DC/DS-24II transmitters were developed and produced with the cooperation of professional engineers and world champion pilots. It's a modernized version of the proven DC/DS-24 transmitters. The design goals were maximum utility, durability, and reliablity of their mechanical parts along with simple handling. The metal case, with its chemically resistant finish, provides maximum protection for the interior components. The straightforward case shape makes servicing easy. The all-metal, ball bearing equipped, control gimbals with their magnetic Hall sensors are another revolutionary design concept used to make the DC/DS among the world's most advanced R/C systems.
The large LCD display located on the top of the transmitter offers perfect readability in any lighting conditions and a wide viewing angle. The new graphical software gives the user a simplified and intuitive setting not only of the transmitter, but also of other supported connected devices in the model. Internal WiFi and Bluetooth communication modules extend the transmitter with new functions and options. In the products of the DUPLEX EX series, full telemetry, data transfer and their processing to LCD transmitters, as well as analysis in a PC, are already integrated as standard. The transmitter allows the setup of voice notifications, both preinstalled and user created, which can be related to telemetric values, user set alarms, or signals which have been assigned to the transmitter control elements.

1.2 Features

Duplex 2.4GHz – the DC/DS transmitters feature the Duplex 2.4GHz, frequency hopping, digital, data stream system, originally developed by JETI model in the Czech Republic. For higher security, the transmitter is equipped with two separate RF modules for the 2.4 GHz band. This system has been reliably used for many years.

Duplex 900MHz NG (Next Generation) - transmitters have a backup RF module working in the 900 Mhz band. Doubled two-band data transmission in this way ensures unparalleled security and reliability of the system.

Bluetooth module - connection to wireless headphones for audio transmission or to mobile phones and tablets to display telemetry.

Wi-Fi module - extending the connectivity of the transmitter by the access to the Internet (this function will be gradually released and updated through free updates).

Integrated telemetry - DUPLEX transmitters are developed to display and use telemetry for model control. Transmitters display all telemetry and also offer the possibility to use telemetry data for control of any functions in the model.

Precise Gimbals – the transmitter gimbals are equipped with Hall sensors and ball bearings for precision movement with an almost unlimited lifespan.

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LCD Display – color 4" LCD display with 480 x 480 resolution which is highly visible under any light conditions.

Li-Ion Battery – provides a proven and reliable energy source with a high capacity (6200mAh) and a long service life.

Easy Charging – *USB-C* plug for connecting to the charger or PC.

Integrated Antenna - built in antennas are fully protected against mechanical damage.

Large Memory – Internal SD card for storing models, sounds, and telemetry data.

USB-C plug – convenient connection to your PC. Fast firmware & sound upgrades, telemetry data downloads.

Fast Navigation – **"3D"** rotary-button interface combined with function keys allow for speedy navigation within the transmitter menu.

Digital Trims – fully programmable trims and a revolutionary automatic trimming function.

Swappable and Assignable Switches – All the switches on the DC/DS transmitters (2- or 3-position) can be easily moved and assigned to create a custom configuration that works best for your application.

Programming – the logical and intuitive transmitter firmware is designed to be simple to use (just follow the step-by-step screens). The creation of a new model can be accomplished with just a few easy steps.

Sounds/Alarms – the DC/DS transmitters are equipped with audible alarms and also allows the use of user-recordable alarms and sounds to keep you fully informed while also keeping distractions to a minimum.

Integrated microphone with voice recognition capability - using the integrated microphone you can easily prepare your own audio files. Furthermore, you can teach the transmitter to respond to several voice commands.

For the transmitter to be usable without compromise for all modeling disciplines, its menu is quite comprehensive. Therefore, we recommend that you familiarize yourself with the settings of the transmitter. Then you will be able to take full advantage of its advantages and possibilities. The transmitter has a menu sorted into logical groups and is equipped with a context-sensitive help, which you can open on the transmitter display at any time during setup.

This part of the manual is intended to introduce you to the functions of the transmitter step by step and in a logical order. It guides you through basic transmitter setup and shows examples of creating a new model.

1.3 Manual Navigation

Important parts of the instructions are separated from the text andhighlighted according to importance.

Advice	*Note*	*Warning*

In this part of the manual, you will find the construction of the transmitter and the possibilities of its mechanical adjustment according to the needs of [illegible] settings and model settings, use the first part of the [illegible] help that is part of the transmitter.

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1.4 Package contents DC 24 II

1. JETI DC-24II transmitter. **2.** Aluminium Case. **3.** Charging adapter for the transmitter. **4.** USB-C PC Cable. **5.** 4-point Adjustable Harness. **6.** REX12Assist Receiver . **7.** Duplex Pad. **8.** Tool kit. **9.** Cleaning cloth. **10.** User Manuals



1.5 Package contents DS 24 II

1. JETI DS-24II transmitter. **2.** Aluminium Case. **3.** Charging adapter for the transmitter. **4.** USB-C PC Cable. **5.** Adjustable Harness.

6. REX12Assist Receiver . **7.** Duplex Pad. **8.** Tool kit. **9.** Cleaning cloth. **10.** User Manuals



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1.6 Technical Support

If you feel uncertain about how to set up particular transmitter functions, do not hesitate to take advantage of our technical support:

1. Web Site

Either the JETI model (manufacturer) or your local distributor's web sites offer a wide range of support for the DC transmitters. You will find advice, tips or frequently asked questions (FAQ) which, in most cases, contain the answers to your questions.

2. Distributor, Manufacturer

You may also find support at your local hobby shop, distributor, or directly with the manufacturer ***JETI model s.r.o.***

1.7 Warranty - warranty card

This JETI manufacturer warranty (hereafter referred to as the **"Warranty"**) is granted by JETI model s.r.o. (hereafter referred to as **"JETI"**) to the purchaser (hereafter referred to as **"You"**) DUPLEX transmitters (hereinafter referred to as the "Product"). This warranty card is being delivered with the Product, subject to the following terms and conditions. JETI accredited Service Agents and Repair Centers will provide the services covered under this Warranty.

Warranty Period of the Product:

This warranty is valid for 24 months. If proof o[illegible] provided, the manufacture date as recorded b[illegible] to be the start of the Warranty Period.

Statutory Rights

This Warranty is given independently of any statutory rights that may apply in the country of purchase and does not effect or limit such statutory rights in any manner what so ever.

1. General

JETI warrants the Product to be free from defects in workmanship and materials for the Warranty Period. The Warranty does not cover bundled accessories, which were delivered together with the Product such as: cables, charger, case etc. If the Product fails during normal and proper use within the Warranty Period, JETI will repair or replace the defective parts of the Product, or the Product itself, with new or reconditioned parts or products that are functionally equivalent or superior to those originally supplied.

This Warranty applies only if the Product was newly manufactured on the Date of Purchase and not sold as used, refurbished or manufacturing seconds. Please keep the original purchase invoice for future service request. This Warranty does not include failure caused by improper installation, operation, cleaning or maintenance, accident, damage, misuse, abuse, non-JETI modifications to the product, normal wear and tear or any other event, act, default or omission outside JETI control.

For further details, see section 4 of this Warranty Card. All components that a JETI Service Center repaired or replaced will be under warranty for three months or for the remainder of the warranty period, whichever is applicable. The Repair Center may [illegible] configured system bundled with the Product.

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JETI will not restore or transfer any data or software from the Product's original storage media. If the Product is replaced or refund, all user generated data may be permanently deleted.
If the Product is under Warranty, You hereby agree to transfer the ownership of replaced defective parts and such parts shall automatically become the property of JETI.

2. Customer Responsibility

When using the Product

Read the user manual first and use the Product only according to the user manual. Periodically back up your data stored on the Product.

Technical support line phone number can be found at http://www.jetimodel.com/support.

Ensure that You have fully backed up all the data stored on Your Product before any service process is started. You agree that JETI may delete any data or LUA aplications installed on the Product without restoring them. JETI shall not be held liable for the permanent loss, damage, or misuse of your data.

Pack the Product in safe and stable packaging and make sure that all accessories are in the package. The original packaging may be useful for this purpose. JETI shall have no liability for the loss, damage or destruction of accessories or removable storage devices, unless they are caused by willful of gross negligent acts by JETI.

3. Warranty Service

If you have a product with an issue, you can send it directly to JETI Model company, or to your dealer where you purchased it. Please attach invoice for warranty service & repair.

4. Exclusions from this Limited Warranty Service

JETI does not warrant uninterrupted or error-free operation of this Product, The Warranty only covers technical hardware issues during the Warranty Period and in normal use conditions. It applies to firmware issues but not to any other software issues or customer induced damages or circumstances such as but not limited to:

a) Damage caused to this Product(s) by you or any non-authorized third party;
b) The serial number of the Product, components or accessories has been altered, cancelled or removed;
c) Obsolescence;
d) Damage (accidental or otherwise) to the Product that does not impact the Product's operation and functions, such as without limitation to rust, change in color, texture or finish, wear and tear, **and gradual deterioration;**
e) Damage to the Product caused by improper installation, improper connection or malfunction of a peripheral device such as printer, optical drive, network card, or USB device, etc.

5. Limitation of Liability

Except as provided in this Warranty and to the maximum extent permitted by law, JETI is not responsible for direct, special, incidental or consequential damages resulting from any breach of warranty or condition, or under any other legal theory, including but not limited to loss of use; loss of revenue; loss of, damage to or corruption of data; or any indirect or consequential loss or damage whatsoever caused including the replacement of equipment and property, any [illegible] reproducing any data stored on or used with

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the Product. The foregoing limitation shall not apply to death or personal injury claims, or any statutory liability for intentional and gross negligent acts and/ or omissions by JETI. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages; to the extent such jurisdiction is governing this Warranty the above limitations do not apply to You.

6. JETI Privacy Policy

It is necessary for JETI to collect, process, and use Your personal data in order to facilitate the requested service; and for this purpose Your personal data may be transferred to, stored, processed or used by JETI affiliated companies or JETI service providers. JETI committed that all said transfer, storage, process or use of Your personal data shall be subject to applicable laws on privacy protection and personal data security and the "JETI Privacy Policy"

7. Warranty and Support

This Warranty applies in the country of purchase.
Product purchased in European Union is eligible for JETI Warranty Service within European Union.
In this Warranty:
Service procedures may vary by country. Some service and/or replacement products may not be available in all countries.
Some countries may have fees and restrictions that apply at the time of service.
JETI reserves the right to interpret the provisions in this JETI Warranty Information. The information in this warranty card may change without prior notice. Please visit the JETI Support site at http://www.jetimodel.com/support for curre
warranty information.

8. JETI Contact Details

This Warranty is provided by:
JETI model s.r.o.
Lomená 1530
742 58 Příbor
CZECHIA
e-mail: support@jetimodel.cz, tel.: +420 556 802 092,

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2 Technical data and description of the transmitter

2.1 Technical parameters

Parameters	DC-24 II	DS-24 II
Channels	24	24
Control inputs	16	18
Backup Modul 900MHz NG (863 - 870 MHz - EU), (902 - 928 MHz - US), (918 - 926 MHz - Australia), (918 - 926 MHz - Asia)	Active	Active
Flight Modes	10	10
Free Mixes	30	30
Data Graphs	Active	Active
Audio Player	Active	Active
Logical Switches	24	24
Number of Remote Commands	24	24
Servo Sequencer	10	10
Timers	10	10
Displayed Telemetry Values	40	40
Sound on Events	40	40
Alarms	40	40
Vibration Alarms	Active	Active
Voice Output	Active	Active
MP3	Active	Active
Microphone	Active	Active
Gyro Settings	3	3
Servo Balancer	Active	Active
Function Curves	Active	Active
Throttle Limiter (heli)	A	
Trimy letových režimů	A	

Parameters	DC-24 II	DS-24 II
Accelerometer	-	Active
Telemetry Controls	64	64
Voice Commands	16	16
Lua Apps	10	10
Ditex Servo Telemetry	16	16
Double Path	Active	Active
RF modules 2.4GHz/900MHz NG	2/1	2/1
Number of antenas 2.4GHz/900MHz	4/1	4/1
Material Gimbals & Buttons	Aluminium	Aluminium
Transmitter Frame	Aluminium	Aluminium
Stick Resolution	4096	4096
Gimbal Hall Sensors/Vibration	Yes/Yes	Yes/Yes
Memory, SD Card	8 GB	8 GB
Backlight LCD	4" 480x480px Color, high backlight	4" 480x480px Color, high backlight
Bluetooth connectivity for headphones (Bluetooth audio)	Active	Active
Telemetry via Bluetooth for smartphones (Android/iOS)	Active	Active
Wi-Fi module	Not active	Not active
Graphical interface JUI	Ver. 2.0	Ver. 2.0
USB connector	Typ C	Typ C
Weight (g)	1490	1280
Transmitter Battery Pack (mAh)	Li-Ion 6200	Li-Ion 6200
Transmitter Aluminium Case	Included	Included

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2.2 Description of the transmitter - DC-24II



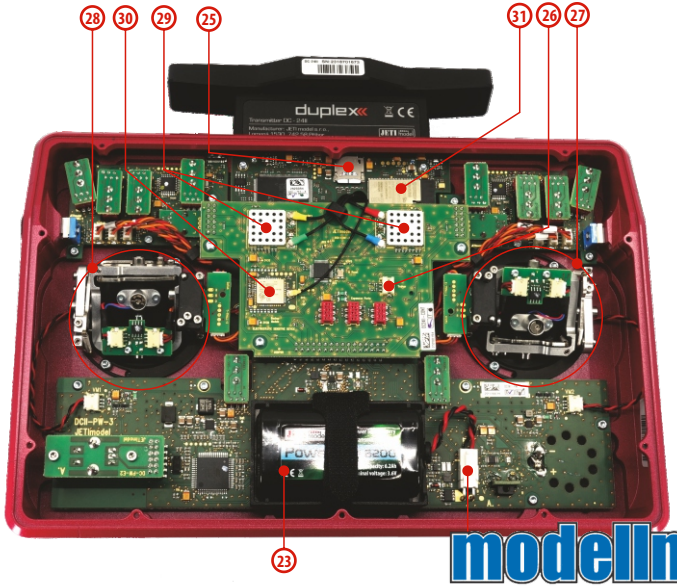
2.2.1 Control Identification DC-24II

1. Right Stick 1, 2 – the DC-24II Transmitter Supports Modes 1-4, see ***Control Sticks -> mode change.***
2. Left Stick 3, 4 – the DC-24II Transmitter Supports Modes 1-4, see ***Control Sticks -> mode change***
3. Swappable and Assignable Switches: ***Sa, Sb, Sc, Sd, Se, Sf, Sg, Sh, Si, Sj***
4. Digital Trims for the Left Stick T3, T4
5. Digital Trims for the Right Stick T1, T2
6. Right Side Control Lever ***"5"***
7. Left Side Control Lever ***"6"***
8. Rotary Control Knob ***"7"***
9. Rotary Control Knob ***"8"***
10. LCD Display
11. Function Buttons ***"F1 – F5"***
12. Transmitter On/Off ***"Power Switch"***
13. ***"3D"*** Control Selector
14. ***"Menu"*** Button
15. ***"ESC"*** Button
16. Antenna/Transmitter Handle
17. ***USB-C*** connector (*Charging/connecting to PC*)
18. Headphone connector / PPM connector
19. LED Indicators
20. Speaker
21. Harness Bracket (optional accessory) Installation Holes

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2.2.2 Assembly Identification DC-24II

23. Transmitter Battery Pack
24. Battery Connector
25. Memory Card Micro SD 8GB
26. PPM Output Connector
27. Left Gimbal Assembly
28. Right Gimbal Assembly
29. 2.4 GHz Module
30. 900MHz Module NG (Next Generation)
31. Bluetooth/Wi-Fi module



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2.3 Description of the transmitter - DS-24II



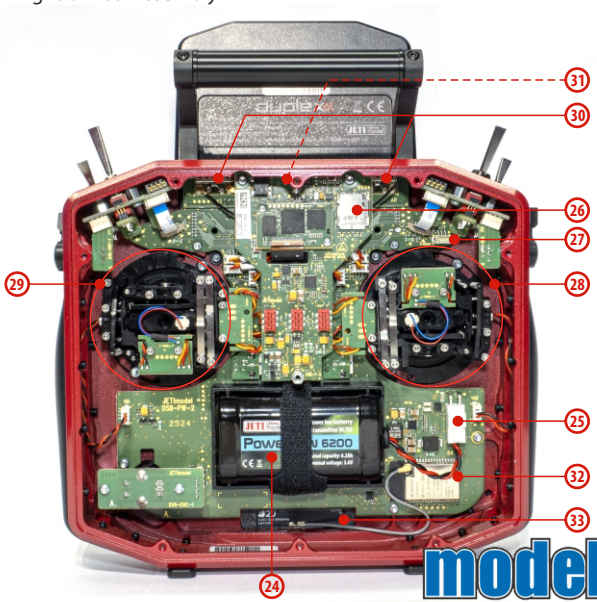
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18. Headphone connector / PPM connector
19. LED Indicators
20. Speaker
21. Harness Bracket (optional accessory) Installation Holes
22. Microphone
23. [illegible] ap

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2.3.2 Assembly Identification DS-24II

24. Transmitter Battery Pack
25. Battery Connector
26. Memory Card Micro SD 8GB
27. PPM Output Connector
28. Left Gimbal Assembly
29. Right Gimbal Assembly
30. 2.4 GHz Module
31. 900MHz Module NG (Next Generation)
32. Bluetooth/Wi-Fi module
33. Bluetooth/Wi-Fi antenna



Rear panel

34. Swappable and Assignable Switches: ***Sm, Sn, So, Sp***



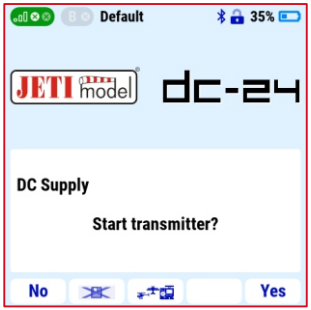
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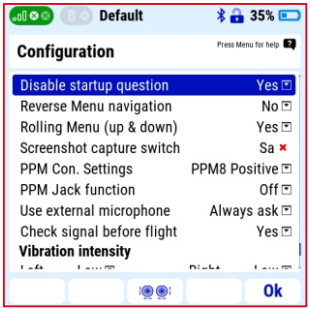
3 First start up of the transmitter

3.1 Turning the transmitter on/off

3.1.1 Turn on

1. The transmitter is turned on by long pressing the ***"POWER"*** button.
2. Turning on has to be confirmed by pressing the ***"F5"*** button below the display.





3. If turning on is not confirmed within the time limit of 10s, the transmitter will automatically turn off. This confirmation protects the transmitter against unwanted turning on, for example during transport.
4. The transmitter can be turned on even without confirmation if the item ***"Disable startup question"*** is set to ***"Ye*** ***/ System / Configuration"*** menu. In this case, the transmitter is turned on by a long press ***"POWER"*** button without confirmation.

Note: *if the transmitter is connected to a charger or PC, the* ***"Disable startup question"*** *function is disabled.*

3.1.2 Turn off

1. The transmitter is turned off by pressing the ***"POWER"*** button.
2. Turning off the transmitter requires confirmation with the ***"F5"*** button under the transmitter display.



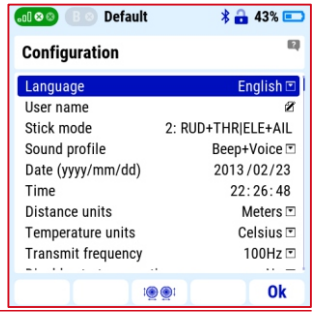
- if the shutdown process is not confirmed within the 10s time limit, the transmitter will automatically leave the shutdown menu and remain on.
- transmitter shutdown confirmation is a safety feature that cannot be disabled.

Note: *the transmitter can be turned off in an emergency* ***(without saving the current changes)*** *by simultaneously long pressing the* ***"POWER"*** *and* ***"ESC"*** *buttons.*

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3.2 Language selection

• The default language version of the transmitter is English. The language of the transmitter can be easily changed in the menu ***"Main menu/System/Configuration"*** item ***"Language"***.



3.3 Description of the "menu", "esc" and 3D button

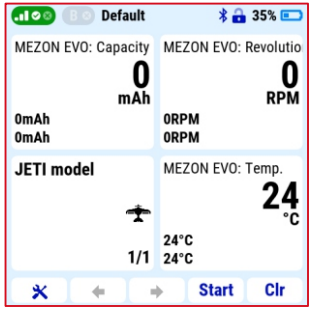
- the ***"3D" button*** is the basic controller for setting up the transmitter. By turning the rotary part of the 3D controller **(a/b)**, you scroll through the menu items or set the specific value of the selected item. Pressing the 3D controller **(c)** opens the highlighted item or confirms the set value."
- pressing ***"ESC"*** means ***"one step back"***.





3.4 Bottom bar of the display

Some menu screens have a bar with up to five icons at the bottom. This bar and its icons are different for each window. Each icon is assigned its function and this is activated by pressing the button below the icon. When there is no icon above the button or it is not highlighted, the button has no function in this screen.



After turning on the transmitter, there is a screwdriver and wrench icon in the lower left corner of the start screen. Pressing the ***"F1"*** key (below this icon) opens the quick settings menu with the following options:

3.4.1 Telemetry

Enable or disable telemetry data. The setting is for the entire system, i.e. all models in the transmitter's memory.

Possible settings:

"OFF" - no telemetry data will be displayed or saved.

"Receive On / Log off" - telemetry data will be displayed but not stored in the transmitter's memory.

"ON" - telemetry data will be displayed and stored in the transmitter's memory.

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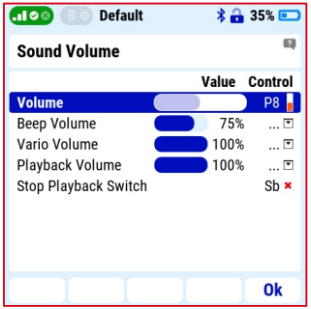
Note: *we recommend always having telemetry turned* ***"On"****.*

3.4.2 Volume

The transmitter is equipped with a speaker and can notify of various events, alarms or reached limits by playing sound or voice output. The current volume setting is displayed in this menu.

Audio volume

- detailed transmitter sound settings can be found in "***Main menu/System/Sound volume".***
- the current set volume is displayed in the first line.
- the volume setting can be controlled from the menu or with the assigned controller, for example by potentiometer.



Potentiometer assignment:

1. Use the ***"3D" controller*** to select the ***"Volume"*** line and activate the selection.
2. Move the potentiometer you want to control the volume, it will be detected automatically.
3. To confirm, press the F5 (OK) button.
4. Press the 3D controller to confirm the selection.
5. Move the control you want to control the transmitter volume.

Note: *for example, suitable volume controls are potentiometers* ***"P7"*** *or* ***"P8"****.*

Note: *if you assign a control to the volume control and turn it down to the minimum value, the sounds of the transmitter will be turned off completely (including alarms).*

3.4.3 Backlight type

The backlight of the display can be set to:

"OFF" – LCD backlight permanently off.

"Duration 10s" – after 10s of inactivity, the backlight turns off. Any action of the controls turns the backlight on again.

"Duration 60s" – after 60s of inactivity, the backlight turns off. Any action of the controls turns the backlight on again.

"ON" – LCD backlight permanently on.

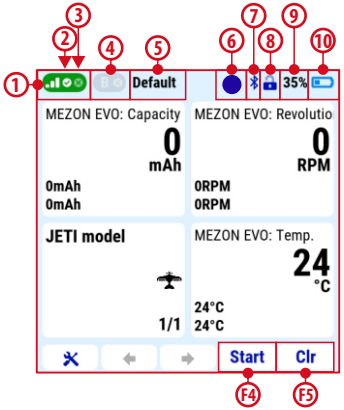
3.4.4 Intensity

The intensity of the LCD backlight can be manually adjusted in 11 steps, or an ***"Automatic backlight"*** option can be selected, in which the transmitter adjusts the intensity according to the ambient light conditions.

Note: *the time and the intensity of the backlight plays a significant role in energy consumption. In the case of permanent [illegible] backlighting of the display, the operating time of the [illegible] shortened.*

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3.5 Top bar icons



1. Signal strength in the 2.4GHz band.
2.-3. Display of the status of two RF transmitter modules for the 2.4 GHz band. The tick icon indicates that the exact module is active and communicating with the receiver. The cross icon indicates that the transmitter module has not established communication with the receiver or the receiver is not available.
4. Display of active/inactive RF module for the 900 MHz band.
5. The name of the active flight mode.
6. Recording of telemetry data in the transmitter's memory. If a square is displayed, recording is disabled. If a flash[illegible] displayed, telemetry data is bein[illegible] transmitter's memory. A cross indicates that telemetry has been manually turned off by the user.

***Note:** the **"F4" "Start/Stop"** button starts or stops telemetry data recording. The **"F5" "Delete"** button resets timers, transmitter status and **"Min/Max."** telemetry values on the display.*

7. Bluetooth module activity.
8. The throttle lock icon informs about the throttle lever position being locked. This is a safety function preventing the engine from starting unintentionally. If the lock icon is not displayed, this function is not active.
9. Transmitter battery status (percent).
10. Transmitter battery status (graphically).

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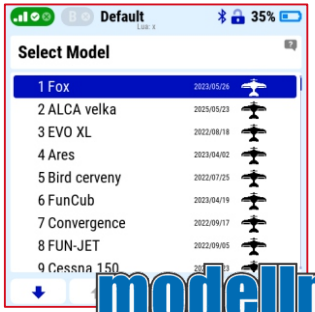
3.6 Main menu

1. Turn on the transmitter.
2. Press the ***"MENU"*** button to enter the main menu of the transmitter.



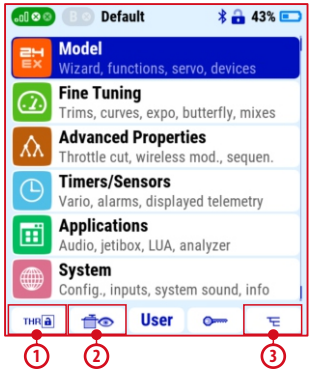
The main menu is divided into six basic groups. These groups branch in a logical sequence. For example, the first line is the ***"Model"*** option. If you select this line with the ***"3D"*** controller and press to confirm the selection, another layer under the ***"Model"*** menu will open. The first line now has ***"Select Model"***. By selecting it, the third menu layer opens, in which we can select a specific model from the transmitter's memory. The architecture of the transmitter's entire menu is created on the same principle of vertically and horizontally logically assembled groups.





3.7 Home screen bottom bar icon features

Description of the icons of the bottom bar of the main menu:

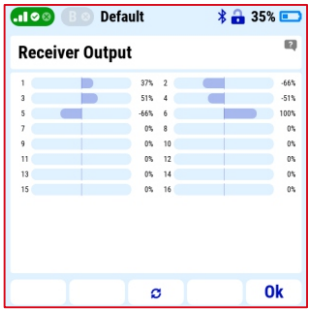


1. The icon with the lock symbol and the ***"F1"*** button is used to block the throttle controller (see chapter 3.5). You can also find safety functions that prevent the motor from spinning in another menu of the transmitter (e.g. ***"Main menu/Advanced settings/Other model options/Motor stop switch"***).
2. Icon with servo and eye symbol (***"F2"*** button) opens the server monitor function.

Note: *it is possible to change the display of values with the* ***"F3"*** *button under the circular arrows icon. Deflection can be displayed as a graph, a table with function names, percent (%), or as a value in*

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3. The icon with the directory symbol (***"F5"*** button) is used to directly enter the ***"Device explorer"*** menu. All devices used in the current model and supporting the EX Bus protocol are displayed here. The properties and status of these devices can be monitored directly on the transmitter display and their settings can also be changed from it.





Note: *setting the devices installed in the model (receivers, controllers, Central Box, telemetry sensors, etc.) from the transmitter and without the need to remove them from the model or connect them to special programmers is very practical and convenient. Use the* ***"F2" "Connected devices"*** *button to access this function directly.*

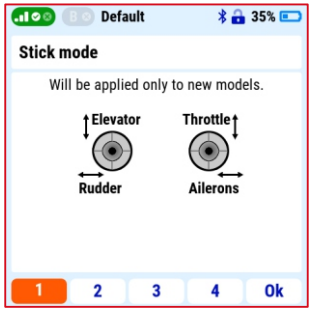
3.8 Set preferred transmitter configuration

3.8.1 Setting the transmitter mode

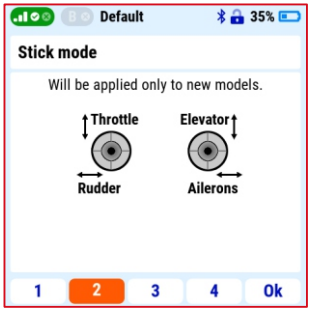
The transmitter is manufactured in mode 1 or mode 2 as standard. These modes can be changed very easily by the user at any time.

Note: *previously created models remain in their original mode. The change is only valid for models created after switching to the new mode.*

Description of modes:

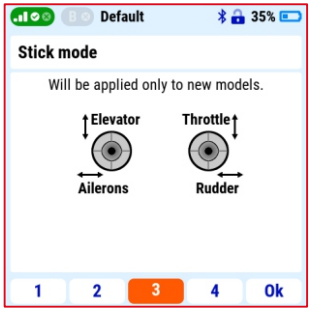


Mode 1

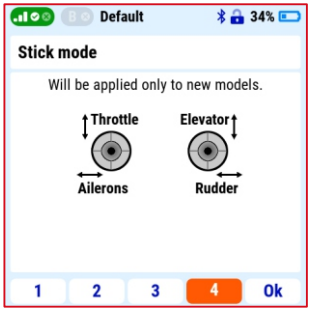


Mode 2

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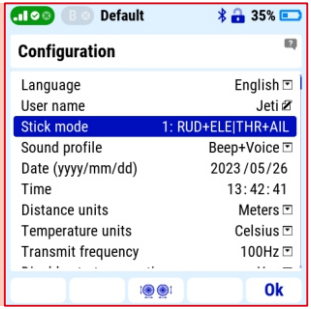
Mode3



Mode 4

Note: *before starting to create a new model in a new transmitter, always select the correct mode first.*

Note: *if you switch between modes 1 and 3 (both have the throttle stick on the right) or between modes 2 and 4 (both have the throttle stick on the left), to change the mode just select your preference in the menu* ***"Main menu/System/Configuration/MODE"****.*



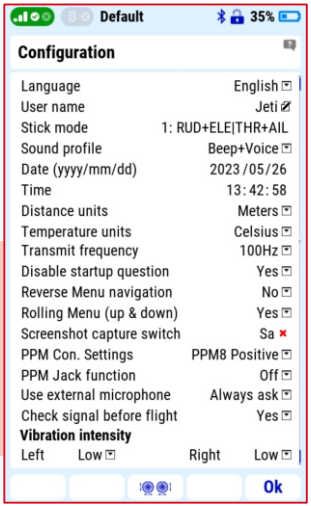
If it is necessary to change the function of the throttle stick mechanically when changing the mode, proceed according to the chapter ***"5.1 Stick controls"***.

3.8.2 Set username, date, time, units, frequency and screenshot capture switch

In the ***"Main menu/System Configuration"*** menu there are a number of user-adjustable parameters that affect the function of the transmitter. Therefore, it is advisable to set them immediately after turning on the transmitter for the first time.

Language: *- see chapter 3.2*
Username: - you can enter your name or any word.
Stick mode: *- see chapter 3.8.1*
Date: - enter the correct date
Time: - enter the correct time.

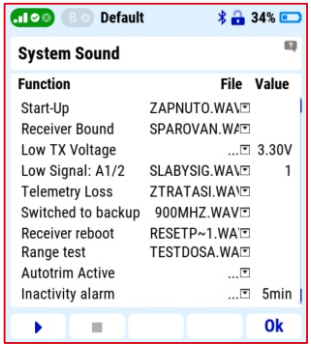
Note: *the transmitter assigns a date and time to the LOG records of the telemetry values. It is important to enter the correct values for correct orientation in the telemetry records.*



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3.8.3 System sound

System sounds are sounds or audio files that the transmitter plays when a system event is reached. Any sound or audio file from the transmitter's memory (***"Audio"*** folder) can be assigned to each function.



Note: *if there are three dots in the "File" column of the function line, there is no sound associated with this event.*

Low signal: A1/2: the assigned audio will be played when the signal on the 2.4GHz band antennas is not stronger than the value shown in the "Value" column. The recommended value is 1 (range is 0 - 3).

Note: *do not enter an unnecessarily high value for this parameter. Even if you enter a value of 0, you still have enough "range" to return the model when the* ***"Low Signal"*** *function is activated.*

Telemetry loss: warning of loss of telemetry transmission (signal from receiver to transmitter).

Note: *this message only alerts you to signal loss with telemetry data from the model to the transmitter. It does not mean loss of control over the model because the signal level from the transmitter to the model is* ***"stronger".***

Switched to backup: this function will be activated if a receiver for the 900MHz band is installed in the model and the connection in the 2.4GHz band is lost. The Duplex system will immediately switch to the 900MHz backup system and notify you of this event.

Receiver reboot: information about resetting the receiver due to low supply voltage. If the function is activated immediately after switching on the model, it is not a defect. If the receiver resets while the model is running, this is a dangerous condition and it is wise to find out the cause (risk of crash).

Note: *the entire time the* ***"Range test"*** *function is active, the Duplex system is in the range test mode, so it has reduced power and range.*

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3.9 Telemetry

The Duplex system stores telemetry data in the transmitter's memory. The data is mainly the values of telemetry sensors, the status of communication between the transmitter and the model, and also information about the position of the stick controllers during the flight of the model.

Enable and disable telemetry recording:



Manually starting the recording before each flight is possible but impractical. Therefore, in the menu ***"Main menu/Advanced Properties/Other model options"*** in the item ***"Start-Logging switch"*** there is an option to assign a switch for automatic activation of the recording.

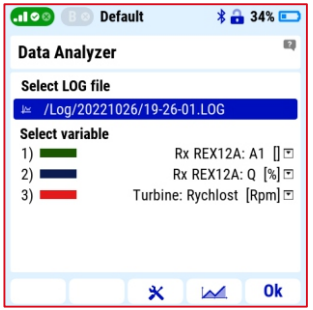
Note: *a suitable setting is, for example, to select the "Auto" mode. In this mode, telemetry recording will start at the same time as any timers are running (such as the model's flight time, etc.).*

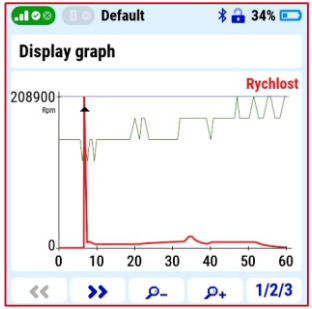
3.9.1 Display of telemetry data on the transmitter screen

Graphs of up to three telemetry data with their values can be displayed on the transmitter screen in ***"Main menu/Applications/Data analyzer"***.

Method:

1. Open the ***"Select LOG file"*** link and select the exact data LOG file. They are sorted by date and time of storage and model name.
2. In the ***"Select variable"*** item, select the exact parameter from the menu. A menu of available parameters is displayed automatically.
3. Press ***"F4"*** button under the graph icon to display graphs with values.
4. The ***"F1"*** and ***"F2"*** buttons move the timeline.
5. Buttons ***"F3"*** and ***"F4"*** change the size of the graph section.
6. the ***"F5"*** button switches individual curves.
7. The ***"3D"*** controller moves the [illegible]rrent value.





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3.10 Transmitter menu

Model
- *Select model*
- *New model*
- *Basic properties*
- *Model image & color*
- *Function assignment*
- *Servo assignment*
- *Swash mix (Heli)*
- *Servo setup*
- *Device explorer*

Heli tuning (Heli)
- *Flight modes*
- *Function curves*
- *Pitch curve*
- *Gyro settings*
- *Governor settings*

Fine Tuning
- *Flight modes*
- *Digital trim*
- *Flight mode trim*
- *Dual rate/Exponential*
- *Function curves*
- *Aileron Differential*
- *Butterfly/Flaps*
- *Snap roll*
- *Free mixes*
- *Gyro settings (Heli)*
- *Throttle Limiter (Heli)*
- *Governor settings (Heli)*

Advanced properties
- *Other model options*
- *Sticks/switches setup*
- *Wireless modes/Trainer*
- *Logical switches*
- *Sounds on event*
- *Sounds of proportional controls*
- *Telemetry controls*
- *Voice com*
- *Sequence*

Timers/Sensors
- *Timers*
- *Alarms*
- *Vario*
- *Voice output*
- *Servo telemetry*
- *Sensors/Logging setup*
- *Displayed telemetry*
- *Main screen*

Application
- *Data analyzer*
- *Audio player*
- *Jetibox*
- *Games*
- *Image slideshow*
- *Microphone*
- *Help*
- *File browser*
- *User applications*

System
- *Configuration*
- *Servo & Range test*
- *View inputs*
- *Receiver output*
- *System sounds*
- *Sound volume*
- *Bluetooth*
- *USB*
- *Installed modules*
- *Info*

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3.11 Example of creating a new model

This chapter describes the step-by-step process of creating a new aircraft model in the transmitter.

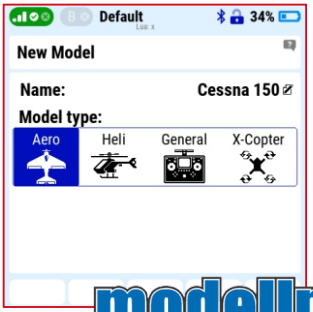
Example model

- a model with one electric motor and flaps (such as the Cessna 150).
- fixed landing gear with steerable front wheel.
- all digital HV servos.
- functions: 2x ailerons, 2x flaps, 1x rudder, 1x elevator, 1x steering front legs (landing gear).
- installation components used: DUPLEX REX 10 receiver for band 2.4 GHz, backup satellite receiver DUPLEX Rsat 900MHz NG for band 900 MHz, controller MEZON EVO 80 BEC.

3.11.1 New Model Creation Wizard

New model

1. In the menu ***"Main menu/ Model/New model"*** start the wizard.
2. To create a new model, enter the model name ***"Cessna 150"***.
3. Choose the model type "Aero", confirm and enter the next wizard window with the "F5" button.

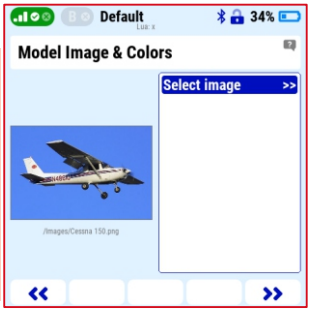


Note: *we don't recommend creating multiple models with the same name, high risk of confusion and mistake.*

Model image & colors

4. If you want to have an image of the exact model on the display screen for your better orientation, please select it from the menu in the ***"Select image"*** item.

Note: *you can find a suitable image of the model on the Internet or take a photo of your model. Supported image format is ***.png** or ***.jpg**, recommended size less than 100KB. Copy the image to the **"Img"** folder of the transmitter, see chapter 4.1.1.*



5. Choose the ***"Color Profile"*** of the graphic that suits you.
6. Press the ***"F5"*** button to enter the next window of the wizard.
7. **Basic properties**

   Wing type: "2 Flaps/ 2 Ail" (the model has two servos for flaps and two for ailerons).

   Tail type: "Normal 1H 1V" (the model has one servo for rudder and one for elevator).

   Engine count: 1

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Gear servos: 0
Use gyro: no

8. Press the ***"F5"*** button to enter the next window of the wizard.

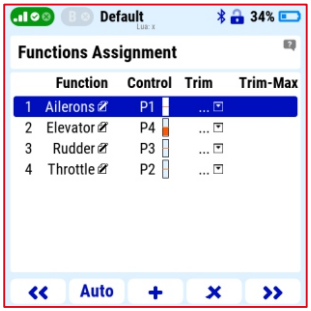


Note: *the template does not include the option to specify the function of the controlled landing gear leg/wheel. Functions that are not in the template will now be skipped and created later.*

3.11.2 Functions assignment

The created functions and their controls are displayed. If necessary, it is now possible to change the function names and their associated controls.

1. Use the ***"F3"*** (+) key to enter the name of the new front leg control function, e.g. ***"direction"*** (front wheel of the landing gear).
2. Press the ***"F5"*** button to enter the next window of the wizard.





Note: *do not assign any* ***"control"*** *to the* ***"direction"*** *function, it will be mixed with the rudder later.*

3.11.3 Servo assignment

The system automatically assigns the created functions to individual receiver outputs.

1. If necessary, the servo assignment can be changed manually.
2. Press the ***"F5"*** button to enter the next window of the wizard.

Create and activate model?

- by the ***"F5"*** (Yes) button, the model is saved in the transmitter's memory (SD card, MODEL folder).

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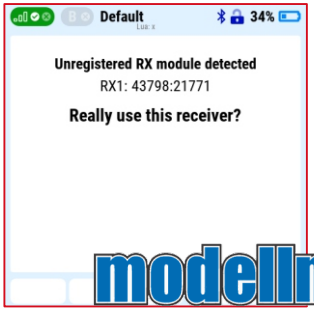


For now, we skip the ***"Servo setup"*** and ***"Pair/bind the receiver(s) now"*** menus in the wizard.

3.11.4 Pairing (Binding) receiver with transmitter

The basic procedure of binding the receiver with the transmitter.

1. Select the correct model in the transmitter menu, turn off the receiver and transmitter.
2. Insert the binding plug into the ***"Ext."*** output of the receiver (included in the receiver package).
3. Connect the power supply to the receiver.
4. Turn on the transmitter and confirm the binding of the receiver by the ***"F5"*** button.
5. Remove the binding plug from the receiver.



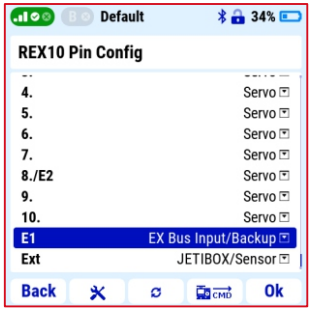
3.11.5 Using a satellite receiver for the 900 Mhz band

The Duplex DC/DS 24II transmitter uses the 2.4GHz band and the 900MHz band. The possibility of using data transmission in two bands significantly increases the safety of the model's operation. **Therefore, we recommend using dual-band transmission whenever possible.**

Note: *Duplex DC-24II transmitter supports Rsat 900**NG** backup receiver.*

1. In the transmitter ***"Main menu/ Model/Device explorer/REX 10/Alternative pin configuration"*** set the receiver output ***"E1"*** option ***"EX Bus input/backup"***.
2. Turn off the transmitter and the receiver.
3. Insert the binding plug into the ***"Ext."*** output of the Duplex **Rsat 900NG** satellite receiver.
4. Connect the output ***"1"*** of the satellite receiver (900MHzNG) by a three-wire JR cable to the input ***"E1"*** of the REX10 receiver.
5. Turn on the transmitter and receiver.
6. In ***"Main Menu/Advanced properties/Wireless Modes-Trainer"*** select the option ***"Enable 900MHz backup"***.
7. Activate the ***"Pair 900MHz module"*** option.
8. Remove the binding plug from the satellite 900Mhz receiver.

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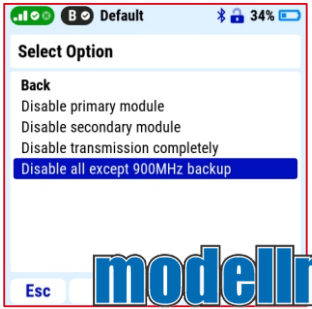




Verification of the functionality of the dual-band connection and receiver settings

With the button ***"F1 (antenna icon)"*** in on the same screen (***"Wireless Modes"***), open a window with options for verifying the functionality of individual HF modules.

1. Choose the option ***"Disable all except 900MHz backup"*** and confirm the choice. Data transmission is now active only in the 900MHz band.
2. Verify that the servos respond to commands, i.e. that transmission in the 900 Mhz backup band is functional.
3. Press the ***"F1 (antenna icon)"*** button to return to dual-band transmission mode.



Note: *every time the transmitter is switched on, it checks all HF modules and if it detects a fault, it will not allow the receiver's servo outputs to be activated. This means that if you disconnect the satellite receiver for the 900MHz band, you have to also disable the* ***"Enable 900MHz backup"*** *item in the transmitter "****Main menu/Advanced properties/Wireless Mode****".*

3.11.6 Servo setup

Menu for setting the direction (reverse) and deflections of servos, neutrals and delay. The current deflection of the selected function is shown in the upper part of the display, below it is the name of the function with the number of the receiver's output channel (in brackets).

Subtrim: center (neutral) setting of the servo.

Max. positive/negative: setting deflection of the servo at the max./min. positions of the controller.

Note: *this position may be exceeded due to mix, dual rate or trim.*

Max. positive/negative limit: setting the maximum deflection of the servo.

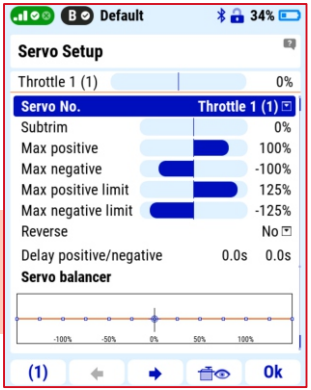
Note: *this deflection will not be exceeded with any combination of other function settings.*

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Reverse: setting the reverse direction of servo rotation.

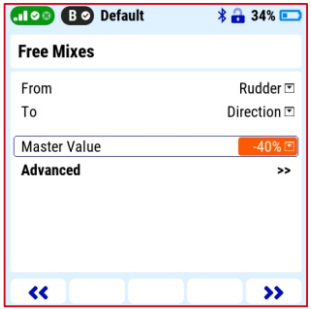
Delay positive/negative: setting the time limit for movement between max/min servo deflections.

Note: *for the example Cessna 150 model, it is advisable to use this function to slow down the flaps.*



3.11.7 Free mixes

Mixes of functions can be created and set in ***"Main Menu/Fine Tuning/Free Mixes"***. For example, at the beginning, the ***"Direction"*** function was created to control the steering of the front landing gear. In this menu, a mix of functions and the rudder controller are combined with the front leg rotation servo.



1. In the ***"Free Mixes"*** menu, create a new mix with the ***"F2"*** (+) button

2. Assign the function ***"Rudder"*** to ***"From"*** and the function "Direction" to ***"To"***. Use the ***"Master value"*** parameter to set the ratio of the size of deviations between the steering wheel and the rudder. Choosing a negative value (Master value) changes the direction of the deflection of the front wheel relative to the rudder.

3.11.8 Aileron differential

Models with an asymmetrical profile, such as this Cessna 150 example model, it is advisable to set the aileron differentiation. In other words, smaller deflections of the ailerons down and more up. This function can be set in ***"Main menu/Fine tuning/Aileron differential"***.



Note: *after pressing the* ***"F1"*** *(Sym.) button, it is possible to change the deflections of the right and left ailerons separately.*

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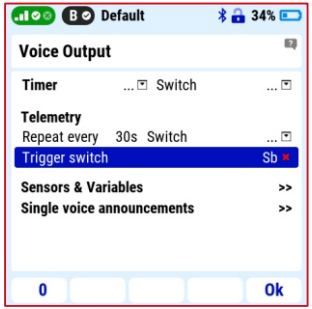
3.11.9 Voice output

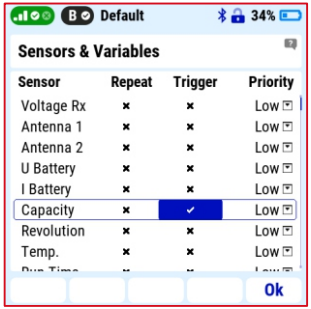
The transmitter allows you to assign messages to selected events and values. For this model we chose:

Report on the condition of the drive battery

After activating the selected switch, a message about the consumed capacity of the main battery will be announced.

1. In the ***"Main menu/Timers-Sensors/Voice output"*** menu, select the switch that will activate the notification in the ***"Trigger switch"*** item.
2. In the ***"Sensors & Variables"*** menu, enable the ***"Capacity"*** value in the ***"Trigger"*** column.



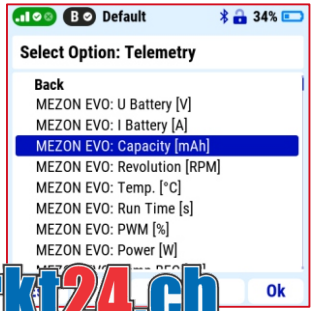


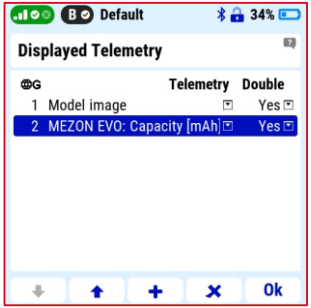
3.11.10 Displayed telemetry

The Duplex system allows the recording and transmission of much telemetry data. It is up to each user to choose which data is important to them. When using the MEZON EVO controller, you have complete telemetry of the main battery and the motor, e.g. used capacity from the main battery, voltage of the main battery, motor RPM, etc. It is good to display important telemetry data on the main screen for quick check up and for some other data it is useful to create alarms and voice message.

Main screen settings

1. In ***"Main menu/Timers-Sensors/Displays telemetry"*** select the ***"System"*** option by the ***"F3"*** (+) button and select the ***"Model Image"*** item.
2. Confirm by ***"F5 (Yes)"*** button - ***"Use double size"***.
3. Using the same procedure and the ***"F3"*** button, select the ***"Telemetry"*** option and the ***"MEZON EVO: Capacity"*** item.





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4. To fill the unused screen area, you can add informative telemetry data, e.g. about the voltage of the main battery and the temperature of the controller. These can be displayed in a non-double size format.



The Cessna 150 main screen will then look like this:

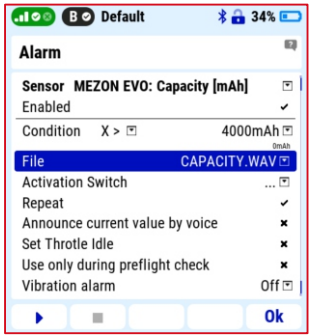
3.11.11 Alarms

For each model, it is possible to select and set alarms that warn of reaching the selected limit values. For the Cessna 150 model, these can be, for example, an alarm on the used battery capacity and the temperature of the controller.

Alarm on used capacity

The alarm warns that the set limit of used energy from the main battery has been reached.

1. In ***"Main menu/Timers-Sensors/Alarms"*** create a new alarm by the ***"F2"*** (+) button.
2. Select ***"MEZON EVO: Capacity"*** in the ***"Sensor/Telemetry"*** menu. Then confirm the ***"Enabled"*** option.
3. For example, the model has a main battery with a capacity of 5000mAh. Under the condition that we want to leave 20% of the capacity in the main battery, enter in the item ***"Condition"*** ***"X>"*** (more than) and enter the value 4000mAh into the next field.
4. In the ***"File"*** item, select a suitable voice message from the menu.
5. Confirm with ***"F5"*** (OK).



Note: *while entering the value, we can easily switch the units by the "menu" button (x1, x10, x100, x1000).*

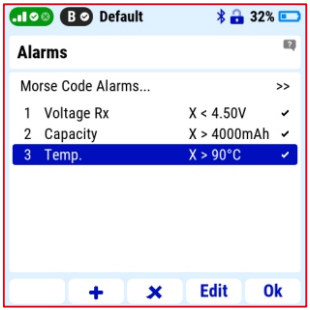
Controller temperature alarm

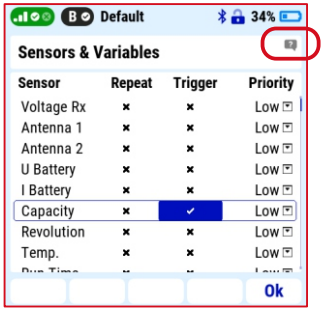
The model is powered by the BEC of the controller and the used MEZON EVO 50 BEC has a maximum temperature of 100°C recommended by the manufacturer. Therefore, it is wise to monitor the temperature of the Controller for safety reasons. You can create an alarm on the temperature of the controller in the same way as in

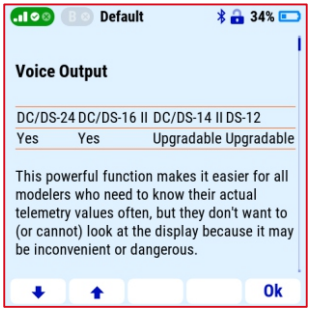
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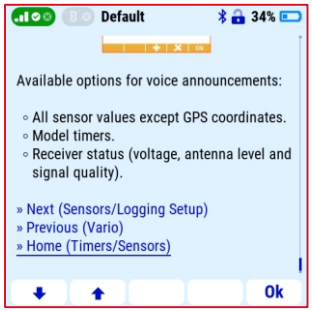
the previous point, only until in the ***"Condition"*** item, enter the value 90°C and select a different type of voice message.

This completes the creation and setup of the Cessna 150 sample model.









Note: *for additional Duplex system setup options and models, we recommend using the transmitter's* ***"help",*** *see chapter* ***3.12 Help mode.***

3.12 Help mode

It is possible to call up the help mode for each item where a ***"question mark"*** icon appears in the upper right corner of the screen. If you see this icon, you can press the ***"menu"*** button briefly to call up the help mode for the current item you have highlighted in the respective transmitter menu. At the end of each thematic section of the help there is a list with direct access to related topics. With context-help, you have access to all the information and procedures needed to set up the transmitter ar

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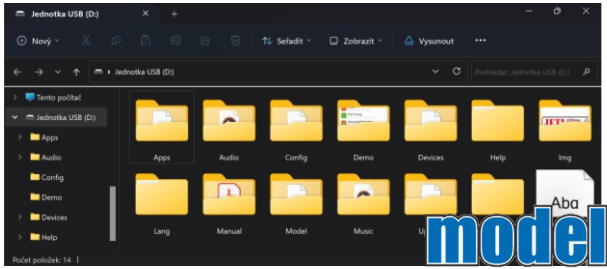
4 Connecting to a PC

4.1 Connecting to a PC via a USB cable

The transmitter has a USB-C connector for connecting to a computer. The cable is included in the delivery of the transmitter. The transmitter is compatible with Windows, MAC and Linux operating systems. After connecting the transmitter to the computer, the transmitter will ask for connection confirmation. After confirmation, it is connected as an external USB drive and HID standard game device.



4.1.1 Folder structure and description



The transmitter has its own fixed directory structure. Most of them are internal data of the transmitter, to which it is not recommended to change in any way.

The following folders are important for users:

Audio: - audio files used by the transmitter are stored in this folder. If you create your own audio files or download audio files from the Internet, save them in this directory. Supported file formats are **.wav* and **.mp3*.

Img: - folder for images of your models. Supported image formats are **.png* and **.jpg*.

Note: *the transmitter startup speed may be affected by the size of the image on the screen. We recommend using images up to 100kB (resolution up to 320x240px).*

Log: - the transmitter stores telemetry data records in this folder. Subfolder names are created automatically in year/month/day format. The sub-files contain telemetry data of individual flights during the day (the name of the file is according to the time of saving).

Manual: - folder with all of the instruction manuals in PDF format.

Model: - folder contains the data of all your created models. Individual models can be shared with others, transferred to other DC/DS transmitters, or backed up (recommended).

fo storing music files in **.wav* and **.mp3* format, e: flight training with music.

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4.1.2 Folders to which we don't recommend making any changes:

Config - software configuration
Lang - language configuration
Update - folder used for software updates
Help - transmitter files for context-help
Voice - audio samples for speech synthesis
Devices - device definitions used for communication with intelligent devices based on EX Bus protocol
Apps - additional user applications written in Lua rogramming language.

4.2 JETI studio and transmitter updates

JETI studio

JETI studio is an application for updating equipment and displaying telemetry records of the Duplex system. The application can be downloaded for free from our website *(Windows/Mac/Linux)*:
www.jetimodel.com/support/
The main functions of the program are:

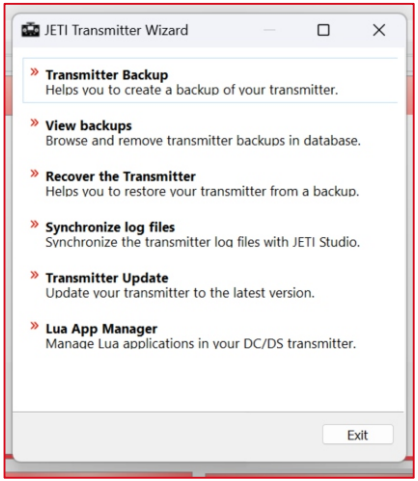
- graphic display of telemetry data flight records.
- telemetry display in real time.
- firmware updates of transmitters, receivers, sensors, etc.
- setting devices such as receivers, Central from the computer.

Note: *the development team of the JETI model company is constantly working on improving the properties of the Duplex system and adding new functions. Updates can improve the functionality of your transmitter and other Duplex system components. Therefore, we recommend installing them.*

4.2.1 Updating and backing up transmitter data

Connection procedure:

1. Connect the transmitter to the computer by a USB cable.
2. On the transmitter, confirm power on and then connect to USB.
3. Start JETI Studio on your computer.
4. In the ***"Tools"*** directory, select the ***"Transmitter Wizard"*** option.
5. Select the ***"update"*** function in the menu and follow the instructions of the wizard.



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4.3 PC Joystick

DC/DS transmitters can be very simply used as a joystick interface for your PC. Connect your transmitter to a PC with the USB cable. Your operating system will identify the transmitter as an HID (Human Interface Device) gaming device.

4.4 Copying models between the transmitters

Configuration of all models in the transmitter are stored on the internal **SD card** in the directory ***/Model/***.

When you copy the selected model from one transmitter to another, simply copy the ****. jsn*** file again to the ***/Model/*** directory of the second transmitter.

Note: It is important that the two transmitters may not have the same software equipment, so it is possible that the configuration of the activated modules will not match each other. In this case it is necessary to check the individual functions of the model, since an attempt to load the model by another transmitter may end up with error message.

4.5 Bluetooth and Wi-Fi module.

The DC/DS-24 II transmitters has an integrated Wi-Fi and Bluetooth module that offers more transmitter connectivity options. Free applications in the JETI Studio program will be gradually released for the Wi-Fi module. The Bluetooth module offers two basic functions - wireless audio transmission and telemetry transmission to a mobile phone or tablet.

4.5.1 Bluetooth module - wireless audio transmission

This technology allows the transmitter to connect to wireless speakers or headphones and play the sounds of the transmitter.
The module supports A2DP profile with SBC codec for audio transmission. For the wireless audio function, you have to first activate Bluetooth in the transmitter and then pair the wireless speaker or headphones according to the procedure:

1. Activate the **Bluetooth** function in the ***"System/Bluetooth"*** menu

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2. start searching for compatible devices





3. pair the selected device with the transmitter



4.5.2 Bluetooth module - transmission of telemetry to a mobile phone or tablet

The transmission of telemetry from the transmitter to a mobile phone or tablet is made by Bluetooth Low Energy technology. To use this function, it is necessary to install the ***"JETI Studio Mobile"*** application on the mobile device.

JETI studio M

You can find this application in **Google Play** for the Android operating system or the Apple App Store for **iOS**.

Procedure:

1. install the **JETI Studio Mobile** app on your mobile device

Note: *more information on how to install the application and a description of the application can be found in the QR link below:*

https://www.jetimodel.com/support/

https://www.jetimodel.com/support/

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2. activate the Bluetooth telemetry function in the transmitter menu ***"System-> Bluetooth"***.
3. start the **JETI Studio Mobile** app on your mobile device



Note: *re-establishing a connection with an already paired Bluetooth device is automatic after switching on the transmitter, if the device is switched on and in range of the transmitter's Bluetooth module.*

Note: *Wi-Fi or Bluetooth functions will be limited if the established connection of the Duplex system shows limit parameters - weak signal.*

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5 Hardware of the DC-24II Transmitter - Description

5.1 Control Stick

Note:
If you want to remove the back cover of the transmitter, proceed as follows:

1. ***Turn off the transmitter.***
2. ***Use a T6 screwdriver to unscrew all the screws on the back cover of the transmitter and remove it.***
3. ***Disconnect the main battery.***
4. ***Do not connect the USB cable or charging adapter to the transmitter.***
5. ***Adjust the sticks as you need.***
6. ***Connect the main battery.***
7. ***Replace the back cover and tighten all the screws.***

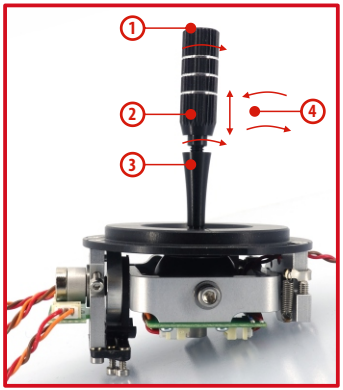
Warning:
Keep contact with transmitter PCB to a minimum.
Risk of damage electrostatic charge!



5.1.1 Control Stick Length Adjustment

The stick length is adjustable to suit your flying style. The stick end separates into two parts.

1. Hold the top part of the stick end firmly an dunscrew by turning counter-clockwise.
2. Turn the stick end clockwise to shorten or counter clockwise to lengthen the overall stick length.
3. Adjust the lower part to support the top part of the stick end.
4. Finally secureby tightening both parts to each other.



Warning:
If you have installed optional sticks with switch or button ends, make sure that while adjusting the stick length you observe the wires that pass through the stick shaft and through the gimbal opening in order to prevent damaging the connecting cables. The safest method is to remove the small set-screw from the side of the stick housing to allow the switch or knob internals to remain stationary while you rotatethe stick housing for height adjustment.

5.1.2 Swivel Control Stick Adjustment

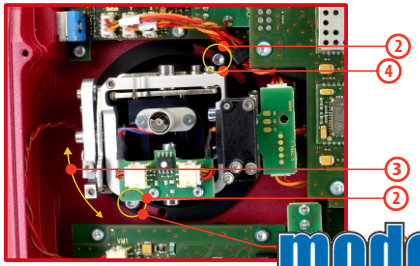
In order to customize the feel of your radio you may adjust the angle [illegible] emblies.

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1. Switch off the transmitter and remove the 10 screws that secure the radio back cover. Next, remove the radio back cover.
   Be sure to disconnect the transmitter battery pack connector.



2. Loosen both machine screws securing the control stick. assembly.

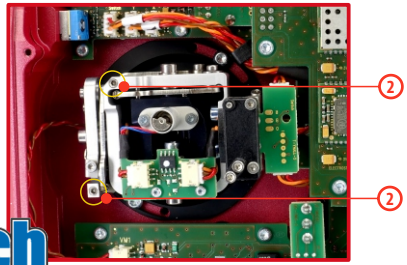


3. Adjust (rotate) to desired position.
4. Securely tighten both machine screws securing the control stick assembly.
5. Reconnect transmitter battery pack and reinstall radio back cover and cover screws.

5.1.3 Control Stick Tension Adjustment

The stick gimbal tension is fully adjustable for each axis. This allows you to fully customize your radio's control feel. Simply adjust each gimbal's spring to your desired tension.

1. Switch off the transmitter and remove the 10 screws that secure the radio back cover. Next, remove the radio back cover.
   Be sure to disconnect the transmitter battery pack connector.
2. Use indicated machine adjustment screws to change the desired spring tension. By turning the screw counterclockwise, you will loosen spring tension. As a result the moving resistance



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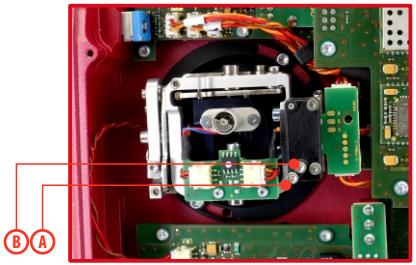
of the control stick will decrease. By turning the screw clockwise, you will tighten spring tension. As a result the moving resistance of the control stick will increase.

3. Reconnect transmitter battery pack and reinstall radio back cover and cover screws.

5.1.4 Ratchet Tension Adjustment

Whether you prefer smooth throttle feel or ratchet throttle feel, you can adjust the transmitter either way you like allowing you to fully customize your transmitter's feel. Each tension is set by a different screw.

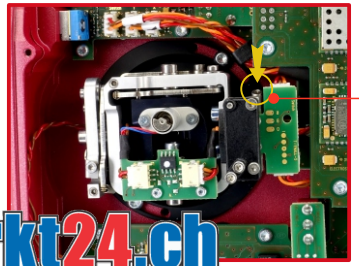
1. Switch off the transmitter and remove the 10 screws that secure the radio back cover. Next, remove the radio back cover.
   Be sure to disconnect the transmitter battery pack connector.
2. **For ratchet tension adjustment** use the machine screw **"A".** Turn slowly (counter-clockwise) until you achieve the desired ratchet tension. For smooth tension adjustment, use the machine screw **"B".** Turn slowly (clockwise) until you achieve the desired smooth tension.
3. Reconnect transmitter battery pack and reinstall radio back cover and cover screws.



5.1.5 Throttle stick travel adjustment

The throttle stick travel is adjustable to suit your flying style.

1. Switch off the transmitter and remove the 10 screws that secure the radio back cover. Next, remove the radio back cover.
   Be sure to disconnect the transmitter battery pack connector.
2. Use indicated machine adjustment screws to limit the throttle stick travel. By turning the screw clockwise, you will shorten the throttle stick travel.



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3. Reconnect transmitter battery pack and reinstall radio back cover and cover screws.

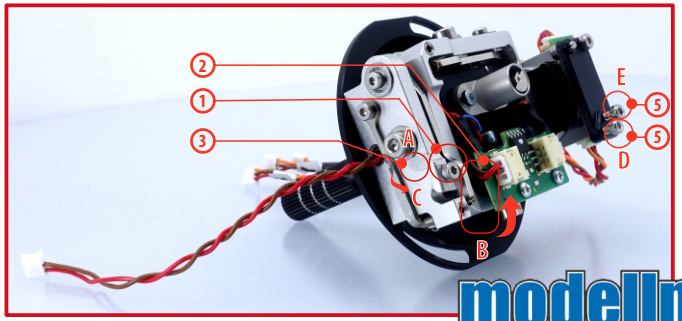
After making a limit the throttle stick travel you have to recalibrate the transmitter stick in the software menu, see section ***"Calibration of Proportional Controls".***

5.1.6 Changing the transmitter mode

The transmitter is equiped with universal multimode gimbals. Both gimbals are identical and can be adjusted mechanically for modes 1-5. After mechanical adjustment it is necessary to set a specific transmitter mode in the menu ***System –> Configuration –> Stick mode 1-4.***

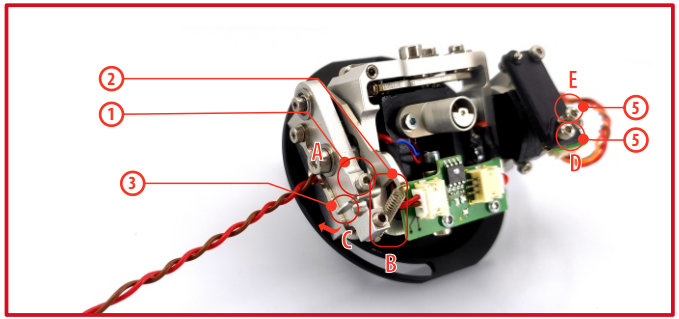
To change the quad sticks settings, unscrew the back cover of the transmitter **and disconnect the battery connector.**

A. Setting the quad stick into the mode without locking the middle position - gas



1. Loosen the screw **A.**
2. Lift the lever B so as it is possible to arrest the lock **C.**
3. Turn the lock C 90° in the direction of the arrow and arrest the lever **B** in the upper position.
4. Tighten the screw **A.**
5. Tightening the the screws **D** and **E** sets the desired arresting with steps and smooth brake.

B. Setting the multi-mode gimbal into the mode with locking the middle position - elevator.



1. Loosen the screw **A.**
2. Slightly lift the lever **B.**
3. Turn the lock **C** in the direction of the arrow and arrest the lever **B** in the upper position.
4. Move the lever C in the direction of the arrow to release the lever

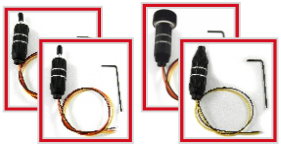
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5. Tighten the screw **A.**
6. Loosen the screws **E** and **D** in a position so that the tension is removed from the stick.

5.1.7 Transmitter Gimbals with Switch or Button Installation

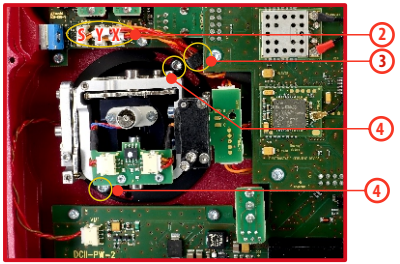
If you want to operate the DC-24 II transmitter using the optional stick end switch or button functions, you need to purchase one or more of these separately:

- Stick with 2-position switch
- Stick with 3-position switch
- Stick with push-button
- Stick with potenciometer

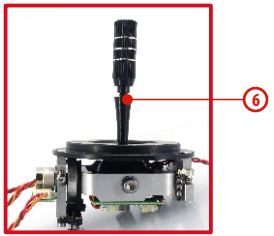


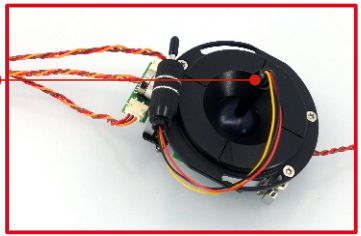
Advice: *For installation of the optional gimbal stick ends with switches/buttons we recommend that you send your transmitter to one of the factory authorized service centers or to your authorized dealer.*

1. Switch off the transmitter and remove the 10 screws that secure the radio back cover. Next, remove the radio back cover.
   Be sure to disconnect the transmitter battery pack connector.



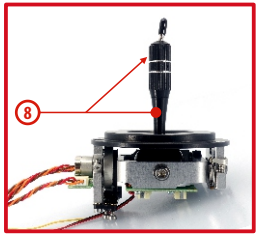
2. Disconnect the control stick assembly wires from the Tx board (3 wires **X, Y, S**).
3. Remove the stick assembly connecting wires from their holders.
4. Remove both machine installation screws for each of the control stick assemblies.
5. Carefully remove both control stick assemblies. Gently pull in your direction (toward the transmitter back side). This upgrade will be done outside of the transmitter case.

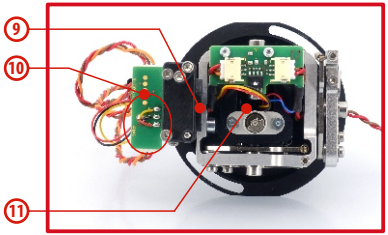




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6. Unscrew the upper part of the stick assembly (anticlockwise).
7. Insert the connecting wires through the hollow opening of the transmitter stick.
8. Adjust length of the stick to suit your flying style.

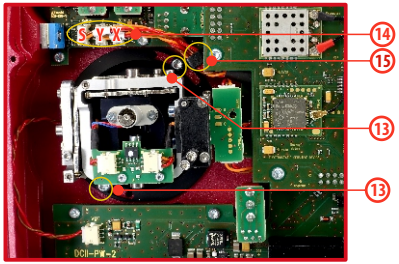




Note: *After installation of the optional stick ends with switch or button make sure that while adjusting the stick length you observe the wires that pass through the stick shaft and through the gimbal opening in order to prevent damaging the connecting cables. The safest method is to remove the small set-screw from the side of the stick housing to allow the switch or knob internals to remain stationary while you rotate the stick housing for height adjustment.*

9. Pass the switch wires through the same gimbal opening as the hall sensor cable (through the center of the gimbal assembly).
10. Next insert wire ends through the opening of the printed circuit board and solder them to the matching soldering points in such a way that the same color wires lay on the top of each other.

11. Carefully move transmitter sticks to their full outside positions in order to make sure that you have sufficient wire length and, if needed, adjust accordingly. The connecting cables for all moving parts of the unit should have sufficient length in order not to be exposed to any mechanical damage and any bending stresses.



12. Install stick unit assembly back to correct position.
13. Install and secure the machine screws for the control stick assembly.
14. Connect control stick assembly wires to the Tx board connector (3 wires **X, Y, S**). Pay close attention to the wire lengths. Connect the longest wire as the first one from the outside of the transmitter (**3 connectors X, Y, S**).
15. Secure the stick assembly wires into their holders.
16. Reconnect transmitter battery pack and reinstall radio back cover and cover screws.

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After the switch has been installed into the stick assembly you have to re-configure and enable it in the transmitter software before it will function properly. This can be done in the transmitter menu ***"Main menu->Advanced setup->Sticks/switches setup"***.

5.2 Swappable and Assignable Switches

One of the most important features of a JETI transmitter is the switch function assignment flexibility.
The DC-24 II transmitter automatically detects the type of switch and assigns the selected function. There are many switches available to suit different needs. See your Jeti retailer for switch availability.

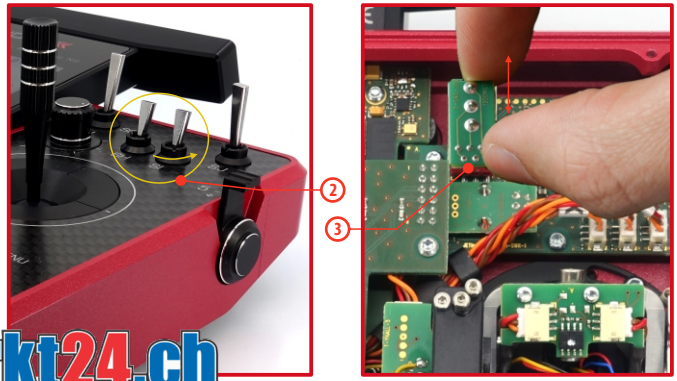
You may either swap the existing switches around or take advantage of the optional accessories and create your own custom configuration.

Factory Switch Configurations for the DC-24 II Transmitter

Sa - 2 position spring-loaded long switch
Sb - 3 position short switch
Sc - 2 position short switch
Sd - 2 position long switch
Se - 3 position short switch
Sf - 3 position short switch
Sg - 3 position long switch
Sh - 2 position short switch
Si - 2 position short switch
Sj - 3 position long switch

Switch Exchange:

1. Switch off the transmitter and remove the 10 screws that secure the radio back cover. Next, remove the radio back cover.
   Be sure to disconnect the transmitter battery pack connector.
2. With the specialized wrench (not included) carefully loosen and remove the switch installation nut.
3. Carefully hold the switch by its printed circuit board assembly and slowly pull it out. Use this method to also remove and exchange all of the other switches. After re-assembling and turning on your transmitter the software will sound a warning reminding you that you have executed a change. Always reinspect all assigned functions of the switches before attempting to fly.



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5.3 Digital Trims

Transmitter gimbals are used for controlling the basic flight functions like throttle, roll(aileron), pitch(elevator), and yaw(rudder). Immediately under the transmitter gimbal sticks you can see four push-buttons which are the programmable, digital trim buttons.



The digital trims are used for fine trimming of the flying model. When the transmitter is turned off, the trim values are stored in memory and are recalled when the system is turned back on.
Every model has its own trim setup. Also all flight modes may be configured to use different trim configurations. By pressing one of the buttons, the screen will automatically change to display the graphic position of that trim. The transmitter trims feature an acoustic step and centre beep alarm.
In the *"Digital trim"* menu it's possible to enable a special function used as automatic trimming. Digital trim steps and trim range setting is explained in ***"Main menu->Fine tuning/flight modes->Digital trim"*.**

5.4 Transmitter Battery Pack

The DC-24 II transmitter is powered by a Li-Ion type battery pack and comes equipped with its own built-in advanced battery management and charging circuit. In switched-on position, the transmitter LCD display shows the status and condition of the battery pack. The Li-Ion battery is factory installed.

5.4.1 Charging

The transmitter can be charged with the supplied mains adapter with a USB C cable. Charging time is approximately 3 hours. The transmitter can be on or off while charging. The charging status is indicated by the LED or if the transmitter is switched on, in the display.

Charging procedure:

1. Plug the charging adapter into the mains.
2. Plug the cable with the connector leading from the charging adapter into the USB C connector of the transmitter.

The charging status is displayed by a circular LED:

- **Green LED** lights up - transmitter is on, charger is not connected.
- **Blue LED** flashes - the transmitter is charging; the frequency shows the state of charge. A more permanent glow means a higher state of charge in the accumulator.
- **Purple LED** lights up - the transmitter is fully charged; the charger

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These colours can be changed by the user. Possible choices are white, cyan, purple, yellow, blue, green or red.
The brightness of the LED corresponds to the backlight intensity setting of the display.

5.4.2 Battery Replacement

Should you decide to replace the transmitter battery, please follow these steps:

1. Switch off the transmitter and remove the 10 screws that secure the radio back cover. Next, remove the radio back cover.
2. Disconnect the transmitter battery connector.
3. Loosen the battery fastening strap and remove the battery.

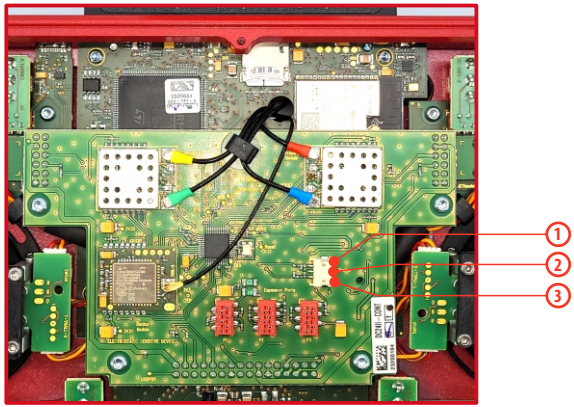


Note: *If the transmitter battery has been disconnected for longer than 1 minute, the time, and date will be deleted.*

Warning: *DC-24 II transmitters should only be operated only with original or manufacturer approved battery packs. The use of other battery packs will void the warranty.*

5.5 PPM Input/Output connector

The transmitter has an available internal three-pin connector for PPM input/output.



1. PPM output (3V logic)
2. Negative (-) pin
3. [illegible]ogic)

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Setting options for PPM output (configurable in ***"System ->Configuration"***):

- PPM8 neg./pos.
- PPM16 pos.
- Telemetry EX

5.6 Shielding antennas

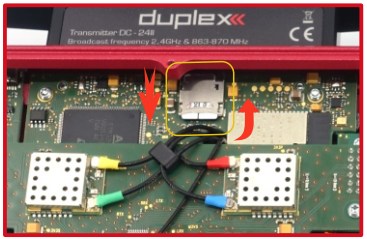


Warning: *If you are operating a model with a transmitter do not shield and avoid contact of the transmitter antenna with your body. This might increase likelihood of range problem.*

5.7 Change SD Card

Disconnect the battery plug .

To open the SD card holder, use a fingernail to push the metal frame to the down and then lift it carefully. The micro SD card can now be removed. For installation, proceed in the reverse order.



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6 Hardware of the DS-24II Transmitter - Description

6.1 Control Stick

6.1.1 Description of the Adjustment Screws for the gimbal

The adjustment screws of the gimbals are labeled with capital letters (**see fig. 6.01**). These will be further used in the descriptions of adjusting the individual functions of the gimbals.

A schematic representation of the adjustment screws and their functions can be found in **fig. 6.03**. To adjust the gimbals, you will need an allen key **(a)** along with a magnetic key **(b)** (**see fig. 6.02**), which is included in the package.

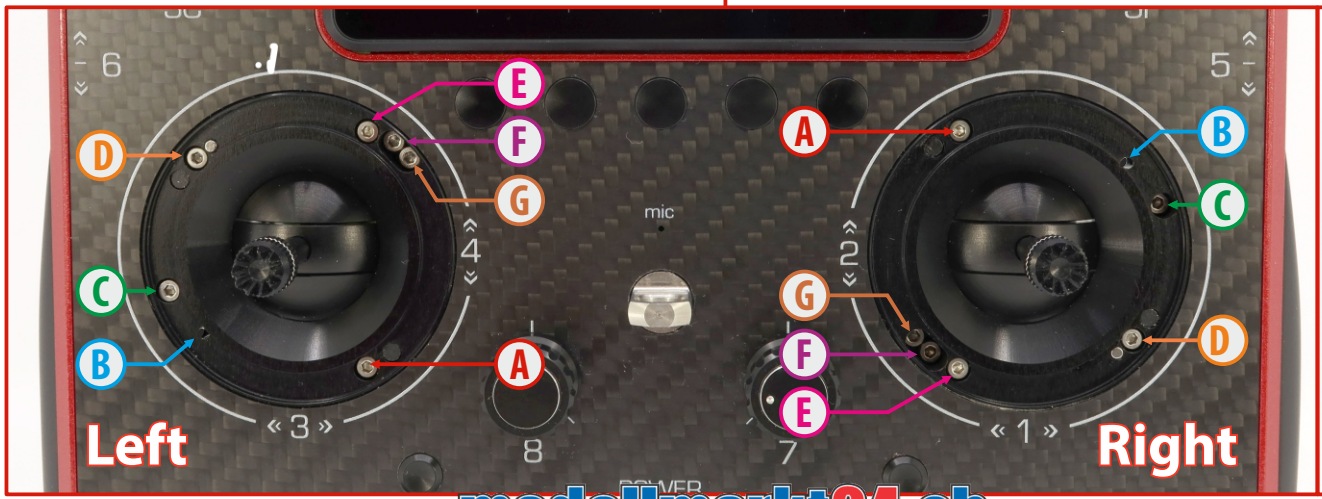


Fig. 6.01



Fig. 6.02

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Description of the Functions of Individual Adjustment Screws for the Cross Controller

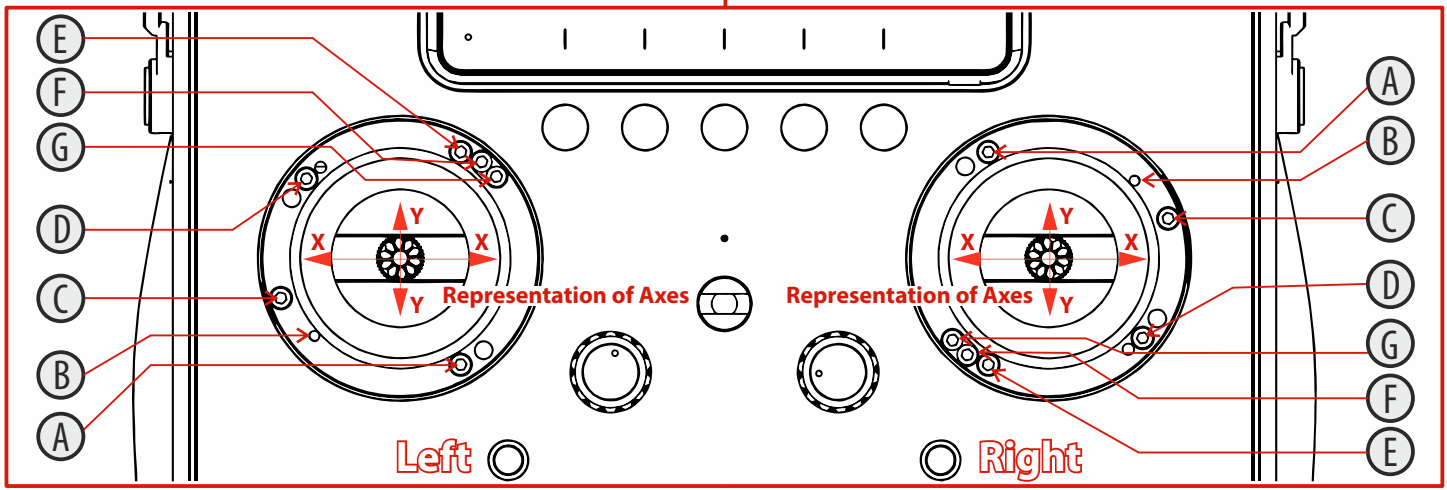


Fig. 6.03

A - Adjustment of the throttle stick range of motion downwards

B - Adjustment of the centering spring force in the X axis (left/right)

C - Activation of the throttle stick with the setting of the locking mechanism (brake) and centering limitation using a spring

D - Adjustment of the centering spring force in the Y axis (up/down)

E - Adjustment of the throttle stick range of motion upwards

F - Adjustment of the ratchet locking mechan

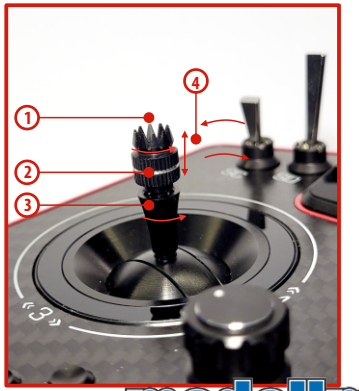
G - Adjustment of the smooth locking mecha

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6.1.2 Adjustment of the Length of the gimbal Sticks

The gimbals sticks are height-adjustable, allowing you to comfortably set the length of the stick. The stick is divided into two parts. To adjust the length of the stick, proceed as follows:

1. Grasp the upper part of the stick (with knurling) and loosen the tightening (counterclockwise).
2. Unscrew the stick to the desired length.
3. Rotate the lower part of the stick clockwise to tighten it against the lower part.
4. Secure the upper part against the lower one by rotating them against each other (known as counter-tightening).



Warning:
If you have a stick with a switch/button, you should loosen the fastening screw in the stick before adjusting the height to avoid twisting the cable. For more information, refer to the section ***"Mounting the Stick with Switch/Button into the gimbal."***

6.1.3 Adjustment of the Centering Spring Force

If you want to change the resistance force when moving the gimbals, you can adjust the spring force in each axis separately.

1. Place the magnetic key **(a)** on the cover ring **(b)** of the gimbal and remove it from position **(c)**.



Fig. 6.06



Fig. 6.07



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2. Adjustment of the X Axis (Right/Left)

Insert the allen key (the other end of the magnetic key) into the hole **"B" (if it is a throttle gimbal, the stick should be approximately in the center position during adjustment)**, behind which is the screw for adjusting the ***"centering spring"***.

- Turning the screw clockwise increases the force of the spring, resulting in greater resistance when moving the cross controller in this axis (**see Fig. 6.08**).
- Turning the screw counterclockwise decreases the force of the spring, resulting in less resistance when moving the cross controller in this axis (**see Fig. 6.08**).

Note:
It is recommended to determine the resistance offered by the spring through gradual movement along the X axis (during adjustment).

Caution:
Tighten the screws with care to avoid damaging the gimbal.

3. Adjustment of the Y Axis (Up/Down)

- Insert the allen key (the other end of the magnetic key) into screw **"D"**, which is designated for adjusting the ***"centering spring"*** in the Y axis.
- Turning the screw clockwise increases the force of the spring, resulting in greater resistance when moving the gimbal in this axis (**see Fig. 6.09**).
- Turning the screw counterclockwise decreases the force of the spring, resulting in less resistance when moving the gimbal in this axis (**see Fig. 6.09**).



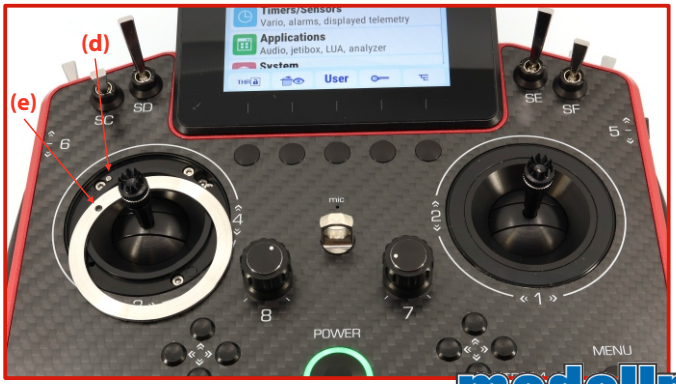
Fig. 6.09

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Note: *It is recommended to determine the resistance offered by the spring through gradual movement along the Y axis (during adjustment).*

Caution: *Tighten the screws with care to avoid damaging the gimbal.*

4. Place the cover ring back onto the gimbal so that its groove **(e)** fits precisely over the locking pin **(d)** (in the area of adjustment screw "*"D"*) on the gimbal. Visually, the ring should lie in line with the front side of the transmitter*)*.



6.1.4 Adjustment of force and method of arresting

At the transmitter, it is possible to set smooth locking of the stick, ratchet locking, or a combination of both. Each type of locking is adjusted with a different screw.

1. Place the magnetic key **(a)** on the cover ring **(b)** of the gimbal and remove it from position **(c)**.



Fig. 6.12



Fig. 6.13



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2. Insert the ***"allen key"*** into the adjustable screw **"F"** and loosen the locking step by turning it counterclockwise (if it is activated).



Fig. 6.14

3. **Setting Smooth Locking (Brake/Throttle):**
Insert the allen key into screw **"G"**.
Turning the screw clockwise increases the strength of the smooth brake. Resulting in greater resistance when moving the gimbal in this axis (**see Fig. 6.16**).
Turning the screw counterclockwise decreases the strength of the smooth brake. Resulting in less resistance when moving the gimbal in this axis (**see Fig. 6.16**).

Note: When fully loosened, the head of the screw **(a)** must not be higher than the seating surface of the cover ring **(b)** (**Fig. 6.15**).



Obr. 6.15

Note: *It is recommended to determine the desired locking by gradually moving in the adjusted axis (during the adjustment).*

Caution: *Tighten the screws with care to avoid damaging the gimbal.*

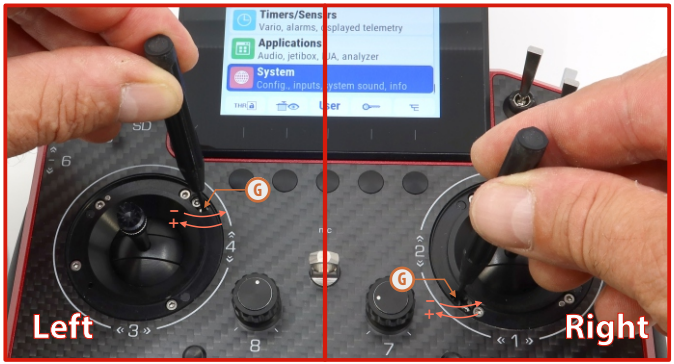


Fig. 6.16

4. **Setting the ratchet Locking (Brake/Throttle):**
Insert the allen key into screw **"F"**.
Turning the screw clockwise increases the force of the ratchet brake. Resulting in greater resistance when moving the cross controller in this axis (**see Fig. 6.17**).
Turning the screw counterclockwise decreases the force of the ratchet brake. Resulting in less resistance when moving the gimbal in this axis (**see Fig. 6.17**).

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Note: *When fully loosened, the head of the screw* ***(a)*** *must not be higher than the seating surface of the cover ring* ***(b)*** *(****Fig. 6.15****).*

Note: *It is recommended to determine the desired locking by gradually moving in the adjusted axis (during the adjustment).*

Caution:
Tighten the screws with care to avoid damaging the gimbal.

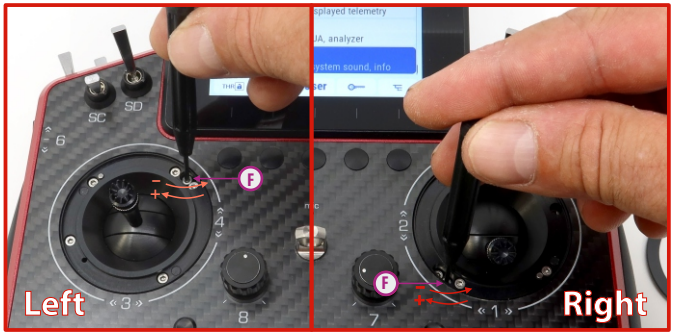


Fig. 6.17

5. Place the cover ring back onto the gimbal so that its groove **(e)** fits precisely over the locking pin **(d)** (in the area of adjustment screw "***D***") on the gimbal. Visually, the ring should lie in line with the front side of the transmitter.).

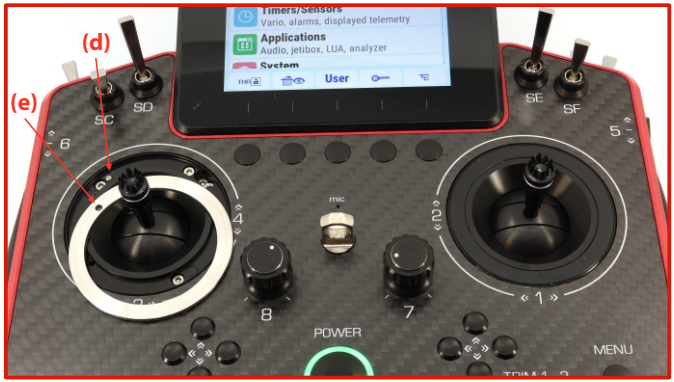


Fig. 6.18

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6.1.5 Setting the Range of the gimbal

At the transmitter, it is possible to define the range of motion for the gimbal.

1. Place the magnetic key **(a)** on the cover ring **(b)** of the gimbal and remove it from position **(c)**.



Fig. 6.19



Fig. 6.20



Fig. 6.21

2. **Setting the Upper Motion Limit of the Throttle stick:**

   Insert the ***"allen key"*** into screw **"E".**
   Turning the screw counterclockwise increases the range of motion (**see Fig. 6.22**).
   Turning the screw clockwise decreases the range of motion (**see Fig. 6.22**).



Fig. 6.22

Note: *When fully loosened, the head of the screw **(a)** must not be higher than the seating surface of the cover ring **(b)** (**Fig. 6.15**).*

Note: *It is recommended to determine the desired position of the stop (end of travel) by gradually moving in the adjusted axis (during the adjustment).*

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Caution:
Tighten the screws with care to avoid damaging the gimbal.

3. **Setting the Downward Movement Limit of the Throttle stick:**
   Insert the ***"allen key"*** into screw **"A"** .
   Turning the screw counterclockwise increases the range of motion (**see Fig. 6.23**).
   Turning the screw clockwise decreases the range of motion (**see Fig. 6.23**).

Note: *When fully loosened, the head of the screw **(a)** must not be higher than the seating surface of the cover ring **(b)** (**Fig. 6.15**).*

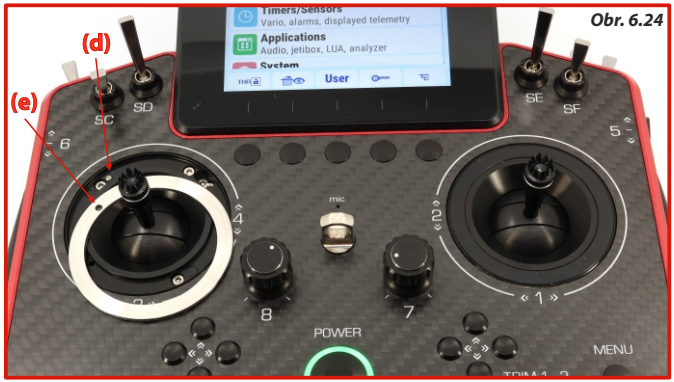
Note: *It is recommended to determine the desired position of the stop (end of travel) by gradually moving in the adjusted axis (during the adjustment).*



Obr. 6.23

Caution: *Tighten the screws with care to avoid damaging the gimbal.*

4. Place the cover ring back onto the gimbal so that its groove **(e)** fits precisely over the locking pin **(d)** (in the area of adjustment screw "***"D"***) on the gimbal. Visually, the ring should lie in line with the front side of the transmitter.*)*.



Obr. 6.24

5. Turn on the transmitter and in the ***"menu/system/input display,"*** press the **"F1"** button (**"Calib"**) and perform a new calibration of the throttle stick and its range.

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6.1.6 Changing the Transmitter Mode from 1 (3) to 2 (4)

The transmitter is equipped with universal gimbals. Both gimbals are identical, and by adjusting them, the transmitter can be set to modes **1** through **4**. After the mechanical adjustment, it is necessary to set the specific mode of the transmitter in the ***"menu/system/configuration -> Mode 1-4."***

1. Place the magnetic key **(a)** on the cover ring **(b)** of the gimbal and remove it from position **(c)**.



Fig. 6.25



Fig. 6.26



Fig. 6.27

2. **Deactivating the Throttle Stick and Setting the Center Position with Spring Centering:**
Loosen screws **"F"** and **"G"** by turning them counterclockwise to the maximum, so that no locking (braking) occurs.

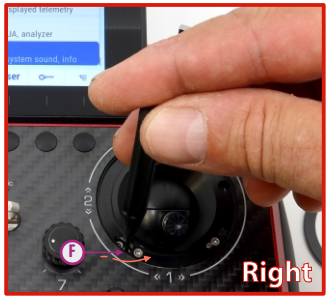


Fig. 6.28



Fig. 6.29

Loosen screw **"C"** by turning it counterclockwise to the maximum, which will gradually activate the center return spring. You can adjust the strength of the return spring using the adjustment screw **"D"**.



Fig. 6.30



Fig. 6.31

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3. Activation of the throttle stick with locking (brake) adjustment and limitation of centering using a spring:

Use the screw to reduce the strength of the return spring **"D"** (to avoid unnecessary tension).

Tighten screw **"C"** by turning it clockwise to the maximum, which will gradually deactivate the center return spring.



Fig. 6.32

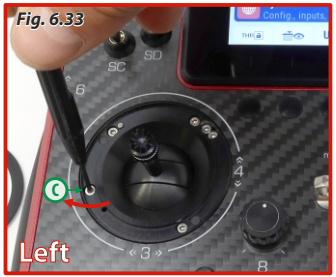


Fig. 6.33

By tightening screws **"F"** (ratchet) and **"G"** (smooth) clockwise, adjust the locking force (brake) of the throttle stick.



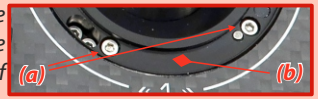
Fig. 6.34



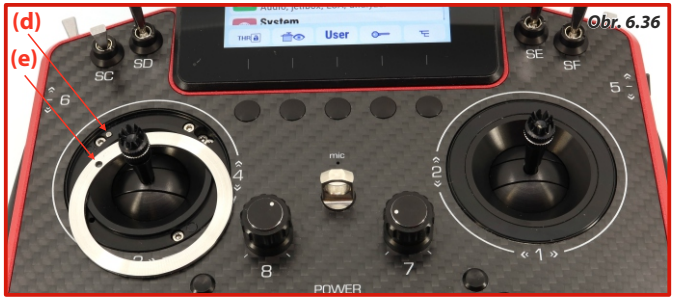
Fig. 6.35

Caution:
Tighten the screws with care to avoid damaging the gimbal.

Note: *When fully loosened, the head of the screw **(a)** must not be higher than the seating surface of the cover ring **(b)***



4. Place the cover ring back onto the gimbal so that its groove **(e)** fits precisely over the locking pin **(d)** (in the area of adjustment screw **"*D*"**) on the gimbal. Visually, the ring should lie in line with the front side of the transmitter*)*.



Obr. 6.36

5. Turn on the transmitter and in the ***"menu/system/input display,"*** press the **"F1"** button (**"Calib"**) and perform a new calibration of the throttle stick and its range.

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6.1.7 Changing the Transmitter Mode from 2 (4) to 1 (3)

The transmitter is equipped with universal gimbals. Both gimbals are identical, and by adjusting them, the transmitter can be set to modes **1** through **4**. After the mechanical adjustment, it is necessary to set the specific mode of the transmitter in the ***"menu/system/configuration -> Mode 1-4."***

1. Place the magnetic key **(a)** on the cover ring **(b)** of the gimbal and remove it from position **(c)**.



Fig. 6.37



Fig. 6.38



Fig. 6.39

2. **Deactivating the Throttle Stick and Setting the Center Position with Spring Centering:**
   Loosen screws **"F"** and **"G"** by turning them counterclockwise to the maximum, so that no locking (braking) occurs.

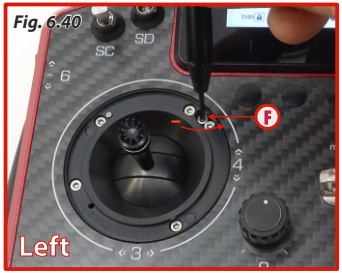


Fig. 6.40

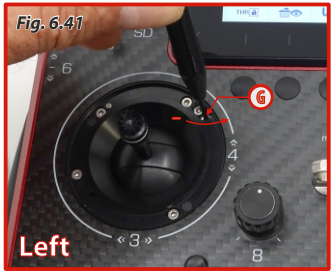


Fig. 6.41

Loosen screw **"C"** by turning it counterclockwise to the maximum, which will gradually activate the center return spring. You can adjust the strength of the return spring using the adjustment screw **"D"**.



Fig. 6.42



Fig. 6.43

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3. Activation of the throttle stick with locking (brake) adjustment and limitation of centering using a spring:
Use the screw to reduce the strength of the return spring **"D"** (to avoid unnecessary tension).
Tighten screw **"C"** by turning it clockwise to the maximum, which will gradually deactivate the center return spring.



Fig. 6.44



Fig. 6.45

By tightening screws **"F"** (ratchet) and **"G"** (smooth) clockwise, adjust the locking force (brake) of the throttle stick.



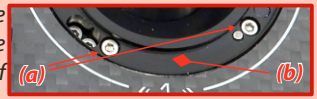
Fig. 6.46



Fig. 6.47

Caution:
Tighten the screws with care to avoid damaging the gimbal

Note: *When fully loosened, the head of the screw **(a)** must not be higher than the seating surface of the cover ring **(b)***



4. Place the cover ring back onto the gimbal so that its groove **(e)** fits precisely over the locking pin **(d)** (in the area of adjustment screw "*"D"*) on the gimbal. Visually, the ring should lie in line with the front side of the transmitter*)*.

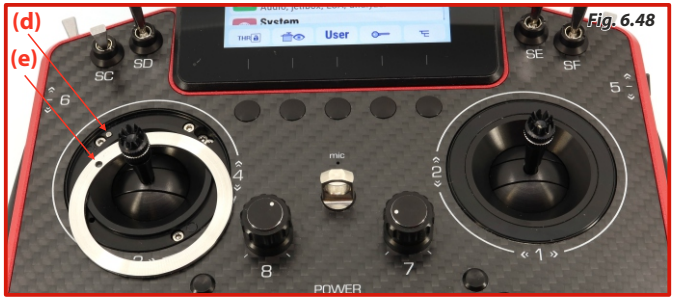


Fig. 6.48

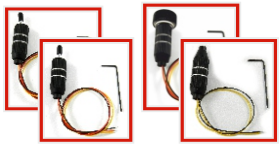
5. Turn on the transmitter and in the ***"menu/system/input display,"*** press the **"F1"** button (**"Calib"**) and perform a new calibration of the throttle stick and its range.

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6.1.8 Transmitter Gimbals with Switch or Button Installation

If you want to operate the DC-24 II transmitter using the optional stick end switch or button functions, you need to purchase one or more of these separately:

- Stick with 2-position switch
- Stick with 3-position switch
- Stick with push-button
- Stick with potenciometer



Advice: For installation of the optional gimbal stick ends with switches/buttons we recommend that you send your transmitter to one of the factory authorized service centers or to your authorized dealer.

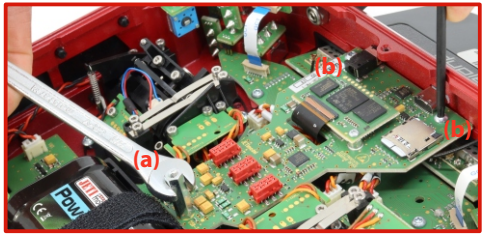
Note: *If you want to remove the back cover of the transmitter, proceed as follows:*

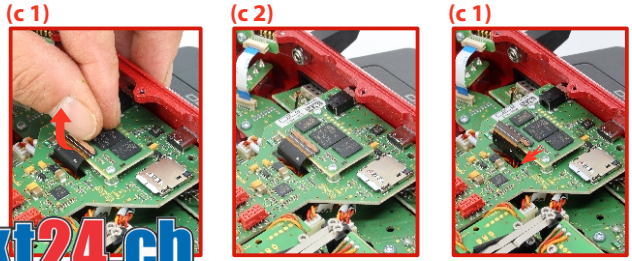
1. *Turn off the transmitter.*
2. *Use a T6 screwdriver to unscrew all the screws on the back cover of the transmitter and remove it.*
3. *Disconnect the main battery.*
4. *Do not connect the USB cable or charging adapter to the transmitter.*
5. *Adjust the sticks as you need.*
6. *Connect the main battery.*
7. *Replace the back cover and tighten all the screws.*

Warning: Keep contact with transmitter PCB to a minimum. Risk of damage electrostatic char

To install the switch/button, it is necessary to remove the gimbal from the transmitter using the following procedure:

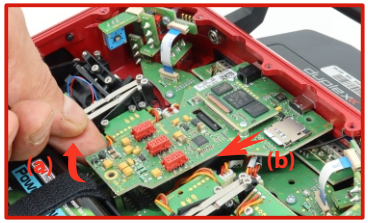
1. Turn off the transmitter and unscrew the screws of the rear cover of the transmitter. **Disconnect the battery connector.**
2. Remove the control circuit board using the following steps:
   a) Loosen and unscrew the spacer column.
   b) Loosen and unscrew the screws (the tool is included in the package).
   c) Release the display connector and disconnect the display.



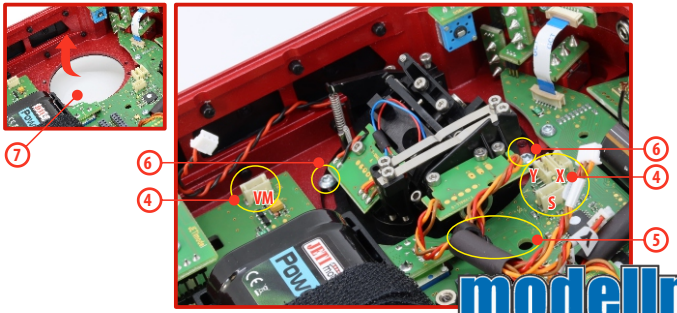


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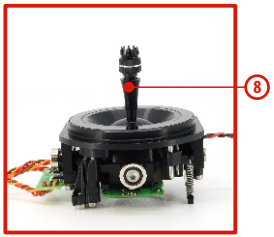
3. Remove the control circuit board (PCB) as shown in the pictures.

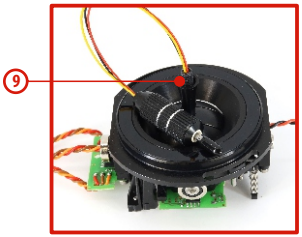


4. Disconnect the cable connectors leading from the gimbalr (3 connectors: **X, Y, S** and **VM**).
5. Remove the gimbal cables from the mounting holders.
6. Loosen both mounting screws of the gimbal.
7. Pull the gimbal towards you (through the back of the transmitter). The following installation will be carried out outside of the transmitter.

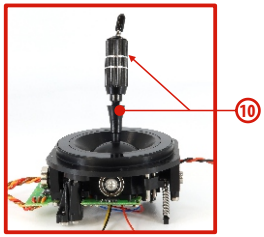


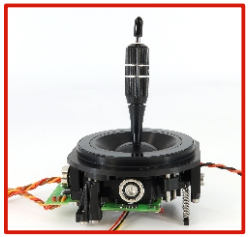
8. Unscrew the top part (with the knurling) of the stick (counterclockwise).
9. Gradually thread the cables of the stick with the switch/button through the hole in the gimbal stick.





10. Adjust the height of the gimbal stick.

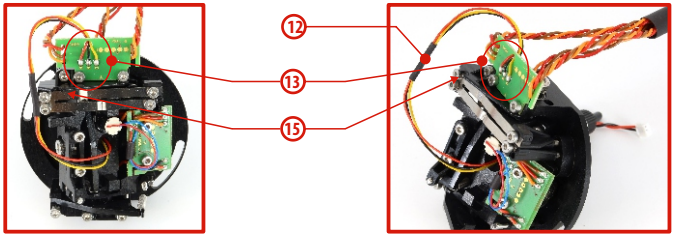




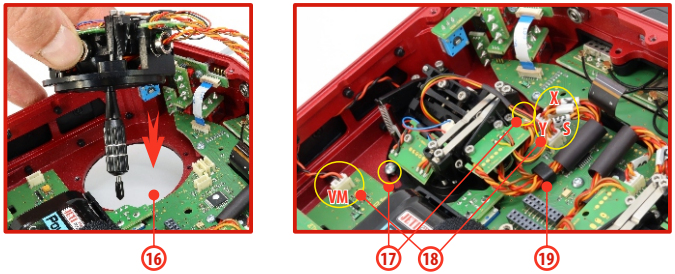
Caution: *After installing the stick with the switch/button, it is only possible to adjust the height of the stick if you loosen the locking [illegible] cables of the switch/button may get twisted.*

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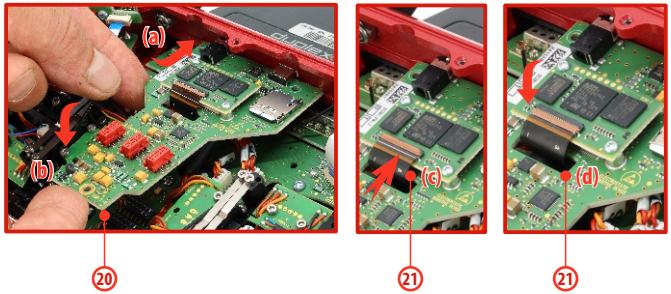
12. Slide the included heat shrink tubing over the cables and shrink it according to the picture.
13. Solder the cables to the marked solder pads according to the color coding (see the picture).
14. Move the gimbal to all extreme positions to define the length of the cables in the movable part of the gimbal, and gently pull the cable away from the gimbal. The cables should have sufficient slack in the movable part of the gimbal to avoid contact with moving parts and not be strained by bending.
15. Secure the cables in the heat shrink tubing at the designated point of the gimbal (see the picture).



16. Reinsert the gimbal back into the transmitter.
17. Tighten both mounting screws of the gimbal.
18. Connect the cable connectors leading from the gimbal (4 connectors from one gimbal: **X, Y, S** and **VM**).
19. Secure the gimbal cables back in the holde

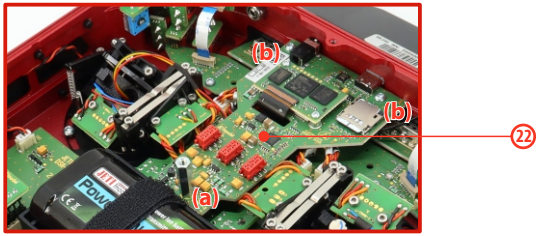


20. Insert the control circuit board (PCB) back into the transmitter **(a)** and gently press it into the connector **(b)**.
21. Insert the display strip into the connector **(c)** and secure it **(d)** (***see the picture***).



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22. Tighten the screws **(b)** and the spacer column **(a)**.



23. Connect the battery connector.



24. Reinstall the rear cover of the transmitter and screw in all the screws.

Configuring the Switch in the gimbal stick

After installing the switch into the gimbal stick, it is necessary to configure the type of switch for proper functionality. You can do this in the transmitter menu under ***"Main Menu -> Advanced Settings -> Stick/Switch Settings."***

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6.2 Replaceable switches

One of the most important features of a JETI transmitter is the switch function assignment flexibility.
The DS-24 II transmitter automatically detects the type of switch and assigns the selected function. There are many switches available to suit different needs. See your JETI retailer for switch availability.

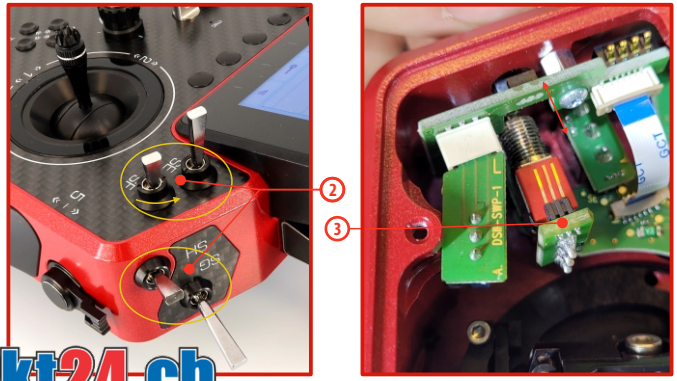
You may either swap the existing switches around or take advantage of the optional accessories and create your own custom configuration.

Factory Switch Configurations for the DS-24 II Transmitter

Sa - 3 position short switch
Sb - 2 position long switch
Sc - 2 position short switch
Sd - 2 position long switch
Se - 3 position long switch
Sf - 2 position short switch
Sg - 2 position spring-loaded long switch
Sh - 2 position short switch
Sm - 2 position switch *(non-replaceable - back cover)*
Sn - 2 position switch *(non-replaceable - back cover)*
Sm - 2 position switch *(non-replaceable 2xbutton - back cover)*
Sn - 2 position switch *(non-replaceable 2xbutt*

6.2.1 Switch disassembly and assembly procedure

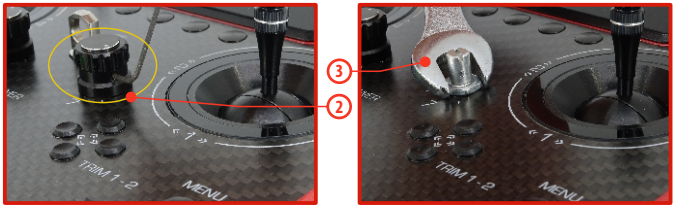
1. Switch off the transmitter and remove the radio back cover.
   Be sure to disconnect the transmitter battery pack connector.
2. With the specialized wrench (not included) carefully loosen and remove the switch installation nut.
3. Carefully hold the switch by its printed circuit board assembly and slowly pull it out. Use this method to also remove and exchange all of the other switches. After re-assembling and turning on your transmitter the software will sound a warning reminding you that you have executed a change. Always reinspect all assigned functions of the switches before attempting to fly.



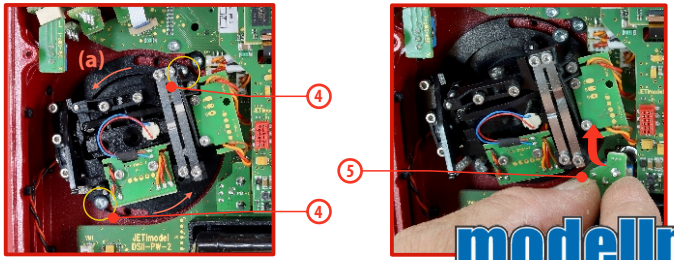
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6.2.2 Procedure for Replacing Potentiometer "P7" and "P8" with a Switch

1. Turn off the transmitter and unscrew the screws of the rear cover of the transmitter. **Disconnect the battery connector.**
2. Loosen the locking allen screw 1.3 on the potentiometer knob and pull it upwards.
3. Unscrew the 10 mm nut holding the body of the potentiometer.

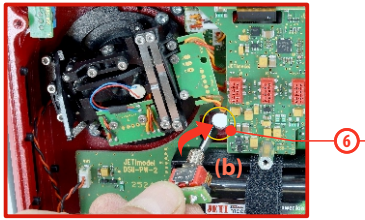


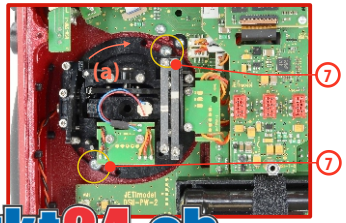
4. Loosen the screws of the gimbal using the included tool (Torx T9) and rotate it **(a)** to allow the potentiometer to be removed (**see fig.**).

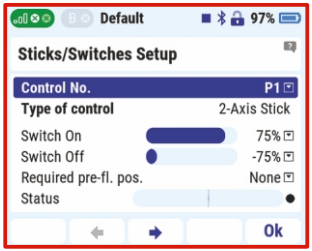


5. Gently push the shaft of the potentiometer towards the transmitter and remove this potentiometer from the inside of the transmitter.
6. Insert the new switch **(b)** and secure it from the front of the transmitter with the nut **(c)**.

> ***Note:*** *- The replacement nut is not included in the package and can be purchased as an accessory.*
> *- We recommend using the original mounting tool JMS-DC-SNS to tighten the switch nut.*







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7. Rotate the gimbal back to its original position and tighten the screws.
8. Connect the power battery and screw on the rear cover of the transmitter. In the ***"menu/system/configuration,"*** set the current date and time.
9. Check and, if necessary, set the type of switch for the specified position (***"menu/advanced settings/stick-switch settings"***).

6.3 Digital Trims

Transmitter gimbals are used for controlling the basic flight functions like throttle, roll(aileron), pitch(elevator), and yaw(rudder). Immediately under the transmitter gimbal sticks you can see four push-buttons which are the programmable, digital trim buttons.



The digital trims are used for fine trimming of the flying model. When the transmitter is turned off, the trim values are stored in memory and are recalled when the system is turned back on.
Every model has its own trim setup. Also all flight modes may be configured to use different trim configurations. By pressing one of the buttons, the screen will automatically change to display the graphic position of that trim. The transmitter trims feature an acoustic step and centre beep alarm.
In the *"Digital trim"* menu it's possible to enable a special function used as automatic trimming. Digital trim steps and trim range setting is explained in ***"Main menu->Fine tuning/flight modes->Digital trim"*.**

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6.4 Transmitter Battery Pack

The DS-24 II transmitter is powered by a Li-Ion type battery pack and comes equipped with its own built-in advanced battery management and charging circuit. In switched-on position, the transmitter LCD display shows the status and condition of the battery pack. The Li-Ion battery is factory installed.

6.4.1 Charging

The transmitter can be charged with the supplied mains adapter with a USB C cable. Charging time is approximately 3 hours. The transmitter can be on or off while charging. The charging status is indicated by the LED or if the transmitter is switched on, in the display.

Charging procedure:

1. Plug the charging adapter into the mains.
2. Plug the cable with the connector leading from the charging adapter into the USB C connector of the transmitter.

The charging status is displayed by a circular LED:

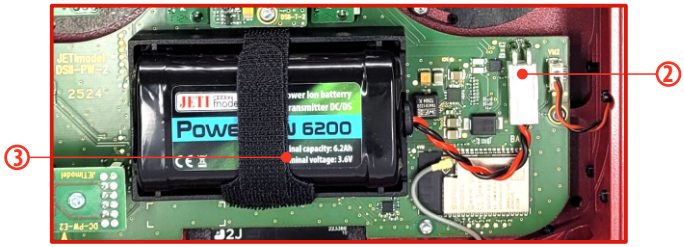
- **Green LED** lights up - transmitter is on, charger is not connected.
- **Blue LED** flashes - the transmitter is charging; the frequency shows the state of charge. A more permanent glow means a higher state of charge in the accumulator.
- **Purple LED** lights up - the transmitter is fully charged; the charger is still connected.

These colours can be changed by the user. white, cyan, purple, yellow, blue, green or red.
The brightness of the LED corresponds to the backlight intensity setting of the display.

6.4.2 Battery Replacement

Should you decide to replace the transmitter battery, please follow these steps:

1. Switch off the transmitter and remove the 10 screws that secure the radio back cover. Next, remove the radio back cover.
2. Disconnect the transmitter battery connector.
3. Loosen the battery fastening strap and remove the battery.



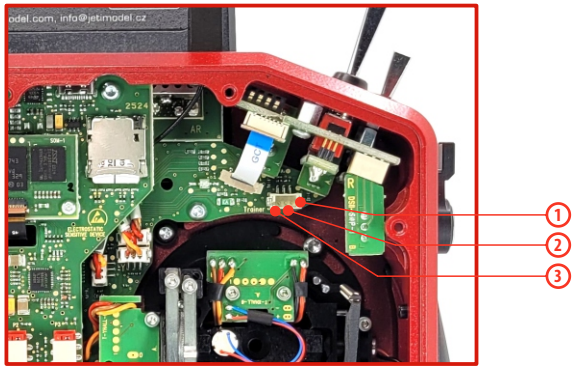
Note: *If the transmitter battery has been disconnected for longer than 1 minute, the time, and date will be deleted.*

Warning: *DS-24 II transmitters should only be operated only with original or manufacturer approved battery packs. The use of other [illegible] will void the warranty.*

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6.5 PPM Input/Output connector

The transmitter has an available internal three-pin connector for PPM input/output.

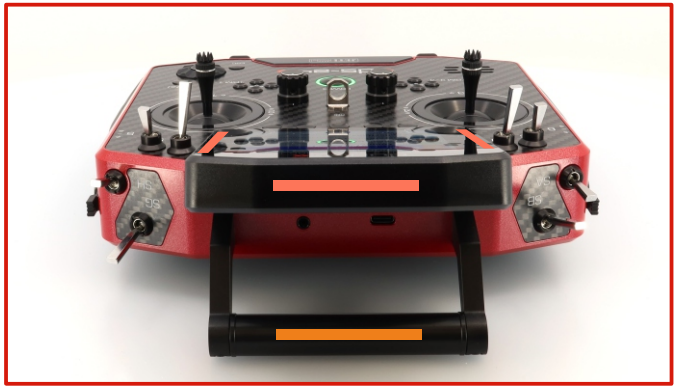


1. PPM output (3V logic)
2. Negative (-) pin
3. PPM input (3V logic)

Setting options for PPM output (configurable in ***"System ->Configuration"***):

- PPM8 neg./pos.
- PPM16 pos.
- Telemetry EX

6.6 Shielding antennas



Warning: *If you are operating a model with a transmitter do not shield and avoid contact of the transmitter antenna with your body. This might increase likelihood of range problem.*

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6.7 Change SD Card

Disconnect the battery plug .

To open the SD card holder, use a fingernail to push the metal frame to the down and then lift it carefully. The micro SD card can now be removed. For installation, proceed in the reverse order.



6.8 Changing the Orientation of the Side Potentiometers

On the DS24II transmitter, it is possible to set the orientation of the lever for the side potentiometers.



1. Place the side lever in the center position and loosen the locking screw using the allen key 1,3.
2. Gently remove the side lever. On the inside, four mechanical stops are clearly visible.

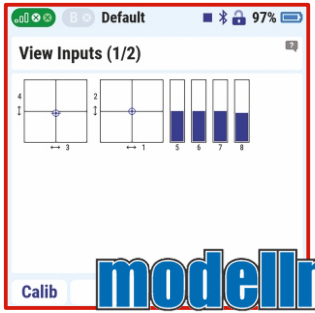


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3. Ensure that the potentiometer is in the center position *(the center groove of the potentiometer is horizontal with the top/bottom edge of the transmitter)*. Attach the side lever in the desired direction *(up/down/forward)*. Always mount the lever on the potentiometer in the center of the range of motion, so that the center of the potentiometer aligns with the lever.



4. Tighten the locking screw using the allen key 1.3.
5. Perform the calibration of the potentiometer in the transmitter (***"menu/system/input display/Calib" (press the "F1" button)***.



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7 Safety Handling Rules

7.1 Transmitter Battery Pack

1. Charge the battery only in the transmitter and with the supplied power adapter. The adapters supplied with the transmitter may vary depending on the countries in which they are distributed. If you replace the transmitter battery, always use the original one supplied by the manufacturer.
2. Always verify the correct polarity while connecting a transmitter battery pack. The red lead is positive "+" and the black lead is negative"-" polarity.
3. Never test a battery pack by shorting the wire leads. Do not allow the battery to overheat at any time.
4. Never leave your transmitter unattended at any time while it is being charged.
5. Never charge an overheated battery pack, or in an environment warmer than 140° F (60° C)
6. During cold months always check the battery's capacity, do not rely on your radio's low battery warning system.
7. Always check your transmitter and receiver batteries prior each flight. Do not rely on your radio's low battery warning system.
8. Do not allow radio battery pack to come in contact with open flame, other heat source or moisture at any time.

7.2 General Safety Rules



1. Any repair, installation, or upgrade must be performed with caution and common sense. These will require some basic mechanical skills.
2. For any of the upgrades which require removing the radio back cover you MUST disconnect the transmitter battery pack before attempting any work.
3. It is imperative to store your radio in a controlled environment. Any extreme temperatures can cause damage to the sensitive electronics. A sudden change in temperature or humidity can create condensation which can permanently damage your radio.
4. Do not use radio during poor weather conditions. Any water or condensation can cause corrosion and could permanently disable your radio. If you suspect that moisture has entered your transmitter, turn it OFF, remove the back cover and let dry it out.
5. Avoid use in dusty environments.
6. The manufacturer is not responsible for any unauthorized modifications. Changes or modifications not expressly approved by the party responsible for compliance will void the user's authority to operate the equipment.
7. This is a sophisticated hobby product and not a toy. It has to be operated with caution and common sense, always avoid any mechanical damage.
8. Always avoid operating close to devices that might cause [illegible] magnetic interferences.

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9. Keep all moving parts clean and free of dust or fine debris that might damage the mechanical parts of the radio.
10. Do not cover the antenna of the transmitter with any objects, especially metal, carbon or parts of the human body (for example: hand), etc. The radiation pattern from the antenna will be shielded and provide poor connection to your model.
11. Never repair, re-install, or exchange the internal memory SD card for other type.
12. Avoid extreme temperatures as they can cause damage to the sensitive internal SD card.
13. Always perform a ground range check prior to your initial flight.

7.3 Pre-Flight Checks

1. Always verify the correct position of the switches, and the gimbals, prior turning ON your transmitter. Turn on the transmitter first, then receiver. JETI transmitters use ***"Model Checking".*** This safety is designed so that the model memory stores the unique serial number of the receiver that has already been assigned to model. When the transmitter establishes communication with the receiver and the serial number does not match the number stored in the current model's setup, the transmitter displays a warning. You will then be able to accept the change or reject the change. If you accept the change, the transmitter stores the new receiver number into the model's setup and begins transmitting. If you reject the change, the transmitter will not communicate with the receiver and you will be allowed to select another model.
2. Perform a ground range check before each day's flying session.
3. Check the battery voltage on both the transmitter and the receiver battery packs.
4. Check all channel assignments, trim, mixes, and the correct direction of movement for your flight surfaces.
5. Set motor/engine kill switch and test the power train.

7.4 Application

This product may be used for model airplane or surface (boat, car, robot) use only. It is not intended for use in any other application than control of the models for hobby, sport and recreational purposes.

7.5 FCC information

FCC Interference Statement

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 [illegible]on. If this equipment does cause harmful

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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 to 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

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.
2. This device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. "This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment is in direct contact with the body of the user under normal operating conditions. This transmitter must not be collocated or operating in conjunction with any other antenna or transmitter."

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or [illegible]) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.
Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotroperayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

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

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :
(1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le

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ENGLISH

Information on Disposal for Users of Waste Electrical & Electronic Equipment (private households)



This symbol on the products and/or accompanying documents means that used electrical and electronic products should not be mixed with general household waste.
For proper treatment, recovery and recycling, please take these products to designated collection points, where they will be accepted on a free of charge basis. Alternatively, in some countries you may be able to return your products to your local retailer upon the purchase of an equivalent new product.
Disposing of this product correctly will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling. Please contact your local authority for further details of your nearest designated collection point.
Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

For business users in the European Union

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

Information on Disposal in other Countries outside the European Union

This symbol is only valid in the European Union.
If you wish to discard this product, please contact your local authorities or [illegible] correct method of disposal.

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Declaration of Conformity

in accordance with the regulations of EU Directive
RED 2014/53/EU, RoHS 2011/65/EU and (EU) 2015/863.
This declaration of conformity is issued under the sole responsibility of the manufacturer.

Producer:	**JETI model s.r.o.** Lomená 1530, 742 58 Příbor, Česká republika IČ 26825147
	declares, that the product
Type designation:	transmitter DUPLEX EX
Model number:	DS-24 II
Frequency band 1:	2400,0 – 2483,5 MHz
Max power band1:	100 mW e.i.r.p
Frequency band 2:	863,0 – 870,0 MHz
Max power band 2:	25 mW e.r.p.

The stated product complies with essential requirements of RED Directive 2014/53/EU, RoHS Directive 2011/65/EU and (EU) 2015/863.

Harmonised standards applies:

Measures for the efficient use of the radio frequency spectrum [3.2]

EN 300 328 V 2.2.2
EN 300 220-2 V 3.1.1

Protection requirements concerning electromagnetic compatibility [3.1(b)]

EN 301 489-1 V 2.1.1
EN 301 489-3 V 2.1.1
EN 301 489-17 V 3.1.1

Electrical Safety and Health [3.1(a)]

EN 62368-1:2020
EN 62311:2020

RoHS

EN IEC 63000:2018

Příbor, 3.9.2024

Ing. Stanislav Jelen,
Managing Director

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Declaration of Conformity

in accordance with the regulations of EU Directive
RED 2014/53/EU, RoHS 2011/65/EU and (EU) 2015/863.
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Producer: **JETI model s.r.o.**
Lomená 1530, 742 58 Příbor, Česká republika
IČ 26825147

declares, that the product

Type designation: transmitter DUPLEX EX
Model number: DC-24 II

Frequency band 1: 2400,0 – 2483,5 MHz
Max power band1: 100 mW e.i.r.p

Frequency band 2: 863,0 – 870,0 MHz
Max power band 2: 25 mW e.r.p.

The stated product complies with essential requirements of RED Directive 2014/53/EU, RoHS Directive 2011/65/EU and (EU) 2015/863.

Harmonised standards applies:

Measures for the efficient use of the radio frequency spectrum [3.2]

EN 300 328 V 2.2.2
EN 300 220-2 V 3.1.1

Protection requirements concerning electromagnetic compatibility [3.1(b)]

EN 301 489-1 V 2.1.1
EN 301 489-3 V 2.1.1
EN 301 489-17 V 3.1.1

Electrical Safety and Health [3.1(a)]

EN 62368-1:2020
EN 62311:2020

RoHS

EN IEC 63000:2018

Příbor, 3.9.2024

Ing. Stanislav Jelen,
Managing Director

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JETI model s.r.o.
Lomená 1530, 742 58 Příbor
Czechia

modellmarkt24.ch