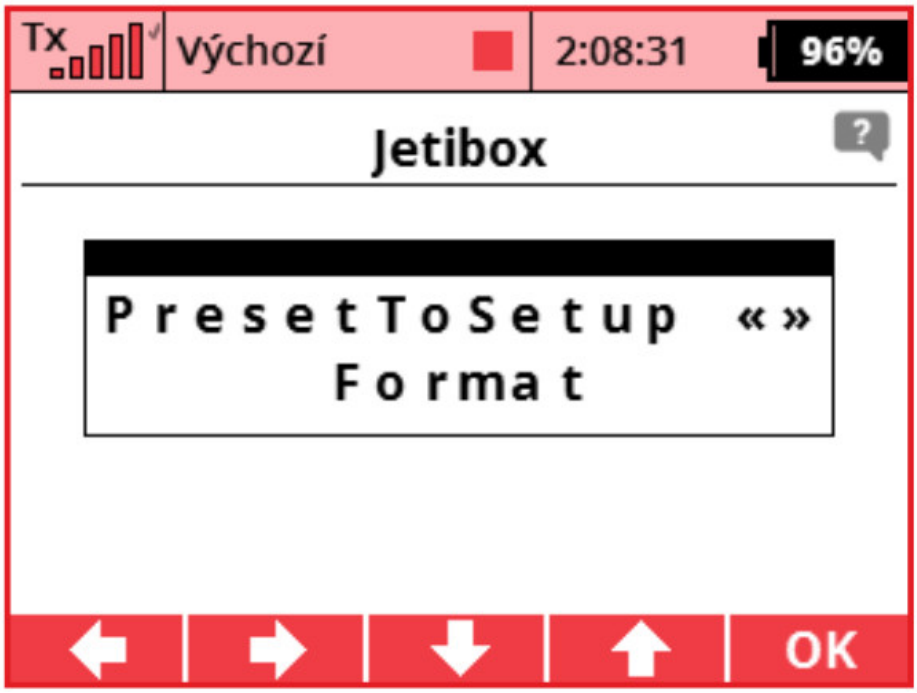
JETI model Complex Radio Control System User Manual

COMPLEX RADIO CONTROL SYSTEM
USER MANUAL for QUICK SETTINGS
REX ASSIST Receiver

Contents

Receiver – basic procedure:

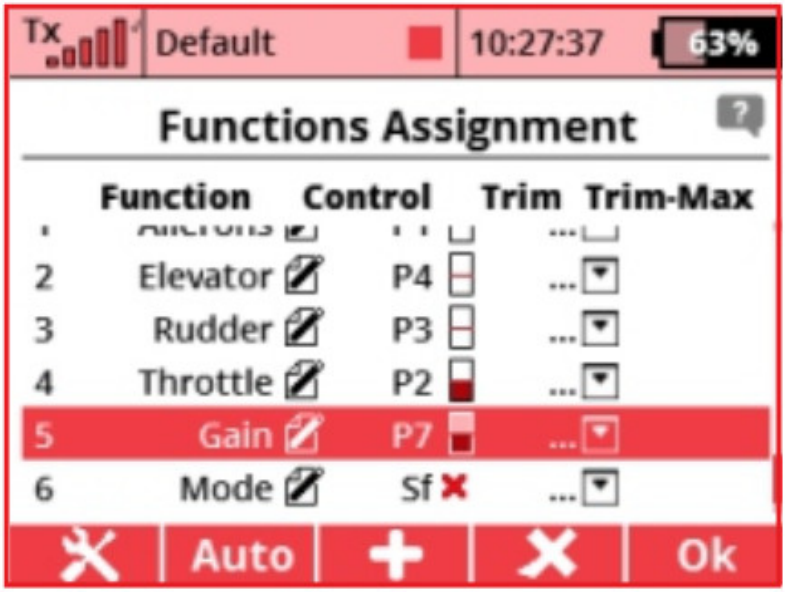
- Use the JETI Studio program to verify that you have the latest software version in the receiver.
- If the receiver was previously used in another model, format it in the transmitter menu “Menu/Applications/ Jetibox”.



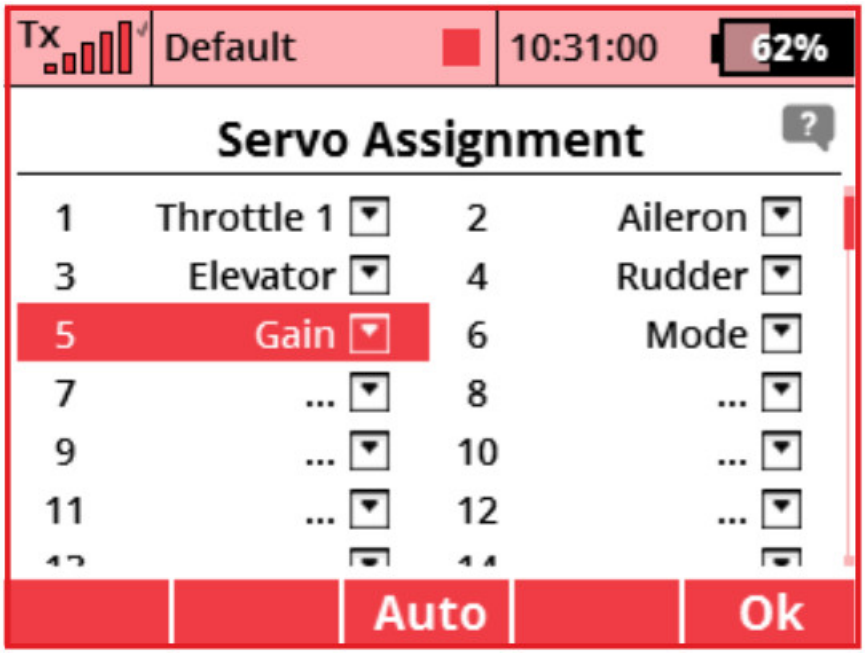
- Bind the receiver with the transmitter.
- Set the functions of the model as with an ordinary receiver.
- Place the receiver in the model and it against vibration (ideally the receiver in the model with a soft double-sided adhesive tape that is supplied with the receiver). Always place the receiver in the model parallel to the axes and ideally as close as possible to the center of gravity (CG).

Transmitter – basic procedure:

- Connect the transmitter via a USB cable to the PC and in the JETI Studio program verify, if you have the latest version of the soft ware in the transmitter. The minimum required version is v. 4.24.



- In the transmitter menu “Menu/ Model/ Functions Assignment” create a new function for switching stabilization modes (e.g. Assist Mode) and a function to change its sensitivity (e.g. Assist Gain). Then assign controls to functions. Threeposition switch is suitable for the “Mode” function and rotary potentiometer is suitable for the “Gain” function.



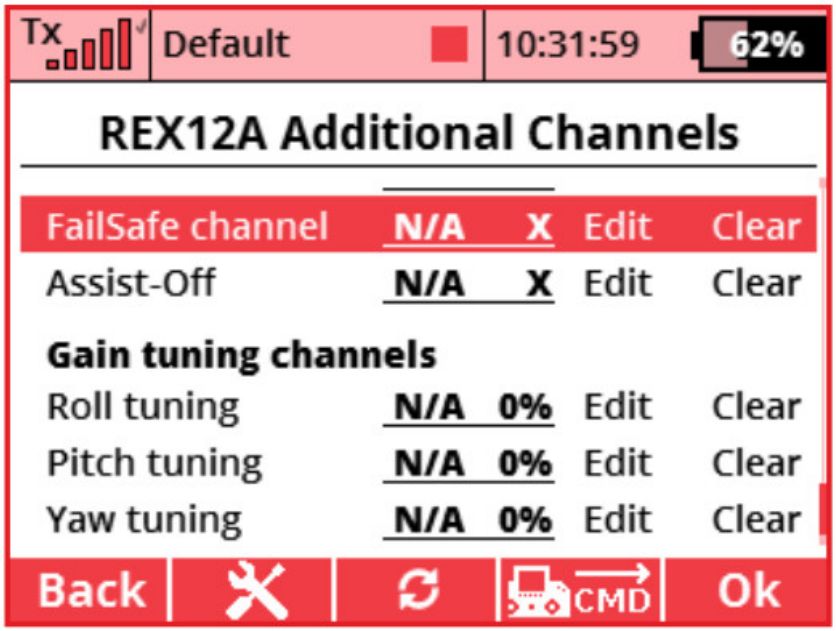
- In the transmitter menu “Menu/Model Server Assignment”, assign these new functions to free channels that you are not using for other functions.

Basic Assist settings:

- Make the basic settings in the receiver menu “Menu/ Model/Device Explorer/REX ASSIST/Conation/Quick Wizard”. Follow the steps carefully.
- If you select “All servos digital” the output period for all servo outputs will be set to 7.5ms, otherwise use 17.5ms. Make sure that all devices connected to the receiver support the selected output period (fuel pump, etc.).
- Calibrate the sticks very carefully and according to the instructions in the “Primary channels assignment” menu.
- Assign the switch to the “Flight Modes Channel” function created in the previous steps (Assist Mode).

Stabilization Gain (Sensitivity) Control Settings:

In the receiver menu “Conation/ Channel Assignment/ Assign additional channels/Gain tuning channels” assign the potentiometer created in the previous steps (Assist Gain). You can set the same control for all axes (ailerons, elevator and rudder) or choose a different control for each rudder.

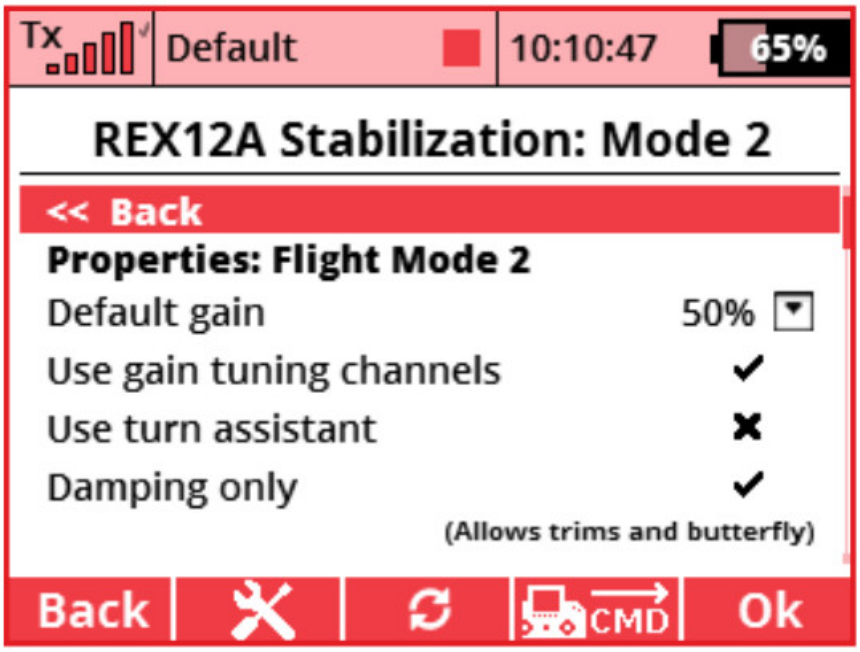


Note: the value (%) displayed in the Gain Tuning Channels" menu shows by how many percent the resulting gain is higher or lower than the value for each function displayed and set in the "Conation/Airplane Settings" menu of the receiver.

Setting the stabilization mode:

The Assist system offers six stabilisation modes, three of them can be selected and then switched during The selected modes are switched with the control created in the previous steps (Assist Mode switch). Each selected mode can be tuned in the "Edit" menu.

Description of t modes:
Manual – stabilisation is turned off
Training – stabilisation reacts to wind turbulence and limits the maximum possible tilt angles in all axes. Limit values are adjustable. The mode is suitable, for example, for learning to . Acrobatics are not possible in this mode.



Horizon – after activation, the model is put into horizontal om any position. It is good to activate this mode only for a short time, in case of a problem (loss of orientation, etc.). Each time the control stick returns to neutral, the model in the exact axis also actively returns to the horizon.
Normal – basic stabilisation mode. It “calms” the ight, reduces the effect of wind turbulence, but does not limit the sensitivity of control and aerobatics.
Heading Hold – after activation, the stabilisation tries to actively keep the model in the exact position. The mode is suitable, for example, for Prop hanging, low passes, knife edge. Do not use this mode for takeoff and landing (near to stall speed).
2D mode – a mode similar to “Training” but it’s added active height stabilization. If you do not control the elevator, the height is kept with an accuracy of 1-2m.

First flight with Assist:

- always and trim the model with Assist function off, then after re calibrate the primary controls in the Assist (both stick units)
- select “Horizon” mode and set high sensitivity (Gain), check the sense of stabilisation deviations. This should react with the control surfaces in the opposite direction when the position of the model is changed
- before take off, set the stabilisation gain control (potentiometer) to the minimum and switch the stabilisation to “Manual” mode (i.e. off)
- in level switch stabilisation to “Normal” mode. Fly calmly and in gentle circuits. Slowly increase the stabilisation gain until the model starts to become restless, i.e. control surfaces oscillate (over stabilised). Reduce the stabilization gain slightly and verify that the model is stable even at higher speeds
- for -tuning the stabilisation of the model, you can adjust the sensitivity for each rudder separately (see chapter “Setting the stabilization gain control”

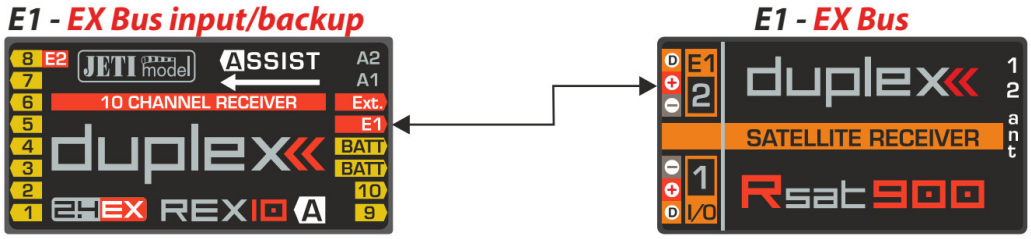
For the proper functioning of the stabilization system, keep the following principles in mind:

- update the transmitter and receiver software regularly
- after each trimming of the model, calibrate the “primary channels” of the Assist (both stick units)
- every time you replace the servo in the model, calibrate the “primary channels” of the Assist (sticks). The servo may have the reverse operation from the factory
- during power on, keep the model still and approximately horizontal until the system reports “ready to

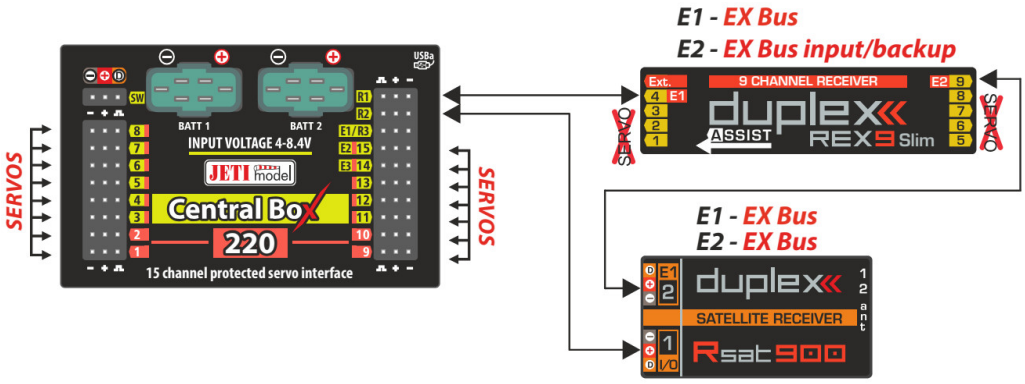
- for the stabilisation mode switch, set the switch to “Manual” mode in the position so that the system can be deactivated at any time
- ensure the power supply sufficiently large enough. The model with active stabilisation has increased current consumption (the servos are aways moving)
- if you are not sure, ask JETI model technical service or your local dealer for help

Examples of few possible connections of REX Assist:

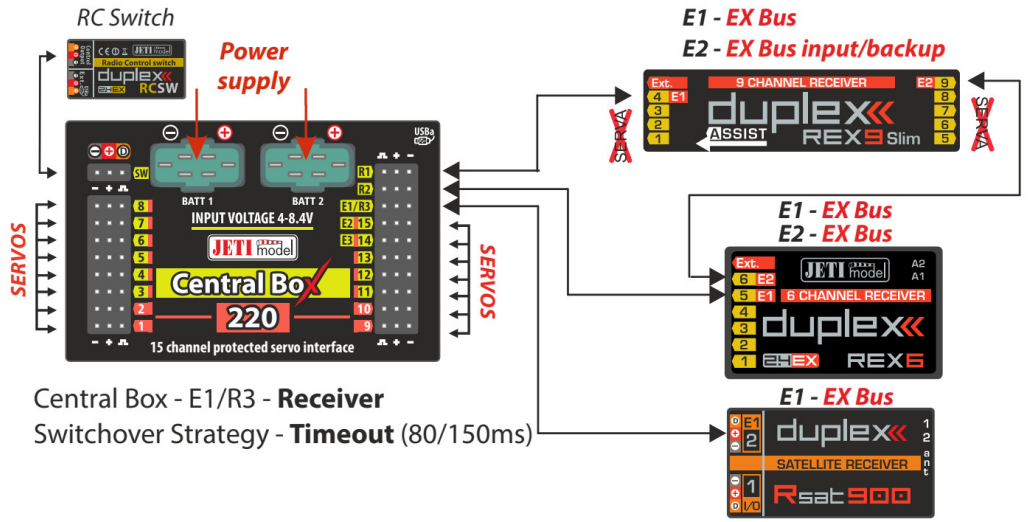
a) Connecting the REX 10 Assist receiver with the Rsat 900 backup receiver.



b) Central Box connection with REX9 Slim Assist receiver and Rsat900 backup. Stabilisation will work even if the 2.4GHz signal fails and transmitter switch to the 900MHz frequency backup. Fail-Safe functions are disabled for both receivers (including “intelligent”), Fail-Safe function is active in the Central Box.



c) Similar connection, but with two receivers for the 2.4 Ghz band.
“Double Path” mode is set in the transmitter menu “Advanced properties/Wireless modes”. For all receivers functions Fail-Safe disabled (including “intelligent”), in the Central Box Fail-Safe function active



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Documents / Resources

	JETI model Complex Radio Control System [pdf] User Manual JDEX-RR9S-A, REX Assist Receiver, REX Assist, Receiver, Complex Radio Control System, Radio Control System

References

- jetimodel.com