



duplex

EN User Manual

Receivers Rx

ENGLISH

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duplex«

2.4EX
extended serie

Receivers

1 Introduction

ENGLISH

JETI **Duplex receivers** are designated for use with the **DC/DS transmitters** or the **JETI transmitter modules** in the 2.4 GHz frequency band. **Duplex receivers** are offered in a wide range of size and features to suit the numerous demands of our customers. The Duplex receivers range from the tiny **Duplex R3L, R5L receivers** for small and medium model sizes to the **R9, R11EPC receivers** for larger models. Last but not least, the **R14 and R18 receivers** are available for giant or really complex models.

The legacy Duplex system was designed to give maximum dependability, a property which has proven itself through many successful years of use. Based on user input, the system is continuously improved. Thanks to online updates the improvements are easily accessible to users from any part of the world. From the very beginning bidirectional transmission has been a distinctive feature of the Duplex system, this not only handles telemetry data, but it also helps to ensure secure primarily transmission safety between the transmitter and receiver.

The **Duplex EX telemetry** system uses an open protocol. This gives the advantage of compatibility with a large number of telemetry sensors from both JETI model and third party producers. For the display of telemetry data you can use purposely designed equipment like the **JETIBOX profi** and **DC/DS transmitters** or you can display the data **on PCs**.

Although our development of the **Duplex system** seems to be very fast, we make the extra effort to keep backward compatibility with earlier Duplex versions. By design, users are not forced to continually buy new equipment to take advantage of the latest improvements.

The JETI model company portfolio contains a diverse offering of electronic modelling equipment like voltage regulators, motor speed controllers, telemetry data display equipment, telemetry sensors and, last but not least, DC/DS transmitters. The JETI model product manufacturing policy is to constantly produce the highest quality product possible.

2 Technical data

2.1 Technical data of receivers outside the US *part 1*

Basic Data	R4 RES	R5L	R7 nano	R9
Dimension [mm]	40x22x7	47x20x7	30x18x5	51x24x11
Weight [g]	8	5,4	2	13
Antenna length [mm]	2x100	2x100	1x30	2x200
No. of channel outputs	4	5	7	9
Temperature range [°C]	-10 up to +85	-10 up to +85	-10 up to +85	-10 up to +85
Supply voltage [V]	3.5 – 8.4	3.5 – 8.4	3.5 – 8.4	3.5 – 8.4
Average current [mA]	75	30	20	30
Real time transmission of telemetry data	No	Yes	Yes	Yes
Programming	DC/DS	JetiBox DC/DS	JetiBox DC/DS	JetiBox DC/DS
Satellite receiver (Rsat) support	No	No	No	Yes
Power output [dBm]	15	15	6	15
Receiver sensitivity [dBm]	-106	-106	-98	-106

2.1 Technical data of receivers outside the US *part 2*

Basic Data	R14*	R18*	Rsat2
Dimension [mm]	62x38x16	62x38x16	35x23x6
Weight [g]	30	30	12
Antenna length [mm]	2x400	2x400	2x200
No. of channel outputs	14	18	Serial communication
Temperature range [°C]	-10 up to +85	-10 up to +85	-10 up to +85
Supply voltage [V]	3.5 – 8.4	3.5 – 8.4	3.5 – 8.4
Average current [mA]	40	40	30
Real time transmission of telemetry data	Yes	Yes	Yes
Programming	JetiBox DC/DS	JetiBox DC/DS	JetiBox DC/DS
Satellite receiver (Rsat) support	Yes	Yes	-
Power output [dBm]	15	15	15
Receiver sensitivity [dBm]	-106	-106	-106

* **External Power Connector**

2.2 Technical data of receivers for the US *part 1*

Basic Data	R3	R4L (R4L indoor)	R5L (R5L indoor)	R6L (R6L indoor)	R7plus
Dimensions [mm]	10x22x7	38x20x7	47x20x7	43x24x11	51x24x11
Weight [g]	8	4,8 (4,5)	5,4 (5)	13	13
Antenna length [mm]	2x200	2x100 (2x45)	2x100 (2x45)	2x200 (2x50)	2x200
No. of channel outputs	4	4	5	6	7
Temperature range [°C]	-10 up to +85	-10 up to +85	-10 up to +85	-10 up to +85	-10 up to +85
Supply voltage [V]	3.5 – 8.4	3.5 – 8.4	3.5 – 8.4	3.5 – 8.4	3.5 – 8.4
Average current [mA]	30	30	30	30	30
Real time transmission of telemetry data	Yes	No	Yes	Yes	Yes
Programming	JetiBox DC/DS	DC/DS	JetiBox DC/DS	JetiBox DC/DS	JetiBox DC/DS
Satellite receiver (Rsat) support	No	No	No	No	Yes
Power output [dBm]	15	15	15	15	15
Receiver sensitivity [dBm]	-106	-106	-106	-106	-106

2.2 Technical data of receivers for the US *part 2*

Basic Data	R9	R11 EPC*	R14*	R18*
Dimensions [mm]	51x24x11	51x24x11	62x38x16	62x38x16
Weight [g]	13	15	30	30
Antenna length [mm]	2x200	2x200	2x400	2x400
No. of channel outputs	9	11	14	18
Temperature range [°C]	-10 up to +85	-10 up to +85	-10 up to +85	-10 up to +85
Supply voltage [V]	3.5 – 8.4	3.5 – 8.4	3.5 – 8.4	3.5 – 8.4
Average current [mA]	30	30	40	40
Real time transmission of telemetry data	Yes	Yes	Yes	Yes
Programming	JetiBox DC/DS	JetiBox DC/DS	JetiBox DC/DS	JetiBox DC/DS
Satellite receiver (Rsat) support	Yes	Yes	Yes	Yes
Power output [dBm]	15	15	15	15
Receiver sensitivity [dBm]	-106	-106	-106	-106

* **External Power Connector**

3 Installation

3.1 Voltage supply

When designing the on-board wiring for your project, always pay attention to the voltage input range of your receivers and servos.

You can connect supply voltage to the Duplex receivers as follows:

- *directly from the batteries*
- *via a BEC voltage regulator (either contained in speed controllers or self contained)*

The supply may be connected to the Duplex receivers via:

- *the throttle channel (when applying speed controllers with BEC)*
- *a free receiver output.*
- *a **Y-cable** to any arbitrary receiver output (other than the „Ext.“)*
- *the **MPX connector** for receivers with the **EPC label** or the **R14** and **R18 receivers** which are equipped with a power supply connector*

3.2 Operation

We recommend that you switch on the transmitter first and then subsequently the receiver. The transmitter confirms the switching-on of the receiver with an acoustic signal. When switching off the system we recommend that you switch off the receiver first and then subsequently proceed with switching-off the transmitter.

3.3 Binding

When using a new receiver or transmitter it is necessary to carry out the binding process between them. Transmission between the receiver and transmitter occurs in fully digital manner, therefore it is necessary to identify and share the addresses of each device communicating on the mutual 2.4GHz frequency band.

Procedure:

- 1.** Insert the **BIND PLUG** (included in the receiver packing) into the receiver socket labeled Ext.
- 2. Switch on the receiver** – (connect a proper voltage supply to the receiver). Binding of the receiver may now be performed within 60 seconds. After the 60 seconds elapse the receiver returns to setup mode and the binding process must be repeated by starting again from step 1.
- 3. Switch on the transmitter** - the transmitter emits an acoustic signal announcing the detection of a new receiver.

Binding may be carried out with the aid of the JETIBOX instead of using the BIND PLUG.

The procedure is as follows:

- 1. Connect the JETIBOX** with the connecting cable to the Ext. receiver output.
- 2. Switch on the receiver** - (connect a proper voltage supply to the receiver).
- 3.** The receiver menu appears on the JETIBOX display. **Select the „Pairing“** menu item (push the right arrow button once from the main receiver display) and then push the upward button. You now have a period of 60 seconds to bind the receiver. After the 60

seconds elapse the receiver returns to setup mode and the binding process must be repeated by starting again from step 3.

If the binding process between receiver and transmitter was unsuccessful, try again.

You may bind an arbitrary number of receivers to one transmitter. The receiver, however, can only be bound to one transmitter, i. e. the receiver is only bound to the most recently bound transmitter.

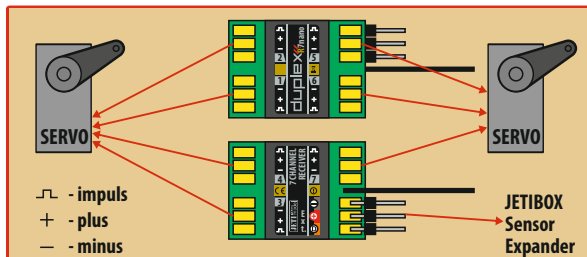
Change since FW version 3.10!

As long as the **BIND PLUG** is inserted into Ext. input, the receiver is always in „**Normal**“ mode, regardless your actual receiver setup. After **BIND PLUG** is removed, the receiver returns to your selected setup mode.

3.4 Receiver R7nano

When soldering it is necessary to have the receiver disconnected from the power. **The receiver is a very sensitive device (ESD).** We recommend using soldering micro-iron. Beware of short circuits. **Beware of polarity. Reverse polarity of the receiver or servos will cause their destruction.** Use the power source with respect to the servos used (5V or 7.4V for high voltage servos) and with respect to the allowed receiver voltage (3.5-8.4V). The power can be connected to any servo channel (1-7). Solder the servos to channels 1-7. The sensor or expander output can be soldered to the EXT connector (labeled E). The function of individual pads is described in the picture. Solder the black or brown wire to the minus (-). Solder

the red wire to the plus (+). Solder the yellow, white or orange wire to the signal (Π).



ELECTROSTATIC SENSITIVE DEVICE
OBSERVE HANDLING PRECAUTIONS

4 Real time telemetry

Every receiver is able to transmit the actual voltage supplied to the on-board system (i.e. receiver voltage) without the need to connect any additional external sensors. If you want to take advantage of extended telemetry, connect a telemetry sensor to the Ext. input of the receiver. If you want to operate several telemetry sensors simultaneously with one receiver, you must use one or more of the **Expander EX** devices, which, when connected to the **Ext. receiver** input, gives you multiple inputs for telemetry sensors.

There are two ways to use JETI telemetry. The **EX telemetry** is available to owners of the **JETI DC/DS transmitters** or the **JETIBOX profi**. The **1st Generation Telemetry** can be used by owners of the **TU, TG, TF** etc. transmitter modules.

4.1 EX Telemetry

This telemetry data is displayed according to user selections in the DC/DS transmitters and the JETIBOX profi. You will find more details in actual instruction manuals of the given **Duplex EX** equipment.

4.2 - 1st Generation

Connect the JETIBOX to the transmitter module. Switch on the transmitter and connect the receiver voltage supply (*see chapter „Voltage supply“*). The Tx heading appears in the JETIBOX display and by pressing the push-button R (right button) twice, select the Mx menu. By pressing the push-button D (down) you will enter the telemetry sensor or expander menu. You may leave the telemetry sensor menu by pressing the push-button U(up) slightly longer.

5 Receiver setup

5.1 Receiver setup via the JETIBOX

There are two receiver setup modes. The first is receiver setup via the JETIBOX, JETIBOX profi or JETIBOX emulation in the DC/DS transmitters, the second one is direct setup of the receiver with a DC/DS transmitter.

5.1.1 Direct connection between a JETIBOX and the receiver

Insert one end of the connection cable (included with the JETIBOX) into the socket labelled Impuls + - (see the right side of the JETIBOX) and the other end into the receiver socket labelled Ext. Connect a voltage supply to the receiver (see Voltage supply) or to the supply socket of the JETIBOX. There is no need to supply voltage when using the JETIBOX profi.

5.1.2 Wireless connection between a JETIBOX with transmitter or DC/DS transmitter and the receiver

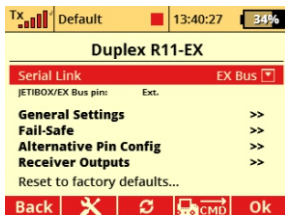
In this case, connect the JETIBOX with the transmitter (if you are using a DC/DS transmitter, then select the JETIBOX emulation). Switch on the transmitter and then connect the receiver voltage supply. The Tx heading appears on the display along with right and down arrows. In order to enter the receiver, press the **R button** (right), the Rx heading appears on the display and by subsequently pressing the **D button** (down) you enter the receiver menu, which will be displayed just the same as the direct connection mode (*see paragraph 5.1.1*).

Wireless connection is only possible when a receiver is in **“Normal”** mode (**MeasureOrSetting->Main Setting->Rx mode: Normal**).

The JETIBOX can be disconnected only after you disconnect the receiver voltage supply. You may monitor the on-board state of your receiver during your model's operation. Pay particular attention, of course, to your setup work. If it is possible, we do not recommend changing setup parameters during model operation. Set-up work should only be done if there is no danger of damaging the model or injuring people. For safety reasons prevent motor activation or remove the propeller!

5.2. Receiver set-up via the DC/DS transmitter

You can find this option at JETI DC/DS transmitters in the menu/model/device explorer. The requirement for correct function is the actual SW in the receiver and transmitter. Receiver and transmitter updates are available in JETI Studio.



6 Receiver menu

6.1 Overview of receiver data items

The introductory display shows the receiver type. By pushing the R key (arrow down) more detailed data of receiver and transmitter can be displayed.

Pairing - by pushing the U key (arrow up) pairing of the receiver with the transmitter will be executed. Pairing of the receiver should only be carried out when JETIBOX is directly connected to the receiver.

RX/TX- RX item shows the unique production number of the receiver. The TX item shows the unique production number of the transmitter, to which the receiver has eventually been paired.

Rx Diag- A1 or A2 item shows which antenna the receiver is using at present. Kx item informs about the number of transferred channels (this number depends on the transmitter abilities). By means of the **D key (arrow down)** you arrive at the line of basic mode selections, where you may select read out of measured values (**Measure**) or setup of the receiver (**Main setting, Out Pin Set, Auto Set**).

6.2 Measure

Measure - enables read out of measured data of the maximum, minimum, and actual receiver voltage.

Volt Min / Act / Max - the receiver is checking the supply voltage and indicates the limit values and extremes which occurred during operation; at the same time it also shows the actual receiver voltage. Without switching on the paired transmitter the values MAX and MIN will not change, only the value of the actual voltage ACT will be updated. In order to delete MAX and MIN values, keys L (arrow left) and R (arrow right) must be pressed simultaneously.

RXSignalLevel - strength of radio signal from Tx to Rx.

6.3 Main Setting

Fail Safe - switches the Fail Safe function on and off. If the Fail Safe function is disabled, there are no signals generated on receiver outputs in case of signal loss. If the Fail Safe function is activated, the receiver outputs are generated according to your individual channel setup selections in case of signal loss („out off“, „hold“, fail safe“).

Signal Fault Delay - the time interval from when the receiver detects signal loss to when the fail safe control throws are initiated. After the expiration of this time, the receiver outputs will transfer to your selected individual channel outputs.

Volt ACT/ALARM - the first item displays the actual receiver supply voltage, the second value represents the setup threshold level for alarm purposes. During operation, as soon as the actual voltage becomes lower than the threshold level, the transmitter emits an acoustical warning tone.

This setup is for transmitter modules only. For the DC/DS transmitters, this alarm is set in the transmitter.

Output Period - output signal period setup (initial setup for the Autosynchronizing mode with the transmitter). This parameter is fundamentally influencing servo behaviour. With lower output period values the reactions (response) of analog servos become faster, but current consumption increases. With a too low setup value some servos may even start chattering.

Serial Link - setup for receiver serial output mode:

JETIBOX - initial setup (except Rsat2 receivers); standard servo signals are generated by the receiver outputs; *JETIBOX* output available on **Ext.** port.

JETIBOX, PPM pos. - setup of the standard form of PPM signal generation with positive logic at PPM outputs (see the table of receiver output assignments). The bus idle state is log.0.

JETIBOX, PPM neg. - setup of the standard form of PPM signal generation with negative logic at PPM outputs (see the table of receiver output assignments). The bus idle state is log.1.

The receiver may be set up in such a way that its output works in digital communication form that will be used as input by other equipment.

EX Bus - in this setup information about servo throws will be generated in EX Bus protocol format. EX Bus protocol represents a bidirectional digital communication, which transmits throw and

telemetry information with configuration possibilities of equipment connected to this bus, for instance by a DC/DS transmitter. This interface is physically accessible at the receiver output labeled „Ext.“. This configuration type is used, for instance, when receivers are connected for example to Central Box.

JETIBOX, UDI - serial data output suitable for connection of devices with unidirectional UDI interface (e.g. VBar).

OutputChannelCnt - setup of generated number of receiver outputs. If the receiver receives less channels than selected in setup, the remaining channels will be replaced by a throw specified by the Fail Safe value for individual channels. Otherwise, the number of output pulses will be reduced to the setup number.

PPM-UDIMode - data conversion mode can be:

Direct

- output PPM signal contains data directly from the transmitter, without conversions and channel mapping
- conversions and possible channel mapping are applied to output servo impulses only
- different channels might be assigned to the PPM signal and servo output pins

Computed

- conversions and prospective mappings are applied to output servo impulses and also to PPM signal
- servo impulses and PPM signal contain the same information

Rx mode - the working mode of the receiver. Possible choices:

Normal

- bidirectional communication between receiver and transmitter
- select this setup for the model's main receiver
- use the same setup if you use only one receiver in your model (in case you are using only one Duplex receiver for remote control)

Clone

- unidirectional communication
- if you use several Duplex receivers in the model, for instance in connection with one transmitter module, then you should operate one of the receivers in „Normal“ mode and the others in „clone“ mode
- the receiver operating in „Normal“ mode is considered to be the main receiver. One of the transmitter modules is able to control only one receiver in „Normal“ mode
- if you want to operate several receivers with only one transmitter module, you should operate them in „clone“ mode

Bind process in „clone“ mode (Attention!!! Change since FW version 3.10!):

- 1.** Switch the receiver to „clone“ mode (**MeasureOrSetting->Main Setting->RX mode: „clone“**).
- 2.** Switch off the receiver and insert a bind plug into the Ext. socket.
- 3.** Switch on receiver and transmitter. The transmitter announces detection of a new receiver by an acoustic signal. Remove the bind plug.

Telemetry*-unidirectional communication is usable exclusively for telemetry transmission, for instance with the US version of the JETIBOX profi.

This setup change requires longer pressing (press and hold) of the left or right push button. The receiver mode change is only accessible via the JETIBOX, see the „Receiver setup“ chapter.

If you switch the receiver to „**clone**“ or „**Telemetry**“ modes, further wireless setup communication becomes impossible because the receiver is now communicating only unidirectionally. In order to change the mode or setup, you have to connect the JETIBOX to the receiver and make the desired change or switch the receiver back to „Normal“ mode:

1. Insert BIND PLUG into the receiver socket labeled Ext.
2. Switch on the receiver
3. Switch on the transmitter
4. Execute the desired setup changes, see „Receiver setup“

***Setup valid only for US receivers (firmware version 3.11)**

6.4 Out pin set

Setup of the physical receiver outputs.

Set Output pin - selection of output, which goes for the following setup. The menu item shows, as a decimal number, the throw of the selected output. Receiver output 1 is labeled as Y1.

Some of the receivers outputs may be assigned (see the table of receiver output assignments) to alternative functions. Description of alternative functions:

- **standard servo output** - the throw of an actual channel is assigned to the output that uses the standard servo output form and is labelled CHxx.

- **PPM off** - for the given output there is no PPM signal generated or received

- **PPM input** - for the given input there a PPM signal is expected from the connected receiver

- **PPM output** - the receiver channel will generate a PPM signal

PPM error code - in case one of the SAT1/2 outputs is set to PPM input mode, an acoustic signal can be set up to announce that this connected signal is missing. By loading a character from the Morse alphabet you may set up tones that will acoustically announce the absence of a PPM signal at the given receiver output. This acoustical signal is generated by the transmitter module. In the factory default setup the acoustical signal is switched off.

SetInChannel - assignment of an actual output (labelled as Yx) or input channel (labelled as Chx)

Signal Fault - setup of the receiver behaviour in case of signal loss, „hold“- holds the most recent control throw, „out off“ – output switch-off (no signal generated), „failSafe“ – moves to preset throws for the individual outputs

FS position - throw setup of selected FailSafe output position in case of signal loss

FS speed - sets how quickly the throws move to the FailSafe positions in case of signal loss

Pin Config - receiver pin config can be:

Pin Config - servo

- standard impulse output for servos (-100% = 1ms, 0% = 1,5ms / +100% = 2ms)

Pin Config - Digital output

- the output pin is in a stable LOW condition (log. 0) if the position of this channel is negative, otherwise this pin is in HIGH condition (log. 1)
- ensure that pin is used only as logical output, don't draw the current above 1mA

Pin Config - Digital input

- here the pin is configured as an input and its condition (disconnected/connected to the ground) is sent to the transmitter as other telemetry data from the sensors
- it is allowed to keep the pin disconnected or connected to the common ground of the receiver
- it is not allowed to connect to a different voltage. The pin works exclusively in PullUp mode so all you need to test the function is to connect the signal pin to the ground.

Output Group - setup of given output into a selected group of output pulses, which will be simultaneously generated by the receiver.

Assignment table of receiver outputs:

	R4 RES	R5L	R9	R14	R18	R sat2
Y1	•	•	•	•	•	
Y2	•	•	•	•	•	
Y3	•	•	•	•	•	
Y4	•	•	•	•	•	
Y5		•/°	•	•	•	
Y6			•	•	•	
Y7			•	•	•	
Y8			•	•	•	
Y9			•	•	•	
Y10				•	•	
Y11				•	•	
Y12				•	•	
Y13				•	•	
Y14				•	•	
Y15					•	
Y16					•	
Y17					•/°/*	
Y18					•/*	
SAT1			°/*	*		
SAT2				°/*		
PPM						°

• - servo, ° - PPM output/UDI, * - PPM input

Assignment table of US version receiver outputs

	R3	R4L, R4Li	R5L, R5Li	R6L, R6Li	R7 plus	R9	R11 EPC	R14	R18
Y1	•	•	•	•	•	•	•	•	•
Y2	•	•	•	•	•	•	•	•	•
Y3	•/°	•	•	•	•	•	•	•	•
Y4		•/°	•	•	•	•	•	•	•
Y5			•/°	•	•	•	•	•	•
Y6				•/°	•	•	•	•	•
Y7					•	•	•	•	•
Y8						•	•	•	•
Y9						•	•	•	•
Y10							•	•	•
Y11							•/°/*	•	•
Y12								•	•
Y13								•	•
Y14								•	•
Y15									•
Y16									•
Y17									•/°/*
Y18									•/*
SAT1					°/*	°/*		*	
SAT2								°/*	

* - PPM input, ° - PPM output/UDI, • - servo

6.5 Receiver R4 RES

R4 RES receiver has a special type of firmware designed for the competition category of electrically powered gliders (**ERES**). Measurements and height calculations are the same as the specifications of F5J category. Settings and telemetry are strictly limited according to the needs of the ERES competition.

Tx Default 13:56:11		Tx Default 13:56:15	
R4 RES		R4 RES Settings	
General Settings	>>	<< Back	
Fail-Safe	>>	Limiter Settings	
ERES Settings	>>	Motor Off: 1.100ms	
ERES Telemetry	>>	Cut-Off Altitude: 90m	
Status:	Ready	Throttle Cut-Off Time: 30s	
ERES Max Altitude	1.7 m	Reset to factory defaults...	
FW Version	1.13		
Back	Ok	Back	Ok

Sensor settings:

- Motor shutdown pulse (default 1.100ms)
- Switch-off height setting (90m by default)
- Switch-off time setting (30s by default)

The speed controller have to be connected to output **no. 1**. This predefined output cannot be changed by the user.

Data displayed by the sensor (data isn't displayed during the flight):

- Current sensor status (Ready, Running, Measuring, Done)
- Maximum measured relative height
- 10 relative height values

The **receiver can only be configured** if the "motor shutdown pulse" is not exceeded after connecting the power supply (default setting **1,100 ms**). Once a throttle pulse is exceeded, then the receiver can no longer be set until its power supply is reset. **Settings can be made only by the DC/DS transmitter (in the "device explorer" menu).**

To display the R4 RES receiver in "device explorer", it is necessary to have the configuration file **R4RES.bin** in the **Devices** folder in the transmitter.

The measured **data can be seen** if the receiver is in the "Ready" or "Done" status. The receiver save the data from the last measurement and can be read again after connecting the power supply. **In the ready status, you can view the data from the last measurement.** Measurement data means the maximum relative height reached during motor run and 10s after that and 10 relative altitude values saved after 1s of motor run.

The receiver can be in the **Ready** status if the "motor shutdown pulse" is not exceeded after connecting the power supply.

The receiver will be in the **Running** status if the throttle control pulse exceeds the motor shutdown pulse level. After stopping the motor the receiver goes from the **Running** status to the **Measuring** status and evaluates the measurement for another 10s.

The motor is shutdown if:

- Set height is reached
- Set time is reached
- The throttle lever has been pulled below the set level

The motor will be stopped, whichever occurs first (terms above). After stopping the motor, the motor cannot be restarted until the receiver power is disconnected and connected again and the receiver returns to the Ready status.

To calculate the height is used the sea level pressure
1013,25 hPa - **ISA** (**I**nternational **S**tandard **A**tmosphere)

6.6 Rese to factory defaults

Resets all receiver settings to factory defaults. Binding with the transmitter is kept.

7 Receiver update

Duplex Rx receivers can be upgraded by a PC and a JETI USB adapter. You can find a detailed description of the update procedure on our website in the "technical support" section, or on our YouTube channel.

Update files are available in JETI Studio.



USB adapter

www.jetimodel.com



ELECTROSTATIC SENSITIVE DEVICE OBSERVE HANDLING PRECAUTIONS

For receivers we grant a warranty of 24 months from the day of purchase under the assumption that they have been operated in conformity with these instructions at recommended voltages and that they were not damaged mechanically. Warranty and post warranty service is provided by the manufacturer.

**We wish you successful flying with the products of:
JETI model s.r.o. Příbor, www.jetimodel.com**

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 dealer and ask for the correct method of disposal.

Duplex-System EX:



- Transmitter modules
- Receivers
- Telemetric sensors
- Compatible accessories
- Display units

Main Advantages of the
DUPLEX-System:

- digital data transfer
- system without crystals
- safe operation
- real time telemetric data transfer
- two receiver antennas
- response of receiver exits without time delay
- simultaneous operation of several receivers
with one Tx module
- acoustical signalling of the complete system
status
- parameter set-up with the aid of the JETIBOX
terminal

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