Manual

mz-12PRO HoTT

12 channel 2,4 GHz transmitter

No. S1002.PRO

mz-12 PRO

Graupner

CE Manual part 1

Graupner

Index

Introduction

Thank you very much for purchasing a *Graupner* **mz-12PRO HoTT transmitter**.

Read this manual carefully to achieve the best results with your transmitter and first of all to safely control your models. If you experience any trouble during operation, take the instructions to help or ask your dealer or *Graupner* Service Centre.

Notice

This manual is composed by two parts. Part 1 is contained in the product's package content. Part 2 can be found in its last version on www.graupner.de by the related item page.

Due to technical changes, the information may be changed in this manual without prior notice. Keep updated by regularly checking our own website, *www.graupner.de* to be always updated with the products and firmware.

This product complies with national and European legal requirements.

To maintain this condition and to ensure safe operation, you must read and follow this user manual and all the safety notes before using the product!

Note

This manual is part of that product. It contains important information concerning operation and handling. Keep these instructions for future reference and give it to third person in case you gave the product.

Service Centre

Graupner Central Service	*Servicehotline*
Graupner/SJ GmbH	☎ (+49) (0)7021/722-130
Henriettenstrasse 96	Monday- Thursday:
D-73230 Kirchheim / Teck	9:15 am- 4:00 pm
	Friday:
	9:15 am- 1:00 pm
	✉ *service@graupner.de*
Graupner USA	Website: www.graupnerusa.com
3941 Park Dr Suite 20-571	Phone: +1 855-572-4746
El Dorado Hills, CA 95762	Email:service@graupnerusa.com

Graupner **in Internet**   For the service centers outside Germany please refer to our web site *www.graupner.de*

Intended use

This remote-control system may only be used for the purpose specified by the manufacturer for operation of remote control models without passengers. Any other type of use is impermissible and may damage the system and cause significant property damage and/or personal injury. No warranty or liability is therefore offered for any improper use not covered by these provisions.

Read through this entire manual before you attempt to install or use the transmitter.

Graupner/SJ constantly works on the development of all products; we reserve the right to change the item, its technology and equipment.

Target group

The product is not a toy. It is not suitable for children under 14 years. The operation of the **mz-12PRO HoTT** transmitter must be performed by experienced modelers. If you do not have sufficient knowledge about dealing with radio-controlled models, please contact an experienced modeler or a model club.

Package content

- ◆ **Transmitter mz-12PRO HoTT**
- ◆ LiPo transmitter battery
- ◆ Transmitter strap
- ◆ Receiver (optional)
- ◆ Transmitter manual (Part 1)
- ◆ Receiver manual (optional)

The programming manual (manual part 2) can be found in its last version on *www.graupner.de* by the related item page.

Technical data

Transmitter mz-12PRO HoTT

Frequency band	2,4 … 2,4835 GHz
Modulation	FHSS
Transmitting power	100 mW EIRP
Control functions	12 functions of which 4 can be trimmed
Temperature range	-10 … +55 °C
Antenna	Integrated antenna
Operating voltage	3,4 … 5,5 V
Power consumption	approx. 180 mA
Dimensions	approx. 190 x 185 x 90 mm
Weight	approx. 700 g with batteries

Note

The technical data of the optional receiver are available in the manual included in the receiver package content.

Symbols explication

Always observe the information indicated by this warning sign. Particularly those which are additionally marked with the **CAUTION** or **WARNING**. The signal word **WARNING** indicates the potential for serious injury, the signal word **CAUTION** indicates possibility of lighter injuries.

The signal word **Note** indicates potential malfunctions.

Attention indicates potential damages to objects.

Safety notes

These safety instructions are intended not only to protect the product, but also for your own and other people's safety. Therefore please read this section very carefully before using the product!

◆ Do not carelessly leave the packaging material lying around, since it might become a dangerous toy for children.

◆ Persons, including children, with reduced physical, sensory or mental capabilities, or lack of experience or knowledge, or not capable to use safely the transmitter must not use the transmitter without supervision or instruction by a responsible person.

◆ Operation and use of radio-controlled models needs to be learned! If you have never operated a model of this type before, start carefully and make yourself familiar with the model's reactions to the remote control commands. Proceed always responsibly.

Inform yourself before flying your model on which maximum altitude you can fly in the uncontrolled airspace over the starting position and do not exceed it.

◆ Before you start using the remote control model, you have to check the further relevant laws and regulations. These laws you must obey in every case. Pay attention to the possibly different laws of the countries.

◆ The insurance is mandatory for all kinds of model operation. If you already have one, so please inform yourself if the operation of the respective model is covered by your insurance. If this is not the case, conclude a special liability insurance policy for models.

◆ Protect all equipment from dust, dirt, moisture. All equipment must be protected from vibration as well as excessive heat or cold. The models may only be operated remotely in normal outside temperatures such as from -10°C to +55°C.

◆ First, always perform a range and function test on the ground before you start using your model. Only so you can grant a safe use! How to perform a range test is explained in the Part 2 of the manual.

◆ Only operate ALL your HoTT components using the current software version.

◆ Start a data log every time you use your model. With a log-data an occurred technical defect can be recognized and verified. Only so it is possible to considerate an eventual compliant.

For your safety by handling the transmitter

WARNING

Also while programming the transmitter, make sure that a connected motor cannot accidentally start. Disconnect the fuel supply or drive battery beforehand.

CAUTION

Risk of fire! Avoid every kind of short-circuit in all sockets of the transmitter! Use only the suitable connectors. In no case the electronic component of the transmitter may be changed or modified. Due to licensing reasons, any reconstruction and/or modification of the product is prohibited.

Note

During transport protect the model and the transmitter from damages.

For your safety by handling the battery

CAUTION

◆ Protect all equipment from dust, dirt, moisture. Only use in dry locations.

◆ Do not use any damaged battery. Risk of injury!

◆ Any alterations to the battery can cause serious injury. Risk of fire!

◆ Batteries may not be heated, burned, short-circuited or charged with excessive current or with reversed polarity.

◆ While they are being charged, the batteries must be placed on a non-flammable, heat-resistant and non-conductive surface. Combustible or highly flammable objects are to be kept away from the charging area. Batteries must be monitored while they are being charged.

◆ The maximum quick charging current specified for the respective cell type may not be exceeded.

◆ If the battery heats up above 60°C while it is being charged, stop charging and let the battery cool down to approximately 30 - 40°C.

◆ Never charge batteries that have already been charged, are hot or are not fully discharged. If a cell in a battery pack has become particularly hot following a quick-charge process, this may indicate a defect in that cell. Do not use the battey pack any more!

◆ The batteries must not be modified. Do not directly solder or weld the cells.

◆ If handled improperly, there is a danger of fire, explosion, irritation and burns. To extinguish a fire use: water, CO^2, sand.

◆ Leaked electrolyte is caustic and should not be touched or come into contact with your eyes. In case of emergency, rinse with a large quantity of water and consult a Med. Doctor.

◆ Always charge the battery fully.

◆ The maximum charging current permitted may not be exceeded.

◆ Never leave the charger unattended when it is connected to the power supply.

◆ Please charge your batteries only in rooms fitted with a smoke detector.

Special instructions

◆ To charge and discharge batteries, only use specifically designed chargers/dischargers with balancer connector.

◆ The white connector (cell count + 1 pole) is designed for the connection to a LiPo balancer or a battery charger as a single cell charger with a manual cell balancer. Always charge the battery with the balancer connector.

Safety notes for stocking batteries

◆ Batteries may only be stored in non completely discharged condition.

◆ Batteries may only be stored in dry rooms with an ambient temperature of +5°C to +25°C.

◆ Stock the LiPo batteries with a cell voltage of about 3,8V. If the cell voltage falls below 3 V, then the battery must be necessarily charged. Deep discharge and storage in discharge status (cell voltage < 3V) make the battery useless.

◆ Charge and transport your batteries always in a safety bag.

Description of the transmitter

Control elements on the transmitter
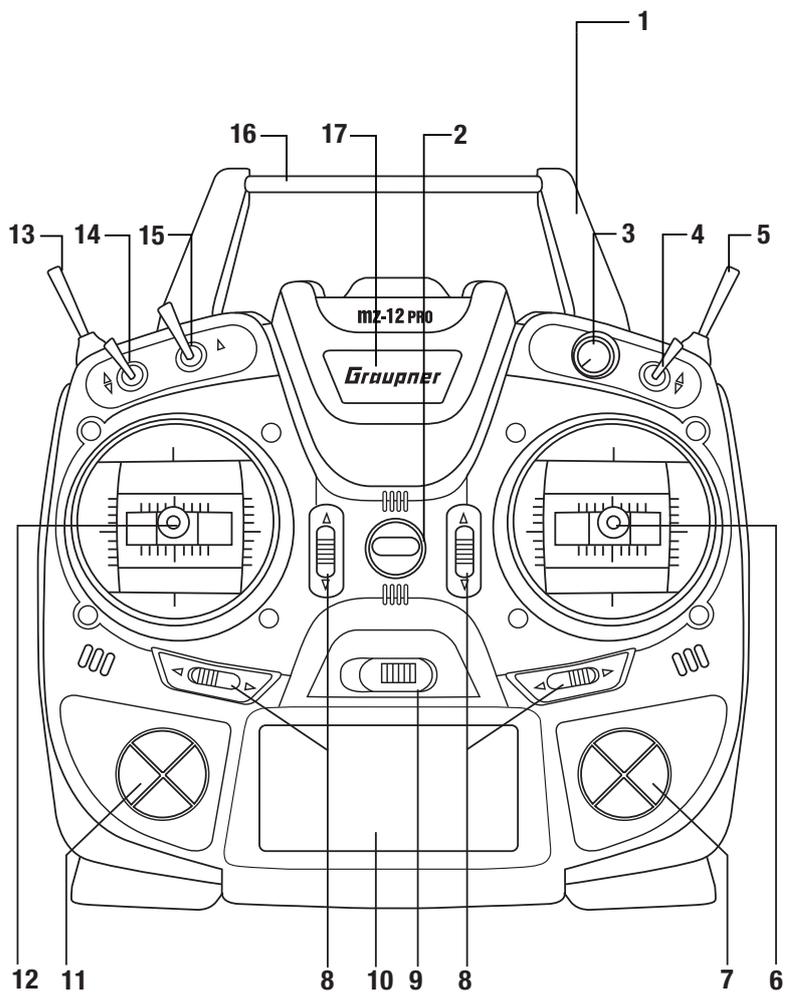
1	Integrated antenna
2	Eyelet for neck strap
3	Proportional dial DV
4	2 way switch SW 3
5	3 way switch SW 6 and 7
6	Right stick
7	Right four way keys
8	Trim
9	On/off switch
10	LCD
11	Left four way keys
12	Left stick
13	3 way switch SW 4 and 5
14	2 way switch SW 1
15	2 way switch SW 2
16	Carrying handle
17	Central status LED
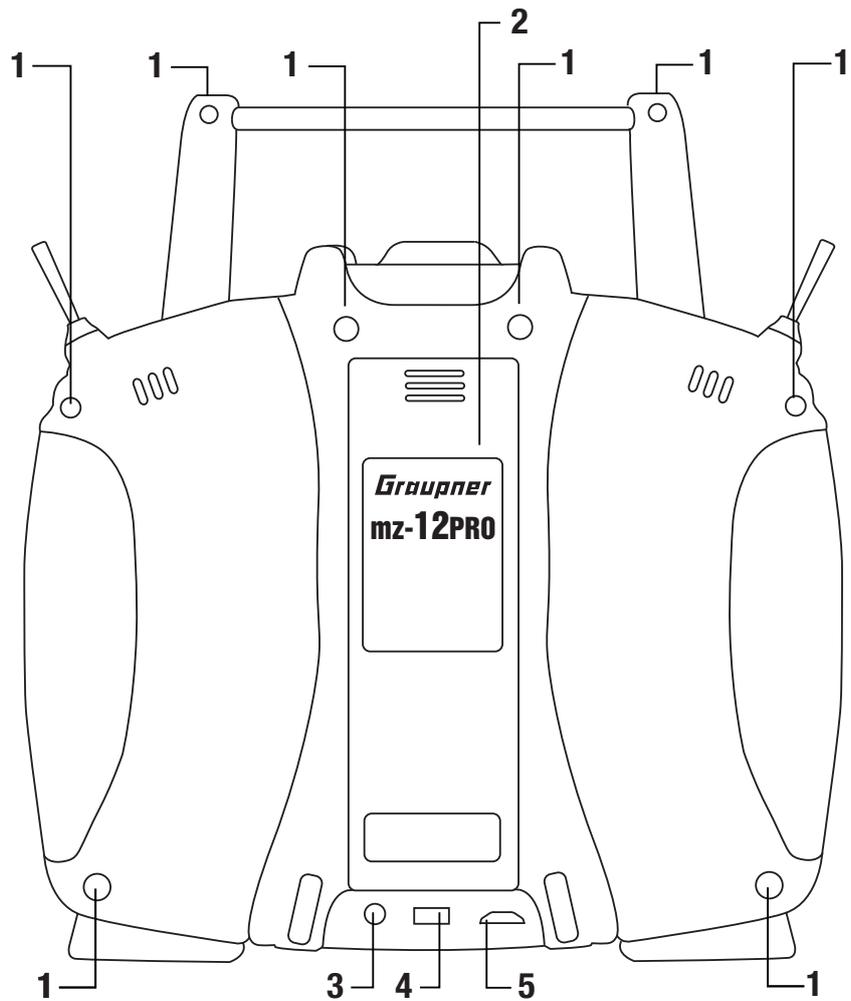
1	Case screws
2	Battery case cover
3	3,5 mm jack to connect earphones or a DSC cable.
4	Data socket to connect a smart box and to update the transmitter
5	Micro USB port, charge port, update port, joystick function

Connections and fixtures

Attaching the transmitter neck-strap

On the upper side of the transmitter there is an eyelet which can be used to hook a neck-strap.

Jack socket

The port for a 3,5 mm jack is located on the back of the transmitter.

Depending on the settings in the menu (OHRH or DSC) this interface can be used as a earphone port or as a DSC cable port.

Ear phones port

Though this interface both acoustic signals and voice messages are emitted.

The volume can be controlled by "Voice volume" and "Signal volume" in the general settings.

DSC connection

Through a DSC cable the port can serve to use the transmitter with a simulator o to connect it with another one in Teacher/pupil mode.

Switch the DSC mode in the "General settings menu". In this way you can change the base display too. Right in the display appears "DSC".

To ensure a correct DSC connection, observe the following:

1. Perform any necessary adaptations in the menu.

2. When using the transmitter with a flight simulator or during the teacher-pupil operation, set the On/Off switch always on the "Off" position. Connect one end of the DSC cable in the DSC port of the transmitter.

3. Switch the transmitter on.

»

ATTENTION

When your transmitter is directly connected to a desktop computer by a connecting cable (DSC cable) and/or a computer interface is connected to your simulator, the transmitter may be destroyed by electrostatic discharge. This type of connection should therefore only be used if you protect yourself from electrostatic discharge while operating the simulator by wearing a commercially available grounding armband. **Graupner** therefore strongly recommends only using wireless simulators.
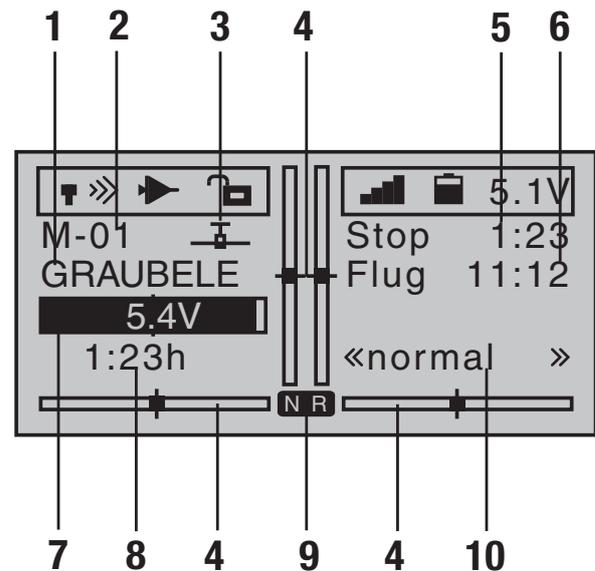
Data socket

The lower pins are suitable for connection of a smart box or an external bluetooth module.

Micro USB charging socket

For the function please see section "battery charging"

Display and touchpad

1	Model name
2	Memory 1 … 250
3	Model type display (plane/heli, copter, car, boat)
4	Optical display of the trim position
5	Flight chronometer in min:s (forward/reverse)
6	Flight timer in min:s (forward/reverse)
7	Battery voltage (when a determined threshold is trespassed a warn message is displayed, contemporary a warn signal is emitted).
8	Battery use timer since last charge in h:min
9	Display of the transmitter mode
10	Flight phases switching between flight phases through switch.

Symbols in the display

Symbols in the info list

T   No receiver in range

T » ►   Display of the signal strength of the signal coming back from receiver

🔓 🔒   Button lock inactive / active

▮▮▮   The active model memory is bound to a receiver

0.0V   No connection to receiver

5.2V   Current operating voltage of the receiver power supply with symbol display of the power supply charge state

Display of the transmitter mode

NR: normal mode

TP: Teacher/pupil mode

Commissioning

Settings by the first use

1	Adjusting screw of the brake spring for throttle/brake stick
2	Neutralizing screw
3	Stick self centering force adjust screws

Start display

After the transmitter is switched on by fixed wing of type "Motor on C1 front/rear" the position of the output 1, so as in hely model the output 6 connected servo, will be verified. If the related servo is out of the idle position and because of the danger connected to a rotating motor, the RF module remains off for safety reasons.

In all other cases by switching on the transmitter the RF module will be switched on too and in the center of the display it will appear the message "RF ON/OFF".

You can wait until the message disappears automatically or you can shorten the waiting time manually, by pushing the ENT button (▼) of the right four-way button.

Please select RF on/off?
ON **OFF**

During this waiting time you can also switch the RF module off by pushing the ▲ or ▶ button of the left four-way button which move the black field, in this way the "ON" is shown normally and "OFF" is inverted represented.

Control sticks length adjustment
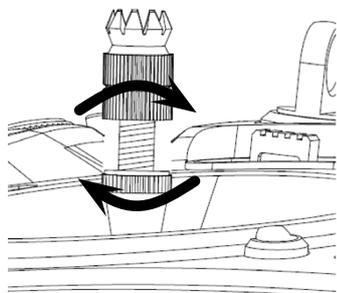
Length of both control stick can be adjusted. Hold down the bottom half of the knurled grip, and loosen the screwed connection by turning the top part:

You can now lengthen or shorten the control stick by screwing it up or down. Then clamp the top and bottom part of the grip by rotating them against each other.

Opening/closing the transmitter housing

The transmitter should be opened only in the following cases:

◆ If a self centering stick has to be converted in non self centering

◆ If a non self centering stick has to be converted in self centering

◆ To set the control stick centering force

⚠ **CAUTION**

Never switch the transmitter on while the housing is open! Risk of short-circuit!

Open step by step:

Before opening the housing switch the transmitter off.

Open the battery case.

Remove the battery holder lifting it from one side, without forcing it, release it from the velcro tape.

Unplug the connector.

Unscrew the eight screws with a crossscrewdriver.

Hold both housing halves with both hands and let the screws fall on a proper surface turning the transmitter upside-down.

Rotate the lower half carefully and fold it to the bottom.

» **Note**

Cables connect the lower half of the housing with the upper part electronic components. This connection must not be damaged! Do not touch the electronic boards.

Closing step by step:

Check if the upper and the lower part of the transmitter housing are correctly coupled and the tiny cables are properly placed.

Screw the housing screws in their original position.

Connect the battery holder.

Neutralizing the control sticks
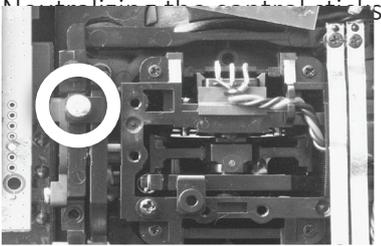
Both control sticks can be set from neutralizing to non-neutralizing.

Neutralizing step by step:

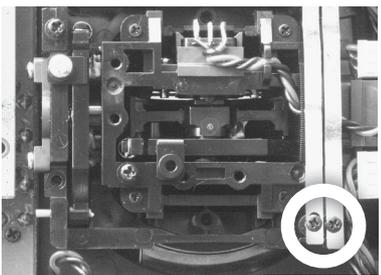Locate in the left control stick gimbal the screw surrounded by a white circle in the picture.

Turn the screw toward the inside of the transmitter until the relevant control stick can move freely from stop to stop, or turn it outward until the control stick resets itself independently.

Note

The right control stick gimbal is specular to the left one, so that here the screw is located left under the middle.

Brake spring and ratchet

The outboard screw of the two marked in the figure adjust the braking force.

The inboard screw adjusts the strength of the ratchet for the respective control stick.

Note

The right control stick gimbal is specular to the left one, so that here the screws are located right on the top side.

Control sticks centering force
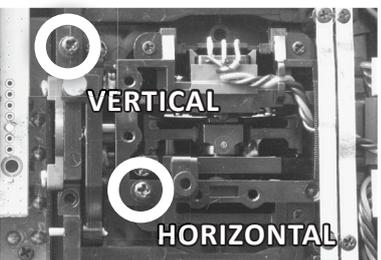
The control sticks' restoring force can also be adjusted. The adjustment is located next to the return springs.

By turning the respective adjust screw the spring force can be adjusted.

Right turn = return harder

Left turn = return softer

Note

The right control stick gimbal is specular to the left one, so that here the screws are located left in the middle.

General commissioning

Binding

Model memory	M.Type Phase	Servo adjust.	Control adjust.
D/R Expo	Tx adjust.	C1 curve	Wing mix

The description of the binding process can be found in the Part 2 of the manual.

To use a transmitter you must associate a receiver to the transmitter. This binding process is essential for the use of the model!

The precise binding process follow-up is described in the section "Binding" of the Part 2 of the manual and in the related receiver manual.

```
Stick mode          1
Timers        10:01  C1
Rcv. Output          =>
▶ Bind              –––
Range test          99s
  ▾▴
```

Note

The process is different for the various receiver types.

Binding-principle step by step:

1. Select the "main settings" menu in the transmitter

2. switch the RF module OFF

3. Connect the power supply to the receiver

... receiver with binding button:

• Push and hold the binding button at the receiver

• Start the binding process in your transmitter in the main settings menu

... or receiver without binding button:

• The receiver is automatically in binding mode after switch on

• Start the binding process in your transmitter in the main settings menu

4. If the binding process has been unsuccessful, repeat the process.

Transmitter power supply

The **mz-12PRO HoTT** transmitter is normally delivered with a rechargeable battery.
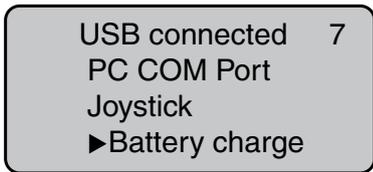
Inserting the battery

Note

Pay attention when inserting the battery to the correct position and make sure the contacts are solid.
Interruptions of the power supply to the transmitter during the use of the models can lead to big danger for your self and for other people.

Battery charging

Through the micro USB port you can charge the transmitter battery. Use the included USB cable to connect the transmitter to a suitable USB port and charge the transmitter battery. If the transmitter is switched on the charge time is longer than if the transmitter is switched off.

```
 ┌─────────────────────────────┐
 │  USB connected        7     │
 │  PC COM Port                │
 │  Joystick                   │
 │  ▶Battery charge            │
 └─────────────────────────────┘
```

As soon as you connect the USB cable to the transmitter a selection menu appears.. Here you can set up the function of the micro USB port.

PC COM Port

Select this setting for updates with your PC.

```
 ┌─────────────────────────────┐
 │  Signal volume        3     │
 │  Back port          OHRH    │
 │  DATA  sel.      Telemetry  │
 │  DSC  output        PPM12   │
 │ ▶USBjoystick       │0~100│  │
 │              ▲              │
 └─────────────────────────────┘
```

Joystick

For use in a PC with a flight simulator. In this function the PC recognizes the transmitter as a joystick. You can select the control area in the "Base settings" menu in the line "USBjoistick". The control travel can be set within 0 % and 100% or within -100% and +100%. The standard setting for the most flight simulators is 0% to 100%.
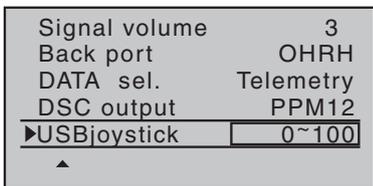
Battery charging

Battery charge only, no data transmission

In the upper right corner this indication shows a countdown, this is the time during which the indication is displayed. You can select through the arrow keys up and down.

You have two charge possibilities:

1. Removing the battery from its case and charging it with a charger

WARNING
The charger should always be supervised during charge and it should be used only in rooms fitted with a smoke detector.
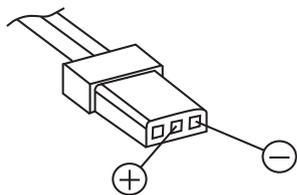
Removing transmitter battery

Remove the battery case cover. Then remove and disconnect the battery plug by carefully pulling on the supply cable.

Charge the battery following the charger manual.

Inserting the transmitter battery

Connect the battery plug in the transmitter socket. Make sure that the polarity is correct. Pay attention to the respective "+" and "-" symbols near the socket.

Red= +   Black/brown = -

Place the battery into its compartment and close the cover.

2. Through the USB port by charging with USB cable

The transmitter battery can be charged by the current supplied by the USB port (5 V/max. 0.5 A). The charging process is shown through the red lightning Graupner text. The indication quits when, with switched off transmitter, the battery is full.

Low voltage warning
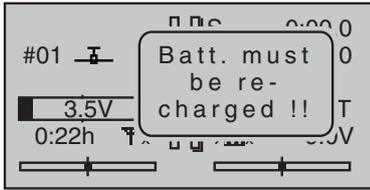
The transmitter battery voltage should be monitored in the display during operation. In case the voltage drops under a preset threshold, standard setting 3,6 V, an acoustic warning signal is emitted and in the display appears in a window "battery needs charging".

Now at the latest, the operation must be stopped and the transmitter battery must be charged!
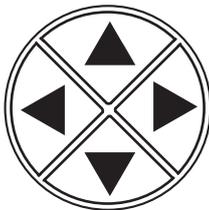
Battery use timer in the display

The battery use timer is shown in the lower left part of the display.

The battery use time is added at every use. After every charge the timer is reset to "00:00". This happens only if the battery voltage increases at least of 0,3V or if the battery is full.

Use and menu functions

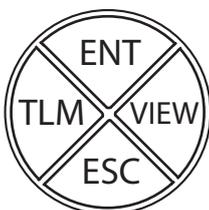### Four-way keys

Keys left of the display

Four-way keys (up, down, right, left)

By pushing one of these buttons in the base display the "Telemetry data display" will appear.

By pushing the keys you can scroll the list according to the arrow direction.

By simultaneous pushing the keys ◄► you can reset the value of an already selected parameter which had been already modified (CLEAR).

Pushing simultaneously the button ◄► and ▲ will cause a jump from the transmitter's base screen or from almost any menu position to the "Hidden mode" menu.

Keys to the left of the display

Four-way keys:

◆ ENT button

Pushing the ENT key will cause a jump from the displayed base screen which appears as soon as the transmitter is switched on to the multi-function menu

By pushing the ENT key it is possible to accede to a previously selected menu point.

Within the setting menu activate and deactivate or confirm by pushing the ENT key.

◆ ESC button

Pressing the ESC button brings about a stepwise return to function selection or back to the basic display. Any setting changed in the meantime is retained.

◆ VIEW button

Pushing the four-way keys will cause a jump from the transmitter's base screen or from almost any menu position to the "Servo display" menu.

◆ TLM button

Pushing the TLM key will cause a jump from the transmitter's base screen or from almost any menu position to the telemetry menu.

Note

In the event the four way keys do not exhibit any functionality immediately after switching the transmitter off and then on again right away, this is not a fault. Just switch the transmitter off again then wait for several seconds before switching it on again

Short-Cuts

◆ CLEAR
Brief simultaneous touch of the ◀▶ keys of the left four way keys will restore the active entry fi eld's changed parameter value back to its default value.

◆ "Servo screen"
Brief simultaneous activation of the VIEW key of the right four-way keys will cause a jump from the transmitter's base screen or from almost any menu position to the "Servo display" menu,

◆ "Telemetry" menu
To recall the "Telemetry menu" from the base display of the transmitter, push the TLM key of the right four-way keys.

To come back to the base menu push the ESC key.

◆ Graphic display of telemetry data
Pushing one of the selection keys ◀▶ ▲▼ of the left four-way keys will cause a jump from the base screen directly to the transmitter's graphic display of telemetry data.

◆ "HIDDEN MODE"
Pushing simultaneously the selection keys ◀▶ and ▼ of the four-way keys will cause a jump from the transmitter's base screen or from almost any menu position to the "Hidden mode" menu.

◆ Key lock
The four-way keys can be locked by pushing simultaneously the TLM and VIEW keys for about 1 second.

The key lock function is displayed by a lock symbol: The controls remain operational. Push again the TLM and VIEW keys for about 1 second to remove the key lock.

Function field in the display

SET SEL STO SYM ASY ╱╴ ⬇
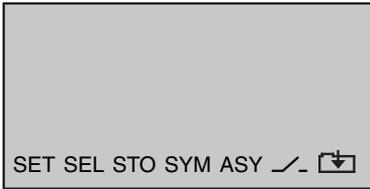
Depending on the given menu, certain function fields will appear on the bottom display line.

A marked function is activated by pushing the SET key.

Function field:

SET (SET)	Setting
SEL (SELECT)	Selection
STO (STORE)	Store
SYM	Set values symmetrically
ASY	Set values asymmetrically
╱╴	Switch symbol field (assignment of all types of switches)
⬇	Within a menu, change to the Second page (menu continuation)

Hidden mode

```
∗HIDDEN MODE∗
›STICK CALIBRATION
```
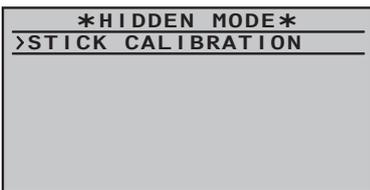
The menu "Hidden Mode" can be reached from almost any menu position.

push and hold the left, the right and the lower keys of the left four-way keys.

Stick calibration

If the center position of your self-neutralizing control stick does not precisely correspond to 0% control travel, you can check and correct it as follows.

Stick calibration step by step:

Move to the "Model memory" menu and initialize a free model memory. Whether the model to be initialized is a winged aircraft or a helicopter is irrelevant.

```
1  -100%   2   0%
3   0%     4   0%
5   0%     6   0%
7   0%     8   0%
9   0%    10   0%
11  0%    12   0%
```

Move to the "Servo display" menu, pressing the VIEW key of the right four-way keys, **without** any interim change to trim settings or other program settings.

In this menu point you can check if your sticks are correctly centered. Bring then all the sticks in the middle position. If the sticks are correctly placed, this display should ideally look like the one shown on the left.

Otherwise the graph bars show current setting percentages for control stick control functions which are not self-neutralizing.

1	−100%	2	0%
3	0%	4	+100%
5	0%	6	0%
7	0%	8	0%
9	0%	10	0%
11	0%	12	0%
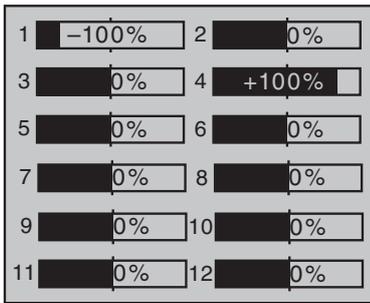
One after the other, put both sticks into each of their four possible limit positions without exerting force at the limit position and check if the value are between-100% and +100%.

If you note that the sticks do not reach the desired values, move to the "Stick calibration" line in the "HIDDEN MODE" menu and push the ENT key on the right four-way keys to confirm.

The flashing arrows indicate in which direction you have to push the sticks.
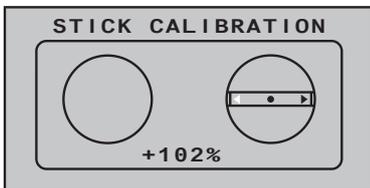
STICK CALIBRATION

0%
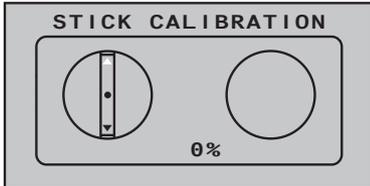
With the selection keys ◀▶ of the left four-way keys allow you to cyclically select the positions of the four calibrated sticks.

Move the stick to the end course of the indicated direction.

Confirm the calibration by pushing the ENT key.

Pushing the ESC key will terminate the process and return to the sub-menu "Stick cali.".

STICK CALIBRATION

+102%

Example: Bring here the respective left blinking selection arrow of the right stick to the left limit. Tip on the SET key. So the calibration of the right stick left limit. The circle in the middle of the stylized stick blinks as confirmation.

Servo display

1	−100%	2	0%
3	0%	4	0%
5	0%	6	0%
7	0%	8	0%
9	0%	10	0%
11	0%	12	0%
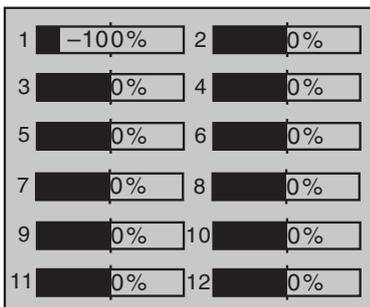
The optical display of the current servo position can be seen by pushing the VIEW key (◀) of the right four-way keys from the base display so as from almost every other menu positions.

The current setting of each servo is displayed precisely between -150% and +150% of the normal path taking into account the control and servo settings, dual rate/expo functions, the interaction between the linear and curve mixes, etc.

0% equals the middle position of the servo.

You can therefore check your settings without having to turn on the receiver.

Attention

You have however to carefully test all the program steps on the model before first use to make sure there are no errors!

For normal fixed wing models, the display follows the assignment below:

Bar 1	Throttle/brake servo or airbrake right
Bar 2	Aileron or left aileron
Bar 3	Elevator
Bar 4	Rudder
Bar 5	Aileron right / free channel
Bar 6	Flap (left) / free channel or 2nd elevator servo

For helicopter models, the display follows the assignment below:

Bar 1	Pitch or roll (2) or nick (2) servo
Bar 2	Roll (1) servo
Bar 3	Nick (1) servo
Bar 4	Yaw servo (gyro)
Bar 5	Gyro or Nick (2) Servo
Bar 6	Throttle servo or speed controller

Pushing the ESC key (▲) of the right four-way keys you turn back to the related output point.

Good to know!

Note that the servo display refers exclusively to the original sequence of the servos, that is, it does not refer to any changes to the outputs made in the "Transmitter settings" menu, or via telemetry in the "Receiver output " submenu of the "Transmitter setting" menu.

Good to know!

The count of the channels displayed in this menu refers to the 12 control channels available in this transmitter **mz-12PRO HoTT**. The number of usable channels depends on the type of receiver as well as the number of connected servos and may therefore be significantly less.The number of usable channels depends on the type of receiver as well as the number of connected servos and may therefore be significantly less.

Firmware update

The programs and files which are also required for updating the transmitter combined into one software package can be downloaded from ***www.graupner.de.***

Download this software package from the Internet, and unpack it on your computer. All other information can be found in internet in the same page where the software package is available.

Firmware updates of the transmitter can be performed through the micro USB port on the back side.

Note

◆ Please note that compatible firmware is required for reliable communication between the HoTT components. The programs and files that are required to update are therefore combined into a single file.

◆ The current firmware version can be found on the Internet at www.graupner.de.

◆ Only operate your transmitter using the current software version. these information can also be found at: www.graupner.de => Service & Support => Update and revision history for GRAUPNER HoTT components.

◆ Before each update, check the transmitter battery charge or charge it as a precaution, and save all model memories with the gr_studio program so that they can be restored if necessary.

◆ Do not disconnect the link to the computer during an update! Make sure that the link between the transmitter and computer is operational.

◆ After each update, check to make sure that the models function correctly.

Transmitter software update

Connect your switched off transmitter with your PC, by using the included USB cable, which is supplied with the package content, plug USB cable directly to the micro USB port of the transmitter and the other end to a free port in your computer.

Restoring the transmitter software

If a firmware update for the transmitter is unsuccessful or the transmitter program freezes and the transmitter cannot be turned off using the "POWER" switch, then remove the transmitter's battery after setting the switch to "POWER = OFF" position, or pull the plug from the transmitter battery. While making sure that the POWER switch is in the "OFF" position, wait a few seconds and then turn on the battery.

In this case as well, as described in the pages before, download a current software package from the Internet and open it on your computer or, if you have already done this, start the program gr_Studio, and follow the information in the section "Restoration" in the instructions provided in the software package.

Declaration of conformity

CE

S.1002.PRO - mz-12PRO HoTT

Graupner/SJ declares that the product is conform to EU norms.

EMV 2004/108/EC:

EN 301 489-1 V1.9.2

EN 301 489-17 V2.1.1

EN 62479:2010

LVD 2006/95/EC:

EN 60950-1 + A11 + A1 + A12 + A2:2013

R&TTE 1999/5/EC:

EN 300 328 V2.1.1

EN 62311:2008

Notes on environmental protection

Disposal notes

This symbol on the product, user manual or packaging indicates that this product must not be disposed of with other household waste at the end of its life. It must be handed over to the applicable collection point for the recycling of electrical and electronic equipment.

The materials are recyclable as marked. By recycling, material reusing or other forms of scrap usage you are making an important contribution to environmental protection.

Batteries and accumulators must be removed from the device and disposed of at an appropriate collection point. Please inquire if necessary from the local authority for the appropriate disposal site.

Care and maintenance

Notes on care

The product does not need any maintenance. Always protect it against dust, dirt and moisture.

Clean the product only with a dry cloth (do not use detergent!) lightly rub.

Warranty

The Graupner, Henriettenstrassee 96, 73230 Kirchheim/Teck grants from the date of purchase of this product for a period of 24 months. The warranty applies only to the material or operational defects already existing when you purchased the item. Damage due to misuse, wear, overloading, incorrect accessories or improper handling are excluded from the guarantee. The legal rights and claims are not affected by this guarantee. Please check exactly defects before a claim or send the product, because we have to ask you to pay shipping costs if the item is free from defects.

The present construction or user manual is for informational purposes only and may be changed without prior notice. The current version can be found on the Internet at **www.graupner.de** on the relevant product page. In addition, the company **Graupner/SJ** has no responsibility or liability for any errors or inaccuracies that may appear in construction or operation manuals.

No liability can be accepted for printing errors.

FCC Statement
1. 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.

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

• NOTE
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.
These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- _Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.