Free for use in::
D, A, E, GB, F, B, DK,
PL, FIN, GR, P, I, CH

CCX Pro 2,4 GHz

Instructions

Ord. No. **06 1200**

Please read these instructions carefully before use and keep them for future reference!

GB

JAMARA
GERMANY

Inhalt

Safety Information

Read these instructions carefully before use paying particular attention to the safety notes. If this is your first venture into radio controlled modelling we strongly recommend that you seek the help of an experienced modeller before you begin.

This Radio control system has been exclusively designed for use with models designed to be remotely controlled and as such may only be legally operated as such. The company JAMARA accept no responsibility whatsoever if his product is used in any other way.

Radio Controlled models, in particular aircraft, are not toys and a such and should only be operated by children or youths if closely supervised by a responsible adult. Building and operating such models requires a degree of skill, understanding and technical know-how as well as a responsible attitude. Faults in the construction or irresponsible behaviour could lead to serious damage or injury.

As neither the manufacturer or retailer has any influence over the correct use of modelling products we wish to emphasise these safety instructions and will in no way be held responsible for the misuse of our products. Please be aware that the receiver system can also create a danger if operated when the transmitter is not switched on.

Always operate the CCX Pro 2,4 GHz with extreme caution and follow the instructions listed here. Always switch the transmitter on before the receiver and switch off in the opposite order. Only use our original receivers as any other brand of 2.4 GHz receivers will not bond to our transmitters.

Protect the system from dust, dirt and moisture. Never expose the system to extreme heat, cold or vibration. The system should only be operated between - 10 and + 400C. Use a good quality charger selected from our range and follow the battery manufacturers instructions.

Avoid exposing the system to impact or vibration and inspect all of the components regularly for damage to the casing, plugs, sockets and cables. If any component gets damaged or is exposed to water do not use it even if it has been dried out! Any such component should be replaced or returned to our service department.

Furthermore, the following should be strictly adhered to:

- The receiver battery must be charged before every flying session.
- Before Switching on the system ensure that throttle stick is in the off position.
- Check that the transmitter and receiver are compatible and bonded to one another.
- Always switch the transmitter on first and then the receiver.
- Always switch the receiver off first and then the transmitter .
- Complete a full range and function test before every take-off.
- When flying, do not point the transmitter antenna directly at the model as in this configuration the signal is at it's weakest. Try to keep the antenna at right angles to the model.
- Never over-fly people and do not allow your model to endanger people or animals.
- Do not fly near to over-head cables, buildings or airfields.
- The system must not be operated in rain, or thunder storms.
- If you do not intend to use the transmitter for a long period, remove the batteries.
- Dispose of batteries and electronic waste correctly. These item should not be placed in the household rubbish in most countries.

The system may not be altered in any way, doing so will void the guarantee.

Indemnity Statement

As the company JAMARA e.K. has no influence over the use, maintenance or conditions under which our products will operate, we accept no responsibility for any damage caused be it of a physical, financial or theoretical nature. JAMARA e.K. will accept no claim against it which results directly or indirectly from the operation or use of its products..

Your Statutory Rights apply, any claim made against us will be based solely on the retail price of the product, and limited to the model only. This will not apply if we are proved to be legally responsible or when gross negligence can be proved.

Certificate of Conformity

JAMARA hereby declare that the „CCX Pro 2,4 GHz“ follows the appropriate and relevant EEC Directives, in particular those listed here and that the model has been constructed accordingly.

The set contains a transmitter and a receiver.

Please direct any queries that you may have Regarding conformity to our service department at:

Jamara e. K.
Inh. Erich Natterer
Am Lauerbühl 5
DE-88317 Aichstetten
Tel. +49 (0) 7565/9412-0
Fax +49 (0) 7565/9412-23
www.jamara.com - info@jamara.com

Further information can also be found at:
www.jamara.com - Downloads - Konformitätserklärung.

Relevant EEC Directives:

- Radio & Telecom Terminal Equipment (R&TTE) 1999/5/EU
- Waste Electrical and Electronic Equipment (WEEE) 2002/96/EU
- Restriction of Hazardous Substances (RoHS) 2002/95/EU

Disposal Instructions

All parts of this model should be disposed of correctly, in particular electronic components may be subject to local restrictions. Your dealer will advise you.

Communications Regulations

Please observe all rules and regulations referring to the use of radio signals (radio control) which may be in force within the country where you are operating your model, any queries should be addressed to your dealer..
Please Remember! The operator is solely responsible for the use of radio signals and for his model. Please ensure that you acquaint yourself with all laws which may apply to you before you operate your model.

Set Contents

Our Radio Control System CCX Pro 2,4 GHz comes complete with 3 channel transmitter, matching 3 channel receiver and these instructions.

Recommended Accessories

In order to operate a Radio Controlled model you will require servos which are suitable for the model, a receiver battery and a switch cable.

For an electric model you will also require an Electronic Speed Controller which will in most cases also provide power to the receiver. To power the transmitter you will need 8 X Mignon (AA) sized dry or rechargeable batteries. If you choose to use rechargeable batteries you will also require a suitable charger.

You should only use high-quality accessories with this system such as those found in our product catalogue or under:
www.jamara.com

General Description

Our CCX Pro 2,4 GHz system works on the ISM Band. This ‚new' Band offers several advantages of which probably the most useful is that no crystals are required because the transmitter and receiver have to be bonded meaning that your model cannot be ‚shot down' by other users on your channel. Apart from that this is a much cleaner and interference free signal anyway. This does however mean that you have to bond all of your receivers to your transmitter.

The 2 channel CCX Transmitter is equipped with precision controls for both the steering and the throttle function. To operate the transmitter 8 Mignon (AA) dry or rechargeable cells of the same type must be fi tted which must have suffi cient charge in them. This is vital to ensure that the system functions at the maximum power output.. Monitor the 'Voltage Display' closely and replace or recharge the cells before they are fully discharged.

The transmitter is equipped with a series of useful programming features. These features can be used to easily set the model up to best suit your needs and to gain the best performance from your model. The controls for programming are clear to use the menu.

A DSC Port has been fi tted to allow you to use a data cable (available separately) to connect your transmitter to a PC or Laptop for use with a simulator.

Transmitter Details

Transmitter CCX Pro 2,4

Frequency Band	2,4 GHz
Modulation	GFSK
Servo Resolution	10 Bit (1024 Step)
Model Types	Car, Boat
Control functions	3 Dual Rate, servo end point, expotential, ABS
Temperature Range	- 15 bis + 58° C
Operating Voltage	9,6 - 12 V
Low Voltage Warning	9,5 V
Receiver Antenna Length	~ 26 cm
Voltage	12 V DC (8 Cells)
Charging	Via Charging Socket
DSC Port (Simulator Socket)	3,5 mm DSC Port
Dimensiones	154 x 127 x 270 mm
Weight	395 g

Receiver CCX Pro 2,4 GHz
Part No. 06 1185

Frequency Band	2,4 GHz
Channels	3
Modulation	GFSK
Servo Resolution	10 Bit (1024 Steps)
Operating Voltage	4,5 – 6,0 V DC
Dimensiones	38 x 22 x 13 mm
Weight	6 g

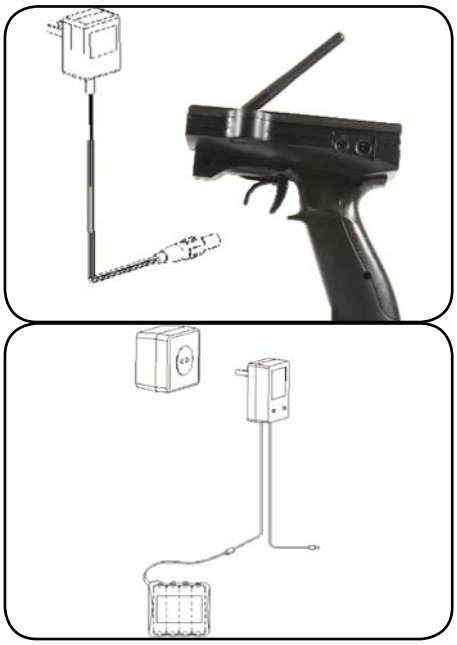
Fail Safe

Features

- 2,4 GHZ
- 3ch fully programmable
- Display backlight
- Voltage indicator with audible low voltage warning
- 10 model memory
- Fully adjustable servo endpoints
- Dualrate, Servo-Reverse, Adjustment of servo centre and travel
- 3 channel expotenzial function
- 3 stage ABS setting
- Programmable Fail Safe on receiver
- Charging socket
- Jack simulator
- Ergonomic handle with quick-control keys
- Easy 395 g

Charging The Batteries

If you use NiCad or NiHm rechargeable cells for your transmitter ensure that the cells are fully charged before using the system. Please be aware that due to the self-discharge characteristics of this type of cells that they should always be fully charged prior to use. Please refer to the battery manufacturers recommendations regarding charging current etc.



Use only a high quality charger which is suitable for this type of cells such as our item 15 0004. For further information please contact your local dealer. Once charging is complete, always disconnect the batteries from the charger and unplug the charger from the mains supply.

Remove the batteries from the model and transmitter if you do not intend to operate it for a longer period of time. To charge teh transmitter batteries please proceed as follows:

1. Fit the batteries observing the correct polarity.
2. Plug the charger into the household mains.
3. Connect the charging cable to the transmitter.
4. Remove the charging cable and unplug the charger as soon as the batteries are full.

Warning!
Remove the battery hatch cover whilst charging!

Controls

Right - side view
1. 2,4 GHz Antenna
2. Steering Wheel
3. 3 channel
4. Battery Hatch
5. Dual Rate channel 1
6. Trim channel 3

Rear View
7. ON/OFF Switch

Left - side view
8. Connection for simulator cable
9. Charging socket

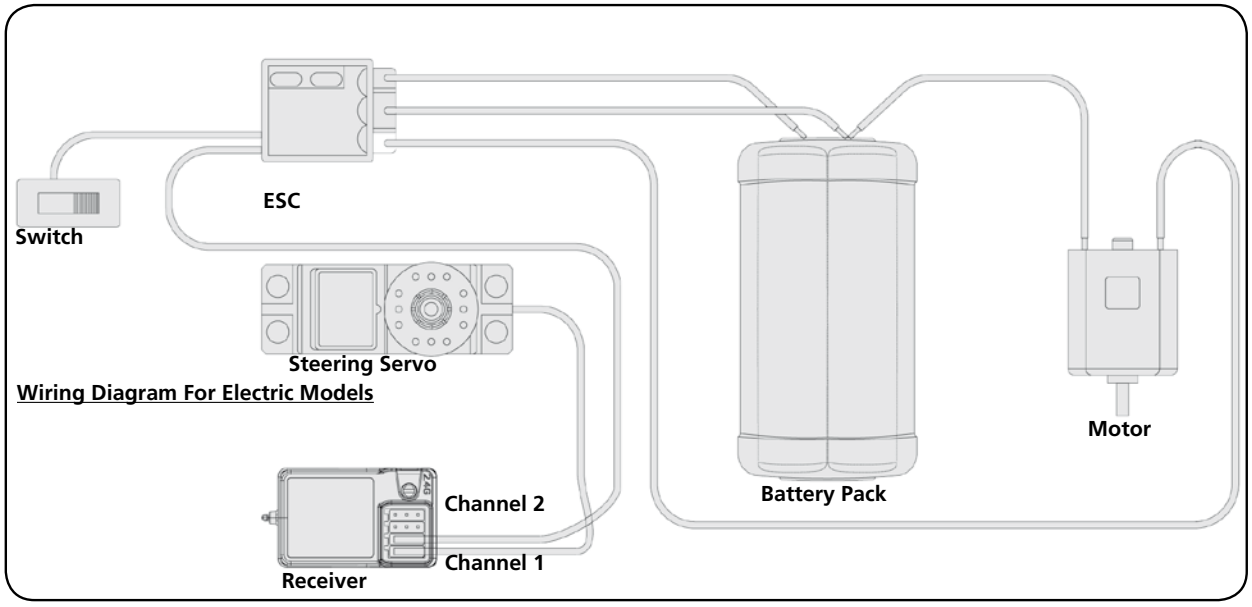
A. Throttle Lever

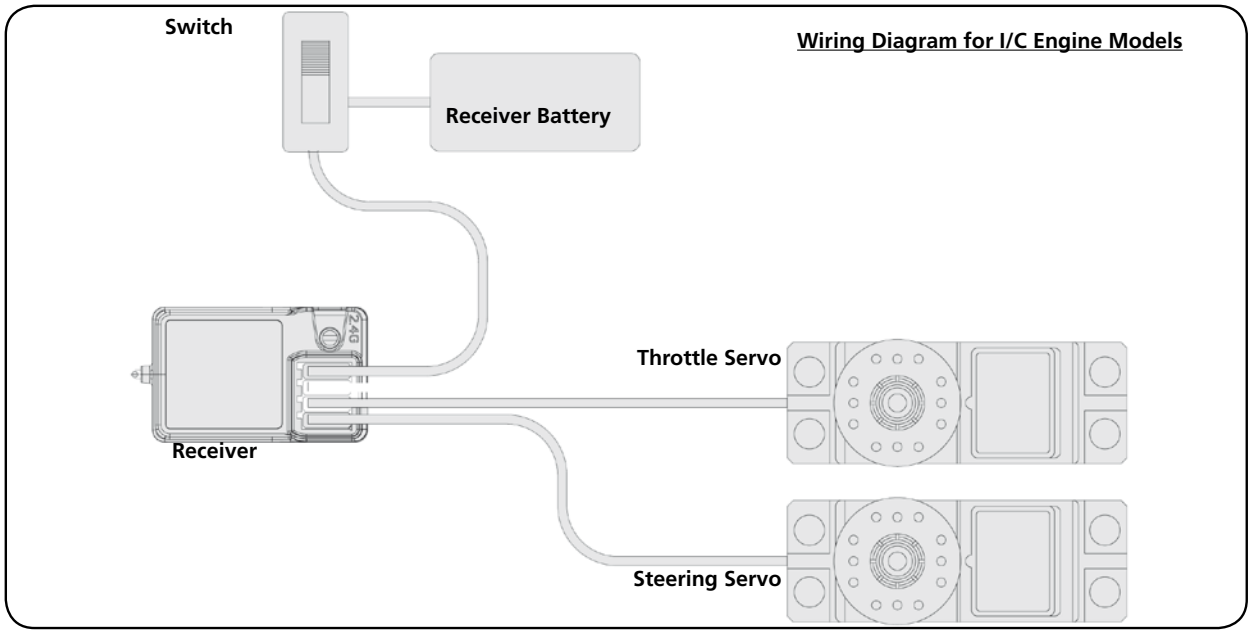
Programming Panel
B. LCD display
C. Back
D. Binding Button
E. Selection for sub-menu
F. Confirmation (right / left)
G. Trim channel 2 back
H. Trim channel 2 front
I. Trim channel 1 left
J. Trim channel 1 right

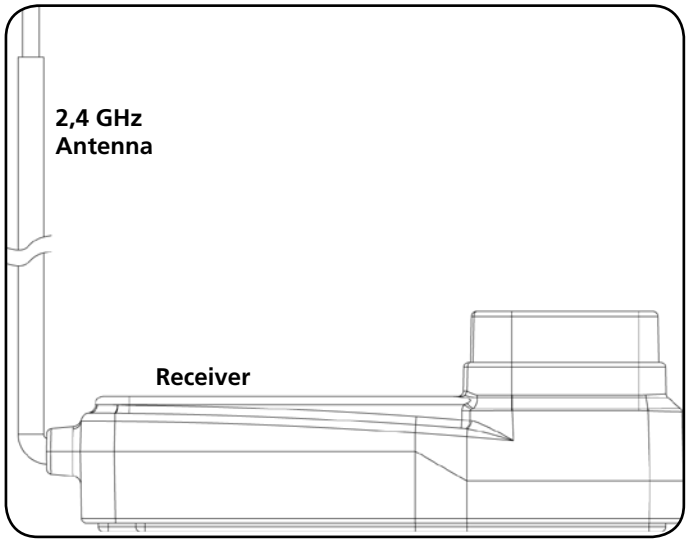
Thanks to the logical and well thought out lay-out of the Programming Panel and the positioning of the switches and LEDs the CCX Pro 2,4 GHz transmitter can be quickly and simply programmed. All channels can be trimmed and the direction changed.
Furthermore the transmitter is equipped with a Dual Rate, a EXPO- and ABS-Function.

Connecting To The Receiver

Warning!
To avoid any short-circuit in your receiver, please make sure to connect the cables with correct polarity in mind.







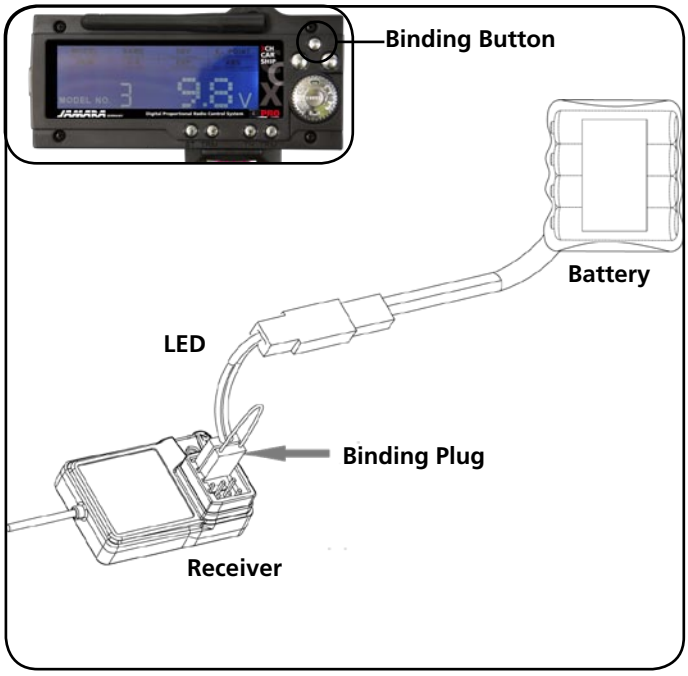
Mount the 2.4 GHz antenna vertically as shown in the diagram. Do not allow any metal object to come into contact with the antenna or to shield it as this will reduce the range.

Binding The Receiver To The Transmitter

As with all modern 2.4GHz R/C systems the receiver must be bound to the transmitter to ensure that the receiver will only react to signals from that transmitter.

If you wish to re-bind the receiver with the transmitter please proceed as follows:

A. Ensure that the transmitter is fi tted with fresh or fully charged batteries and leave the transmitter off.
B. Plug the binding plug (included) into the channel 3 socket on the receiver.
C. Switch the receiver system on by connecting the battery.
The receiver LED will begin to fl ash indicating that the receiver is in bonding mode.
D. Press and hold down the binding button on the transmitter while switching it on.
E. Watch the receiver LED and once it stops blinking the binding process is copmlete.
This process may take up to 5 seconds.
F. Release the binding button on the transmitter and disconnect the binding plug from the receiver. Set the receiver and transmitter.
G. Install all of the components correctly and carefully check that everything is operating correctly.
H. If the receiver fails to bond or does not function after bonding repeat the above procedure until a successful bonding is achieved.



The diagram illustrate the bonding process and show the locations of the relevant components.

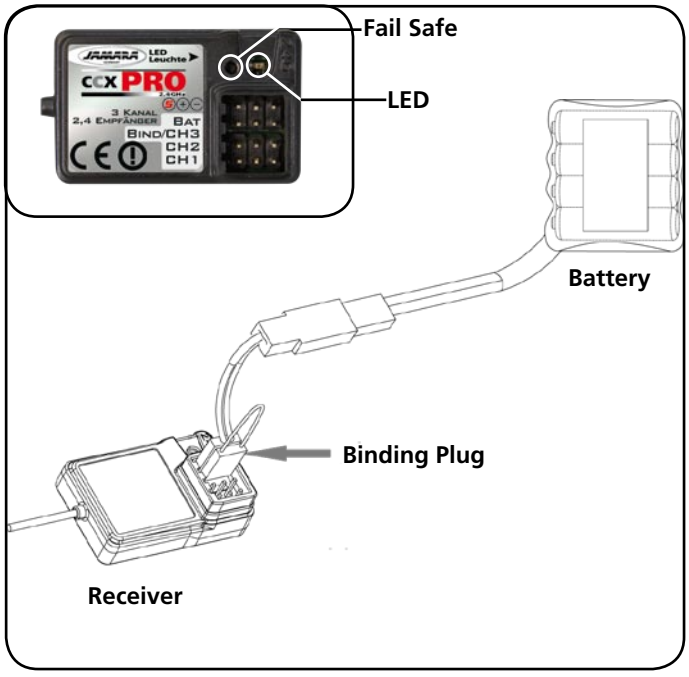
Fail Safe

Programming of the integrated FailSafe unit.

1. Function Description
The built-in FailSafe unit is mainly for the use on boats and cars. It is used to prevent loss of the model in case of signal loss and returns the servo to the position which was set before.

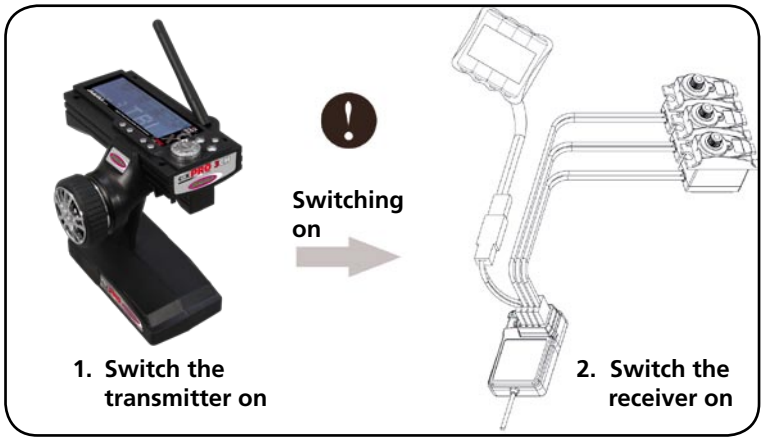
2. Setting
a. Turn on the transmitter
b. Turn on the receiver. The signal LED will flash continuously and indicates that the receiver is ready.
c. Move the throttle lever on the transmitter in the braking or outlet position. Hold the throttle lever in this position.
d. Press the Setup button on the receiver. The signal LED flashes for 3 seconds (see left).
e. The setting is saved and you can bring back the throttle into neutral position.

3. Testing the settings
a. Turn on the transmitter.
b. Turn on the receiver.
c. Turn off the transmitter.
d. The receiver will now lose the signal and drives the servo or the speed control on the gas channel to the previously programmed position.
e. If these steps work, you have set the FailSafe.



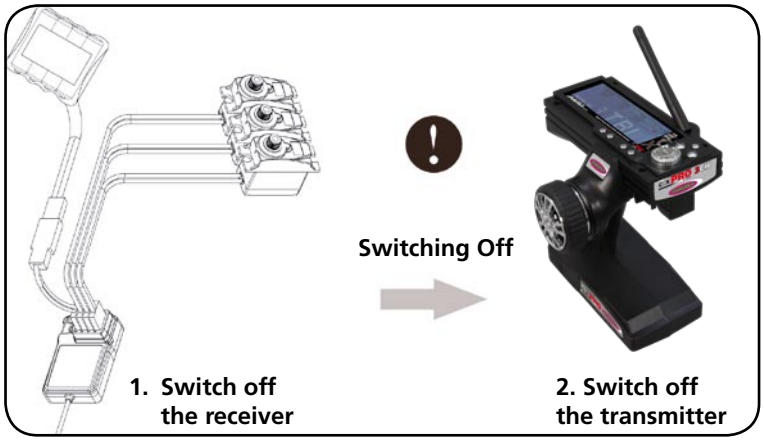
Switching On

1. Plug in all of the components.
2. Switch the transmitter on.
3. Connect the receiver battery to the receiver.
4. Check that the LEDs on both the transmitter and the receiver illuminate solidly.
5. The system is now correctly switch on and operating and can now safely be used.



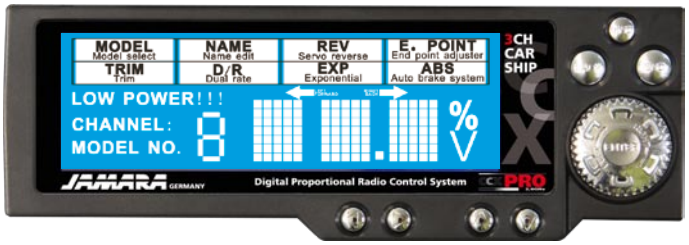
Switching Off

1. Disconnect the receiver battery
2. Switch off the transmitter



LCD Display

Button functions



Enter: Turn the knob to navigate through the menu
Enter: Press the button for menu select
End: Press to select a submenu
Back: Press to exit the menu

LCD Display:

The transmitter is turned on, the display shows the voltage in volts and the number (here 8) and the name (in this case ACB) of the model.
By turning the Enter key you can switch between voltage and model.

If the voltage drops below 9.5V, this is indicated on the display.

If the voltage continues to drop, the warning message „Low Power!" will light up and a buzzer will sound.

Functions

MODEL

You can store up to 10 models in the transmitter.
Each memory can be set individually for each model.

The default setting of the transmitter shows „no. 0 „FS0".
In the picture you see the space „no. 8" and the model name „ACB".

Switch the transmitter on and press „Enter".
By turning the enter button in the menu „Model" to the left or right, you can choose the model of your choice. Press the Enter button to confirm the model.
To exit the menu, press „BACK".

NAME

In this menu you can assign a name to each model (max. 3 characters).

„Model No."	=	model number
„ACB"	=	shortcut

Press „Enter". To select the option „Name" turn the enter button. The first letter (here A) starts to flash. By turning the Enter button you can select a letter. Press the „End" key to switch to the next letter. Repeat the process for the third letter. Once you have entered your code, confirm by pressing the „Enter" key.
To exit the menu, press „BACK".

REV

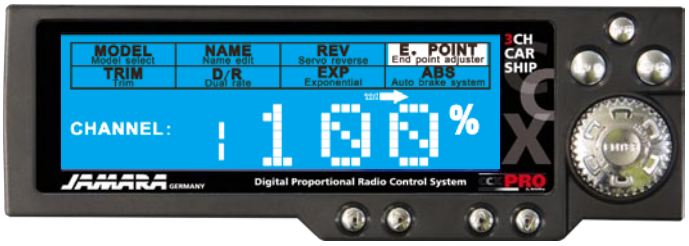
Servo reverse direction.

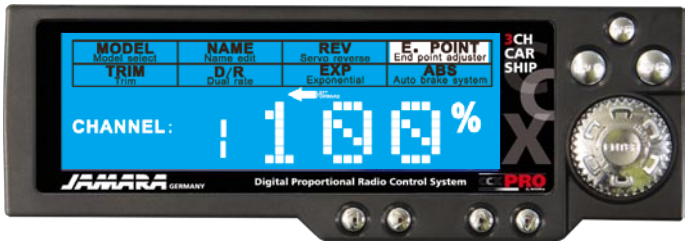
Channel:	Channel number 1 to 3.
REV:	Reverse servo direction
NOR:	Normal servo direction

Press „Enter". Turn the knob to get to the desired channel. Press „END" to change the setting. The setting is flashing, now select the button „REV" or „NOR" and press Enter.

Functions

E POINT





With this setting you can set the steering angle of your servos. If your steering servo differs at full scale (left or right) differ, you can adjust it with this setting.

Output value is 100%.
Displacements from 0 to 120%

Press „Enter" and select „E POINT" in the menu. To select the servo direction, press the channel (1, 2 or 3) ind the desired direction (1 = wheel, 2 = throttle, 3 = third channel key). Press „END" to enter the setting of the channel. Select with the rotary knob to set the value and press Enter to confirm the value.

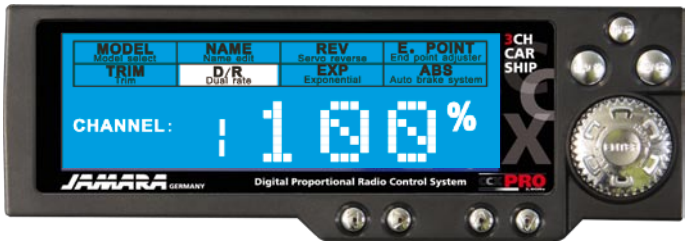
TRIM

With this setting you can set the neutral position of the servos.

Output value is N00
Setting of L30 to N00 to R30 and F30 to N00 and B30.
L = left, N = zero, R = Right, F = Forward B = Back

Press „Enter" and select „TRIM" in the menu. The channel will flash. Press „END" to enter the setting of the channel. Select with the rotary knob to set the value and press Enter to confirm the value.

D/R



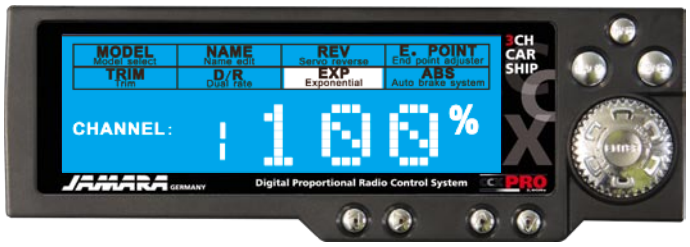
This setting allows you to limit the adjustment of the servo travel.

Output value is 100%
Displacements from 0 - 100%

Press „Enter" and choose „D / R" in the menu. The channel will flash. Press „END" to enter the setting of the channel. Select with the rotary knob to set the value and press Enter to confirm the value.

Functions

EXP



With this setting you can change the servo sensitivity, without affecting the total servo way.

Output value is 0%
Adjustment of -100 - 100%

Press „Enter“ and select „EXP“ on the menu. The channel will flash. Press „END“ to enter the setting of the channel. Select with the rotary knob to set the value and press Enter to confirm the value.
The servo sensitivity increases exponentially. It determines the curve of the reaction of the respective channel in relation to the input of the transmitter (steering wheel, throttle).

ABS

With this setting you can determine if your model is to have the gas or brake servo on the ABS function. This braking assistance helps to prevent the wheels from locking.

OFF:	The ABS function is over.
SLW:	Slow pulses
NOR:	Average Impulse
FST:	Fast Impulse

Tip: The setting can vary from servo to servo, and should be tailored to each servo.

Press „Enter“ and select „ABS“ in the menu. The setting is flashing. Select with the rotary knob to set the value and press Enter to confirm the value.

Operating The Model

Steering

This function is used to steer the model and turning the steering wheel will make the models wheels to turn in the relevant direction. Turning the wheel to the right will make the models wheels turn to right when viewed from above as illustrated. Moving the wheel to the left will cause the wheels to turn to the left.

By operating the relevant switch (6) on the programming panel the direction in which the steering moves can be reversed if required. In addition, the transmitter is equipped with a Dual Rate function. When this function is activated the wheels of the model will move less relative to the movement of the transmitters steering wheel around the middle position. This will allow the model to be steered with more precision however if this function is used the total throw will still be available for tight cornering when the steering wheel is moved to the end of it's range.

Throttle Lever

This function is used to control the models speed both forwards and in reverse as shown in the illustration to the left. If the lever is pulled back towards the transmitter grip the model will accelerate forwards.

If the lever is pushed away from the transmitter grip the model will first brake and then accelerate in reverse. This is providing that the model is fi tted with a Speed Controller which supports these functions.

Using A Simulator

The CCX Pro 2,4 Ftransmitter can also be used to operate a computer simulator program loaded onto your PC or Notebook.

If you wish to use the transmitter in this way you will have to purchase a Simulator Cable which will be available from your local dealer. The Jack-Plug of th eSimulator Cable plugs into the transmitter as shown and the USB plug will connect to your PC.

To use your transmitter with a simulation program please proceed as follows:

1. Connect your transmitter to your PC by plugging the Simulator Cable in to both items.

2. Switch on both your transmitter and your computer.

3. Open the simulator software on your computer.

4. Follow the software's instructions regarding calibrating your transmitter etc.

5. Have fun racing your virtual car around a virtual circuit.

Info:
Using a simulator program is a great way to learn how to drive Radio Controlled cars. Your dealer will be able to advise you of what simulators are available. Simulators are available covering virtually every type of vehicle and terrain including the worlds most famous racing tracks and your new CCX Pro 2,4 transmitter is the ideal tool to get the best out of such programmes.

Notice

Coupon

**Ask for the up-to-date catalogue with our complete
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