Thank you for buying ALIGN Products. Please read this manual carefully before assembling. We recommend that you keep this manual for future reference regarding tuning and maintenance.

Compatible with helicopter of all sizes from T-REX 250 to T-REX 800 MICROBEAST PLUS Flybarless System. Here we use T-REX 700L DOMINATOR as an example.

MICROBEAST PLUS 無平衡翼系統電子設備容小型直升機至大型直升機T-REX 250～T-REX 800。在此我們以T-REX 700L DOMINATOR作索操作範例。
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Radio Control (R/C) multicopters are not toys. R/C multicopters utilize various high-tech components to achieve superior performance. Improper use of this product can result in serious injury or even death. Please read this manual carefully before operating, and make sure to be conscious of your own personal safety and the safety of others nearby when operating all ALIGN products. Manufacturer and seller assume no liability for the operation or the use of this product. This product is intended for use only by adults with experience flying remote control aircraft at legal flying fields. After the sale of this product we cannot be held liable over its operation or usage.

We recommend that you seek the assistance of an experienced pilot before attempting to fly our products for the first time. A local expert is the best way to properly assemble, setup, and fly your model for the first time. This product requires a certain degree of skill to operate, and is an expendable item. Any damage or dissatisfaction as a result of accidents or modifications are not covered by any warranty and cannot be returned for repair or replacement. Please contact our distributors for free technical consultation and parts at discounted rates when you experience problems during operation or maintenance. As Align Corporation Limited has no control over the use, setup, assembly, modification or misuse, no liability shall be assumed nor accepted for any resulting damage or injury. By the act of use, setup or assembly, the user accepts all resulting liability.

In addition, R/C multicopters and its components are precision electronics susceptible to interferences from external forces such as magnetic field and radio signal. Should the multicopter or any onboard photographic equipment suffers loss or crash damage as result of external magnetic or radio interferences, Align cannot be held liable as the cause is beyond our control.

As the user of this product, you are solely responsible for operating in a manner that does not endanger yourself and others or result in damage to the property of others.

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重要聲明

遙控飛行機包括遙控直升機與多軸飛行機（以下簡稱遙控飛行機）本非玩具，它是結合了許多高科技產品所設計出來的休閒用品，所以商品的使用不當或不熟悉都可能會造成嚴重傷害甚至死亡，使用之前務必詳讀本說明書，勿輕忽並注意自身安全，注意！任何遙控飛行機的使用，製造商和經銷商是無法對使用者於零件使用的損耗異常或組裝不當所發生之意外負任何責任，本產品是提供給有操作過遙控飛行機經驗的成人或有相當技術的人員在旁指導，並於當地合法遙控飛行場飛行，以確保安全無虞下操作使用。產品售出後本公司將不負任何操作和使用控制上的任何性能與安全責任。

遙控飛行機屬於高價操作技術且為消耗性之商品，如經拆裝使用後，會造成不等情況零件損耗，任何使用情況所造成商品不良或不滿意，將無法於保固期間內更換新品或退貨，如遇有使用操作維修問題，本公司全省分公司或代理經銷商提供技術指導、特價零件供應服務，對使用者的不當使用、設定、組裝、修改、或操作不良所造成的破損或傷害，本公司無法控制及負責。遙控飛行機與配件之精密電子產品，易受外力、磁場、訊號干擾，在使用過程中如外力、磁場、訊號干擾，導致飛行機本身、及其搭載之攝影設備、器材破損或損失，本公司亦無法控制及負責。

做為本產品的使用者，您，是唯一對於您自己操作的環境及行為負全部的責任之人。

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WARNING LABEL LEGEND

標誌代表涵義

| 僅止 | Do not attempt under any circumstances. |
| 警告 | Mishandling due to failure to follow these instructions may result in serious damage or injury. |
| 注意 | Mishandling due to failure to follow these instructions may result in danger. |
SAFETY NOTES

安全注意事項

- Fly only in safe areas, away from other people. Do not operate R/C aircraft indoors or within the vicinity of homes or crowds of people. R/C aircraft are prone to accidents, failures, and crashes due to a variety of reasons including: lack of maintenance, pilot error, and radio interference. Pilots are responsible for their actions and damage or injury occurring during the operation or as a result of R/C aircraft models.

- Prior to every flight, carefully check all parts such as blades, screws, frame, arms, etc; ensure they are firmly secured and show no unusual wears, or unforeseen danger may happen.

LOCATE AN APPROPRIATE LOCATION

遥控飛行機應遠離障礙物及人群

R/C aircraft can fly at high speed, thus posing a certain degree of potential danger. Choose a legal flying field consisting of flat, smooth ground without obstacles. Do not fly near buildings, high voltage cables, or trees to ensure the safety of yourself, others, and your model. Avoid location with magnetic and radio interferences. Please choose a legal flying field. Do not fly your model in inclement weather, such as rain, wind, snow or darkness.

KEEP AWAY FROM HEAT

遠離熱源

R/C aircraft are made of various forms of plastics, such as carbon fiber and polyethylene. Plastics are very susceptible to damage or deformation from extreme heat and cold climate. Make sure not to store the model near any source of heat such as oven or heater. It is best to store the model indoors, in a climate-controlled, room temperature environment.

PREVENT MOISTURE

遠離潮濕環境

R/C aircraft are composed of many precision electrical components. It is critical to keep the model and associated equipment away from moisture and other contaminants. The introduction or exposure to water or moisture in any form can cause the model to malfunction resulting in loss of use, or a crash. Do not operate or expose to rain or moisture.

滲透飛行機內部也是由許多精密的電子零件組成，所以必須絕對的防止潮濕或水氣，避免在浴室或雨天時使用，防止水氣進入機身內部而導致機件及電子零件故障而引發不可預期的意外！
PROPER OPERATION

Do not attempt to modify the aircraft to alter its intended design. Please use only designated replacement parts listed in the manual to ensure its design structure integrity. Operate this product within its intended design parameters; do not overload it with excess cargo. This product is limited to personal hobby use, and pilot should be proficient with operation of this model. Follow all local law and ordinances when operating. Do not use this product for purposes which may violate others’ personal privacy, and respect other’s intellectual properties. Do not use this product for illegal purposes or beyond the bonds of common safety.

WARNING

DO NOT FLY ALONE

Before turning on your model and transmitter, check to make sure no one else is operating on the same frequency. Frequency interference can cause your model, or other models to crash. The guidance provided by an experienced pilot will be invaluable for the assembly, tuning, trimming, and actual first flight or unforeseen danger may happen. (Recommend you to practice with experienced pilots or with computer-based flight simulator firstly.)

SAFE OPERATION

Operate this unit within your ability. Do not fly while feeling impaired, as improper operation may result in danger. Never take your eyes off the model or leave it unattended while it is turned on. Immediately turn off the model and transmitter when you have landed the model.

ALWAYS BE AWARE OF THE ROTATING BLADES

During the operation of the multicopter, the rotor will be spinning at a high rate of speed. The blades are capable of inflicting serious bodily injury and damage to surrounding properties. Be conscious of your actions, and careful to keep your face, eyes, hands, and loose clothing away from the blades. Always fly the model a safe distance from yourself and others, as well as surrounding objects.
Radio controlled (R/C) helicopters are not toys! The rotor blades rotate at high speed and pose potential risk. They may cause severe injury due to improper usage. It is necessary to observe common safety rules for R/C models and the local law. You can gather information from your local R/C model club or from your national modelers association.

Pay attention to your own safety and the safety of other people and property in your vicinity when using our product. Always fly in areas away from other people. Never use R/C models in close proximity to housing areas or crowds of people. R/C models may malfunction or crash due to several reasons like piloting mistakes or radio interference, and cause severe accidents. Pilots are fully responsible for their actions, and for damage or injuries caused by the usage of their models.

Please read the following instructions thoroughly before the first use of your MICROBEAST PLUS and setup the system carefully according to this manual. Allow sufficient time for the setup procedure and check each step carefully. Watch for a mechanically clean and proper build of your helicopter. A wrong system setup can lead to a serious accident and damage to the model.

Radio controlled (R/C) models consist of several electrical components. It is therefore necessary to protect the model from moisture and other foreign substances. If the model is exposed to moisture this may lead to a malfunction which may cause damage to the model or a crash. Never fly in the rain or extremely high humidity.

When operating the helicopter with a MICROBEAST PLUS ensure there is a sufficiently large and stable receiver power supply. Because of the direct coupling of the rotor blades to the servos, without the use of a flybar mixer, the servos are exposed to increased actuating forces. In addition, because of the intermediary electronic gyro system, the servos are driven more often than with traditional use. These factors can make the power consumption increase a lot compared to a flybar helicopter. When the supply voltage falls below 3.5 volts for a short amount of time, the system will power off and reboot. In this case a crash of the helicopter is unavoidable.
Do not expose the MICROBEAST PLUS system to extreme variations in temperature. Before powering up the system, wait some time so that the electronics can acclimatize and any accumulated condensation is able to evaporate.

The sensors of MICROBEAST PLUS consist of highly sensitive electromechanical components. These can be damaged due to moisture or mechanical or electrical impact. Do not continue using this product, if it has been exposed to such influences, e.g., due to a crash of the model or due to overvoltage caused by a defective receiver power supply. Otherwise a failure may happen any time.

MICROBEAST PLUS includes high-sensitivity electronic components, which can be damaged due to moisture, mechanical or electrical impact. Do not continue using this product if it has been exposed to such influences, e.g., due to a crash of the model or due to overvoltage caused by a defective receiver power supply. Otherwise a failure may happen any time.

When operating electric helicopters make sure that the electric motor cannot start inadvertently during the setup procedure. Particularly pay attention if using a single-line receiver and if the ESC is connected directly to the MICROBEAST PLUS. We recommend disconnecting the electric motor from the ESC during the setup procedure. Prior to the first usage please slide the motor/pinion away from the main gear, then check that the motor does not start inadvertently when the receiver is switched on.

When operating the RPM Governor feature of MICROBEAST PLUS Pro-Edition it is essential to ensure that the motor cannot start by accident when making adjustment or performing preparations to start the engine. Carefully read this manual and make sure you fully understand how the RPM Governor feature is operated before making any adjustments. Also make sure the motor does not start when the radio link is interrupted or when you switch on the transmitter initially. With electric driven models do not dock the motor to the main gear unless all necessary adjustment procedures have been finished. Always maintain sufficient safety distance to the motor and other rapidly rotating components of the helicopter.

操作電動直昇機時，請確保電動馬達不會在安裝過程中無意間啓動。尤其要特別注意，如果您使用的是單線連接接收器，且 ESC 直接連接到 MICROBEAST PLUS。我們建議在安裝過程中 ESC 不要連接電動馬達。在第一次使用之前，請滑動馬達/齒輪以遠離主齒輪，然後檢查馬達不會在開啓接收器時被啓動。

操作 MICROBEAST PLUS Pro-Edition 的 RPM 定速模式時，請確保馬達不會在調整或準備啓動引擎過程中無意間被啓動。調整前請仔細閱讀本說明書了解 RPM 定速模式的操作特性。並請確保在啓動或關閉遙控器時，馬達不會被啓動。使用電動直昇機時請不要連接馬達和主齒輪，除非確定所有必要的調整已經完成。直昇機內的馬達及其他快速轉動的零件必須保持足夠的安全距離。
MICROBEAST PLUS with Attitude Control can be used as a flying aid for beginners as the reaction of the helicopter to stick inputs can be limited and as an electronic control circuit can help to stabilize the helicopter. However, this does not provide that the helicopter can always be flown safely! By incorrect control inputs the helicopter still may crash or be placed in a position in which the pilot becomes disoriented even when using Attitude Control. In addition, the helicopter can drift due to external influences and it is not guaranteed that the artificial horizon of the device can stabilize the helicopter at any time and recover from any orientation. Influences such as temperature fluctuations or vibrations may cause incorrect results and distort the position calculation of the system in consequence. There is no guarantee that the system will always work correctly. Only the pilot is responsible for the control of the helicopter and thus also for the use of the system. You must always be able to turn off the system immediately and be able to take over full control of the helicopter.

We suggest you to seek the support of an experienced helicopter pilot before you undertake the first flight of your model. Additionally, flight training with a R/C simulator can help make flying easier and more enjoyable. Ask your local dealer if you need technical support or if you observe problems during the usage of our system.

我們建議您尋求具有足夠經驗的遙控直升機玩家，然後再進行第一次的 MICROBEAST PLUS 搭配飛行。此外，飛行訓練用的 R/C 模擬器可以幫助使飛行更簡單，更有樂趣。如果您有任何技術支援或系統使用的問題，請與當地代理連絡。

Attitude Control can help to facilitate flying of model helicopters by briefly passing over control to the system if the pilot becomes disoriented. By using the built-in artificial horizon the helicopter can be brought to a nearly horizontal position so that the pilot gains time to reorient. Thus there can be no assurance that the model is saved from a crash in general. Depending on the current attitude and the speed of the model and depending on how fast the Attitude Control is activated, the model may crash before or while the system tries to recover. In addition, the helicopter can drift due to external influences and it is not guaranteed that the artificial horizon of the device can stabilize the helicopter at any time and recover from any orientation. Influences such as temperature fluctuations or vibrations may cause incorrect results and distort the position calculation of the system in consequence. Strictly observe the general safety rules for dealing with RC models and do not totally rely on the system. The pilot is responsible for the control of the helicopter and thus also for the use of the system. You must always be able to turn off the system immediately and be able to take over full control of the helicopter.
Dear customer,

Thank you for purchasing our product.

MICROBEAST PLUS is a high-end flybarless system for RC helicopters that has been developed in Germany using latest technology and setting high standards. This system can be used with nearly any size and type of RC helicopters and besides using it as flybarless stabilization system it offers additional features that can make flying helis even easier and comfortable.

To program MICROBEAST PLUS we consciously decided against using a tiny display that might be hard to read or using an external programming device such as a smart phone or PC software. The "EasySetup" concept allows to setup the helicopter in a very short amount of time and without the need of additional devices which you might have forgotten at home when on the flying field. You can setup your helicopter anytime and anywhere and you’re ready for take off within a few minutes.

This Quickstart Guide is a clearly arranged guide that will lead you step-by-step through the basic flight setup. Please follow this guide carefully and make sure to read the attached safety notes. For a detailed instruction manual and a lot more details, tips, tricks and notes about the product please visit WIKI.BEASTX.COM

StudioX allows to edit, save and load the device setup by using a PC. Additionally it can be used to register your device and acquire optional features. Also it allows to perform very special setups like such as a virtual washplate rotation for multiblade rotorheads. To connect your MICROBEAST PLUS to the computer the optional available USB2SYS interface is required.

StudioX can be downloaded from: STUDIOX.BEASTX.COM

親愛的客戶:

感謝您使用 MICROBEAST PLUS 無平衡翼控制系統！

MICROBEAST PLUS 採用德國最新技術和最高標準，是專為遙控直升機設計的無平衡翼控制系統。

此系統幾乎可以搭配任何尺寸和類型的遙控直升機，不僅作為無平衡翼穩定系統，它還提供額外的功能，動作靈敏，飛行更加輕鬆及自在。

在使用MICROBEAST PLUS 的過程中，我們發現若程式必須透過一和小的選擇，如 PC 軟體或手機 APP 介面來設定，可能會非常麻煩或失憶，所以我們決定使用 "EasySetUp" 的概念來簡化設定編程。

這樣的設計是為了讓你在很短的時間內，即使在飛行場，沒有相關的設備，也可以輕鬆、簡單地依你的需求隨時更改設定，使您的直升機能在幾分鐘之內迅速升空。

本快速入門指南是以非常簡單且明確的方法，一步一步地讓您完成基本的飛行設定，並請務必仔細閱讀其安全注意事項。關於詳細的使用說明書和更多的細節、技巧和注意事項，請瀏覽以下網站。

WIKI.BEASTX.COM

StudioX 允許您透過 PC 來編輯、保存及無平衡翼系統的設定。它可以用來註冊您的設備和獲得更多的功能選項。此外，透過這個裝置，能允許您執行非常特別的設定，例如多旋翼的虛擬十字盤。同時您需要一條 USB2SYS (免購品) 來連接電腦及MICROBEAST PLUS。

請至以下連結下载 StudioX
STUDIOX.BEASTX.COM

This guide only is intended to be used with MICROBEAST PLUS firmware version 4.2.x!

You can see what firmware version your MICROBEAST PLUS is running when it is powered on. First the device carry out a brief LED test. Then for about 3 seconds the Status-LED lights red while the Menu-LEDs A - G display the first digit of the firmware version and the LEDs H - N the second digit of the firmware version.

本快速指南所描述的調整內容，只適合 MICROBEAST PLUS Version 4.2.x 版本！

當開機時，您可以透過 MICROBEAST PLUS 瞭解當前的主程序版本。首先，系統會執行簡單的 LED 檢測，約 3 秒後，Status-LED 將會亮起紅色。而 Menu-LED 號碼 A-G 顯示第一位軟體版本，號碼 H-N 顯示了次要版本 (第二位數)。

Firmware version: 4.2.x
In the left row Menu-LED C stands for major version "4". In right row Menu-LED H shows minor version "2".

主要版本V 4.2.x:
在左側選項中，LED燈號 C 呈現了主版本的版本“4”；右側 LED燈號 H 呈現次要版本為“2”
You can position MICROBEAST PLUS flat or upright on the helicopter. The large socket must point to the front or to the rear of the helicopter.

In summary there are 8 mounting orientations possible:
1. flat, sticker on top, socket pointing to front
2. upright, button up, socket pointing to front
3. flat, sticker showing to ground, socket pointing to front
4. upright, button down, socket pointing to front
5. flat, sticker on top, socket pointing to rear
6. upright, button up, socket pointing to rear
7. flat, sticker showing to ground, socket pointing to rear
8. upright, button down, socket pointing to rear

The small white socket must be aligned with the longitudinal axis. The sensor axis (housing edges of the device) must be aligned exactly parallel to all three rotation axis of the helicopter. However, it is allowed to position the device offset from the rotation axis.

總共有八種不同安裝方向供您選擇：
1. 平放/貼紙朝上側/插口朝飛行方向。
2. 垂直/按鈕朝上側/插口朝飛行方向。
3. 平放倒置/貼紙朝底部/插口朝飛行方向。
4. 垂直倒置/按鈕朝底部/插口朝飛行方向。
5. 平放/貼紙朝上側/插口朝尾管。
6. 垂直/按鈕朝上側/插口朝尾管。
7. 平放倒置/貼紙朝底部/插口朝尾管。
8. 垂直倒置/按鈕朝底部/插口朝尾管。
Use one of the supplied 3M gyro pads to stick the device to your helicopter. The device housing must not directly touch the chassis of the helicopter. When connecting and laying out the servo and receiver wiring later onwards please make sure the wires do not pass tension to the MICROBEAST PLUS. It is not recommended to bundle or tie down the leads close to the MICROBEAST PLUS device.

The illustrations are only intended as examples! The function assignment of the transmitter determines which channel on the receiver controls which function.

The assignment of functions to the radio channels is mentioned in the manual of your radio system. Also you may find out the function assignment by checking your transmitter's servo monitor. The connectors of MICROBEAST PLUS are assigned to the functions as follows:

**AIL**\|CH5 = Aileron, **ELE**\|DI1 = Elevator, **RUD** (orange wire) = Rudder, **PIT** (red wire) = Thrust, **Aux** (brown wire) = Gyro gain

The wires for aileron and elevator additionally transfer the power between MICROBEAST PLUS and receiver.

Using a Single-Line receiver all channels/functions are transferred by one single connection wire. This allows to use even more than 5 channels, i.e. for controlling the nitro RPM Governor, AttitudeControl function and/or additional servo output channels.

Using a Single-Line receiver all channels/functions are transferred by one single connection wire. This allows to use even more than 5 channels, i.e. for controlling the nitro RPM Governor, AttitudeControl function and/or additional servo output channels.

**AIL**\|CH5 = 副翼, **ELE**\|DI1 = 升降舵, **RUD** (橙色線) = 尾舵, **PIT** (紅色線) = 油門, **Aux** (棕色線) = 陀螺儀感度

副翼和升降舵的連接線有額外的供電功能，可提供 MICROBEAST PLUS 及接收器電源。

使用單線連接接收器時，所有通道/功能都是由一線連接線來傳達。它允許超出 5 個以上的通道分配，可分配功能如：

- 引擎 RPM 定速模式，姿態模式或額外的伺服輸出通道。
Using a single remote satellite is only recommended for 450 size helicopters or smaller! For larger helicopters, you may use a SRXL compatible Single-Line receiver.

Always make sure the power supply is stable and dimensioned sufficiently for the intended application. It is possible always connect the power source directly to MICROBEAST PLUS. Especially when using standard size servos it is recommended to use more than one power supply cable in parallel to preserve a stable voltage and to reduce power loss due to connection resistance. The additional supply cables may be connected to free receiver ports. We recommend to use MICROBEAST PLUS HD which offers a low resistant high-power input and which is well suited for larger model helicopters.

To initiate bind procedure on a single Spektrum remote satellite connect the Spektrum bind plug to SYS port. When using a DSMX remote satellite push and hold the button and turn on power while still holding the button down. The LED on the satellite will flash together with Menu LED H on the MICROBEAST PLUS. When binding a DSM2 remote satellite do not touch the button but only power on the device. The LED on the satellite will flash together with Menu LED N. Initiate the bind procedure on the transmitter. Power off and remove the bind plug when finished successfully.

To bind the JR RJ01 remote satellite initiate the bind procedure on the transmitter and power on the MICROBEAST PLUS. The remote satellite will bind instantly. Connecting a bind plug or similar is not necessary.

请确定使用的电源规格符合系统要求。如果可能，请给 MICROBEAST PLUS 一个直接的电源。尤其是在使用标准伺服时，建议使用一个良好的供电接口连接，并使其保持平稳和稳定的状态，以减少因电源传输产生电信而消耗功率。此外，连接线插接到一个对装置的接口插口，我们建议使用 MICROBEAST PLUS HD 它提供了一个低阻抗高功率的输入插槽。非常适合大型直升机。

若使用 Spektrum 衡器接收天线，初始对频率时，请将 SPEKTRUM 的对频金盒插入 MICROBEAST PLUS 的（SYS）插槽。若使用 DSMX 衡器天线时，进入对频模式后，请长按 MICROBEAST PLUS 上的按钮并接通电源，直到接收器的 LED 灯和 MICROBEAST PLUS 設定選擇第 H 點旁的 LED 灯進行開啟。此時對頻接收器和遙控器，對頻成功後接收器的 LED 燈將保持恆亮。若使用 DSM2 衡器接收天线，进入对频模式后，不要按按钮，只需接通电源即可，直到衡器天线的 LED 燈和 MICROBEAST PLUS 設定選擇第 N 點旁的 LED 燈進行開啟，此時對頻接收器和遙控器，對頻成功後，接收器的 LED 燈將保持恆亮。這是在遙控器的對頻過程，完成後，請關閉電源並移除對頻金盒。

若使用 JR RJ01 衡器接收天线、遥控器和 MICROBEAST PLUS，初始对频时，衡器接收天线会保持对频，对频金盒或类似的工具是不需要的。

Supported receivers/transmission protocols:
- SRXL: JR XBus (Mode B),
- Multiplex SRXL (V1+V2), Jeti UDI, Graupner/SJ HOTT SUMD, Spektrum SRXL
- Futaba SBUS
- Spektrum remote satellite (DSM2/DSMX)
- JR DMSS remote satellite (JR RJ01)
- PPM serial signal (SPPM)

支援接收器/遙控器類型:
- SRXL: JR XBus (Mode B),
- Multiplex SRXL (V1+V2), Jeti UDI, Graupner/SJ HOTT SUMD, Spektrum SRXL
- Futaba SBUS
- Spektrum 衢器天線 (DSM2/DSMX)
- JR DMSS 衢器天線 (JR RJ01)
- PPM 系列信號 (SPPM)
**3 MICROBEAST PLUS HD**

**MICROBEAST PLUS HD**

**Input voltage range: 3.5 - 8.4 Volts.**

**MICROBEAST PLUS HD** in first line was designed for 550 size helis and larger which use standard size servos with high current consumption. Here you can connect the power supply directly to the additional high-power input which reduces voltage loss due to contact and wiring resistance significantly when high currents are flowing. Always use the supplied power cable as connector between battery and MICROBEAST PLUS HD. It is not recommended to directly plug in the battery at the device. Continuous plugging and unplugging can cause the overlying servo plugs getting unplugged accidentally or cause the adhesive gyro pad to get loose!

Receiver and servo plugs are connected to the ports on top of the unit, similar as described for the standard (non-HD) MICROBEAST PLUS.

**Using the switch is optional. The device can also be operated without the switch.**

**Anchow, never connect anything else than the switch to the switch port!**

**When switched off MICROBEAST PLUS HD consumes a very low amount of standby current.** Therefore always completely disconnect the battery from the system if you do not use the model for an extended period of time to prevent the supply battery from getting discharged and damaged in consequence.

**MICROBEAST PLUS HD does not supply an internal voltage regulation! The voltage that is applied to the high power connection port will directly be passed to the servo and receiver connections. Only use electronic components (servos and receiver) that are designed for your power source.**

**Using the high power connection port is not a must. You can also use MICROBEAST PLUS HD in a conventional manner by powering the unit from the receiver ports in the top row. However, using the electronic power switch system is not possible then.**

**注意**

**CAUTION 注意**

**注意**

**注意**

**注意**
4 PREPARING YOUR TRANSMITTER

Create a new helicopter model memory in your transmitter that supplies different flight modes for controlling throttle, pitch and the tail gyro gain in different flight situations.

在您的遙控器上設置並儲存一個新的直升機模式，它支援不同的飛行模式，在不同的情況下，控制油門，螺距和尾舵的靈敏度。

You must not use any mixing functions on the output channels! Especially it is not allowed to use mixing functions for the swashplate servos. Deactivate all output channels that are not used. In the basic configuration we only need pitch, aileron, elevator, rudder, throttle and one channel to adjust the tail gyro gain.

講注意！您不能在輸出通道上使用任何混控功能！特別要注意的是，在十字軸的伺服器不允許使用混控功能。請關閉任何開關的輸出通道。系統對基本通道的配置，只需要螺距、副翼、升降舵、方向舵、油門和一個通道來調整尾陀螺靈敏度。

Each control function must exactly control one output channel. The servo throws must be set to 100% and all trims and sub trims must be zero. For the basic setup do not change the pitch curves yet. The throttle curves and throttle servo settings can be adjusted as necessary for this model in case you do not intend to use the internal RPM Governor function of MICROBEAST PLUS. If you want to use the integrated RPM Governor function also do not touch the throttle settings yet.

每個輸出通道必須精確對應到一個控制功能。各路輸出必須設置為100%，所有微調和輔助微調必須為零。基本設定並不會改變螺距曲線，油門曲線和油門伺服的設定，可以根據需要來調整。如果您不打算使用內部RPM調速器的功能 MICROBEAST PLUS 內建的 RPM 調速模式，也請您不要更改油門設定。

Only the pitch channel must be controlled when moving the thrust stick. The same applies to aileron, elevator and rudder.

移動螺旋槳桿時，只需控制螺距通道。同樣應用於副翼、升降及尾舵。

With electric driven models remove the motor from the main gear when performing the basic setup for safety reason! Additionally deactivate the throttle by using the "Throttle HOLD" switch, so the motor won't start to turn when moving the thrust stick.

When flying a nitro or gasser heli remove the servo horn from the throttle servo before first power up to prevent jamming of the servo due to wrong servo setup.

基於安全理由，電動直升機在初始設定時，請移除主齒輪上的馬達驅動齒輪，以策安全！此外，請使用遙控器上的「Throttle HOLD」開關，來關閉油門，以確保在移動油門桿時馬達不會轉動。

飛行引擎直升機，在第一次點火引擎前，請先將油門伺服器臂移除，以免不小心或錯誤的設定而發動引擎，造成危險。
To enter Receiver menu MICROBEAST PLUS must be switched off completely. Push and hold the button before and while powering on. Menu LED A will start to flash instantly.

At menu point A choose which type of receiver/transmission protocol is used. The color and state of the Status LED indicates which type is currently selected. By repeatedly pressing and holding the button you can switch between the receiver types. Briefly pushing the button will skip to menu point B or to the menu end in case you selected the "Standard" type.

In the receiver selection menu, press and hold the button for 5 seconds to enter the receiver selection screen. In this screen, you can choose the type of receiver you want to use. Once you have selected the desired receiver type, press and hold the button again to confirm your selection.

**BEC/Receiver Battery (If Required)**

**Single-Line receiver (Status LED not Off)**

If the correct receiver type has been selected and transmitter and receiver are bound and switched on and if the receiver is sending a valid signal on the Single-Line output, the Status LED must light up in blue color at menu point B. Again press and hold the button here to load the default function assignment that has been preset for the selected radio system (see next page).

Alternatively you may program a different function assignment manually in case the default assignment does not work with your transmitter's function layout. How this works in detail you can read from the instruction manual which you can get from wiki.beastx.com.

**Warning! At menu point N (Throttle failsafe position) the throttle output CHS is activated!** Move the throttle to the desired failsafe position which will be set in case the Single-Line connection is interrupted or gets disconnected.

**Briefly push the button to save all the receiver settings now.** Then the end of menu is reached which is indicated by all menu LEDs flashing.
<table>
<thead>
<tr>
<th>Channel</th>
<th>Function</th>
<th>JR RJ01 Satellite</th>
<th>Spektrum Satellite</th>
<th>Futaba S-BUS</th>
<th>PPM composite signal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channel 1</td>
<td>Throttle [CH5]</td>
<td>Aileron [CH5]</td>
<td>Pitch [CH5]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Channel 2</td>
<td>Aileron</td>
<td>Elevator [CH5]</td>
<td>Elevator [CH5]</td>
<td>Aileron</td>
<td></td>
</tr>
<tr>
<td>Channel 4</td>
<td>Rudder</td>
<td>Rudder</td>
<td>Rudder</td>
<td>Rudder</td>
<td></td>
</tr>
<tr>
<td>Channel 5</td>
<td>Gyro Gain</td>
<td>Gyro Gain</td>
<td>Attitude Control</td>
<td>Gyro Gain</td>
<td></td>
</tr>
<tr>
<td>Channel 6</td>
<td>Pitch</td>
<td>Pitch</td>
<td>Pitch</td>
<td>Pitch</td>
<td></td>
</tr>
<tr>
<td>Channel 7</td>
<td>Attitude Control</td>
<td>Attitude Control</td>
<td>Attitude Control</td>
<td>Attitude Control</td>
<td></td>
</tr>
<tr>
<td>Channel 8</td>
<td>RPM Governor***</td>
<td>RPM Governor***</td>
<td>RPM Governor***</td>
<td>RPM Governor***</td>
<td></td>
</tr>
</tbody>
</table>

**SRXL**

<table>
<thead>
<tr>
<th>Channel</th>
<th>Function</th>
<th>Function</th>
<th>Function</th>
<th>Function</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channel 1</td>
<td>Aileron</td>
<td>Pitch</td>
<td>Throttle [CH5]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Channel 2</td>
<td>Elevator</td>
<td>Elevator</td>
<td>Elevator</td>
<td>Aileron</td>
<td></td>
</tr>
<tr>
<td>Channel 3</td>
<td>Throttle [CH5]</td>
<td>Rudder</td>
<td>Rudder</td>
<td>Rudder</td>
<td></td>
</tr>
<tr>
<td>Channel 4</td>
<td>Pitch</td>
<td>Gyro Gain</td>
<td>Gyro Gain</td>
<td>Gyro Gain</td>
<td></td>
</tr>
<tr>
<td>Channel 5</td>
<td>Attitude Control</td>
<td>Attitude Control</td>
<td>Attitude Control</td>
<td>Gyro Gain</td>
<td></td>
</tr>
<tr>
<td>Channel 6</td>
<td>Gyro Gain</td>
<td>Throttle [CH5]</td>
<td>Pitch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Channel 7</td>
<td>Attitude Control</td>
<td>Attitude Control</td>
<td>Gyro Gain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Channel 8</td>
<td>RPM Governor***</td>
<td>RPM Governor***</td>
<td>RPM Governor***</td>
<td>RPM Governor***</td>
<td></td>
</tr>
</tbody>
</table>

When using SRXL, the preset channel assignment is based on the receiver's protocol version. MICROBEAST PLUS will detect automatically which brand of receiver is used and will choose the appropriate channel assignment accordingly.

* Only applicable with ProEdition firmware otherwise this channel by default controls CH6 Auxiliary output instead of channel 9

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When using a receiver with "Standard" 5-wire layout the function assignment is simply determined by the order of the physical connection of the wires to the receiver outputs. Assignment by software is not provided and will not appear when choosing this type of receiver. Here the AttitudeControl function (optional) will be controlled using the tail gyro gain channel. The RPM Governor function can't be used in combination with this type of receiver. After choosing "Standard" (Status LED off) at menu point A and briefly pushing the button receiver setup is finished.

SRXL 接收器是根據接收器的通道配置版本來分配的。MICROBEAST PLUS 會自動檢測不同品牌的接收器來選擇合適的通道分配。

*SPEKTRUM 預設接頭：THR、AIL、ELE、RUD、GER、PIT、AX2、AX3、AX4

**只適用於 PRODITION 主程式，請注意微調將 [CH6] 接收器自動通道，而不是通道9 [CH9]。

***僅適用於引擎震動模式

若使用「標準接收器」，接收器的通道分配只能有 5 個功能，且只能利用接收器接頭的物理順序來決定通道功能。如果您選擇使用標準接收器，系統所提供的通道分配功能和接收機能型將不會出現在選單，當然可調整震動模式，但在系統中無此震動模式功能。請注意，RPM 定速模式不支援標準接收器。在選單第 A 點選擇"Standard"後，此時 Status LED燈將會熄滅，接著短按按鈕，接收器的設定就完成了。
6 SETUP MENU

Switch on Transmitter
開啓遙控器

Switch on Power Supply
開啓電源供電

Status LED Lights Up
Red→Blue→Purple
Status LED 燈亮紅色→藍色→紫色

Firmware version: 4.1.x
主程式 V 4.1.x

Calibration of Radio Channels
遙控器通電校正

Calibration of sensor rest positions
感應器位置校正

Operation Mode
操作模式

Do not move sticks on the radio!
請勿移動遙控器桿

Do not move the helicopter!
請勿移動直升機

Status LED Lights Up
Blue or Purple
Status LED 燈亮藍色或紫色

Entering Setup Menu
進入設定選單

Press and Hold Button
長按按鈕

Keep Button Pressed Down
持續按著按鈕

Release Button
放開按鈕

Operation Mode
((Status LED is Blue or Purple)
操作模式
(Status LED 燈亮藍色或紫色)

Menu LED A Flashes
設定選單 LED 燈亮 A 點閃爍

Menu LED A lights up solid
(= Setup menu point A)
設定選單 LED 燈亮 A 點恆亮
(= 設定選單點 A 點)
Check the selected device orientation and change it if necessary by (repeatedly) moving the rudder stick into one direction until the Status LED color corresponds to the real device orientation. Then briefly push the button to save the setting and to proceed to the next menu point.

Please check MICROBEAST’s placement orientation is correct. You can move the rudder stick repeatedly in one direction until the Status LED color matches the real device orientation. Then, briefly press the button to save the setting and proceed to the next menu point.
SETUP MENU POINTS B, C AND D
設定選單第 B、C、D 點

The currently selected swashplate servo update rate (B), rudder servo update rate (D) and rudder servo center pulse (C) are indicated by the color and state of the Status LED at each menu point. By moving the rudder stick to one or another direction you can change between the available options (if necessary). Briefly pressing the button will save the selected option and move to the next menu point.

當前十字盤伺服器的更新速率(B)，尾舵伺服速率(D)和尾舵中心頻寬(C)，會由每個選單點旁的狀態指示燈的顏色及數字來表示，您可左右移動尾舵搖桿到一個方向，接著按下按鈕選擇符合的燈號，然後短按按鈕，儲存您的選項，並移動到下一選單點。

<table>
<thead>
<tr>
<th>Status-LED</th>
<th>Off熄滅</th>
<th>Purple紫燈</th>
<th>Flashing Red紅燈閃爍</th>
<th>Red紅燈</th>
<th>Flashing Blue藍燈閃爍</th>
<th>Blue藍燈</th>
</tr>
</thead>
<tbody>
<tr>
<td>B Swashplate Servo 十字盤伺服器</td>
<td>User Defined使用者自訂</td>
<td>50 Hz*</td>
<td>65 Hz</td>
<td>120 Hz</td>
<td>120 Hz</td>
<td>260 Hz</td>
</tr>
<tr>
<td>C Rudder Servo Center Pulse 尾舵伺服器中立點頻寬</td>
<td>User Defined使用者自訂</td>
<td>960 μs</td>
<td>——</td>
<td>760 μs</td>
<td>——</td>
<td>1520 μs</td>
</tr>
<tr>
<td>D Rudder Servo Update Rate 尾舵伺服更新速率</td>
<td>User Defined使用者自訂</td>
<td>50 Hz*</td>
<td>120 Hz</td>
<td>270 Hz</td>
<td>333 Hz</td>
<td>560 Hz</td>
</tr>
</tbody>
</table>

**CAUTION 注意**

If you don't know what the maximum update rate that is tolerated by your servos never use more than 50Hz. The higher the update rate the better it is for the flight performance of MICROBEAST PLUS but you must check the servo specifications before increasing the update rate. Otherwise the servos may get damaged! See WIKI.BEASTX.COM for a list with parameter examples for most servo types commonly used in flybarless helicopters.

如果您不知道您伺服器的最大更新速率，請勿設定超過 50Hz。較高的更新速率能讓 MICROBEAST PLUS有較佳的飛行表現，但您必須先檢查所使用的伺服器的規格是否符合系統要求。否則，錯誤的選擇會導致伺服器損壞！請瀏覽WIKI.BEASTX.COM 查看更多符合無平衡翼專用機常用伺服器類型與參數表。
SETUP MENU POINT E - RUDDER SERVO LIMIT
設定選單第 E 點 - 尾舵伺服器極限

Plug the rudder servo connector into CH4 output of MICROBEAST PLUS. Put the servo arm on the servo so that it forms roughly an angle of 90 degrees with the rudder linkage rod and adjust the length of the linkage rod as described in the helicopter manual.

請將尾舵伺服器連接線插入 MICROBEAST PLUS 的 CH4 輸出通道，接著裝上伺服器臂，使其大約和尾舵連桿成90度垂直，並請依直昇機說明書來調整連桿頭的長度。

Push and hold the rudder stick into one direction to move the rudder servo and release the stick when the servo reaches the maximum or minimum allowed servo throw. Using the rudder stick you can reposition the servo at any time to adjust the exact servo limit. If you do not touch the rudder stick for several seconds the current servo position will be saved as maximum or minimum (the Status LED will flash and then light up solid in blue or red color). Then move the servo to the opposite direction and wait until also this position gets stored (Status LED becomes purple).

握住尾舵搖桿往左或右一邊方向移動，然後放開搖桿，當尾舵伺服器的行程達到最大或最小。您可以用尾舵搖桿隨時調整伺服器極限行程的極限位置。如果放開尾舵搖桿幾秒鐘，當前位置將被設定為最大或最小行程，此時，Status-LED 燈會閃爍，然後恆亮為藍色或紅色。同樣，移動搖桿向反向設定，等待燈號恆亮為紫色並儲存即可。

Menu LED E Solid
Status LED Off
設定選單 LED 燈亮 E 點恆亮
且 Status-LED 熄滅

Use rudder stick to move the servo to Release rudder stick the maximum allowed deflection 使用尾舵搖桿來移動伺服器，使其達到尾舵的最大容許偏轉率。

Release Rudder Stick 放開尾舵搖桿

Status LED Blue or Red Status-LED 燈藍色或紅色

Press Button Briefly 短按按鈕

Use rudder stick to move the servo to the minimum allowed deflection 移動尾舵搖桿來調整伺服器至最小偏轉率。

Release Rudder Stick 放開尾舵搖桿

Status LED Purple Status-LED 燈紫色

Menu LED F Solid (= Menu Point F)
設定選單 LED 燈亮 F 點恆亮
(= 設定選單第 F 點)

When moving the rudder stick check if the servo is moved into the correct direction so that the helicopter will be moved correctly in flight. If this is not the case use the servo reverse function of your transmitter and reverse the channel output that controls the rudder function.

移動尾舵搖桿來檢查尾舵伺服器移動的正確方向是否正確，這樣直昇機在飛行時移動的方向才會正確。如果方向不正確，請利用遙控器的反向功能來調整即可。
SETUP MENU POINT F - TAIL GYRO DIRECTION
設定選單第 F 點 - 尾陀螺儀方向

Lift the helicopter at the rotorhead and turn it on the vertical axis by hand. Observe in which direction the rudder servo moves the tail rotor when turning the helicopter. The tail rotor must produce thrust against the direction of movement so that the rotation will be stopped by the gyro in flight. For example, if you move the helicopter's nose to the left the gyro must steer to the right similar as you would move the rudder stick to the right manually.

用手舉起直升機垂直方向上下擺動，然後觀察主旋翼在旋轉時，尾陀螺伺服器的旋轉方向是否正確。尾旋翼轉動的方向必須產生阻力以抵銷推力。MICROBEST PLUS 會在飛行時介入尾旋翼的控制。例如，如果您將直升機的機頭向左移動，陀螺儀必須向右修正，就如同您用手打尾舵向右的情形是一樣的道理。

Note: These pictures are only exemplary. Check your helicopter's manual to find out which direction your tail rotor has to move.

If necessary reverse the tail gyro direction by briefly pushing the rudder stick into one direction at menu point F (Status LED color will change). Then briefly push the button to proceed with setting up menu point G.

請注意，這些圖片僅供參考。請參考您的直升機說明書來確定尾旋翼移動方向。

如有必要將尾陀螺儀反向，請在設定選單第 F 點將尾舵伺服器往一個方向移動，接著短按按鈕，此時 Status-LED 燈號會改變，然後再一次短按按鈕，進入設定選單第 G 點來反向尾陀螺儀。

SETUP MENU POINT G - SWASHPLATE SERVO TRIM
設定選單第 G 點 - 十字盤伺服器微調

Plug all three swashplate servos to the outputs marked with CH1 to CH3 in the order as shown below. Then put the servo arms on the servos so that they form roughly an angle of 90 degrees with the linkage rods.

如下圖所示，請將三個十字盤伺服器依照 [CH1] 到 [CH3] 的輸出位置裝上連桿頭。然後再將伺服臂連接至伺服器，使它們大約和伺服連桿成 90 度垂直。
By moving the rudder stick into one direction repeatedly select one servo after another and adjust each servo’s center position by moving the elevator stick forwards or backwards so that the servo arm is positioned exactly 90 degrees to the linkage rod. The servo number that is currently selected and that can be trimmed at the moment is indicated by the Status LED color.

您可以將尾舵搖桿往一個方向反覆移動，來調整每個伺服的中心點。將升降搖桿向後或向前反覆移動，使伺服臂和伺服器連桿精確地定位於90度的位置。目前所顯示的伺服器編號是可以調整的，請依照Status-LED 燈的顏色來調整編號。

**CAUTION 注意**

Check all servo positions by selecting each servo once even when the servo arms are perfectly positioned when Status LED is off.

即使是伺服臂和伺服器連桿已經完全定位好，Status-LED 燈熄滅的情況下，也請您再一次檢查所有伺服器的位置是否正確。

When the servos are adjusted perfectly let one servo selected (only the electrical trim positions are important and are used in the further steps) and adjust the linkage rods going from servos to the swashplate and from the swashplate to the blade grips. The swashplate must be leveled and centered on the main shaft and the blade grips should be set to 0° pitch. Then briefly press the button to get to menu point H.

當伺服器調整完成時，請透過程控器選擇其中一個伺服器來檢查它的連桿在十字盤和主旋翼夾座的移動是否順暢，請逐步仔細檢查，從伺服器到十字盤，再從十字盤到主旋翼夾座（電動機調伺服器的位置是很重要的，接下來會有很多地方用到此步驟）。請注意，十字盤的位置必須置中垂直於主軸。主旋翼夾座的螺距必須為0°。接著，短按按鈕進入設定選單第H點。

If necessary adjust the swashplate anti-rotation guide so that there is no swashplate phasing (only applies to 2-blade rotorheads).

必要時可調整十字盤的FL金屬控制臂，使其無十字盤定相(swashplate phasing)（僅適用於雙螺旋槳旋翼頭直昇機）。

Linkage balls of swashplate outer ring and blade grips must be on one line.

十字盤頭外環與主旋翼連桿軸必須在同一線上。
SETUP MENU POINT H - SWASHPLATE MIXING TYPE

設定選單第 H 點 - 十字盤混控類型

Status LED changes color/state
(= changing mixing type)
Status-LED 燈改變顏色/狀態
(=改變混控類型)

Press Button Briefly
按短按鈕

Status LED shows currently selected mixing type
Status-LED 燈顯示目前選擇的混控類型

Move Rudder Stick Left or Right
向左或右移動尾舵搖桿

Status LED shows currently selected mixing type
Status-LED 燈顯示目前選擇的混控類型

---

Status-LED 燈

<table>
<thead>
<tr>
<th>Off</th>
<th>Purple</th>
<th>Flashing Red</th>
<th>Red</th>
<th>Flashing Blue</th>
<th>Blue</th>
</tr>
</thead>
<tbody>
<tr>
<td>H Swashplate Mixing Type</td>
<td>User Defined</td>
<td>Mechanical</td>
<td>90°</td>
<td>120°</td>
<td>140°</td>
</tr>
</tbody>
</table>

---

SETUP MENU POINT I - SWASHPLATE SERVO DIRECTIONS

設定選單第 I 點 - 十字盤伺服器方向

Only move the thrust stick and check if all servos push the swashplate up and down simultaneously. If this is not the case move the rudder stick into one direction once to switch to the next servo configuration and try again. Repeat this until the servos move the swashplate correctly. There are four possible configurations and only one will be correct.

移动油門搖桿來檢查伺服器行程是否正確，請將十字盤向上或向下推動。如果動作不正確，請將尾舵搖桿往一個方向推動一次，接著切換到下一個伺服器組合，再試一次。重複這個步驟，直到伺服器能正確移動十字盤，有四種可能的伺服器組合，但只有一個是正確的。

Status LED changes color/state
(= changing servo combination)
Status-LED 燈改變顏色/狀態
(=改變伺服器組合)

Move Rudder Stick Left or Right
向左或右移動尾舵搖桿

Move thrust Stick Up and Down
上下移動油門搖桿

Status LED shows currently selected servo configuration
Status-LED 燈顯示目前伺服器設定

Now also check if the sticks are moving the swashplate in the correct directions. If one or more directions are wrong use the servo reverse function of your transmitter to reverse the channel output for the channel which controls the specific function. Do not use the servo reverse function of MICROBEAST PLUS to change stick directions!

當油門搖桿在正確的控制十字盤後，按一下按鈕跳到選單第 J 點。
SETUP MENU POINT J - SWASHPLATE SERVO THROW
設定選單第 J 點 -十字盤伺服器行程量

Align rotorhead and rotor blades in parallel to the helicopter's longitudinal axis. Attach a pitch gauge/level meter to one of the rotor blades or to a blade grip in order to measure aileron pitch. Use your smartphone to scan QR Code or link to Align website for more complete instruction:

Align 直昇機的頭級和旋翼頭的設計是平行於直昇機的 X 軸，並且提供螺旋槳和十字盤校正器(另購品)，可以用來校正螺旋，非常方便好用。請參考相關網頁。手機掃描 QR Code 將會有更完整的亞拓產品介紹。若手機無法

Press Button Briefly 短按按鈕

Menu LED J Solid Status Led Off
Menu-LED 機身 J 點關機，Status-LED 熄熄滅

Push and hold aileron stick into one direction of your choice just until exact +6 oder -8 degrees of pitch are reached
將副翼搖桿插入一個方向，直到角度達到
+6 與 -8 度。

Status LED Should Be Solid Blue
(See instruction manual for further details on the LED colors)
Status-LED 燈為亮藍色
(參考說明書的 LED 燈號介紹)

Menu LED K Solid (= Menu Point K)
設定選單第 K 點關機
(設定選單第 K 點)

SETUP MENU POINT K - COLLECTIVE PITCH
設定選單第 K 點 -集體螺距

Move thrust stick to maximum positive pitch and let it stay there
移動油門搖桿到最大正螺距並停留。

Move aileron stick to adjust maximum positive collective pitch (i.e. +12°)
移動副翼搖桿調整最大正集體螺距(例如 +12°)

Status LED must be blue when collective pitch is positive!
當集體螺距為正時，Status LED 燈必須亮藍色

Move thrust stick to full negative pitch and let it stay there
移動油門搖桿到最大負螺距並停留

Move aileron stick to adjust maximum negative collective pitch (i.e. -12°)
移動副翼搖桿調整最大負集體螺距
(例如 -12°)

Status LED red when collective pitch is negative!
當集體螺距為負時，Status LED 燈亮紅色

Press Button Briefly 短按按鈕
SETUP MENU POINT L - SWASHPLATE SERVO LIMIT
設定選單第 L 點-十字盤伺服器極限

You can remove the pitch gauge now! Simultaneously move the sticks for thrust, aileron and elevator to the maximum deflection and check if the servos, swashplate or linkages get jammed in a certain position. By pushing and holding the rudder stick left or right you can increase or decrease the limit for the servos! Adjust the limit so that the servos just don’t get jammed in any possible stick position but don’t limit the servos more than necessary.

現在，您可以移除螺旋槳尾。同時，請移動油門桿，副翼和升降舵到最大偏轉的位置，接著檢查螺旋槳，十字盤或連桿是否會在某個位置卡住的。利用向左或向右移動尾舵桿，您可以增加或減少伺服器行程！此調整是為了避免在控制伺服器時的順暢度，但也必須要避免過限。

Press Button Briefly
按住按鈕

Menu LED L solid Status LED shows the amount of limiting
Menu LED 模第 L 點顯示及 Status LED 是顯示極限數
Move thrust, aileron and elevator sticks carefully to maximum deflection!
小心地移動油門桿，副翼和升降舵桿到最大偏轉！
Move rudder stick to adjust the servo limit
移動尾舵桿調整伺服器極限
Status LED should be solid blue
(See instruction manual for further details on the LED colors)
Status LED 燈光顯示藍色
(參考說明書的LED燈號介紹)

SETUP MENU POINT M - COLLECTIVE PITCH
設定選單第 M 點-集體螺距

Lift the helicopter at the rotor head and tilt it by hand forwards and sideways. Watch how the gyro is correcting the swashplate. The system has to steer against the movement of the helicopter keeping the swashplate level. If the swashplate tilts into the direction of movement you have to reverse the compensation direction for this axis.

舉起直升機的旋翼頭，用手使其向前和向側邊傾斜。觀察陀螺儀修正十字盤是否正確。系統必須做出修正補償，讓直升機的十字盤保持水平。如果十字盤往一邊傾斜，必須做出反向修正。

Press Button Briefly
按住按鈕

Status LED shows current swashplate gyro directions
Status LED 是顯示目前十字盤陀螺方向
Move Rudder Stick Left or Right
向左或向右移動尾舵桿
Status LED shows current swashplate gyro directions
Status LED 是顯示目前十字盤陀螺方向

Status LED changes color
(= changing gyro direction)
Status LED 改變顏色
(=改變陀螺方向)
SETUP MENU POINT N - INTERNAL RPM GOVERNOR
設定選單第 N 點 - 内建 RPM 定速模式

This menu point is only accessible if you're not using a Standard type receiver! Otherwise pressing the button at menu point M will exit the menu and lead back to operation mode.

Enable the internal RPM Governor function by choosing the type of drive system of your helicopter. If you’re using the governor function of the ESC or an external governor or if you want to fly without headspeed governing at all, select "Governor off".

如果您不是使用傳統接收器，可略過此選單點 M 在選單第 N 點按下按鈕，退出選單回到操作模式。

選擇您直昇機的傳動方式，來開啓系統內建的 RPM 定速模式。如果您使用的是 ESC 變速器，或外接一個定速器，或不使用調速器等等，都請選擇「定速模式關閉」。

<table>
<thead>
<tr>
<th>Status-LED</th>
<th>Off</th>
<th>Red</th>
<th>Bul</th>
</tr>
</thead>
<tbody>
<tr>
<td>N Internal RPM Governor</td>
<td>熄滅</td>
<td>紅燈</td>
<td>藍燈</td>
</tr>
<tr>
<td>N 内建 RPM 定速模式</td>
<td>定速模式關閉*</td>
<td>Electric Helicopter</td>
<td>Nitro/Gas Helicopter</td>
</tr>
</tbody>
</table>

When you’re using the RPM Governor of MICROBEAST PLUS now connect the RPM sensor (i.e. magnetical, optical or brushless phase sensor) or the wire for RPM signal of your ESC to the white sensorport on the long side. For this you may need the optional available BXA76401 adapter.

如果您要使用 MICROBEAST PLUS 的 RPM 定速模式，請連接一個轉速感應器(磁、光或無刷三相感應器)來發送 ESC 的轉速訊號給系統，連接端口在 MICROBEAST PLUS 側邊的白色插槽(如圖示)。您需要另購 BXA76401 連接線。
If the RPM Governor was activated at Setup menu point N (setting "electric" or "nitro/gas" heli) you can access the Governor menu immediately afterwards. At menu point A we check if the rpm sensor is functioning properly and if the rpm sensor wire is connected correctly.

Electric Heli With Brushless Phase Sensor
電動直昇機含無刷相位感應器

Menu LED A flashes
Status LED off
Menu-LED 燈第 A 點閃爍 Status-LED: 燈熄滅

Carefully add throttle until motor starts to turn Status LED is solid red as long as motor turns
輕輕增加油門直到馬達轉動 Status-LED 燈亮紅色

Motor Off Position
馬達關閉位置

Menu LED A flashes
Status LED off
Menu-LED 燈第 A 點閃爍 Status-LED: 燈熄滅

Press Button Briefly
短按按鈕

Nitro/Gas heli
引擎直昇機

Menu LED A flashes
Status LED off
Menu-LED 燈第 A 點閃爍 Status-LED: 燈熄滅

Turn clutch bell by hand
用手轉動離合器

Status LED solid blue
when magnet triggers sensor
當鐵磁號信號感應器
Status-LED: 燈亮藍色

Status LED off when no magnet under sensor or when second magnet is passed (this may vary)
當感應器沒有接收磁性物質或第二個磁性物質經過時 (會變數) Status-LED: 燈熄滅

Press Button Briefly
短按按鈕

Additionaly when using a helicopter with combustion engine you may adjust the throttle servo positions in the transmitter (servo throw and servo center) and setup the throttle on the heli (throttle linkage rod length and servo arm position) if necessary. Attach the servo horn at thrust mid stick position. The throttle linkage must form a right angle with the servo horn.

Adjust the length of the linkage according to the instructions of the helicopter so that it also is positioned perpendicular to the linkage lever at the carburetor. The carburetor must be opened halfways (note the markings on the carburetor). Then adjust the servo throw so the carburetor can be fully opened and fully closed without jamming the throttle servo.

Thrust In Mid Stick Position
推桿在中立位置

Servo arm and throttle lever
In parallel and perpendicular to linkage rod
伺服器臂和油門控制器的軸線

Servo互補並行及垂直

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GOVERNOR MENU POINT B - MOTOR OFF/IDLE POSITION

Using an electric heli move the throttle to the position at which the motor is just before to start running, i.e. by adding throttle until the motor starts to turn and then reducing the throttle a little. With a nitro/gas heli move the throttle to a stable idle position.

Press Button Briefly
短按按鈕

Menu LED B flashes
Status LED off
Menu LED 燈號 B 聲脈滅
Status-LED 燈熄滅

Move throttle to position at which the motor is just before to start running (electric heli) or idle position (nitro/gas heli)
移動油門到馬達開啓前的位置(電動直昇機)或油門怠速位置(引擎直昇機)

Status LED blue when throttle position registered
開啓油門位置時，Status-LED 燈亮藍色

GOVERNOR MENU POINT C - FULL THROTTLE POSITION

Move throttle to maximum position. Note: In electric governor mode the throttle input will not be passed to CH5 output to prevent from motor damage by running the motor without load! Thus, you have to check before that the full throttle position runs the motor at maximum speed in reality, i.e. by correctly programming your throttle end points in the transmitter or ESC.

MAX RPM
最大轉速

Press Button Briefly
短按按鈕

Menu LED C flashes
Status LED off
Menu-LED 燈號 C 聲脈滅
Status-LED 燈熄滅

Move throttle to maximum position
移動油門到最大行程量

Status LED blue when throttle position registered
開啓油門位置時，Status-LED 燈亮藍色

GOVERNOR MENU POINT D - TRANSMITTER SETUP

Here we can set the desired rotor headspeed and throttle curves. The Status LED can be used to verify the transmitter setup. When using an electric heli the throttle is completely independent from the thrust stick. The throttle curves are set to horizontal lines which stand for a certain headspeed and governor operation mode. Using the flight mode switch you can switch between the different curves in the transmitter.

在這裡我們可以設置想要的旋翼頭轉速和油門曲線。Status-LED 燈，可以驗證遙控器的設定是否正確。使用電動直昇機時，油門是完全獨立於推力桿。油門曲線是根據旋翼頭轉速和定速模式來決定水平位置，使用飛行模式開關，以便您在遙控器上切換不同曲線。
The RPM Governor for nitro/gas models can be operated in two different ways. One possibility is to operate the governor using the throttle channel just like in electric mode. Only difference is that the the range below 50% throttle can be used to manually control the throttle servo, i.e. for starting the motor. When the motor is running you can switch in the area above 50% which is used to enable the governor and preset a specific rotor headspeed.

The second option to control the RPM Governor for nitro/gas helicopters is to use a separate switch channel. Here you can use the throttle curves to manually control the throttle servo completely. The RPM Governor is activated and the headspeed is preset by using the additional channel. When the throttle channel is above 25% and a headspeed is preset, the RPM Governor will control this headspeed. Moving the throttle below 25% will set Autorotation mode while the RPM Governor is still activated in the background.
GOVERNOR MENU POINT E - SIGNAL DIVIDER
定速模式選單第 E 點-轉速訊號分配表

Electric helicopter with brushless phase sensor or phase signal from ESC: signal divider = motor pole count : 2

Nitro/Gas helicopter with magnetical or optical sensor: signal divider = number of triggers (i.e. magnets or optical markers)

電動直昇機搭配無刷相位感應器或 ESC 相位訊號：轉速訊號分配表 = 馬達極數：2

引擎直昇機磁或光感應器：訊號分配表 = 觸發 (如磁鐵或光學標記)的數量

<table>
<thead>
<tr>
<th>Status-LED</th>
<th>Off</th>
<th>Flashing Purple</th>
<th>Purple</th>
<th>Flashing Red</th>
<th>Red</th>
<th>Flashing Blue</th>
<th>Blue</th>
</tr>
</thead>
<tbody>
<tr>
<td>E Signal Divider</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4*</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

GOVERNOR MENU POINTS F G H - MAIN GEAR RATIO
定速模式選單第 F / G / H 點之主齒輪比

When the helicopter has a single stage main gear: Main gear ratio = Main gear tooth count : Motor pinion tooth count

Set the Status LED color/state at each of the menu points F, G and H so that the main gear ratio can be calculated as sum of the three menu points, i.e. 8.55:1 = F flashing purple + G purple + H flashing red

若使用單主齒輪的直昇機時，主齒輪比 = 主齒輪齒數：馬達齒輪齒數

在設定選單中第 F/G/H 點的狀態指示燈來代表齒輪比，例如 8.55：1 = 選單第 F 點閃爍紫色 + 選單第 G 點紫色 + 選單第 H 點為紅色閃爍

<table>
<thead>
<tr>
<th>Status-LED</th>
<th>Off</th>
<th>Flashing Purple</th>
<th>Purple</th>
<th>Flashing Red</th>
<th>Red</th>
<th>Flashing Blue</th>
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<th>Red/Blue</th>
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</thead>
<tbody>
<tr>
<td>F</td>
<td>User Defined</td>
<td>8.00</td>
<td>9.00*</td>
<td>10.00</td>
<td>11.00</td>
<td>12.00</td>
<td>13.00</td>
<td>14.00</td>
</tr>
<tr>
<td>G</td>
<td>+0.00</td>
<td>+0.20</td>
<td>+0.40*</td>
<td>+0.60</td>
<td>+0.80</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>+0.00</td>
<td>+0.05</td>
<td>+0.10*</td>
<td>+0.15</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The tail gyro gain is adjusted by one of the transmitter's auxiliary channels. The more servo throw this channel produces, the higher the tail gyro gain will be. Additionally, the direction of servo throw determines whether the gyro works in Normal-Rate mode or in Heading Lock mode. The color of the Status-LED indicates the selected mode when MICROBEAST PLUS is ready for operation. Purple indicates Normal-Rate mode and blue indicates Heading Lock mode. While adjusting the gain and shortly after the first power up, the current amount of gain is displayed by one of the menu LEDs for 8 seconds.

For the first flight we suggest to start with medium gain (not higher than LED G) and using Heading Lock mode (Status LED blue). In case the tail of the helicopter starts to oscillate in flight, immediately reduce the gain! If the tail rotor control feels weak and imprecise and the tail does overshoot when stopping and doesn't hold position increase the gain. Most radio controls provide an automatic switching for the tail gyro gain depending on flight modes. In the flight mode with the lowest rotor headspeed you can use the most tail gain. Reduce the gain the higher the headspeed is. Before the first flight make sure the tail gain is set correctly and is also set when switching flight modes.

Adjusting the three dials on top of MICROBEAST PLUS you can optimize the control loop and customize it to your helicopter. For the first flight all three dials should be centered. If necessary only adjust one dial at a time and only in little steps. Turning a dial clockwise will increase the effect, turning it counter-clockwise will decrease the effect of the parameter.
1- Cyclic Gain
In general the higher the gain the harder the helicopter will stop after cyclic moves and the more stable and precise the helicopter will fly. If the gain is too high the helicopter will tend to oscillate at high frequency especially on the elevator axis. Due to their low mass this behavior will occur sooner on small helicopters, so typically these do not need as much gain as large helicopters. With low gain the helicopter does not stop precisely and overshoots after a cyclic movement. Additionally it is unstable and control feels sluggish in fast forward flight and when hovering.

1-循環螺距感度
一般來說，感度越高，在循環螺距變化後，直昇機的剎車就會比較緊，這樣會使得停懸較穩定。但是，如果感度太高，直昇機在上下飛行時會有回彈及尾的現象產生，並容易抖動。由於這些現象大多發生在較小型的直昇機上（450公克以下），所以，小型直昇機的主尾翼感度一般來說要比大型直昇機來得低。但如果感度太低，直昇機的煞車動作將不準確，執行循環動作時（滾轉及俯仰）後會失準，此外，直線快速飛行和停懸時也會感覺遲鈍且不穩定。

2- Cyclic feed forward
If the cyclic feed forward is too high the stick input will over control the cyclic input. The heli will bounce back stopping from a cyclic movement. Also the helicopter will react over sensitive and it will pitch up easily a stick input is applied in fast forward flight. If the cyclic feed forward is too low on the other hand the control appears delayed and feels very robotic and unnatural.

2-十字盤直接輸出量
如果十字盤直接輸出量過高，當在打舵時，過大的十字盤反應，會使得直昇機有停頓回彈的現象產生，甚至會變得直昇機的反應過度敏感。同時，當增加感度時，直昇機會快速向前飛。反之，如果十字盤直接輸出量過低，會出現延遲現象和感覺非常機械化和不自然。

3- Tail gyro response
Increasing the tail gyro response will lead to harder stopping and more aggressive response to rudder stick inputs. If the response is too high the tail will bounce back shortly after a hard stop and feels spongy when making fast direction changes. If the dynamic is set too low the rudder control feels dull and stopping might be too soft. Ideally the tail should stop perfectly to the point without making any flapping noises.

3-尾舵動態反應
增加「尾舵動態反應」的感度，會影響到直昇機在自動剎車時的動作及敏感度。如果感度設定太高，會導致直昇機有過大敏感的反應及延遲現象，電動調整時又會感覺較軟無力。如果感度設定太低，會在打舵時，會感到遲鈍及軟弱。理想情況是直昇機在自動剎車時，尾部要完美停止，沒有任何拖延帶來的干擾。

Before the first take off, make a stick direction check and again make sure that the sensors are correcting to the right direction when you tilt, roll or yaw the helicopter by hand. Just before lift-off make sure that the swashplate is horizontal and that the tail pitch slider is near center. You can shortly switch the tail gyro to Normal-Rate mode, in this mode the rudder servo will center itself if the rudder stick is released. Avoid excessive steering during lift-off, otherwise the helicopter may tip over as it can’t move as long as it’s still standing on the ground. The best way is to give a fair and direct collective pitch input to lift the helicopter quickly up into the air.

在首次飛行前，最好先做一此檢查，例如用手擺動搖桿，看十字盤運動方向是否正確。左右或前後傾斜直昇機，看伺服器是否會做出正確的補償。請記住，在升空前十字盤是呈水平的位置。尾舵感度接近中立點。您可以簡單的將尾舵來桿放在非飛行位置，在此模式下，放開尾舵桿。尾舵伺服器會自動回中。請注意，起飛前請不要過度傾斜。否則，只要直昇機無法起飛，就有可能會傾倒，最好的方式是先打一個少量的循環螺距，讓直昇機可以快速的升空。
### 9. PARAMETER MENU

The Parameter menu allows you to further customize the flight characteristics of the helicopter and the reaction of the system to control inputs. You can find a detailed description for each parameter in the MICROBEAST PLUS instruction manual.

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<table>
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<th>Press and Hold Button</th>
<th>Release Button</th>
</tr>
</thead>
<tbody>
<tr>
<td>進入參數選單</td>
<td>長按按鈕</td>
<td>放開按鈕</td>
</tr>
<tr>
<td>Operation Mode</td>
<td>(Status LED is Blue or Purple)</td>
<td>Menu LED A Flashing Menu LED A 點閃爍 (=參數第 A 點)</td>
</tr>
<tr>
<td>操作模式(Status LED燈藍色或紫色)</td>
<td>Menu LED燈第 A 點閃爍</td>
<td>Menu LED A Flashing (= Paramter menu point A)</td>
</tr>
</tbody>
</table>

### MENU POINT A - SWASHPLATE QUICK TRIM (MENU LED A FLASHING) MENU LED燈第 A 點 - 十字盤快速微調 (=選單第 A 點閃爍)

Move the stick(s) for aileron and elevator to trim the swashplate into the desired direction. When using the tail gyro in Normal-Rate mode you can store the last servos position by pressing and holding the button for 2 seconds. To delete all trimmings that have recently been made briefly push the rudder stick.

移動副翼和升降板桿來微調十字盤到所需的方向。在非鎖定模式下使用尾陀螺機，只要按住按鈕 2 秒鐘即可存儲最後伺服器的位置。短按兩次相機桿即可將先前的微調消除。

### MENU POINTS B TO K

選單第 B-K 點

Color and state of the Status LED indicate which option is currently selected at each menu point. By pushing the rudder stick repeatedly you can cycle through the available options at each menu point and change the setting if necessary. Briefly pushing the button will skip to the next menu point. After the last menu point the system will exit Parameter menu and change back to operation mode.

Status-LED 煙的顏色顯示您在每個選單中的當前選項。利用反覆兩次向右推動尾舵桿，直到 Status-LED 燈出現需要的顏色為止。短按按鈕就會跳到下一個選單點。到達最後一個選單點後，系統將退出參數選單，回到操作模式。

<table>
<thead>
<tr>
<th>Status-LED</th>
<th>Off</th>
<th>Purple</th>
<th>Flashing Red</th>
<th>Red</th>
<th>Flashing Blue</th>
<th>Blue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status-LED</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B Control Style</td>
<td>User Defined</td>
<td>Normal</td>
<td>Sport*</td>
<td>Pro</td>
<td>Extreme</td>
<td>Tx Mode</td>
</tr>
<tr>
<td>C Speed Flight Stability</td>
<td>User Defined</td>
<td>very low</td>
<td>Low</td>
<td>Medium*</td>
<td>High</td>
<td>Very High</td>
</tr>
<tr>
<td>D Rudder Rate Consistency</td>
<td>User Defined</td>
<td>very low</td>
<td>Low</td>
<td>Medium*</td>
<td>High</td>
<td>Very High</td>
</tr>
<tr>
<td>E Stick Deadzone</td>
<td>User Defined</td>
<td>very small</td>
<td>Small*</td>
<td>Medium</td>
<td>Large</td>
<td>very large</td>
</tr>
<tr>
<td>F Torque Precompensation</td>
<td>User Defined</td>
<td>Off</td>
<td>low - nor.</td>
<td>High - Nor.</td>
<td>Low - Inv.</td>
<td>High - Inv.</td>
</tr>
<tr>
<td>G Cyclic Response</td>
<td>User Defined</td>
<td>Normal*</td>
<td>Slightly Increased</td>
<td>Increased</td>
<td>Aggressive</td>
<td>Very Aggressive</td>
</tr>
<tr>
<td>H Pitch Boost</td>
<td>User Defined</td>
<td>Off*</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>Very High</td>
</tr>
<tr>
<td>I Throttle Response</td>
<td>User Defined</td>
<td>Soft</td>
<td>Normal*</td>
<td>Slightly Increased</td>
<td>Increased</td>
<td>Aggressive</td>
</tr>
<tr>
<td>J Slow Ramp Up Speed</td>
<td>User Defined</td>
<td>50 rps</td>
<td>100 rps</td>
<td>200 rps</td>
<td>300 rps</td>
<td>300 rps</td>
</tr>
<tr>
<td>K Fast Ramp Up Speed</td>
<td>User Defined</td>
<td>Using Slow Ramps Up Speed</td>
<td>300 rps</td>
<td>500 rps</td>
<td>700 rps</td>
<td>700 rps</td>
</tr>
</tbody>
</table>
**ATTITUDECONTROL (OPTIONAL)**

The Parameter menu allows you to further customize the flight characteristics of the helicopter and the reaction of the system to control inputs. You can find a detailed description for each parameter in the MICROBEAST PLUS instruction manual.

At parameter menu point L, you can choose between different operation modes and applications that determine how the helicopter will be stabilized exactly when activating AttitudeControl in flight. Please see the instruction manual for further reference. For the beginning we recommend using the "Rescue mode with pitch control".

<table>
<thead>
<tr>
<th>Status-Led</th>
<th>Off</th>
<th>Flashing Purple</th>
<th>Purple</th>
<th>Flashing Red</th>
<th>Red</th>
<th>Blue</th>
</tr>
</thead>
<tbody>
<tr>
<td>L AttitudeControl Operation Model</td>
<td>L 姿態模式</td>
<td>Attitude Control Disabled</td>
<td>Bail Out Rescue</td>
<td>Bail Out Rescue W. Pitch Control</td>
<td>3D Mode</td>
<td>3D Mode w. pitch control</td>
</tr>
<tr>
<td>L 姿態模式</td>
<td>姿態模式</td>
<td>失控保護</td>
<td>失控保護</td>
<td>3D模式</td>
<td>3D模式及鎮定控制</td>
<td>飛行訓練</td>
</tr>
</tbody>
</table>

**PARAMETER MENU POINT M - ATTITUDECONTROL PITCH**

When you choose an AttitudeControl mode "with pitch control" at menu point L additionally menu point M will appear after pressing the button at L. Here you can adjust the collective pitch that will be used when AttitudeControl is activated and the heli is hovering stable. Use the stick for aileron to adjust the pitch if necessary.

在選單第 M 點時，按下按鈕後會出現 "with pitch control"。如果這時姿態模式已開啓，您就可在這裡調整螺距讓直昇機在懸停時更穩定。如有需要，也可利用副翼搖桿來調整螺距。

**TRANSMITTER PROGRAMMING**

In case AttitudeControl has been enabled at Parameter menu point L you can activate it in flight by moving the channel for AttitudeControl into one direction. There are 2 options for the control channel: Either you use a separate switch channel that can be assigned in Receiver setup menu (or which is set by default) or you use the tail gyro channel also for adjusting AttitudeControl. While in operation mode you can check if activating AttitudeControl is working properly. Whenever the AttitudeControl status changes the Status LED will light solid red and the Menu LEDs indicate whether AttitudeControl is on or off and how strongly it will react. After 8 seconds the display changes back to showing the tail gyro operation mode.

在參數選單第 L 點啓用姿態模式時，您可以在飛行時將姿態模式的通道往一個方向移動來啓動它。系統提供兩種方法來設定姿態模式的控制通道：(一) 使用接收器設定選單，指定一個獨立的通道(或預設通道)；(二) 使用尾部陀螺儀通道。而在操作模式中，您可以檢查姿態模式是否已經啓動，以及運作是否正常。當姿態模式的狀態更新時，Status-Led 燈會恆亮紅色，Menu LED 燈(燈號)表示姿態模式的狀態是在「開啓」或「關閉」，以及反應的強度。8秒之後，系統會返回尾部陀螺儀操作模式。
For the first flight it is recommended to adjust the throw of the AttitudeControl channel just until Menu LED G lights up when AttitudeControl is activated with the switch on the transmitter. Later onwards you may increase or decrease the throw which determines how fast and violent the helicopter will be rotated back to and held in horizontal position. If the switch channel is in "AttitudeControl off" position the amount of throw is not of importance for AttitudeControl.

首次飛行，建議您打開遙控器姿態模式通道的開關，調整姿態模式的通道輸出量，直到選單第 G 點 LED 燈亮起。之後，您可以增加或減少輸出量，來決定機體的飛行速度、暴力程度，以及回到初始的水平位置。此時開關處於 "姿態模式閉閉" 位置，通道輸出對姿態模式就不那麼重要了。

If switching AttitudeControl works the other way round (one of the Menu LEDs B - N lights up when the AttitudeControl switch is in "off"-Position and you can't increase further than Menu LED A when the switch is in "on"-Position) then reverse the channel for AttitudeControl by using the servo reverse function of your transmitter.

如果開啓姿態模式後，雖然可以動作但是方向相反(選單 LED 燈 B - N 其中一個亮起，但是，姿態模式的開關是處於 "關閉" 位置，且移動開關到 "開啓" 位置時，您所增加的伺服輸出量無論如何都無法超越選單 LED 燈 A)，此時，請使用您遙控器的伺服反向功能來反向通道即可。

If using the tail gyro control channel also for AttitudeControl the amount of throw determines as usual the height of gyro gain when switched into direction "AttitudeControl off". Moving the channel by using a switch into the other direction the amount of tail gyro gain will be stored temporarily and AttitudeControl is activated. The amount of throw into this direction determines the height of AttitudeControl gain.

如果利用尾舵螺儀控制通道來控制姿態模式，其控制方式和控制尾舵螺儀是一樣的，伺服輸出量決定了陀螺儀以及姿態模式的高度。將陀螺儀調整在一個方向移動，系統會記憶這個方向的伺服輸出量，姿態模式會被開啓，這個方向的伺服輸出量決定了姿態模式的高度。
**Functional Test of AttitudeControl**

When activating AttitudeControl you should be able to see an immediate impact on the swashplate control: If the heli is tilted to one side, MICROBEAST PLUS permanently steers the swashplate opposed to the inclination. In the region around horizontal position the swashplate will always stay nearly horizontal to the ground. The system constantly tries to bring the helicopter back to the horizontal position as long as the helicopter is oblique.  

*Tilt the helicopter forwards, backwards or to the side*

直昇機向前、向後或向側邊傾斜

The system will try to level the helicopter by keeping the swashplate horizontal or moving it against rotation as long as the helicopter is tilted.

系統將不斷補償，修正直昇機傾斜來維持十字盤水平位置。

If on the other hand AttitudeControl is deactivated the system will only counteract sudden movements but will not control the swashplate as long the heli is not moved even in tilted position.  

另一方面，若「關閉」姿態模式，系統只會抵銷突然的動作，但不會控制十字盤，雖然直昇機仍然處於傾斜狀態。
### Setup Menu (Menu LED Solid)

<table>
<thead>
<tr>
<th>項目</th>
<th>Off</th>
<th>Flashing Purple</th>
<th>Purple</th>
<th>Flashing Red</th>
<th>Red</th>
<th>Flashing Blue</th>
<th>Blue</th>
<th>Red / Blue</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Device Orientation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B Swashplate Servo Update Rate</td>
<td>User Defined</td>
<td>50 Hz*</td>
<td>65 Hz</td>
<td>120 Hz</td>
<td>165 Hz</td>
<td>200 Hz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C Rudder Servo Center Pulse</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D Rudder Servo Update Rate</td>
<td>User Defined</td>
<td>50 Hz*</td>
<td>165 Hz</td>
<td>270 Hz</td>
<td>333 Hz</td>
<td>560 Hz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E Rudder Servo Limit</td>
<td>Use Rudder Stick To Move Servo To Right Endpoint And Wait, Then Left Endpoint And Wait (Or Vice Versa)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F Tai Gyro Direction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G Swashplate Servo Trim</td>
<td>Reference Position</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H Swashplate Mixing Type</td>
<td>User Defined</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I Swashplate Servo Directions</td>
<td>Nor</td>
<td>Inv</td>
<td>Inv</td>
<td>Inv</td>
<td>Inv</td>
<td>Inv</td>
<td>Inv</td>
<td></td>
</tr>
<tr>
<td>J Swashplate Servo Throw</td>
<td>Use aileron stick to adjust cyclic pitch on the roll axis to one direction (trimmable with fuselage)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K Collective Pitch</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L Swashplate Servo Limit</td>
<td>Move aileron, elevator and thrust stick-adjust maximum limit with rudder stick</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M Swashplate Gyro Directions</td>
<td>inv</td>
<td>inv</td>
<td>inv</td>
<td>inv</td>
<td>inv</td>
<td>inv</td>
<td>inv</td>
<td></td>
</tr>
<tr>
<td>N Internal Rpm Governor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Governor Setup Menu (Menu LED Flashing Slowly)

<table>
<thead>
<tr>
<th>項目</th>
<th>Off</th>
<th>Flashing Purple</th>
<th>Purple</th>
<th>Flashing Red</th>
<th>Red</th>
<th>Flashing Blue</th>
<th>Blue</th>
<th>Red / Blue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Mode</td>
<td>&quot;Nitro/gas Helo&quot;: Status-led Blue When Magnet Passes Sensor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motor Off/Idle Position</td>
<td>&quot;Nitro/gas Helo&quot;: Throttle Servo To (increased) Idle Position</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full Throttle Position</td>
<td>Set throttle channel/throttle servo to full throttle position, throttle control in idle position</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transmitter Setup</td>
<td>RPM Governor of = RPM Governor on</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Signal Diviner</td>
<td>User Defined (sum Out F + G + H If Not &quot;user Defined&quot; At Menu Point F)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main Gear Ratio</td>
<td>user defined (F + G + H)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Factory Setting*
### Parameter Menu (Menu-LED is Flashing Quickly)

<table>
<thead>
<tr>
<th>A</th>
<th>Swashplate Quick Trim / Attitude Control Trim</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Defined</td>
<td></td>
</tr>
</tbody>
</table>

Use aileron and elevator stick to trim, hold button 2s to trim rudder. Reset all by rudder stick input. Switch trim mode by activating AttitudeControl using the AttitudeControl switch channel.

### Receiver Setup Menu (Menu-LED is flashing quickly)

<table>
<thead>
<tr>
<th>A</th>
<th>Receiver Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard*</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B</th>
<th>Collective Pitch</th>
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</table>

<table>
<thead>
<tr>
<th>C</th>
<th>Aileron</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>D</th>
<th>Elevator</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>E</th>
<th>Rudder</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>F</th>
<th>Tail Gyro Gain</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>G</th>
<th>Throttle [CH5] [CH6]</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>H</th>
<th>Auxiliary [CH6] (Optional)</th>
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</table>

<table>
<thead>
<tr>
<th>I</th>
<th>RPM Governor (Optional)</th>
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</table>

<table>
<thead>
<tr>
<th>J</th>
<th>AttitudeControl (Optional)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>M</th>
<th>Throttle Fail Safe Position</th>
</tr>
</thead>
</table>

- Adjust by giving aileron stick input. Reset with rudder stick input.
- Move throttle control lever 100% to fully open throttle.
- Move rudder stick to neutral position.

### Notes

- Factory Setting
- User Defined