GU 211 陀螺儀使用說明書

《特點》

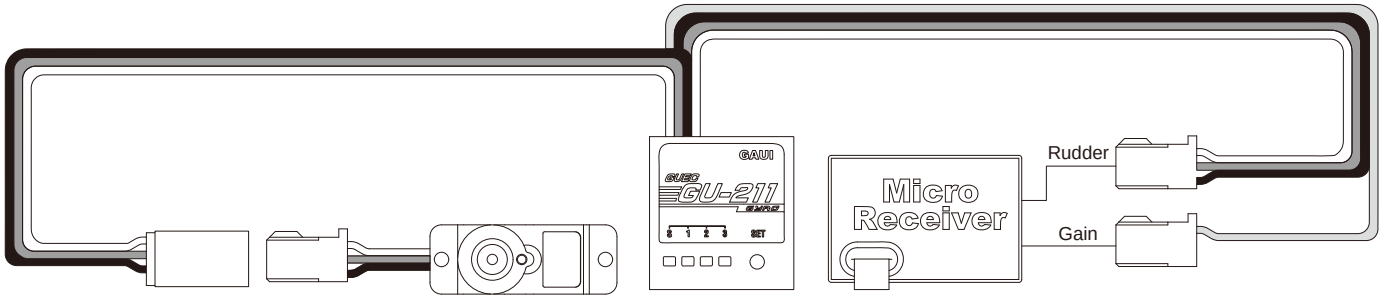
GU211陀螺儀採用新一代 M.M.S（微電子機械系統）高級角度感測器件和先進的AVCS（Angular Vector Control System，角度向量控制系統）演算法，內建溫度補償，具有高精度的方向控制能力。此陀螺儀兼有普通和方向鎖定（Head lock）兩種工作模式，利用感度（Gain）通道進行兩種模式的切換及感度值的設定。
GU211陀螺儀採用全數位化的參數設定方式，避免了因電位器機械磨損所造成的工作不穩定現象。

《規格》

1. 外形尺寸：26mm x 24mm x 9mm
2. 重量：12g
3. 工作電壓和電流：DC 4.5-6.5V，工作電流≈50mA，最大電流<100mA
4. 操作溫度:0℃~65℃
5. 操作濕度:0%~95%
6. 符合RoHS限用規章，相容標準1520μs與窄頻760μs伺服機
   警告：本陀螺儀不相容以下非標準頻率的舵機：
   JR：　2700G，8700G，810G
7. GU-211 陀螺儀僅適用數位伺服機，不適用於類比伺服機。

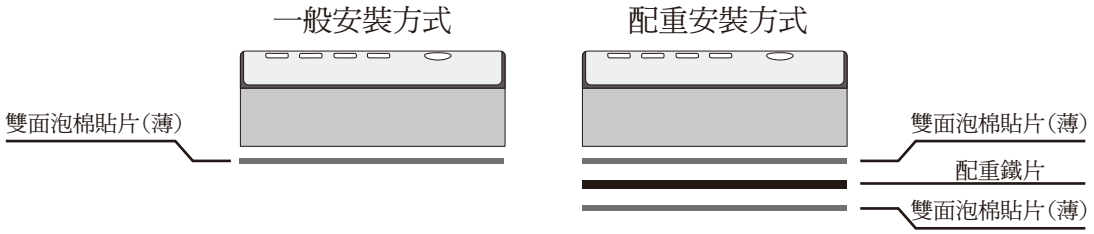
《接線方法》

請按下圖所示連接陀螺儀和其他設備：
1. 將舵機控制線插入陀螺儀本體上的舵機線接頭；
2. 陀螺儀上引出的2條長線分別插到遙控接收機的Rudder及Gain通道。
   黑、紅、白三色線插頭對應Rudder通道，黃色單線插頭對應Gain通道。
   Futaba接收機Rudder對應CH4，Gain對應CH5。
   （部分Futaba遙控器可自定義各通道連接，請對應遙控器通道設定）
   JR　接收機Rudder對應CH4，Gain對應AUX2。
   其他品牌遙控器請參照其遙控器使用說明作連接。



《陀螺儀的固定》

本陀螺儀在設計時，內部結構已採取了震動隔離、溫度補償和電磁干擾防護等措施，但為保證陀螺儀感測器能穩定工作，陀螺儀在安裝時應選擇震動較小且接近機體回轉中心的位置，請遠離發動機、馬達、電調等震動大、溫度高、電磁干擾嚴重的部位。
為隔離機體震動對感測器的影響，陀螺儀的底部須貼上軟性材料（泡棉貼）。
若發現飛行時有明顯的中點漂移現象，請檢查機體震動情況並安裝好附件中的配重鐵片，以更好的隔離高頻震動。



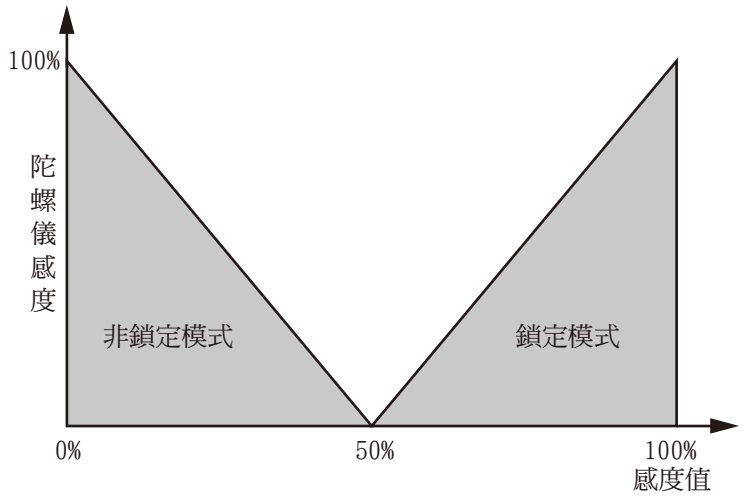
《油機安裝調整注意》

因油機震動較大，安裝調整應仔細進行，若有中立點漂移現象請從以下幾方面解決：
1. 使用附件中的配重鐵片。
2. 請用尼龍綁帶固定陀螺儀的引出線，引出線要留有適當的長度以避免將震動傳導至陀螺儀，影響其正常工作。
3. 安裝完成後，在發動機怠速下輕觸陀螺儀外殼，如未感覺到明顯震動即可獲得較好效果。

《開始使用》

本陀螺儀兼備普通和方向鎖定兩種工作模式。模式切換通過感度通道實現。

1. 打開遙控器，確認信號輸出正常。
2. 將遙控器上的陀螺儀感度值設置選項調至50%以上， 即設定為鎖定模式（參考右圖）。



3. 將遙控器上的Rudder搖桿保持在中立點，然後為陀螺儀通電並維持中立點不變，
   直至陀螺儀完成初始化。

   警告：陀螺儀通電前，請務必將遙控器置為方向鎖定模式，否則陀螺儀無法正常工作。

4. 一些老款或者簡易的遙控器上可能沒有陀螺儀感度值設置的選項，此時可以通過調整感度通道行程量（ATV）控制陀螺儀的敏感度。
   陀螺儀設定及數值設定，請參照各廠牌搖控器使用說明設定。

《各種工作模式下LED的狀態》

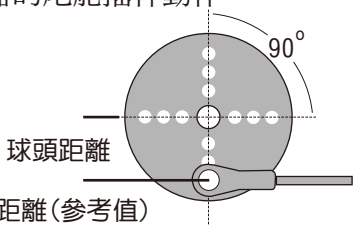
在不同模式下，陀螺儀面板上做右側的 LED #S 的狀態不同，
如下表所示（LED序號請參見第5頁的圖示）。

運行模式	尾舵搖桿狀態	LED狀態
鎖定模式	中點	LED #S 綠燈恆亮
鎖定模式	搖桿未居中或未正常檢測到中立點	LED #S 紅燈恆亮，#1 #2 #3 綠燈恆亮
非鎖定	中點	LED #S 紅燈恆亮
非鎖定	搖桿未居中或未正常檢測到中立點	LED #S 紅燈恆亮，#1 #2 #3 綠燈恆亮
故障	搖桿信號失效或陀螺儀自檢失敗	LED #S 紅燈恆亮，#1 #2 #3 綠燈恆亮
陀螺儀上電自檢	將搖桿置於中立點，並保持機體穩定 （自檢過程中不可搖動機體）	自檢正常 LED #S 紅燈 #1 #2 #3 綠燈， 1秒後 #S 轉綠燈 #1 #2 #3 不亮。 如自檢不正常，LED #S 紅燈恆亮， #1 #2 #3 綠燈恆亮。

《調整步驟》

本陀螺儀的基本安裝和設定過程與其他常用陀螺儀基本一致。
為保證陀螺儀具有最佳使用效果，請參照以下過程完成安裝。

1. 首先按第一頁描述的接線方式和安裝方法，選擇機體上的最佳位置安裝好陀螺儀。
接上舵機前，請參照後面的陀螺儀功能設置說明設置伺服機類別（標準數位伺服機或窄頻數位伺服機）然後才可將舵螺儀與伺服機連接，否則可能會對伺服機造成永久性損害。
2. 打開遙控發射器並確認當前遙控器感度設定是處於(鎖定模式)下，使遙控發射器尾舵搖桿居中，尾舵通道的微調與中立點微調亦為居中（零點）。
3. 連接陀螺儀與舵機，並接通機體電源，陀螺儀進入初始化過程，初始化完成後，陀螺儀指示燈LED＃S應恆亮綠燈。
若此時紅燈恆亮，則表示當前陀螺儀運行於非鎖定模式，需將遙控發射器的感度通道反向。(請參照遙控器說明書設定)
4. 左右轉動機體，觀察並記錄尾舵機運行方向是否正確。若方向錯誤，請參考後面的陀螺儀功能設置說明改變伺服機回轉方向。（ 警告：此步驟非常重要！）
5. 搖動遙控發射器尾舵搖桿，觀察並記錄尾舵伺服機運行方向是否正確。
若不正確，請在遙控發射器的設置正反向選單中將尾舵方向設置正確。（ 警告：此步驟非常重要！）
6. 完成以上步驟後，建議斷開機體電源，等待數秒後再重新接通，使陀螺儀正常初始化，並正確運行於鎖定模式的中點狀態（LED ＃S綠燈常亮）。
7. 最後確認伺服機迴轉方向是否能夠正確回應機體的轉動和遙控發射器的尾舵搖桿動作。
8. 調整尾舵伺服機的舵片角度，使陀螺儀在鎖定模式的中點狀態時，舵臂與尾舵連杆的夾角盡量調整為90°。



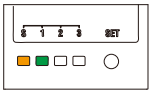
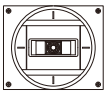
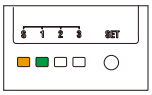
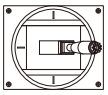
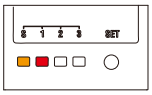
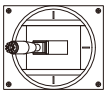
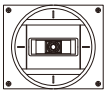
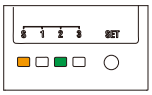
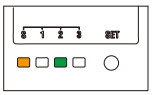
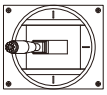
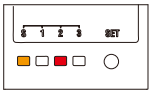
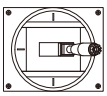
*右圖為尾舵機的安裝設置圖，圖中的球頭距離值為參考值，實際設定請參考機體說明，並通過實際飛行調整感度值和球頭距離值以達到最佳的配合狀態及飛行手感。

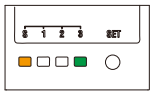
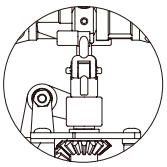
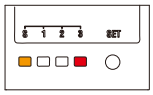
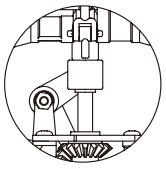
球頭距離(參考值)
油機(標準尾舵伺服機):12~17mm
電機(微型或小型尾舵伺服機):8~15mm

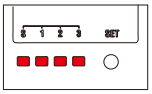
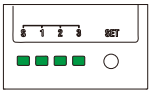
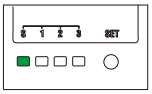
9. 參照陀螺儀功能設置說明，設定舵機的左右行程。
10. 試飛，調整陀螺儀的感度設置，建議初始感度設定(JR為65％至75％)(Futaba為20%~30%)，並通過試飛調整實際感度值。如產生追蹤現象（尾巴快速左右晃動），則需調低感度；如螺距或油門變化時無法良好鎖定方向，則需調高感度。
如需運行於非鎖定模式，也請在接通機體電源前，先將發射器感度通道處於鎖定模式，待陀螺儀初始化完成，再切換到非鎖定模式。

《陀螺儀功能設置》

利用遙控發射器的方向舵搖桿即可完成陀螺儀全部參數設定・設定過程如下：

LED 狀態及尾伺服機動作	操作說明	方向舵搖桿動作
設定伺服機頻寬		
	1-1 初始化完成後 #S綠燈恆亮 按住 SET 鍵3秒以上・	
 LED #1 燈亮(綠燈) LED #S 燈亮(紅燈)	1-2 放開 SET 鍵，開始第1項設定： （舵機頻寬）	 搖桿中立
 LED #1 燈亮(綠燈) 寬頻數位伺服機 1520 us	1-3 搖桿往右 寬頻數位伺服機 1520 us	 搖桿向右
 LED #1 燈亮(紅燈) 窄頻數位伺服機 760 us	1-4 搖桿往左 窄頻數位伺服機 760 us	 搖桿向左
請依尾舵伺服機頻寬選擇#1燈號顏色。 寬頻1520us 伺服機請選擇綠燈，窄頻760us 伺服機請選擇紅燈		
設定修正方向		
	2-1 單擊 SET 鍵	 搖桿中立
 LED #1. 燈熄 LED #2. 燈亮(綠燈)	2-2 表示已經進入第2項設定： （修正方向）	
 LED #2. 燈亮(綠燈) 伺服機正向迴轉(預設值)	2-3 搖桿往左	 搖桿向左
 LED #2. 燈亮(紅燈) 伺服機反向迴轉	2-4 搖桿往右	 搖桿向右

LED 狀態及尾伺服機動作	操作說明	方向舵搖桿動作
設定伺服機行程(正向)		
	3-1 單擊 SET 鍵	*此時伺服機會自動向正向擺動些許角度後停止。
 LED #2. 燈熄 LED #3. 燈亮(綠色)	3-2 表示已經進入第三項 設定之一：(伺服機正向行程)	
	左右撥動尾舵搖桿，將尾舵正向行程調整至最大角度並確認機械結構不干涉時停止撥動搖桿並將搖桿撥回中立點。	
設定伺服機行程(反向)		
	3-6 單擊 SET 鍵	*此時伺服機會自動向反向擺動些許角度後停止。
 LED #3. 燈亮(紅色)	3-7 表示已經進入第三項 設定之二：(伺服機反向行程)	
	左右撥動尾舵搖桿，將尾舵反向行程調整至最大角度並確認機械結構不干涉時停止撥動搖桿並將搖桿撥回中立點。	

LED 狀態及尾伺服機動作	操作說明	方向舵搖桿動作
保存設定		
	4-1 單擊 SET 鍵	
 LED #S. #1. #2. #3 同時燈亮(紅色)	4-2 表示陀螺儀請您確認是否進行參數保存，伺服機擺臂自動復位回中立・	
 LED #S. #1. #2. #3 同時燈亮(綠色)	4-3 單擊 SET 鍵，確認保存參數，伺服機擺臂自動復位回中立・	
 LED #1. #2. #3 同時熄燈 LED #S.燈亮(綠色)	4-4 可以正常使用	
設定完畢後請斷開電源後重新啟動，並再次檢查機構動作及修正方向無誤。		

《注意事項》

1. 連接伺服機前，請務必正確設置您所使用的伺服機頻寬(1520μs or 760μs)。
   GU-211陀螺儀僅適用於數位伺服機，請勿使用類比伺服機。
2. 陀螺儀已內置溫度補償功能，飛行前請在飛行溫度條件下放置幾分鐘，使陀螺儀的內外溫度基本一致，保證溫度傳感系統正常工作。

3. 陀螺儀運行中被意外干擾後，LED #S變為紅色慢閃（不影響飛行）， 單擊SET按鈕可清除錯誤狀態。
   意外干擾後的最長自動恢復時間<100ms。
   發現意外干擾後請務必檢查機體狀態、訊號線、其他電子設備工作狀態、電池電壓是否正常。
   因自動恢復功能有其局限性， 切不可完全依賴此功能而強行繼續飛行，否則很容易再次發生意外。

4. 因電位器的製造工藝存在一致性差異，遙控器的中點及線性特性也無法完全一致，
   舵螺儀本身可以自動識別遙控器的中點，但任何陀螺儀都不能自動判定電位器線性特性。
   建議使用新遙控器飛行之前，校準左右轉速的均勻度以獲得更佳的手感和操控線性
   （通過調整Rudd通道的左右行程即可）

5. 本陀螺儀採用高級微電子機械感測器系統，性能極佳，但高頻震動及其諧振容易對感測器造成干擾，
   若飛行時發現中點緩慢漂移，請檢查機體震動情況， 妥善固定陀螺儀引出線，
   並調整陀螺儀與機體連接的雙面泡綿貼的厚度。

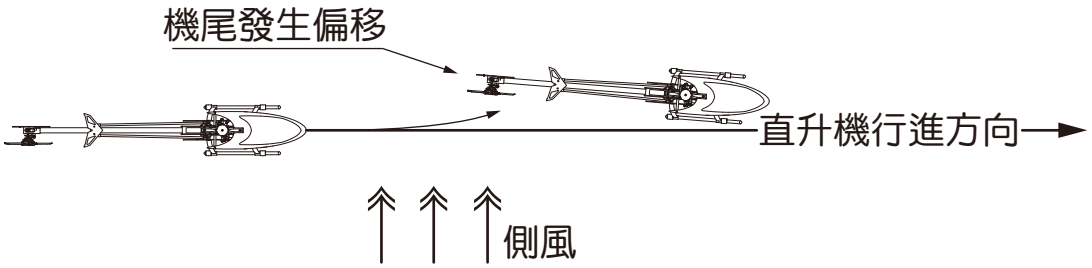
6. 本陀螺儀為達到最高的控制性能，對方向的修正採用了高級處理方式，在每次飛行前，
   請務必檢查尾舵伺服機處於良好工作狀態，若尾舵伺服機的性能已老化，請及時進行維護或更換，
   避免因尾舵伺服機失效而造成飛行中的失控。

7. 飛行前請務必小心設置各項參數，並檢查舵機工作狀態和各線路的連接是否正常，避免發生事故。

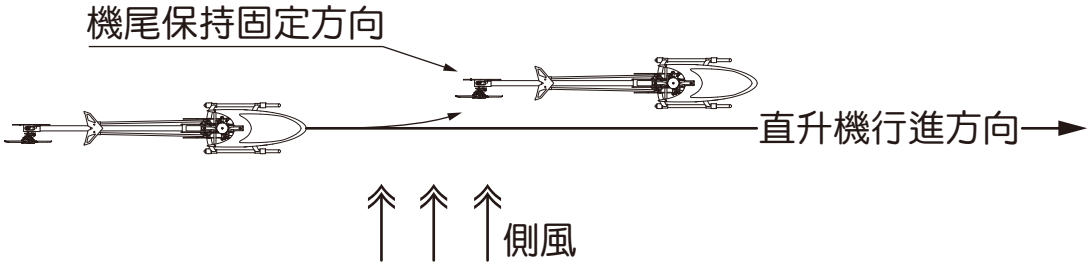
8. 遙控模型直升機並非玩具，飛行時請確保自身安全及他人安全。

《參考資料》

1. 陀螺儀非鎖定工作模式
普通工作模式已經能適應一般的飛行，但是會受到“風標效應”的影響。
當直升機受到側風的吹襲時，機尾會產生偏移現象。此時陀螺儀會送出控制信號至尾舵舵機，
以相反的方向抵制機尾的偏移，當機尾停止偏移時，陀螺儀則停止相應的信號輸出。
若側風持續吹襲直升機，會造成機尾持續偏移，此時陀螺儀也會不斷輸出信號給尾舵伺服機以抵制機尾偏移，直到機尾移至下風位置，這就是傳統陀螺儀在普通工作模式下的“風標效應”。



2. 陀螺儀鎖定工作模式
鎖尾模式下，當機尾受到持續側風吹襲而產生偏移現象時，陀螺儀會抵制機尾的偏移，
同時計算出偏移的角度，隨後送出信號控制尾舵舵機以抵抗側風。即使側風持續吹襲直升機，
機尾仍可保持原先的方向而不偏移。
簡單地說，就是陀螺儀會自動修正因側風導致的機尾偏移。



《免責聲明》

模型運動本身具有一定的風險，該運動要求玩家具有一定的專業知識和技能。
本產品在設計時已經採取多重安全保護措施，但設備的工作環境和條件差別很大，無法完全預計。
我們強烈建議您盡可能為設備提供良好的安裝和運行條件， 確保供電以及控制信號的穩定可靠，
確認飛行場地的安全。
本公司不承擔因使用陀螺儀而造成的直接及間接損失。
本產品一經拆封使用，視同您已認可以上全部條款。

GU 211 陀螺儀使用說明書

《特點》

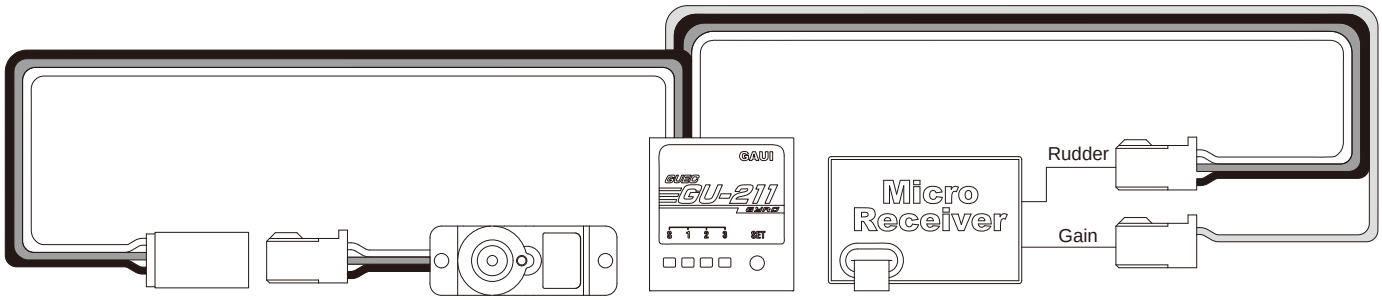
GU211陀螺儀採用新一代 M.M.S.（微電子機械系統）高級角度感測器件和先進的AVCS（Angular Vector Control System，角度向量控制系統）演算法，內建溫度補償，具有高精度的方向控制能力。此陀螺儀兼有普通和方向鎖定（Head lock）兩種工作模式，利用感度（Gain）通道進行兩種模式的切換及感度值的設定。
GU211陀螺儀採用全數位化的參數設定方式，避免了因電位器機械磨損所造成的工作不穩定現象。

《規格》

1. 外形尺寸：26mm x 24mm x 9mm
2. 重量：12g
3. 工作電壓和電流：DC 4.5-6.5V，工作電流≈50mA，最大電流<100mA
4. 操作溫度:0℃~65℃
5. 操作濕度:0%~95%
6. 符合RoHS限用規章，相容標準1520μs與窄頻760μs伺服機
   警告：本陀螺儀不相容以下非標準頻率的舵機：
   JR：　2700G，8700G，810G
7. GU-211 陀螺儀僅適用數位伺服機，不適用於類比伺服機。

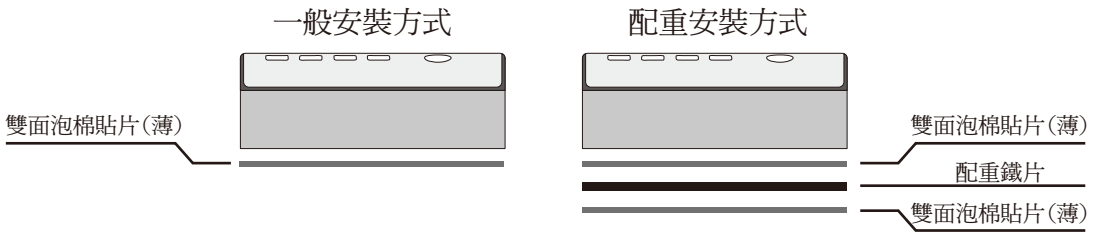
《接線方法》

請按下圖所示連接陀螺儀和其他設備：
1. 將舵機控制線插入陀螺儀本體上的舵機線接頭；
2. 陀螺儀上引出的2條長線分別插到遙控接收機的Rudder及Gain通道。
   黑、紅、白三色線插頭對應Rudder通道，黃色單線插頭對應Gain通道。
   Futaba接收機Rudder對應CH4，Gain對應CH5。
   （部分Futaba遙控器可自定義各通道連接，請對應遙控器通道設定）
   JR　接收機Rudder對應CH4，Gain對應AUX2。
   其他品牌遙控器請參照其遙控器使用說明作連接。



《陀螺儀的固定》

本陀螺儀在設計時，內部結構已採取了震動隔離、溫度補償和電磁干擾防護等措施，但為保證陀螺儀感測器能穩定工作，陀螺儀在安裝時應選擇震動較小且接近機體回轉中心的位置，請遠離發動機、馬達、電調等震動大、溫度高、電磁干擾嚴重的部位。
為隔離機體震動對感測器的影響，陀螺儀的底部須貼上軟性材料（泡棉貼）。
若發現飛行時有明顯的中點漂移現象，請檢查機體震動情況並安裝好附件中的配重鐵片，以更好的隔離高頻震動。



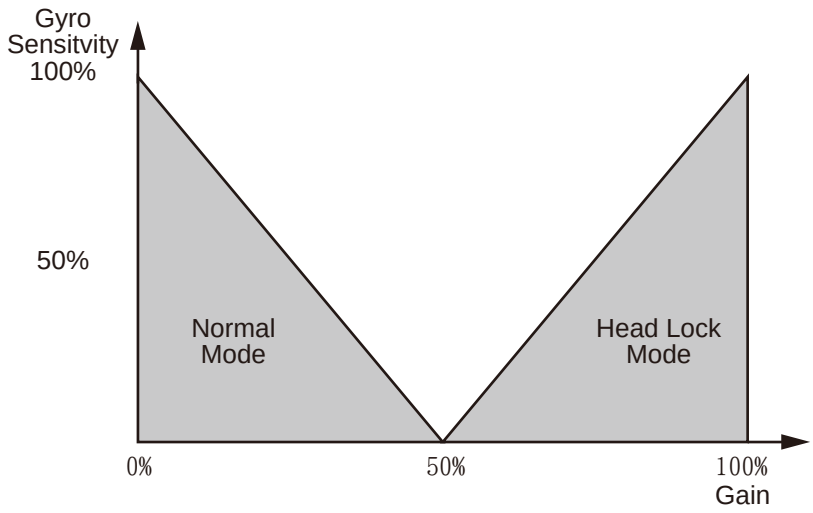
《油機安裝調整注意》

因油機震動較大，安裝調整應仔細進行，若有中立點漂移現象請從以下幾方面解決：
1. 使用附件中的配重鐵片。
2. 請用尼龍綁帶固定陀螺儀的引出線，引出線要留有適當的長度以避免將震動傳導至陀螺儀，影響其正常工作。
3. 安裝完成後，在發動機怠速下輕觸陀螺儀外殼，如未感覺到明顯震動即可獲得較好效果。

《START 》

1.Turn on transmitter and ensure the output signal is in good condition.
2.Set the GAIN value above 50% in transmitter to select Head-Lock Mode.
3.Keep the rudder stick at neutral position, and then power on the gyro
(That means connecting the battery pack to the speed controller to supply the receiver, then the gyro gets its power supply from the receiver). Don't move the rudder stick or the helicopter until the initialization process is completed.

Gyro cannot work properly if it is not initialized with Head-Lock Mode.



4.Some old transmitters (such as Futaba FF7S, FF6S and T6XHS, etc) don't have the gyro sensitivity switching function, in such a case, the gyro sensitivity setting is performed by adjusting the ATV of the GAIN channel, and the mode switching of Head-Lock Mode and Normal Mode is performed by the switch position.
Please read the user manual of your transmitter for reference.
The figure is an example of sensitivity setting with a T6XHS transmitter. In the hovering flight, (That is: Head-Lock Mode), the gyro sensitivity is set to 72%, and in the Idle-up flight (That is: Normal Mode), the gyro sensitivity is set to 54%.
The Head-Lock Mode and Normal Mode are switched by the CH5 switch position.

Please always keep in mind that when the sensitivity switching is performed with the ATV setting, the Head-Lock Mode cannot be used at both side (that means forward position and backward position) of the CH5 switch for hovering and Idle-up flight.

《LED STATUS》

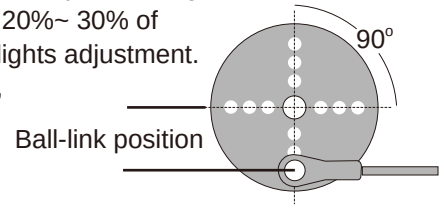
Under different working mode, the LEDs on the gyro have different status.

Working Modes	Rudder Stick Conditions	LED Status
Head-lock Mode	Neutral point	LED #S: Solid green
Head-lock Mode	Stick not at neutral position or initialization failed	LED #S: Solid red, led #1, #2, and #3 become solid green.
Normal Mode	Neutral point	LED #S: Solid red
Normal Mode	Stick not at neutral position or initialization failed	LED #S: Solid red, led #1, #2, and #3 become solid green.
Failure	No radio signal or initialization faild	LED #S: Solid red, led #1, #2, and #3 become solid green.
Gyro initialization	Keep rudder stick at neutral position and ensure fuselage steady	LED #S turns red, and LED#1, #2, and #3 turn green for one second, then LED #S becomes green, LED #1, #2, and #3 turn off If initialization failed, LED #S becomes solid red, and LED #1, #2, and #3 become solid green

《SET-UP PROCEDURE》

The installation and set-up process of the gyro are almost same as other brand products. For a better performance, please read the following instructions.

1. Follow the installation instructions on page 1. Select suitable type of servo(1520 μs /760 μs)before connecting the before connecting the tail servo to avoid permanent damage.
2. Turn on transmitter and ensure the GAIN channel sensitivity is more than 50% (that means the gyro will work in Head-Lock Mode). Put the rudder stick, trimmer and sub-trim at neutral position.
3. Connect the rudder servo to the gyro; switch on the main power, the gyro starts initialization. When the initialization is completed, LED #S lights solid green means the gyro is working in Head-Lock Mode, while solid red means the gyro is working in Normal Mode. Please reverse the direction of GAIN channel if the gyro is working in Normal Mode.
   Please read the user manual of your transmitter for reference.
4. Move the fuselage clockwise and anti-clockwise to check the rudder servo horn moving direction. If wrong direction occurred, please program the gyro correctly.
   This is an important operation!
5. Move rudder stick left and right to check the rudder servo horn moving direction. If wrong direction occurred, please program the gyro at the REV menu of your transmitter.
   (Warning: This is an very important operation!)
6. After the above procedures, disconnect the main battery pack to power-off the gyro and then reconnect the battery pack after a few seconds. Check the gyro again to ensure the rudder will be set to neutral correctly in head-lock mode (the LED #S is solid green after initialization.).
7. In Head-Lock Mode, make the rudder servo neutrally, and then install the servo horn perpendicular to servo body.
8. Adjust the length of push-rod linkage to make sure that it's perpendicular between the ball-link and push-rod linkage (90 degree) while the gyro is at neutral position in head-lock mode.
9. Follow the program instructions to adjust the rudder servo travelling limits of left and right side.
10. During the test flight, establish a stable hovering by adjusting the sensitivity value of gain channel.
    The suggested value should around 60% to 75% of JR transmitters, 20%~ 30% of FUTABA transmitters, and the most suitable value is gotten by test flights adjustment.
    If there is any tendency for the tail to twitch quickly from side-to-side, it will be necessary to lower the gain value.
    If the tail is precarious when pitch and throttle is rapidly changed, please use higher gain value. If you do need to use normal mode, please switch to normal mode after the gyro completes the initialization in head-lock mode.
    The picture at right side shows the rudder servo in neutral position.
    The ball-link position on servo horn should be referred to the user manual of your helicopter.



Ball-link position suggestion
Standard servo:12-17mm
Micro or mini servo: 8-15mm

《INITIALIZATION THE GYRO IN WORKING STATUS》

1.Reset the rudder servo to neutral position: Shake the rudder stick left and right at least 4 times at an interval of 1 second. (The traveling range should be at least half of the full range)

2.Reset the neutral date of Head-Lock Mode: Move the rudder stick to the neutral position, switch the transmitter sensitivity switch between Head-Lock Mode position and Normal Mode position at least 3 times at an interval of 1 second or less, then set the switch to the Head-Lock Mode position.

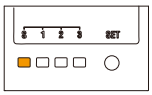
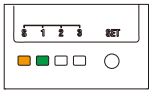
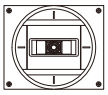
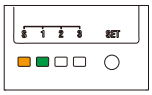
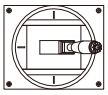
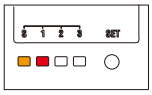
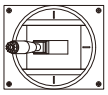
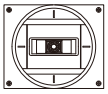
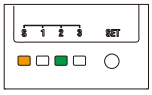
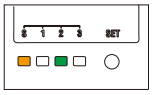
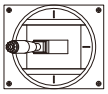
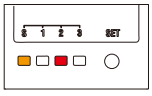
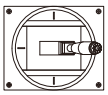
《NONRESPONSIBILITY DECLARATION》

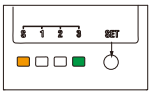
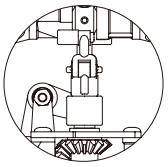
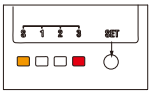
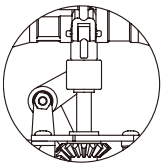
R/C flight has potential danger. We have tried our best to use the good quality components and high technologies to provide superior performance. But for the unpredictable environment and conditions, customers are also recommended to try their best to maintain proper installation and operation, ensure power supply and control signal are stable and believable, flight in legal flying field.

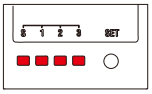
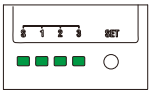
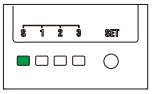
In that we have no control over the correct use, installation, application, or maintenance of our products, no liability shall be assumed nor accepted for any damages, losses or costs resulting from the use of the product. Any claims arising from the operating, failure of malfunctioning etc. will be denied. We assume no liability for personal injury, consequential damages resulting from our product or our workmanship. As far as is legally permitted, the obligation to compensation is limited to the invoice amount of the affected product.

《PROGRAM THE GYRO》

The gyro can be user-programmed by using the rudder stick of transmitter.

LED Status	Operation	Rudder Stick
Servo Type Selection		
	1.1 After initialization completed, LED #S solid green, hold SET button for 3 seconds.	
 LED #1 lights (Solid Green) LED #S lights (Solid Red)	1.2 Release SET buttom to enter the 1st programmable item: Servo Type	
 LED#1 lights (Solid Green) 1520 μs Digital Servo (wide spectrum)	1.3 Move rudder stick to right 1520. μs Digital Servo (wide spectrum)	
 LED#1 lights(Solid Green) 1520 μs Digital Servo (wide spectrum)	1.4 Move rudder stick to left.	
 LED#1 lights (Solid Red) 760 μs Digital Servo (narrow spectrum)	1.5 Move rudder stick to right.	
Please adjust the LED #1 according to the frame rate of the rudder servo. 1520 μs wide spectrum: Green light, 760 μs narrow spectrum: Red light.		
Servo Travel Direction		
	2.1 Click the SET buttom	
 LED #1 off (Solid Green) LED #2 lights (Solid Green)	2.2 Enter the 2nd programmable item: Servo Travel Direction	
 LED #2 lights (Solid Green). Normal Direction (Default).	2.3 Move rudder stick to left	
 LED #2 lights (Solid Red). Reversed Direction	2.4 Move rudder stick to right	

LED Status	Operation	Rudder Stick
Servo Type Limit (Travel limit of normal direction)		
	3.1 Click the SET buttom	* Servo will shift to the positive direction a little bit spontaneously and stop.
 LED #2 off. LED #3 lights (Solid Green)	3.2 Enter the 1st section og 3nd programmable item: Servo Travel Direction (Normal Direction)	
	3.3 Move the rudder stick left and right, and adjust the rudder to the POSITIVE direction until the tail pitch slider reaches its mechanical end (without binding), then ceter the rudder stick.	
Servo Type Limit (Travel limit of reversed direction)		
	3.4 Click the SET buttom	* Servo will shift to the reverse direction a little bit spontaneously and stop.
 LED #3 lights (Solid Green)	3.5 Enter the 2nd section og 3nd programmable item: Servo Travel Direction (Reverse Direction)	
	Move the rudder stick left and right, and adjust the rudder to the REVERSE direction until the tail pitch slider reaches its mechanical end (without binding), then ceter the rudder stick.	

LED Status	Operation	Rudder Stick
Save Settings		
	4.1 Click the SET buttom	
 LED #S.1.2.3 light simultaneously (Solid RED)	4.2 All the prepared settings are ready to be saved, and the servo horn centered spontaneously.	
 LED #S.1.2.3 light simultaneously (Solid GREEN)	4.3 Click the SET buttom to save all the prepared settings.	
 LED #1.2.3 off simultaneously, LED #S lights (Solid GREEN)	4.4 The gyro goes bace to the normal working mode.	
As all settings are being saved, please power off the gyro and power it on once again. Make sure the mechanism works fine and the servo horn shifts to the right direction.		

《IMPORTANT NOTES》

1.Carefully check the servo type before connecting it to gyro. Never use an analog servo with the gyro programmed to Digital Servo Mode.
2.Please place the fuselage to the flying field for a few minutes before flight. It can let the gyro to accommodate the environment temperature for best performance.
3.Carefully fasten the gyro wire and remain extra length to avoid extra vibration
4.Carefully check the rudder servo to maintain good condition
5.When the Gyro Is interfered accidentally, the LED #S will change to Orange color and flash slowly, the gyro will quickly resume to working status to avoid crash. Normally, the resuming time <100ms. After landing, please click the “SET” button to clear the LED #S alarm. Please check the wiring, the flying field circumstance and the battery carefully to search for the reason of interference before the next flight.
6.Please adjust the rudder channel travel range (ATV) at both left and right side to get better symmetry and linearity.
7.Carefully check all the settings, data and connections before flight to avoid any accident.