

Futaba®

14 MZ Quick Start – Helicopter

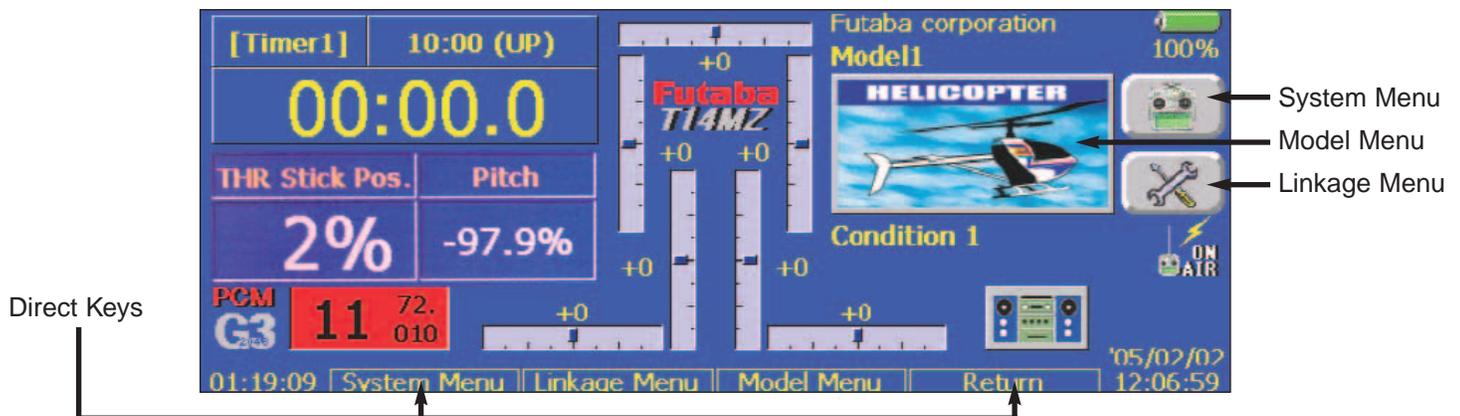
When turning on the 14MZ, you must let the system cycle through before turning off.

There is a sequence that should be followed to get you started.

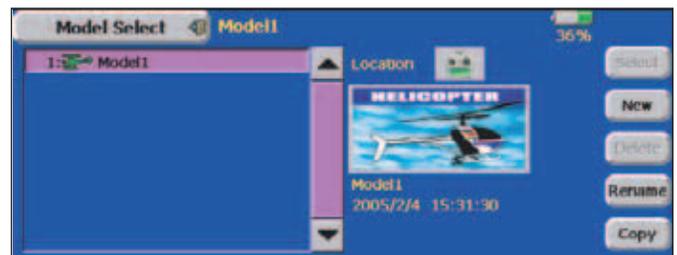
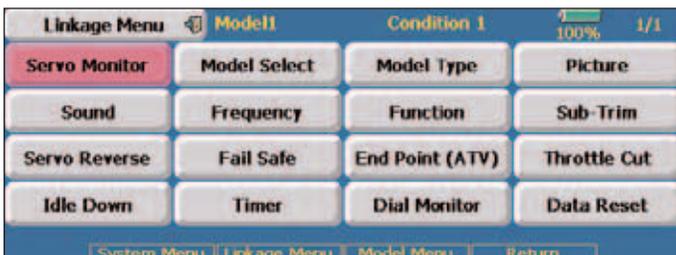
R5014DPS Receiver

	H-4 Swash	All Others
Ch 1	Throttle	Throttle
Ch 2	Rudder	Rudder
Ch 3	Aileron (Left/Right Cyclic)	Gyro
Ch 4	Elevator 1 (Fore/Aft Cyclic)	Aileron (Left/Right Cyclic)
Ch 5	Pitch	Elevator (Fore/Aft Cyclic)
Ch 6	Elevator 2	Pitch
Ch 7	Gyro	Governor 1
Ch 8	Governor 1	Governor 2
Ch 9	Governor 2	Needle
Ch 10	Needle	Auxiliary 3
Ch 11	Auxiliary 2	Auxiliary 2
Ch 12	Auxiliary 1	Auxiliary 1

First you should know the 14MZ receiver (R5014DPS) has a different layout than the standard layout Futaba has used in the past. After you have all your servos installed in your helicopter, you'll want to use one of these charts to plug the proper servos into the R5014DPS receiver.



CHOOSING MODEL TYPE AND SWASH TYPE



After turning on the power switch and pressing **No** for transmit. This will take you to the **Home Page**. Press **Linkage Menu** then **Model Select** then press **New**, and then press **Yes**. Press on **Swash Type** and choose from one of the 7 different Swash Types in the diagram that corresponds with the type of control system on your helicopter. You'll be asked "**Check Change**", if correct, press **Yes**.

After selecting the swash type you will come to the **Frequency** page. Select the frequency by pressing the **Pink Box** and then select the frequency or channel you would like to be on for this particular model. After selecting the frequency, press **Enter** at the top right hand corner of the screen. You'll be asked to **Check the change**. If **Yes**, you'll need to make sure you have your battery plugged into the receiver but no power to the receiver. Once you press **Yes**, then turn on the power to the receiver to program the receiver to the frequency you just selected. You must have the transmitter antenna very close to the receiver antenna when doing this.

Please follow the steps in the manual on page (26) **How to change the Frequency**. Then you'll need to turn off the power to cycle through for the frequency to take affect.

Turn the system back on. Press "**Yes**" for Transmit. This will take you to the **Home Page** to start setting everything up.

SETTING SWASH MIXING

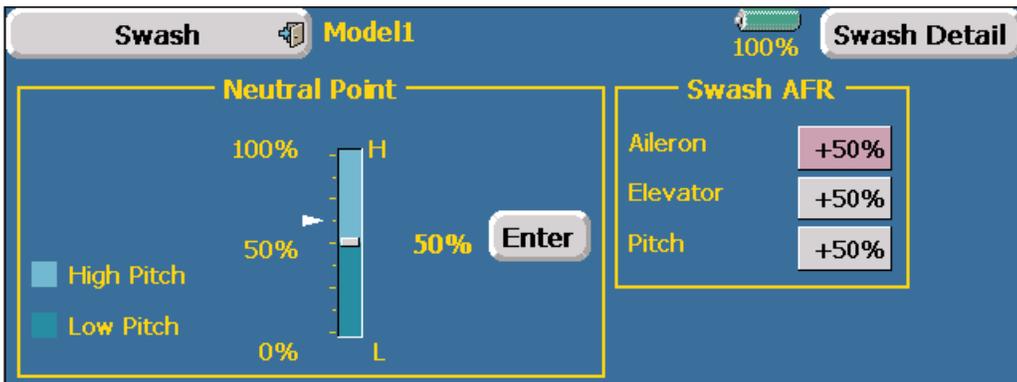
At this time you should install and set up your servos as per the helicopter manufactures instructions.

While at the **Home Page**, you'll notice on the left side of the screen **THR Stick Pos.** and **Pitch** just under the **Timer**. As you move the stick up and down, you'll see the numbers change. Use the Pitch numbers to center your collective pitch servo as these numbers read out stick position in tenths of a percent which is more accurate than the **THR Stick Pos.**

Press the **Linkage Menu** and press **Swash**. In the **Swash AFR** section to the right side of the screen, you'll notice that all the values are set to +50% for Aileron, Elevator and Pitch. These are standard values and will apply to most helicopters.

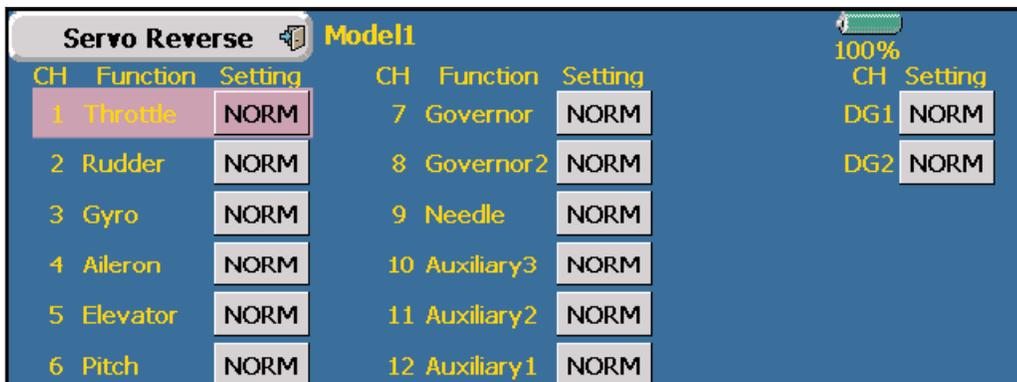
If your collective is moving backwards, change **Swash AFR** +50% to -50%, to do this press the box for Aileron, Elevator or Pitch and you'll have two arrow and single

arrows for up and down and a reset to the right of the Swash AFR settings. The single Arrows move the settings in increments of one percent. The two arrows move the increments in ten percent. Reset will reset the settings to +50%. Check the left/right, fore/aft cyclics and adjust these values if needed through the **Swash AFR** from +50% to -50%. To get back to the **Home Page** press **Swash** button in the top left corner of the screen and then press **Linkage Menu** in the top left corner of the screen.



If while moving the collective stick up/down one or more of the servo is moving against the others, you'll need to go into the **Servo Reverse** menu.

To do this from the home page press on **Linkage Menu** and press **Servo Reverse**. This screen will tell you what each channel slot is on the receiver. Select the servos that need to be reversed by pressing on **NORM**. You will be asked **Sure?**, press **yes**, if not **no**. When finished you'll need to go back into your **Swash, Swash AFR** and repeat the check.



Be careful moving the sticks to the extremes as you could bind up any of the servos. If the swashplate (pitch) is traveling too far or binding, go to the **Linkage Menu** and then **Swash**. Under **Swash AFR** reduce the **Pitch** percentages to stop the binding or over throw of the swashplate (pitch) to give you the pitch range you need.

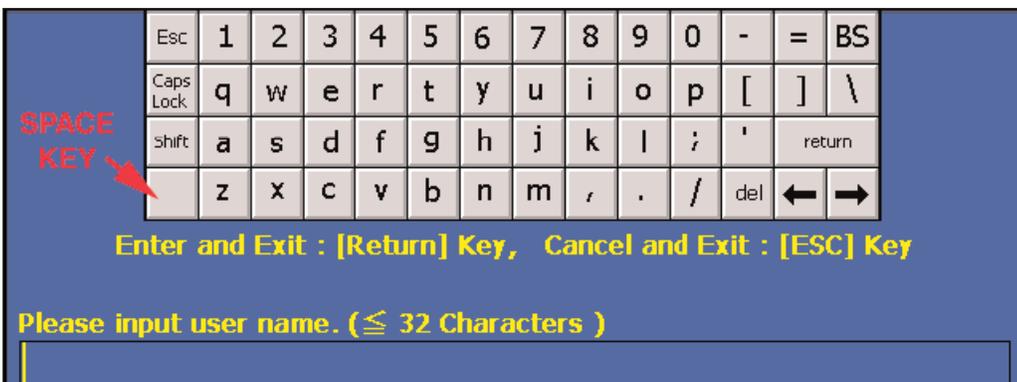
CHANGING MODEL NAME

Press **Linkage Menu, Model Select**. At the bottom right side of the screen press **Rename**.

This will bring up a key board to use in naming your model. You may want to use the Stylus for pressing the small letters. You can enter up to 32 Characters.

At the bottom of the page you'll notice a box with a flashing cursor. To erase "New Model-1" just press **del**.

Use the keyboard to input the desired name of the model and press **Return** to save the name. When finished, press **ESC** at the top left corner of the keyboard.

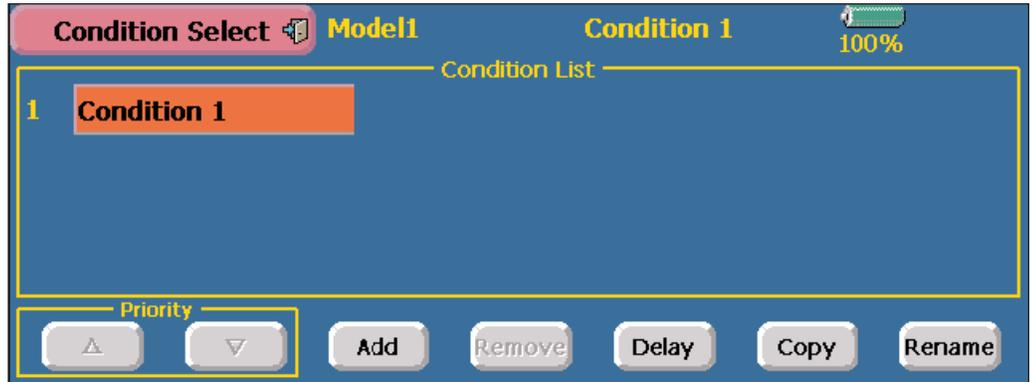


ACTIVATING CONDITIONS

From the **Home Page** press **Model Menu**, select **Condition Select**. In the red box you'll see the word **Normal**. This is your normal hovering condition. Press **Add** at the bottom of the page. Now press **Idle Up-1**, press **Null** on the right side of Idle-Up 1. Now you will select which switch you want to activate **Idle Up 1**. Press the desired switch to activate **Idle Up-1**, usually **Switch E (SW-E)** then press the **On Posi** for on position. If using **Switch E** for **Idle Up-1** the drawing on the screen will show the 3-position switch and the current position of the switch. The middle position of the switch is automatically in the **off** position. Press the **OFF** button to turn this position **on**. Make sure the other positions are in the **Off** position. Press **Close**. Press **Idle Up-1** to highlight (red), and then press **Add** again. Using the same process, add as many Idle Up's as you desire or need. You must add **Throttle Hold** at the end.

If you are using two Idle Up's and a Throttle Hold, you need to have them listed in the correct order.

- Example:
- 1) Normal
 - 2) Idle Up-1
 - 3) Idle Up-2
 - 4) Throttle Hold



They can not be listed in any other order or they will not function properly.

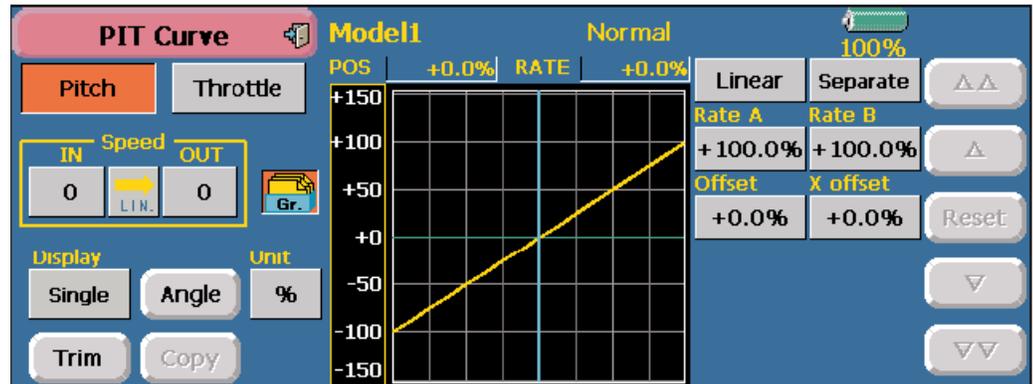
Now go back to the **Home Page**. Make sure that all of your switches are in the off position. Under the picture of the helicopter, you'll see the word **Normal**. Pull your **Idle Up-1** switch (SE) and the word **Normal** should change to **Idle Up-1**. Do the same for the other conditions you've just set.

SEPARATING PITCH AND THROTTLE CURVES, AFR'S, EXPO'S AND DUAL RATES

Press Model Menu, Pit Curve. Just to the left side, about center of the graph you will see a red box with files **Gr**. In a small blue section. Press this box to change to **single** and press **yes**. This will allow you to program your different pitch curves.

Do this for **Normal**, each **Idle Up** and **Throttle Hold** by flipping the corresponding switches.

Press out of **PIT Curve**, press **THR Curve** and do the same for all conditions.



Press **THR Curve** to exit and then press **AFR (D/R)**. You'll see **Aileron** next to the file cabinet. First change the file cabinet **Gr** to **single** and press **yes**. Then press **Aileron** and press **Elevator** and do the same process. Press **Elevator** and press **Rudder** and do the same process.

You are preparing these flight condition parameters for later adjustments. This will allow you to make changes to Pitch, Throttle, AFR's, Dual Rates and Expo's in one condition without affecting other conditions.

Turn off the transmitter to allow saving of the settings.

ATV'S

From the **Home Page** press **Linkage Menu** and press **End Point (ATV)**. Typically any adjustments made in **ATV** will affect all conditions. Many pilots will prefer to use the **AFR's** settings to adjust endpoints.

End Point (ATV)		Model1		CH7-12		100%		
CH	Function	Limit	Travel	← ↑ ↻	↻ ↓ →	Travel	Limit	Speed
1	Elevator	135%	100%			100%	135%	0
2	Rudder	135%	100%			100%	135%	0
3	Throttle	135%	100%			100%	135%	0
4	Aileron	135%	100%			100%	135%	0
5	Gear	135%	100%			100%	135%	0
6	Air Brake	135%	100%			100%	135%	0

CHOOSING A PITCH AND THROTTLE CURVES

You have many types of curves to choose from for both Throttle and Pitch. From the **Home Page**, press **Model Menu** and then press **PIT Curve** for your **Pitch Curves** or **THR Curve** for your **Throttle curves**. You'll have a word **Linear** on the right side of the graph. Press **Linear** and you'll get six different types of curves to choose from. **Spline** is the curve that is most adjustable. It will give you 9 points that can be adjusted. Any of these 9 points can be removed or you can create your curve settings. Press on **Rate**, use the **Double arrowed** (up or down) box on the right side of the screen to move any selected point. The double arrowed (up/down) will move in increments of 5%, the single arrows (up/down) will move the points in increments of .5%. To highlight a point in the graph you use the ">, < or >>, <<" to move up or down the line to select the point you wish to manipulate. If you wish to remove a point, highlight the point and press **Delete**. The **Offset** will move the curve up or down as you prefer.

THROTTLE HOLD

In **Model Menu** press **Throttle Hold**. Throttle Hold is on the right side of the screen. When you pull the **Throttle Hold Switch (SG)**, you'll notice the word **Normal** at the top of the page changes to **Hold**. But we need to activate Throttle Hold for it to operate properly.

You'll see **ACT/INH** with a box to the right that has **INH** and a box with files (**Gr.**). Press the **Gr.** To turn it to **Single**. Select **Yes**. Next press **INH** and it will turn to **ON**.

At the bottom of the box there is **Switch, NULL**. Press **NULL**, chose the same switch that you chose for throttle hold in the condition menu, this should be **SG**. Press **SG** and **ON Posi**. To make sure that the switch is operating in the correct direction. Press **Close** and it will take you back to the **Throttle Hold** page.

In this box you'll see **Mode**. Make sure that his is reading **Manual**.

GYRO

From the **Home Page** press **Model Menu**, press **Gyro**. Here you will see three rates that can be selected and activated by any switch.

The Gyro gains can be set to automatically change when switching from condition to condition.

Look at **Rate 1 (top Row)**, on the far right side of the page, you'll see a column called **Group** under the **Group** column is a **GR**. Folder. Press on the **GR**. Folder to change to **SNGLE** then press **Yes**. Do this for every condition to allow different gyro settings for each condition.

Column with **ACT** (Left side of the screen), you should see **On** in a green box, if not press **INH** to change to **ON**. This will activate the settings you just programmed.

In the next column you'll see **Type**, it should say **GY** if you are using a Futaba GY series of Gyros, if not press for **NORM**. Next column **Rate** should read **AVCS** if you prefer the gyro to operate in heading hold mode, if not press the **AVCS** and **NOR** will display for normal mode. Also under the **Rate** column, this is where you will make the changes to the gyro gain. This number will need to be set for each condition. When you press the percentage box, you'll get the double and single arrows pop up on the right side of the screen. Use these to set the percentages required. (Double arrows in 10% increments and single arrows in 1% increments)

Next column is for **Switch** selection. You should have **NULL** in the box. Press **NULL** and it will take you to the switch selection menu. Program to what switch you would like for this function to operate.