

C17 transport differential thrust - multiprotocol radio set up

1. 2 Channel (Throttle, “Rudder” – actually relative speed of two motors.)
2. By convention the Aileron stick is set as the “turning” stick.
3. Stabilizer - none
4. **If** you use “Companion” on your computer, then set **your** radio type in Companion with Settings-> Radio profiles.

IMPORTANT

1. The choice of switches and pots/sliders shown below, suits my radio and my style. *You need to allocate switches etc, to suit your radio and your style. BUT, this does **NOT** affect the basic model set up, nor affect output channel allocation on the pictures that follow.* For example, choose a 2 position switch for Thr cut and a 3 position switch for the 3 stabilization options.
2. My radio is a RadioMaster Zorro, Mode 2, again this does not alter basic model set up.

Radio channel allocation (MUST be “AETR” for any multiprotocol transmitter)

Channel Num	Order	Use
1	A	Aileron – no output
2	E	Elevator – no output
3	T	Throttle
4	R	Rudder (allocated Aileron input in radio)

Note – The multiprotocol module automatically rearranges the transmitter output order, to suit the receiver protocol selected.

Protocol – settings. See “1- Setup” next page.

Setting	Value
For an Internal Protocol Module	Internal Radio System
For an External Protocol Module	External Radio System
Protocol	Multi
Multi Radio Protocol	GD00X
Sub Type	GD V2

Cont’d over

1 - Setup – SET THIS FIRST

The screenshot shows the configuration interface for a radio transmitter. Key settings are highlighted with red arrows:

- Model:** C17
- Throttle Source:** THR
- Throttle Warning:** (indicated by a red arrow)
- Internal Radio System:** (indicated by a red arrow)
- Protocol:** Multi (indicated by a red arrow)
- Multi Radio Protocol:** GD00X (indicated by a red arrow)
- Receiver No.:** 16 (indicated by a red arrow)
- Low Power:** (indicated by a red arrow)

Other visible settings include Timer 1, 2, and 3 (all set to 00:00:00, OFF, Countdown, Silent), Throttle trim switch (TrmT), Trim Step (Fine), Trims Display (Never), Global Functions (checked), and various warning options (SB, SC, SE, SF).

Notes:

Set Internal Radio System **OR** External Radio System as above.

Important:

1. Set the protocol sections as shown.
2. Set the Receiver Number to a UNIQUE number for each receiver that you use.
3. It may bind better when “Low Power” is selected as shown above. For indoor flying this should stay in this mode to lessen interference with the other close by radios & planes. *Once bound, untick this if this model is flown outdoors.*

Throttle Warning

Set this so you are warned if the throttle is not all the way down before the transmitter is activated.

Switch Warning (above picture)

To ensure that the Thr Cut (Sw E) is active, the radio checks the position prior to activating the radio. If the switch is not set appropriately, you get a warning on the radio screen and cannot proceed until the error condition is corrected i.e. until you set the switches to the expected positions. See **IMPORTANT** note re switch allocation at the start of this document.

2 - Inputs – BEST IF ORDER IS “AETR” for page consistency.

```
I1:Ail      Ail Weight(+100%) Expo(40%) Switch(SF↑) [Hi Rat]
            Ail Weight(+80%) Expo(40%) Switch(SF↓) [Lo Rat]
I2
I3:Thr      Thr Weight(+100%)
I4
```

- See **IMPORTANT** note re switch allocation at the start of this document.
- See appendix 1 for set up detail.
- The two “Weights” (Rates) and Expos are experimental; see how it goes and modify if needed.

Set this next.

3 - Outputs – ORDER MUST BE ‘AETR’.

The multiprotocol unit will rearrange the order to suit the particular protocol/receiver selected.

#	Name	Subtrim	Min	Max	Direction
CH1		<input type="checkbox"/> GV 0.0%	<input type="checkbox"/> GV -100.0%	<input type="checkbox"/> GV 100.0%	---
CH2		<input type="checkbox"/> GV 0.0%	<input type="checkbox"/> GV -100.0%	<input type="checkbox"/> GV 100.0%	---
CH3	ThO	<input type="checkbox"/> GV 0.0%	<input type="checkbox"/> GV -100.0%	<input type="checkbox"/> GV 75.0%	---
CH4	RuO	<input type="checkbox"/> GV 0.0%	<input type="checkbox"/> GV -100.0%	<input type="checkbox"/> GV 100.0%	---

Notes:

1. CH1 & CH2 are left blank
2. “THO” is “Throttle Output” & similarly for “RuO”.
3. In the above example the “ThO” “Max” is reduced to 75%. This gives a better range of Thr control and is based on feedback from some experiments. Give it a go and be prepared to alter this to suit your taste.
4. If ‘Rudder’ output goes the wrong way, e.g. plane moves the wrong direction when you move the Ail stick, then change the **direction** on this screen.

Now set this

4 - Mixes

```
CH1
CH2
CH3:ThO      I3:Thr Weight(+100%)
              := MAX Weight(-100%) Switch(SE↑) [Cut]
CH4:RuO      I1:Ail Weight(+100%)
CH5
```

See appendix 2.

Notes:

1. CH1 and CH2 are left blank.
2. “:=MAX Wt (-100%) Sw (SE^) [Cut]” - this is a simple Thr cut switch set up. It is added as an extra line immediately below CH3 Throttle. This is *not essential* but is a VERY desirable safety feature. See appendix 2 for detail.

3. See **IMPORTANT** note re switch allocation at the start of this document.
4. “[Cut]” is the line name and is *not essential* but makes for easier reading.
5. CH4 “Rudder” uses the Aileron INPUT. In fact, this output controls the relative speeds of the two motors as the plane has no ailerons or rudder for turning.

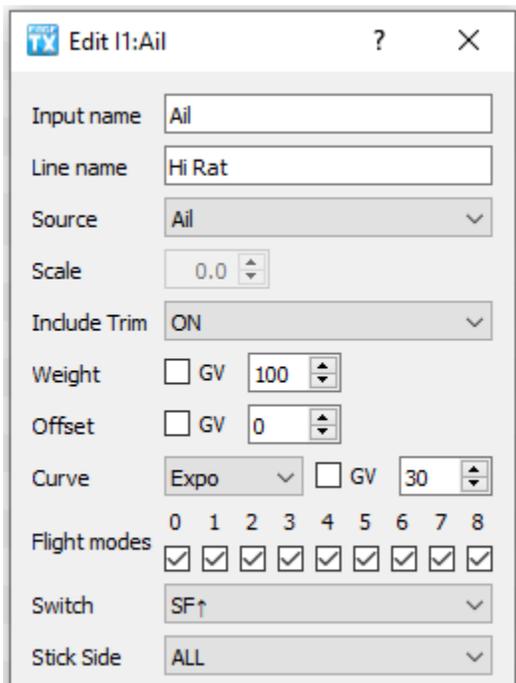
5 - Logical Switches

Not used

6 - Special functions

Not Used

Appendix 1 – Sample aileron **INPUT** set up as used above.



The screenshot shows the 'Edit I1:Ail' configuration window. The settings are as follows:

- Input name: Ail
- Line name: Hi Rat
- Source: Ail
- Scale: 0.0
- Include Trim: ON
- Weight: GV 100
- Offset: GV 0
- Curve: Expo GV 30
- Flight modes: 0 1 2 3 4 5 6 7 8 (all checked)
- Switch: SF↑
- Stick Side: ALL

Cont'd over.

Appendix 2 – sample throttle and throttle cut MIX set ups used above.

DEST -> CH3:ThO

Name: []

Source: I3:Thr

Weight: GV 100

Offset: GV 0

Curve: Diff GV 0

Include Trim: Yes

Flight modes: 0 1 2 3 4 5 6 7 8

Switch: ----

Warning: OFF

Multiplex: ADD

Delay: 0.0 Slow: 0.0

Up: 0.0 Down: 0.0

Make sure to set all 4 items marked below with red arrows. The blue one is optional.

DEST -> CH3:Tht

Name: Cut

Source: MAX

Weight: GV -100

Offset: GV 0

Curve: Diff GV 0

Include Trim: Yes

Flight modes: 0 1 2 3 4 5 6 7 8

Switch: SE↑

Warning: OFF

Multiplex: REPLACE