

TH-2 XPR Universal Mixer – CCPM Swash Plate Mixing Example

This tutorial assumes you downloaded and installed the UM-XPR-1 software onto your computer and you know how to load it into the TH-2 XPR. If not, start here

http://www.tech-mp.com/th-2_xpr_support.htm#TH-2%20Software%20Installation

Items needed.

TH-2 XPR, input cable(s), USB cable
Transmitter, receiver, battery
3 servos, optional swash plate

Step 1. Load the software and settings files.

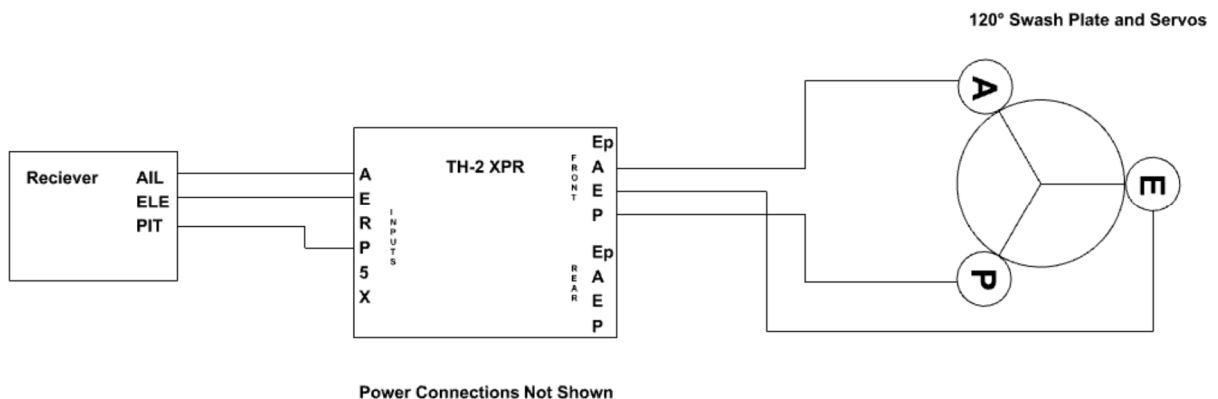
Software: UM-XPR-1.hex
Settings: UM-XPR-1.cst

Step 2. Connect the following TH-2 XPR inputs to the receiver.

Aileron
Elevator
Pitch

Step 3. Connect the following TH-2 XPR outputs to the servos.

Connect Front A output to A servo
Connect Front P output to P servo
Connect Front E output to E servo



Connection Diagram

Step 4. Modify the TH-2 settings to create the mixing.

Pitch function

All servos move collectively.

This is done by creating mixes for each output A, E, P from the pitch input as follows:

Modify settings:

39 H-Mode Pitch CH Mix to Front A Output -> Set to 100

40 H-Mode Pitch CH Mix to Front E Output -> Set to 100

41 H-Mode Pitch CH Mix to Front P Output -> Set to 100

Test this out Use the servo reversing settings (1) to get the servos moving in the proper direction as needed.

Use the transmitter servo reversing to reverse the function at the joystick if needed.

Aileron function

The A and P servos move inversely and E servo is fixed.

This is done by creating mixes for each output A, P from the Aileron input as follows:

Modify settings:

23 H-Mode Aileron CH Mix to Front A Output -> Set to 100

25 H-Mode Aileron CH Mix to Front P Output -> Set to -100

Again Test this out

Use the transmitter servo reversing to reverse the function at the joystick if needed.

Elevator function

The A and P servos move collectively and the E servo moves inversely.

Notice the A and P control points on the swashplate are half the distance from the center compared to the E control point. This means the A and P servos must move half as much.

This is done by creating mixes for each output A, P, E from the Elevator input as follows:

Modify settings:

31 H-Mode Elevator CH Mix to Front A Output -> Set to 50

32 H-Mode Elevator CH Mix to Front E Output -> Set to -100

33 H-Mode Elevator CH Mix to Front P Output -> Set to 50

Use the transmitter servo reversing to reverse the function at the joystick if needed.