Using Jeti Radios with Aura (Draft)

Recently, Flex Innovations has been using a DS-16 Transmitter, and EX R6i and EX R11 EPC Receivers to test and generate settings that will make it easier to utilize Jeti Systems with the Aura AFCS. Other similar Jeti equipment should work fine as well.

After initial review, we have focused on the 'UDI' interface. UDI is a serial protocol based on SRXL that makes all the channel data available on one 'wire' to devices such as Aura.

At this time, we are focused on single receiver installations, and you can use the system in any aircraft you are comfortable flying on the selected Jeti single receiver.

Prerequisites

-Aura FW1.2 or higher is tested. (Aura FW1.1 can work for QQ Extra)

-Use of Aura Config Tool to load model file and/or to make needed settings. (QQ Extra can Auto-Detect as JR Mode B and 'just works' with no Config Tool or other changes needed when using the Basic Jeti Tx File and the specified Jeti Rx FirmWare)

-Jeti Rx Firmware of Standard 3.24 or higher is REQUIRED. Lower FW is not supported. (Note the recommended Jeti FW will allow the UDI output (for Aura), and the Jeti Rx Servo Ports to be functioning at the same time. Aura will also have knowledge of 12 Jeti channels of data. (UDI 16 not supported at this time.)

(Jeti FW update instructions and links are on this page)

http://www.espritmodel.com/jeti-firmware-updates.aspx

Specifically, we are using the Standard Version:

Download Firmware Standard R3/RSW-18US 3.24 (June, 2015)

http://file.espritmodel.com/firmware/DEVUP2_Rx_324_UDI12%20Standard.zip

Check/Update your Jeti Receiver FW before continuing!

Over time, we may offer several Aura Config Files 'Paired with' a Jeti Transmitter Model Files (in Mode1 and Mode2 stick versions). They will be designed to work together.

Type 1 Basic Files (Common/Typical/General Purpose and Easy).

This is a basic configuration. On the transmitter/receiver side, it will put out the 'normal' signals expected by Aura. (largely emulating a JR DMSS Transmitter with JR Mode B Rx). This basic Config can fly most aircraft including the Flex Innovations Factory Programs for the QQ Extra, Ventique, and Mamba, along with typical aircraft configured with the New Aura Config File (Wizard).

-Channel Order as in reference data (matches JR Mode B)

-Reversing. As Aura expects as input

-Travel. As Aura expects as input

On the Aura Side, the Aura Program is essentially a standard Aura Templated program using the radio type as:

JR -> JR Mode B -> Port B

In fact, you should find it more convenient to make your own Custom Aura files using the New Aura Config File (Wizard), and selecting the above noted radio type. This will allow you to make an Aura Config File that matches your model very well!

Instructions:

Update your Jeti Rx to the UDI (Standard) FW3.24 or higher.

Download and load the Appropriate Aura Model Program (.jsn) into your transmitter.

Use the normal Jeti Method Bind your Transmitter and Receiver. Test that your receiver has function and can 'drive' a servo.

Connect your Aura to your Windows device and open the Aura Config Tool.

A. (As an example for review/test) Download and Save the appropriate Aura Config File (.acf). Open the Config File and *Write to Aura*

-or-

B. (Preferred) Create a New Aura Config File (Wizard) describing your model while choosing these settings for the radio type. **JR -> JR Mode B -> Port B**   Complete the program and Save to you Windows Device and Write to Aura

http://wiki.flexinnovations.com/wiki/Aura/Configure#New_Config_File_.22Wizard.22

NOTE: Using the Preferred 'B' Method will allow you to create a Custom file for your aircraft defining the type, number of control surface servos, etc. We recommend using the Aura for your primary control surfaces. The throttle and other accessory functions can utilize Jeti Rx Ports.

Next:

Connect the Jeti Receiver UDI Output Pin (port is visible in Jeti Device Explorer) to Servo 'Port B' on Aura with a 3 wire Male to Male connector. (Should be Pin 6 in the R6i, Pin 11 in the R11).

Power up the Flight Pack. On Aura, look for a solid Orange LED (indicating power and good calibration) and a solid Green LED (indicating a valid radio Signal)

If you have any trouble connecting with Aura, Check the UDI settings in the Jeti Device Explorer against the reference settings in this document.

Connect your flight control servos to your Aura referencing the servo ports tab for port assignments. Connect your throttle and other accessories as desired to your Jeti Rx (Port 5 in this case). If the ports are not available, the data can be assigned to an open Aura port.

Verify you have control of the model and can manipulate the controls.

Move on to finish your Aura Config per the Aura Instructions (primarily working in the servo ports tab matching servo to your aircraft)

http://wiki.flexinnovations.com/wiki/Aura/Configure#2._Aura_Verification_and_Adjustments

Note: *Reference* Material as *pre-programmed* in files:

JETI Transmitter File

NOTE: When using the AURA Transmitter File, avoid hitting *AUTO* in your Jeti Function Assign or Servo Assign Menus. It will scramble the channel orders/assignments! This may require reloading the .jsn file.

In Jeti Device Explorer, your Rx Settings will be:

Serial Link: *UDI* (Note the port your Rx will put the UDI Data on)

General Settings ->

> Output Period : *17ms*

> PPM/UDI Mode: *Computed*

Your Jeti Function Assignments will be as follows with these (switch) settings:

(you can reassign (switch) 'control' functions based on your transmitter configuration and personal preferences by following the instructions in the Jeti manual)

1. Ailerons
2. Elevator
3. Rudder
4. Throttle
5. Aura Flight Mode   (Sf) (3-pos preferred)
6. Flap (opt Flaps)*   (Sd)
7. Gear (opt Retracts)*   (Sh)
8. Master Gain   (P7) (Proportional control typical)

*Data is available to Aura for optional use. Not mandatory on many models.

Your Jeti Servo Assignments will be:

1. **Aileron**
2. **Elevator**
3. **Rudder**
4. Flap   (Becomes CH6/FLAP INSIDE Aura)
5. *Throttle 1*   (Becomes Throttle INSIDE AURA)
6. **Aura Flight Mode** (Becomes CH5 INSIDE Aura)
7. Gear   (Becomes CH7 INSIDE Aura)
8. *Master Gain*   (Becomes CH8 Inside Aura)

These 8 Channels like all channels are Visible to Aura. **Bold ones are considered Mandatory for typical Aura functionality**. *Italic are frequently used/typically Reserved for Aura*.

Tip: You can use Live Data (On) and the Aura Input Monitor on the Setup Tab in the Aura Config Tool to see the transmitter data available to the Aura.