Loop Control (FT8) Utility Software (LoopControl.exe)

Some known problems when using the Midi or Baby loop controller.

The FT8 software does not know, if the Loop-Antenna ATU is tuning, there is **no feedback** from the ATU at all!
From the ATU manual, "The ATU could be damaged when the Transceiver is transmitting during the tuning cycle" (see below).
Most FT8 software runs fully automatically, so it is easy to **forget** that FT8 software will start **Transmitting in the background**.

What is the Goal and how to prevent ATU controller damage.

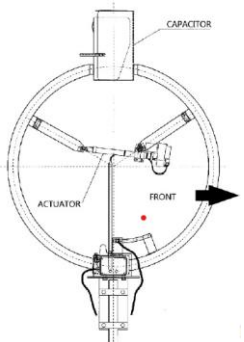
Always prevent the **ATU to start tuning**, when the **FT8 software** is in **Transmit mode** (first stop the Transceiver TX mode).
When the FT8 Software is Transmitting, then we need to Stop the transmit cycle before the **ATU starts tuning**.

On the next pages you will find some examples on how the ATU is connected.

The software is tested on Windows 11.

WARNING! NEVER TRANSMIT WHEN THE ATU IS TUNING (RED LED ON)!
THERE IS RISK OF BLOWING OR BURNING OUT THE ATU RF AMPLIFIER

Example 1 : Most simple setup/layout - Transceiver + ATU



ATU can be used in **Manual mode only**, using the keyboard to change the frequency and confirm.

Coax

USB Cable

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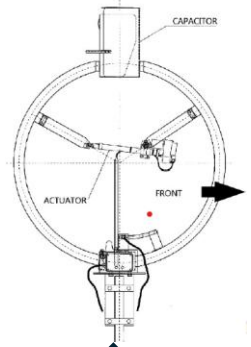
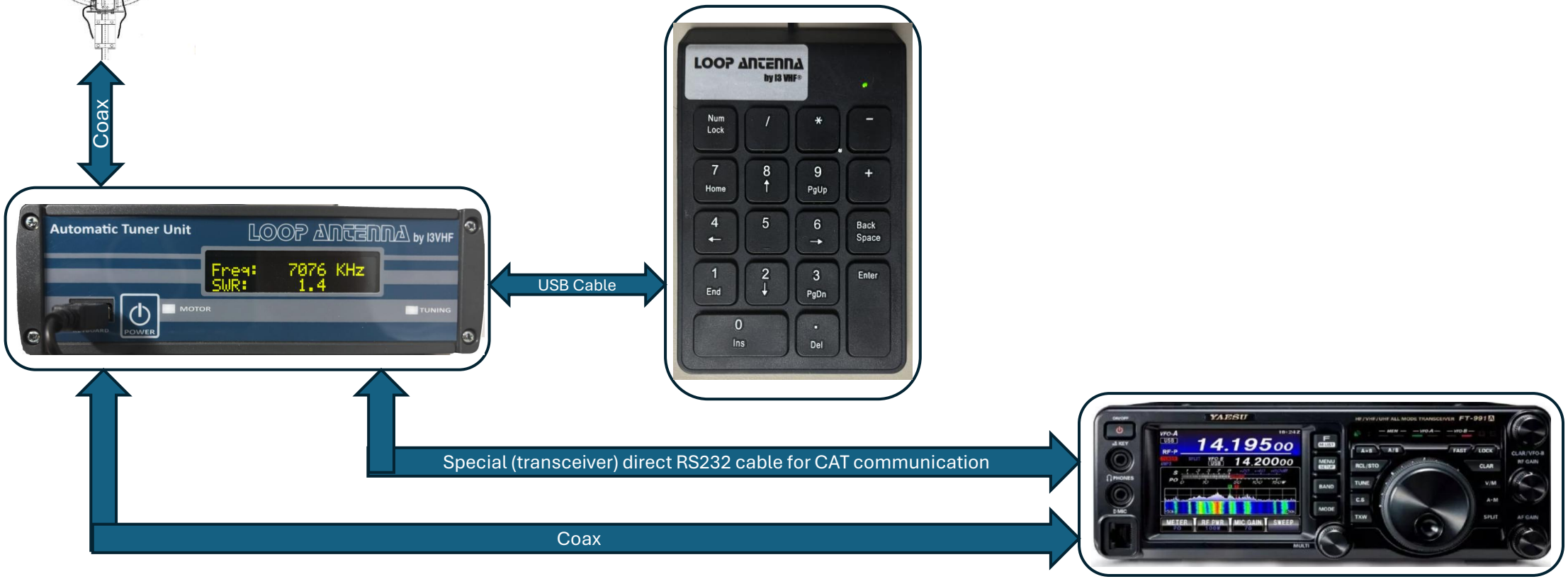
But you cannot run FT8, you need a PC!

Example 2 : Another simple setup/layout - Transceiver + ATU

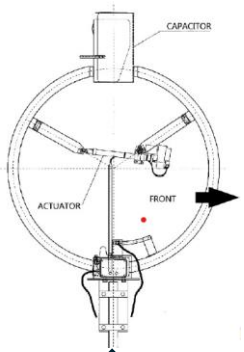


ATU can be used in **Manual mode**, use the keyboard to change the frequency, and Enter to confirm.
ATU set to **Semi automatic mode**, Transceiver sends frequency, then use Enter to confirm.
ATU set to **Fully automatic mode**, Transceiver sends frequency, then tuning starts after 3 seconds.



Also, in this setup you cannot run FT8, you still need a PC!

Example 3 : Common setup/layout - Transceiver + ATU + PC



ATU in **Manual mode** to set the frequency and use Enter to confirm.

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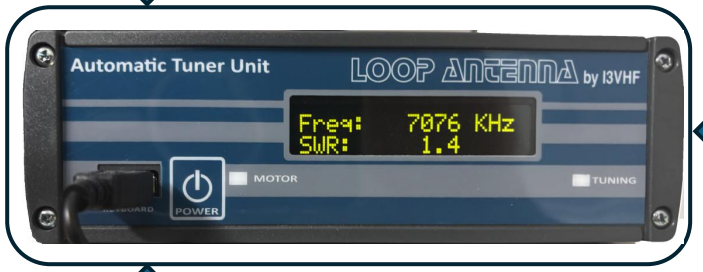
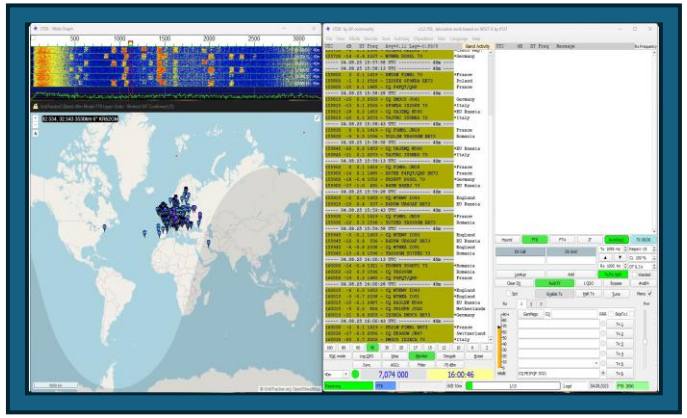


USB Cable



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USB serial cable used for CAT and Audio

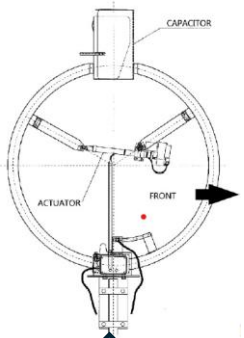
Local PC requirements

Transceiver USB drivers

FT8 Software

WSTJ-X or **JTDX**

Example 4 : Advanced setup/layout - Transceiver + ATU + PC



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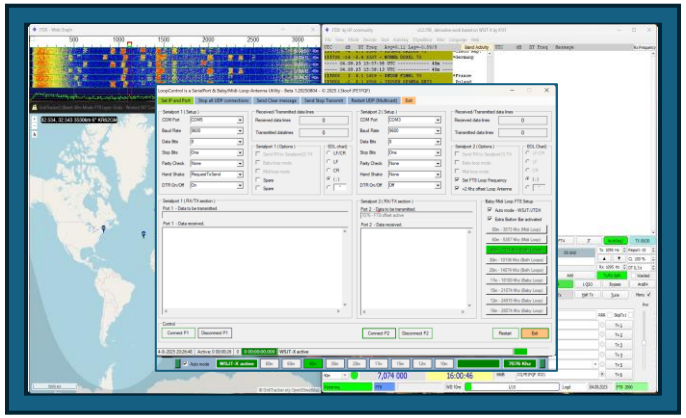
USB Cable



Standard RS232 null modem cable + Serial to USB

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USB serial cable used for CAT and Audio

Local PC requirements

Transceiver USB drivers.

Serial to USB drivers.

LoopControl Software.

FT8 Software WSTJ-X or JTDX.

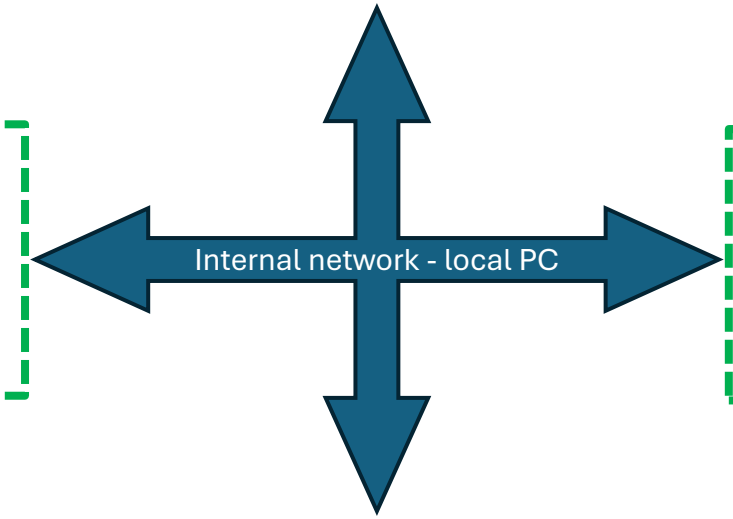
Optional Software

JtAlert or GridTracker.

Software layout when using LoopControl software on the PC

FT8 Software - WSTJ-X or JTDX

IP: **224.0.0.1** and UDP Port: **2237**
Automatically starts in **Multicast** Mode
Send, but also **Receives** messages



JT-Alert

IP: **224.0.0.1** and Port: **2237**
Automatically use **Multicast** Mode
Receive and **Send** to FT8 Software

Grid-Tracker

IP: **224.0.0.1** and UDP Port: **2237**
Need to setup in **Multicast** Mode
Only **receive** from FT8 Software

LoopControl

IP: **224.0.0.1** and UDP Port: **2237**
Always used in **Multicast** Mode
Receive and **Send** to FT8 Software

Detailed info about LoopControl, how does it work!

When all software is running, then LoopControl will listen to all messages send by WSJT-X or JTDX.

- It's **recommended** to run LoopControl in **Auto mode,** when switched off, you still could start tuning manually.
- One of the **most important** LoopControl **tasks** is to monitor, if **FT8 software transmit mode is active**.
- If you **change band** on the FT8 software, it will be **detected** and (if running) **transmit Mode** will be **stopped**.
- Only when **FT8 Transmit mode is stopped**, the new (band) frequency will be **sent** to the **ATU**, and **tuning starts**.
- If the ATU tuning session was successful, then all loopControl **Red buttons** and **Text Fields** become **Green**.
- Everything on the **Button bar**, should be **Green** before you **continue** making connections on WSJT-X or JTDX.
- If you start a new connection cycle, then the **BAND button** should change to **Orange** when FT8 transmit is active.

To summarize.

When setup correctly, you only change the band on the FT8 Software, then the Baby/Midi-Loop Antenna

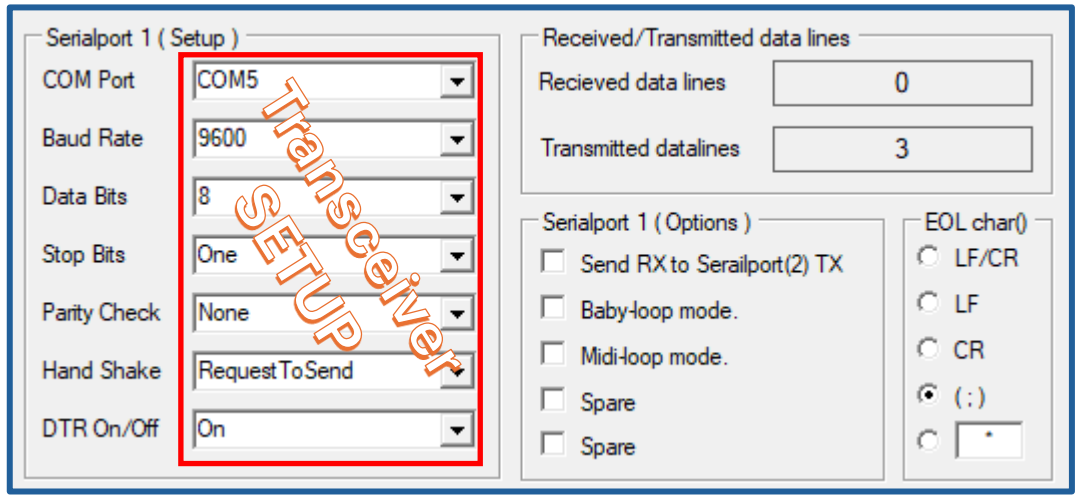
ATU / Tuner is automatically set to the new (Band) frequency, and tuning will start after 3 seconds.

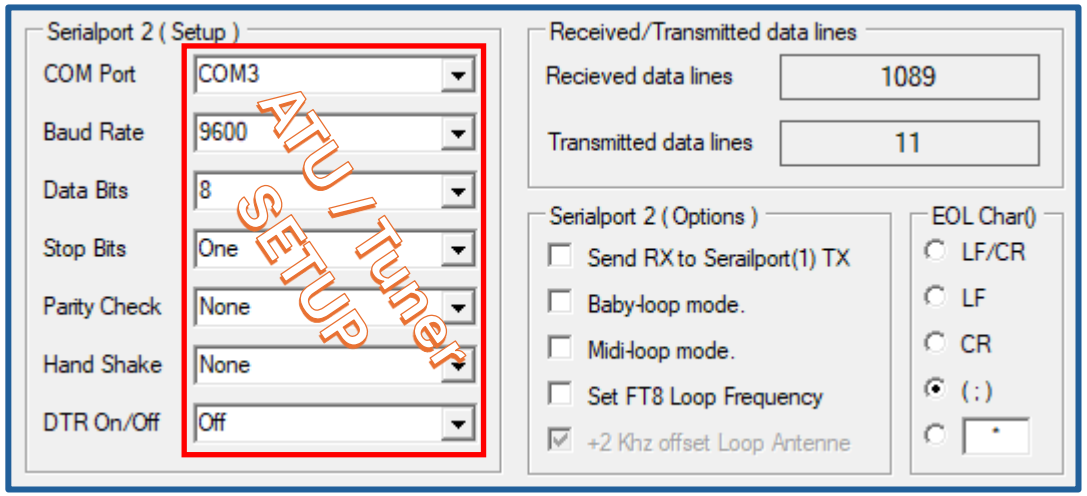
Wait till every **Button/Field** becomes **Green** and only then continue☺.

Have Fun and 73's

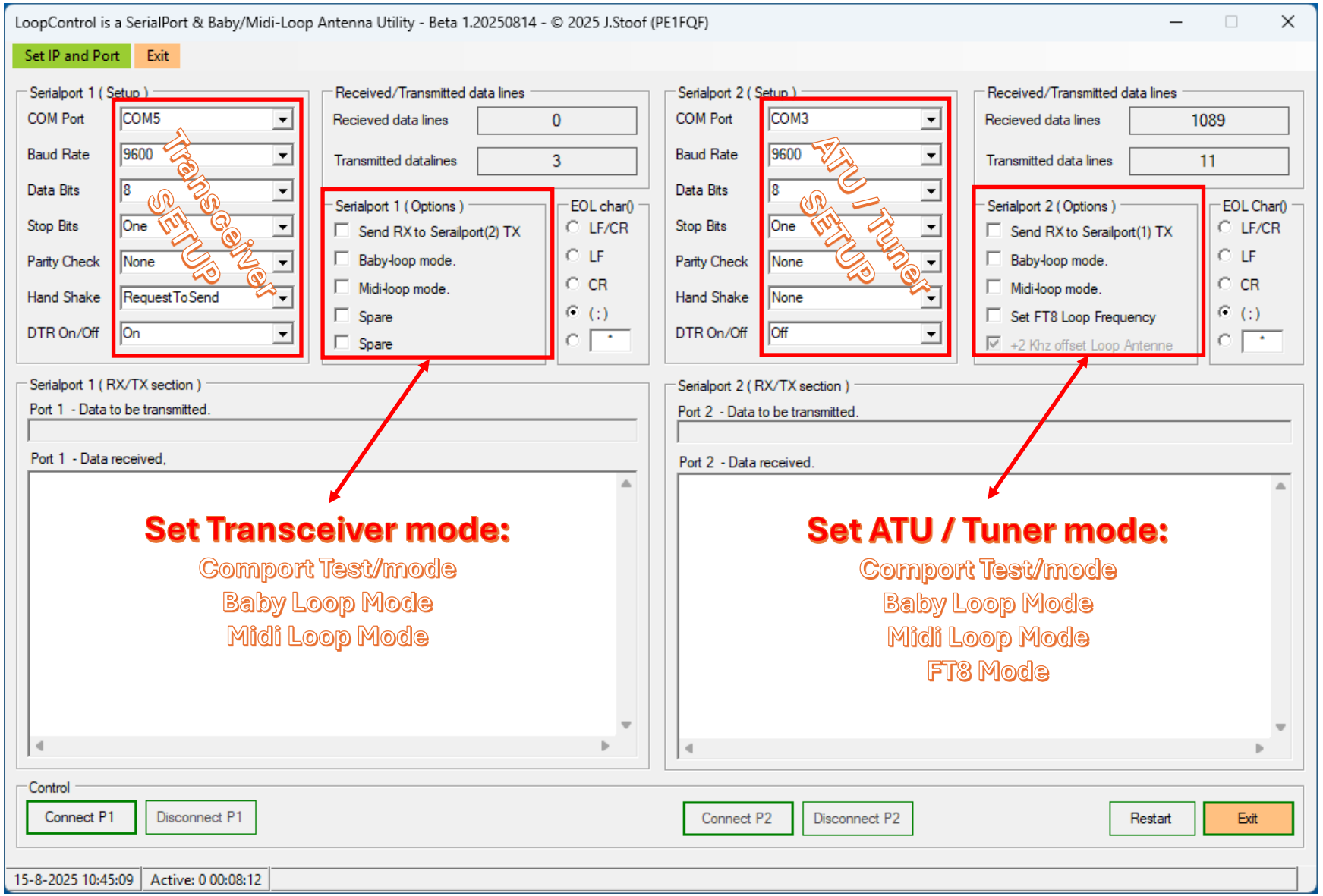
General Control setup guidelines.

- **Serialport 1** (setup) is **always** used for the Transceiver side, RS232 (USB) cable to the PC.
- **Serialport 2** (setup) is **always** used for the Midi/Baby-Loop connection, RS232 (Null modem) to the PC.
- When used in **Baby/Midi**-Loop mode, then **Always** start/connect **Serialport 1** and then **Serialport 2**.
- When used in FT8 mode then **Serialport 1** could be used to **start** or **stop** the Transceiver when the transceiver is on a remote location. After the Transceiver is started, you need to disconnect because FT8 Software needs this port.
- Also, in FT8 the **Serialport 2** (setup) is **always** used for the Midi/Baby-Loop connection, RS232 (Null) to the PC.
- When using a **Yaesu Transceiver**, the Baud Rate works best at 9600, and of course the Com port could be different.
- Setup for the **Midi/Baby-Loop tuner** will work at 9600 Baud, just a simple null modem cable, using any Com-Port.

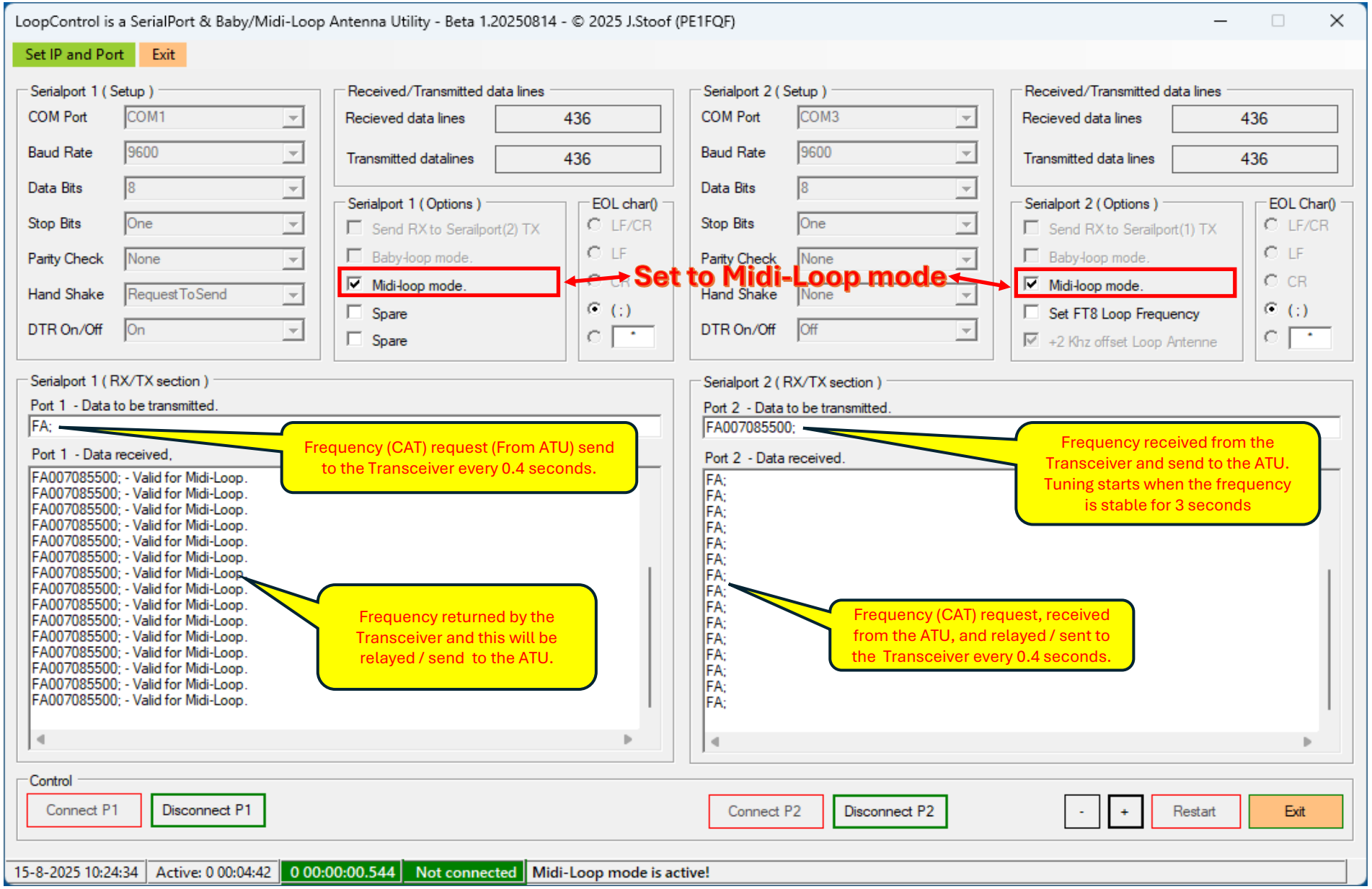




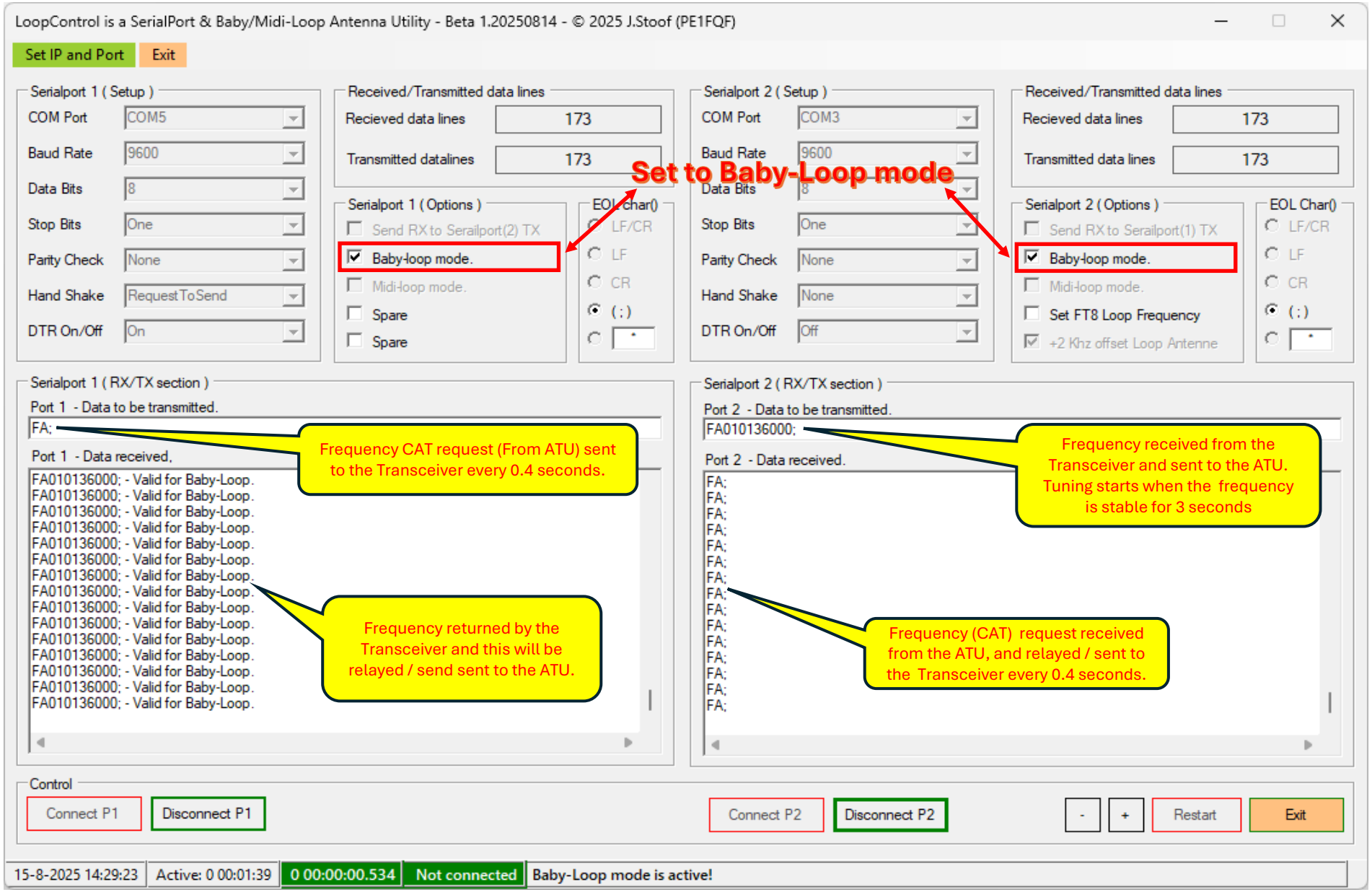
General Control setup Info



General Control - Midi-Loop setup Info



General Control - Baby-Loop setup Info



General Control – FT8 Frequency Loop setup Info