What is Fldigi ?

- Fast Light Digital modem application
- Free, open source program or application using a computer's sound card and USB ports to perform communication over SSB with different digital modulation technics.
- Dave Freese, W1HKJ, developed the software along with other contributors.

How to Setup FLDIGI

What hardware will you need for FLDIGI?

To use FLDIGI you will need :

1. The FLDIGI software,
2. An xml file for your given radio such as IC-7300.xml,
3. A computer,
4. A sound card device : a computer or Signalink or built-in radio,
5. Cabling to connect the radio to the soundcard device and for
6. using the push-to-talk in the radio.
7. Transceiver for the ham bands

How to Setup FLDIGI

First:

1. Download FLDIGI from www.w1hkj.com
    1. Optional software flmsg,flwrap,flrig & flamp can be loaded from www.w1hjk.com.
2. You need a sound card interface. A device such as Signalink or your laptop/desktop computer has a sound card including cables for the audio inout and output.
3. You will also need a cable between the computer and the radio to controller the PPT function for transmitting.
4. The Signalink device cables are wired for the PPT and are specific for a given radio.
5. Other devices such as a usb to serial cable canbe used for the PPT function

How to Setup FLDIGI

FlDIGI software has five components used for this presentation:

FLDIGI - The software control the decoding and encoding of the different types of digital modes that it is capable of using. Also itcan control some of the functions of the radio. It also can load other programs when it starts up. It also contains FLARQ which is an error correcting software used by FLDIGI.

How to Setup FLDIGI

- FLMSG - This program allows the user to select pre-made forms used to send messages. Some of these forms are specific for ARES/RACES and emergency situations.

- FLWRAP - This software allows FLIDIGI to sent PDF files, spreadsheets, pictues, and other file types however the larger the file size the longer it will take to transmit it.

How to Setup FLDIGI

- FLAMP -A program for AMP or Amateur Multicast Protocol. An flamp session willtransmit one or more files with one or more iterations of the transmission. Each file is broken into blocks, each of which has a check sum. The receiving station saves the blocks that pass check sum.

How to Setup FLDIGI

FLRIG - The software allows the use to control the Radio settings from the computer screen. It will require a USB (Universal Serial Bus) interface cable to connect to the radio.

Usually the data cable goes to the Computer Aided Transceiver (CAT) connector on the radio. This will require loading a computer driver for a USB communication port (comport) device.

FLDIGI Hardware Requirements

Next:

- You will need a computer, a sound card interface and possibly a CAT interface and interface cables.

- The newer radios contain the sound card interface as part of their design. They also have the CAT interface for Rig control which is a com port for a computer. This handles the audi and PPT function.

- If the radio does not have a Sound Card built into it, an external sound card device such as a USB Signalink module or USB Sound Card module is necessary.

FLDIGI Cable Requirements

- You will need cables that connect the Sound Card and PPT signals to the radio via it's data port and/or CAT port. Also the computer may have to have cabling for the usb com port for PPT function.
- You will need to install on the computer the software driver for the USB cable connected to the radio CAT connector if it has one.
- The comports in the Windows Operation system is under the Control Panel in the Device Manager under Comports. This will show you which comport to use.

FLDIGI Cable Requirements

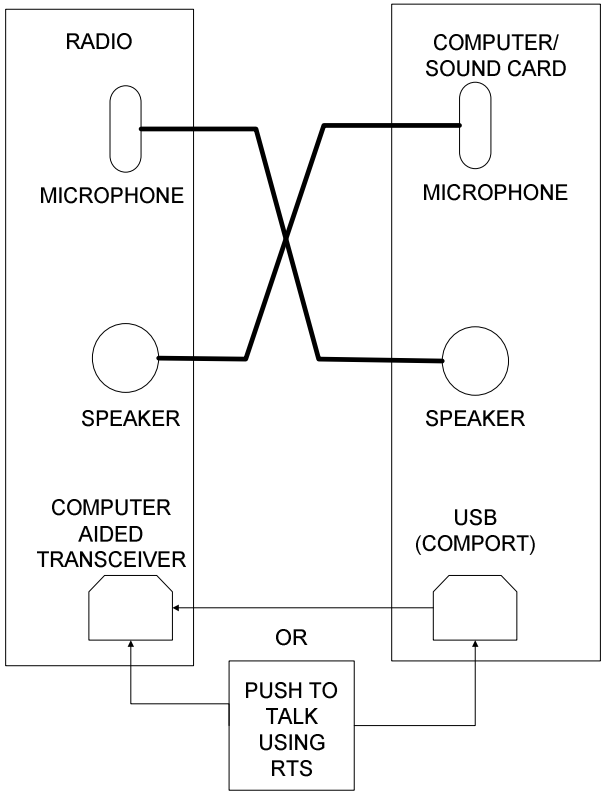
- To enable the transceiver to transmit the audio information from the computer, the Push-To-Talk has to be controlled.

1. The Signalink module will perform the PPT function.

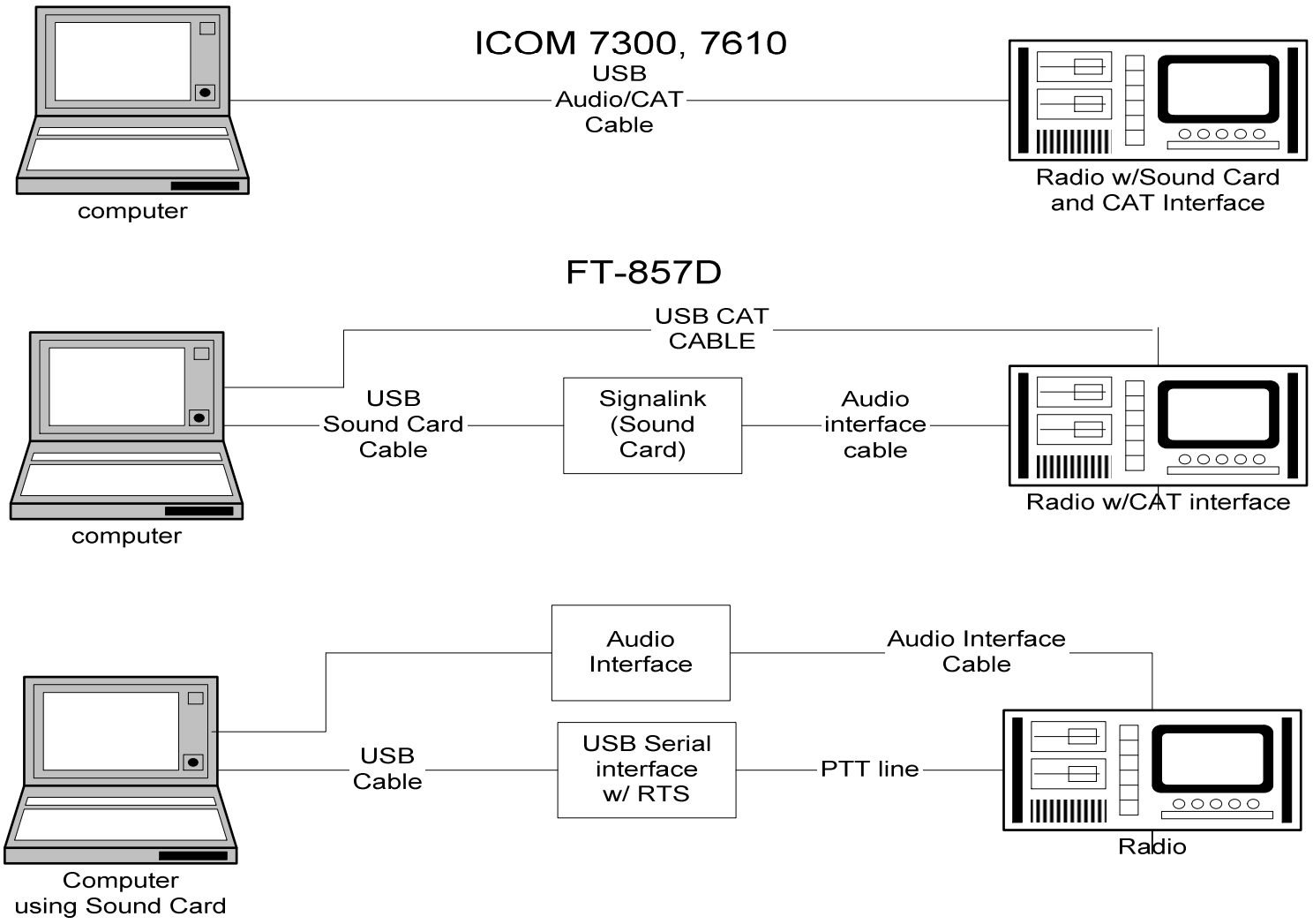
2. Or a separate USB to serial converter that has an RTS(Ready To Send) signal can be used to control the PPT function.

FLDIGI Cable Fundamentals

Cross Talk between Radio and Computer/Sound Card

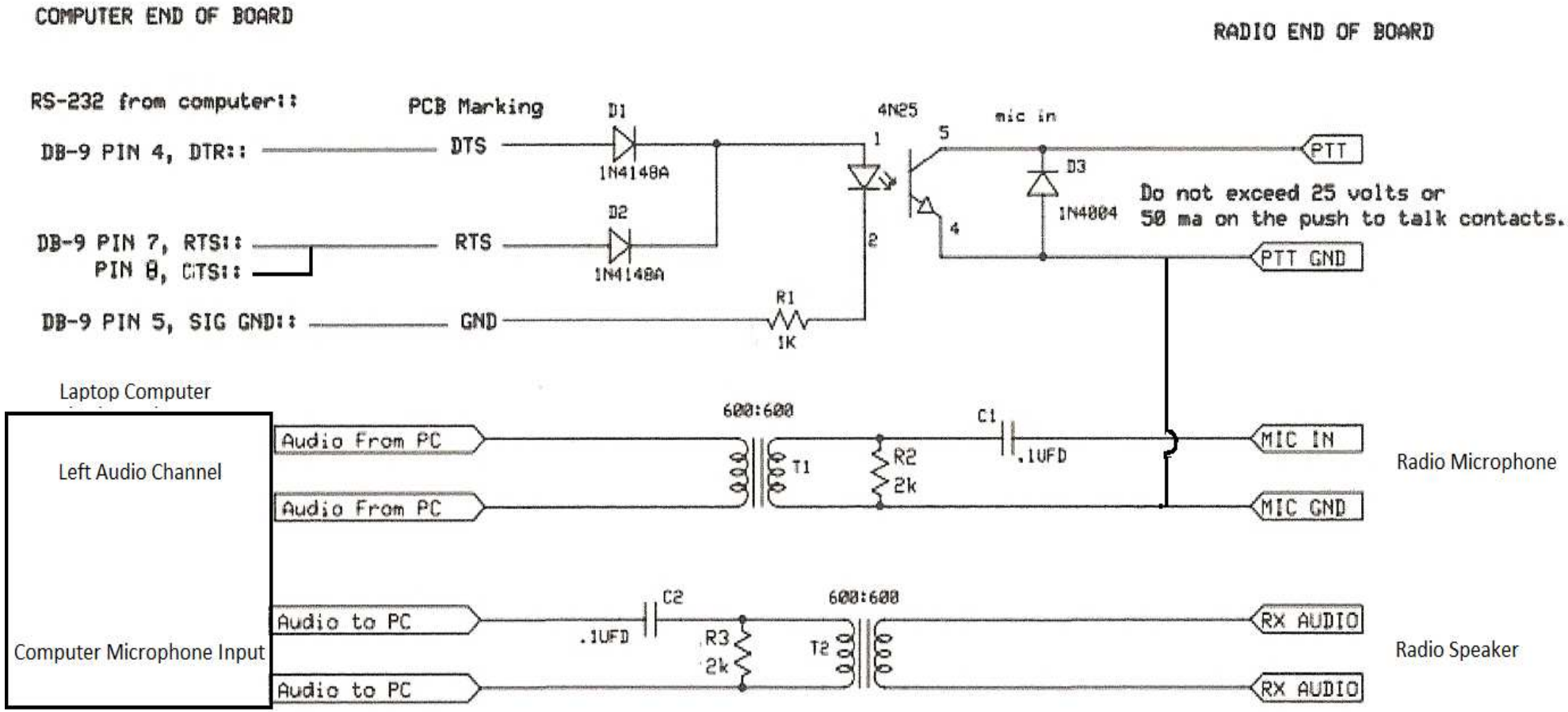


FLDIGI Hardware Examples

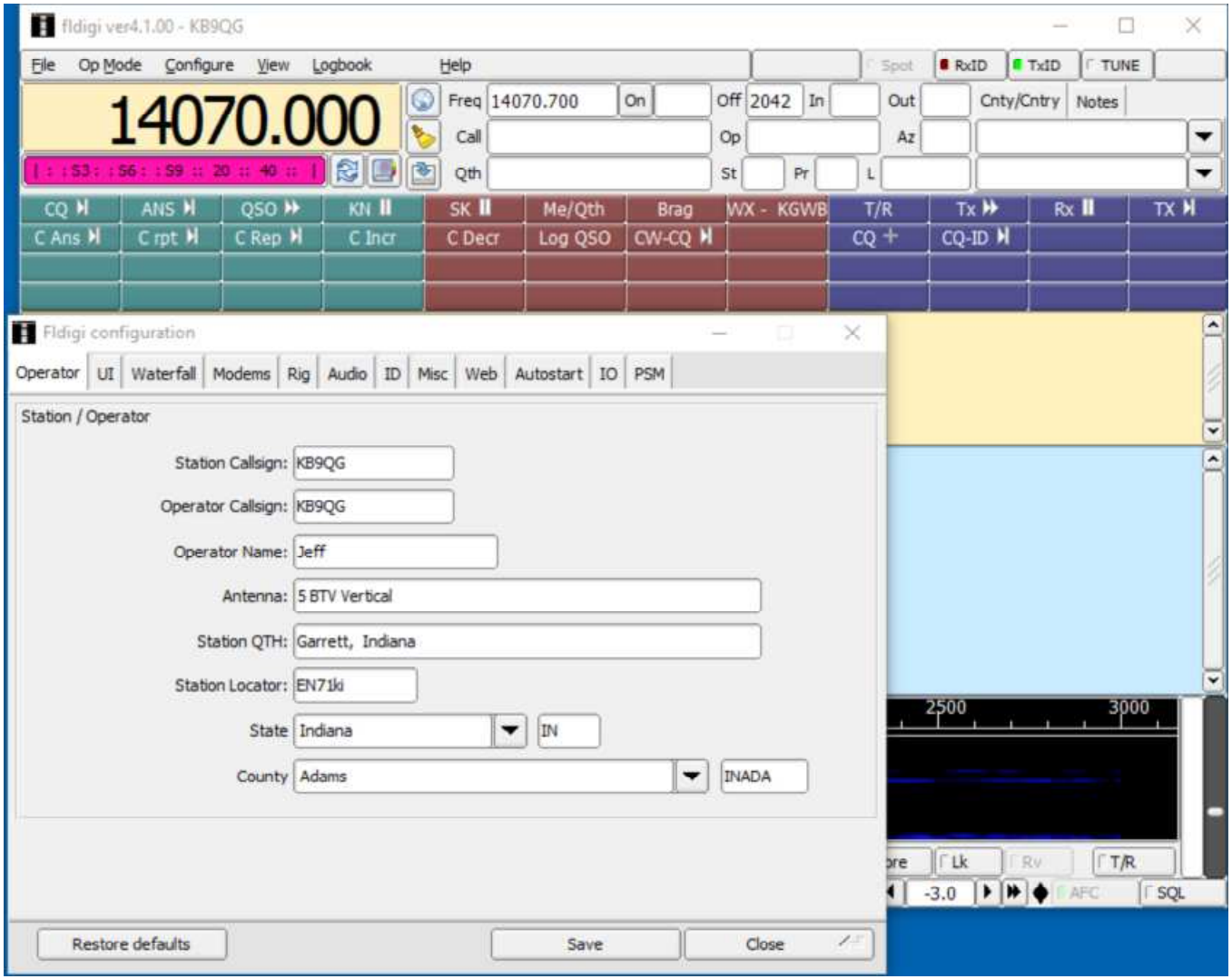


FLDIGI Hardware Examples

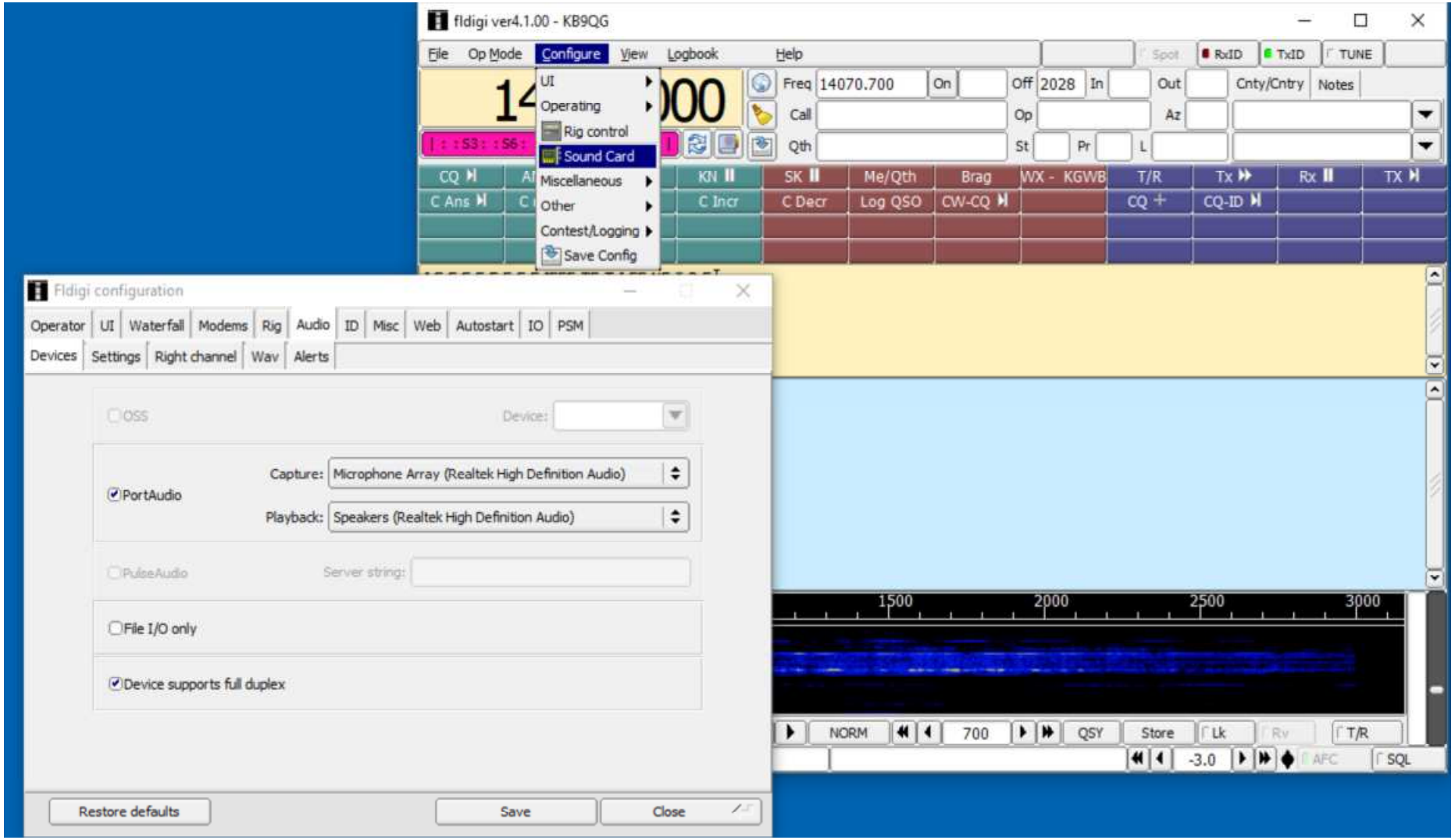
KF5INZ Easy Digi VII



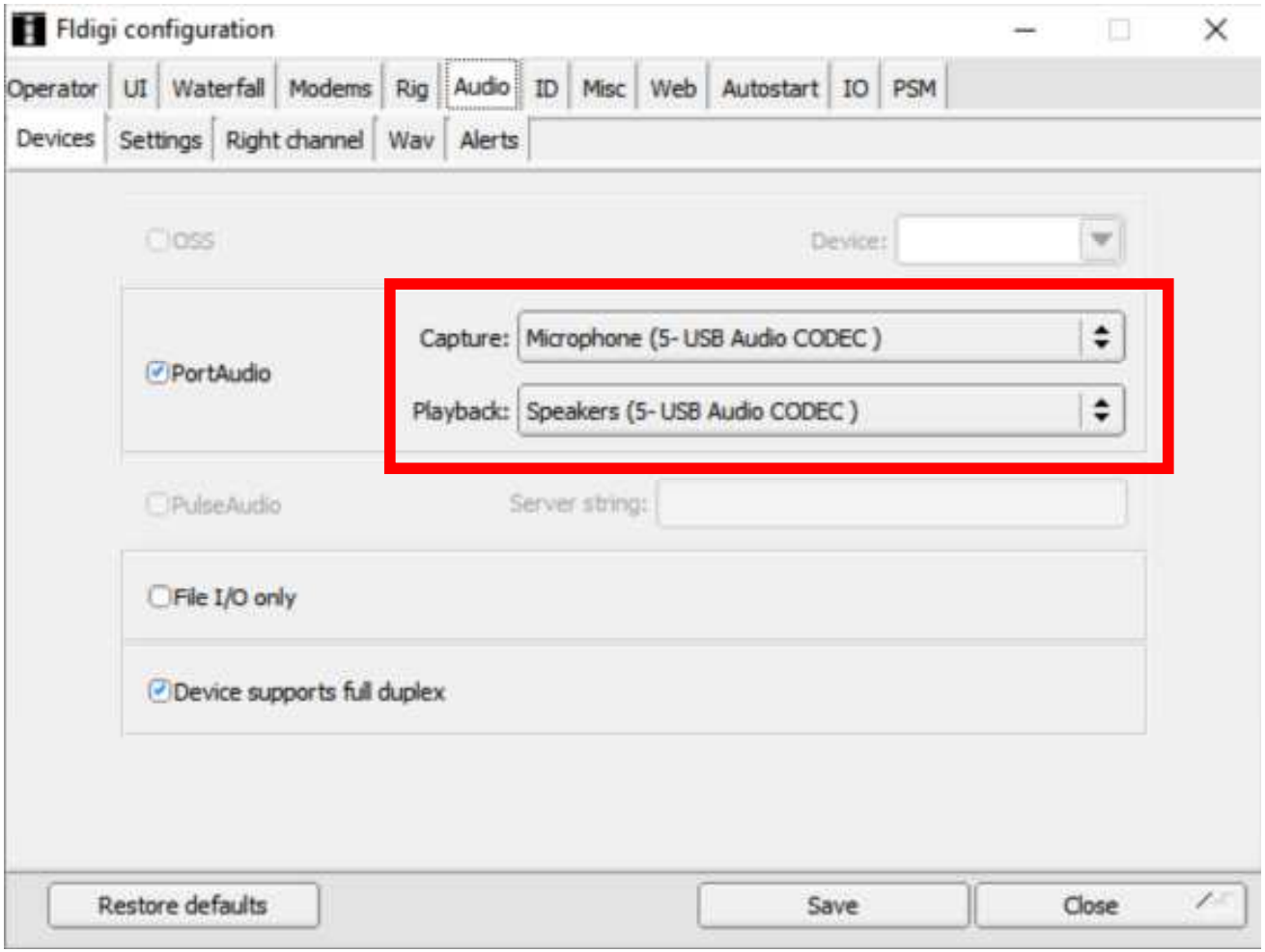
FLDIGI Computer Software Setting



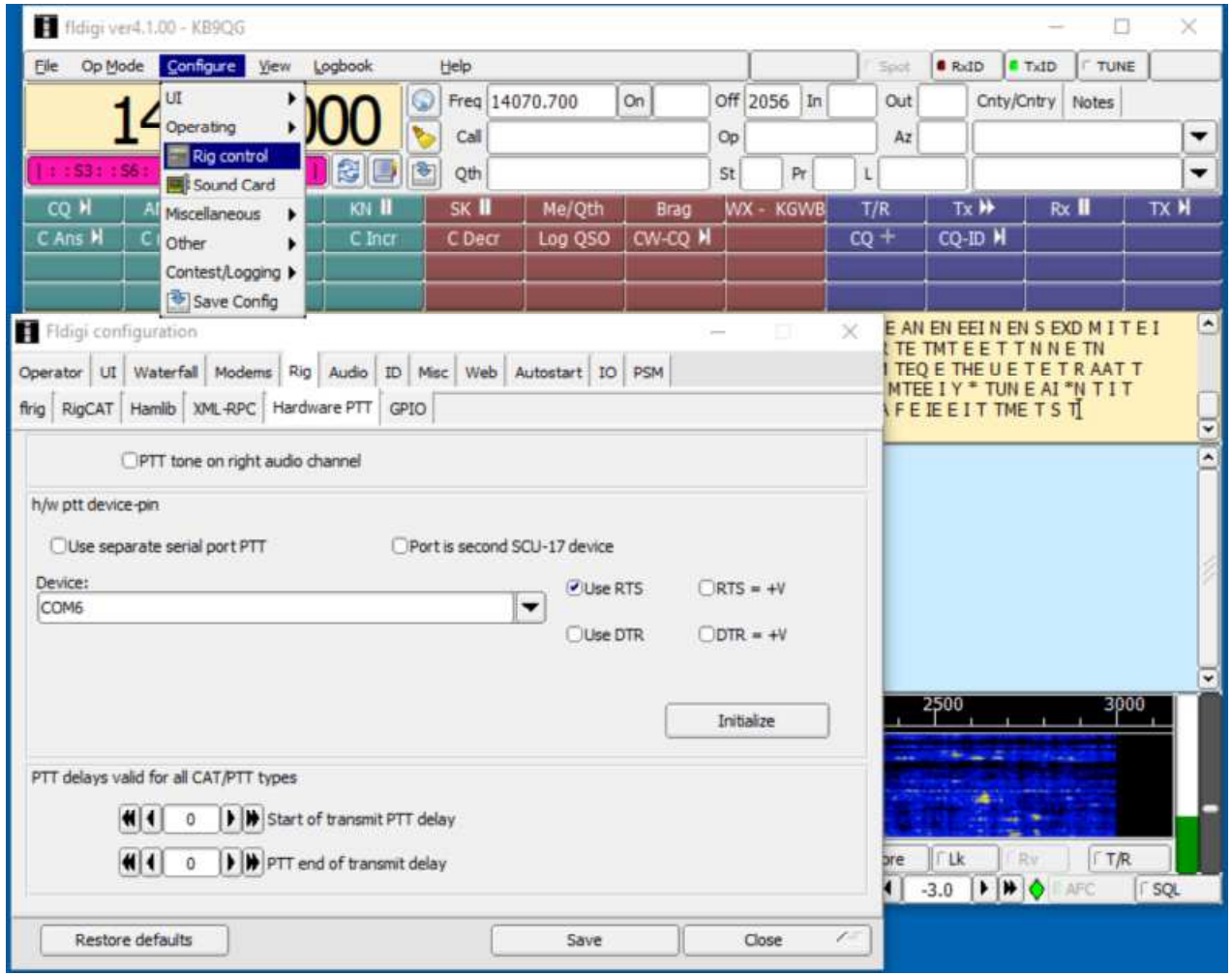
FLDIGI Computer Software Setting



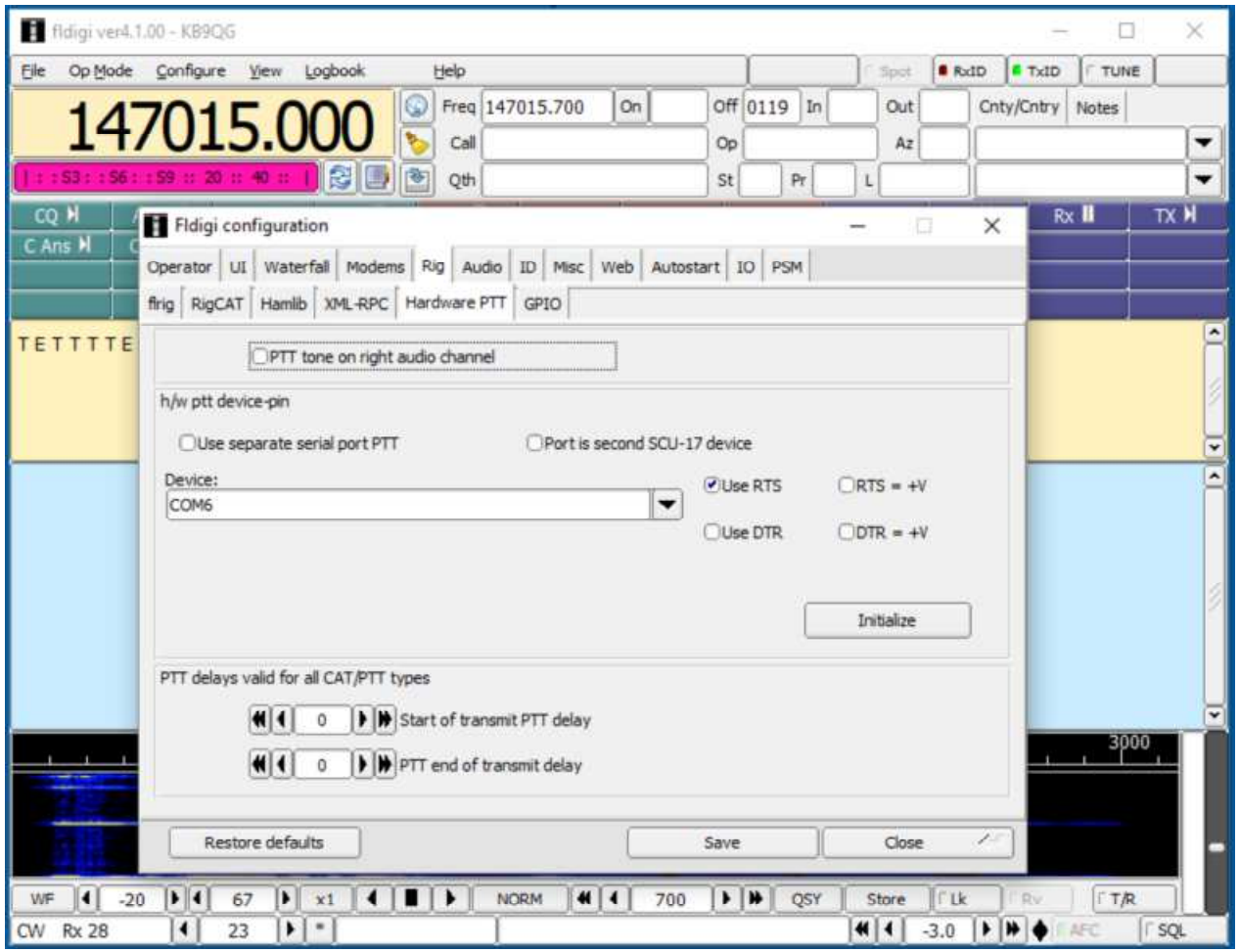
FLDIGI Computer Software Setting



FLDIGI Computer Software Setting

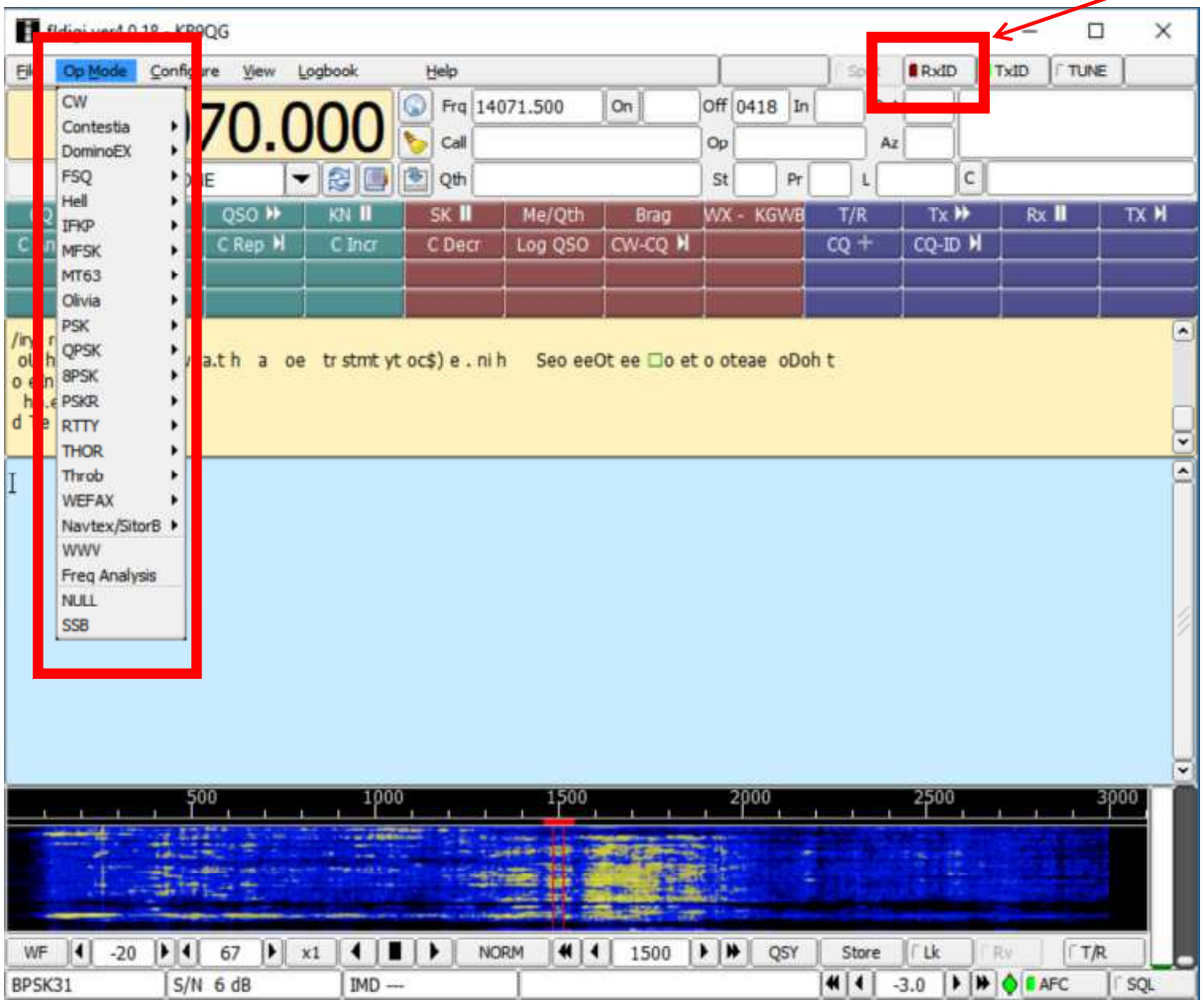


FLRIG Computer Software Setting

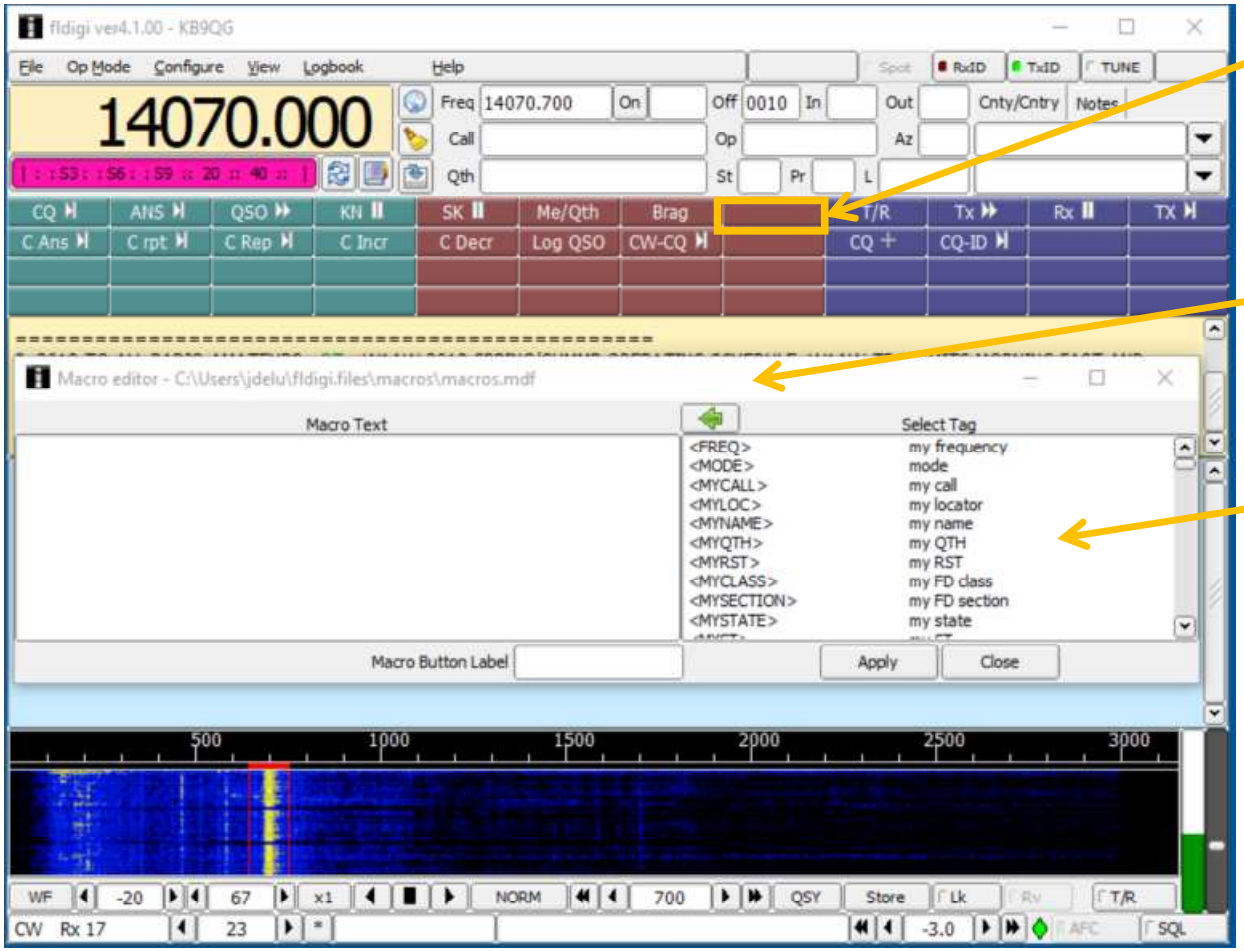


FLDIGI Operational Modes

Enable Signal recognition



FLdigi Macro Setup

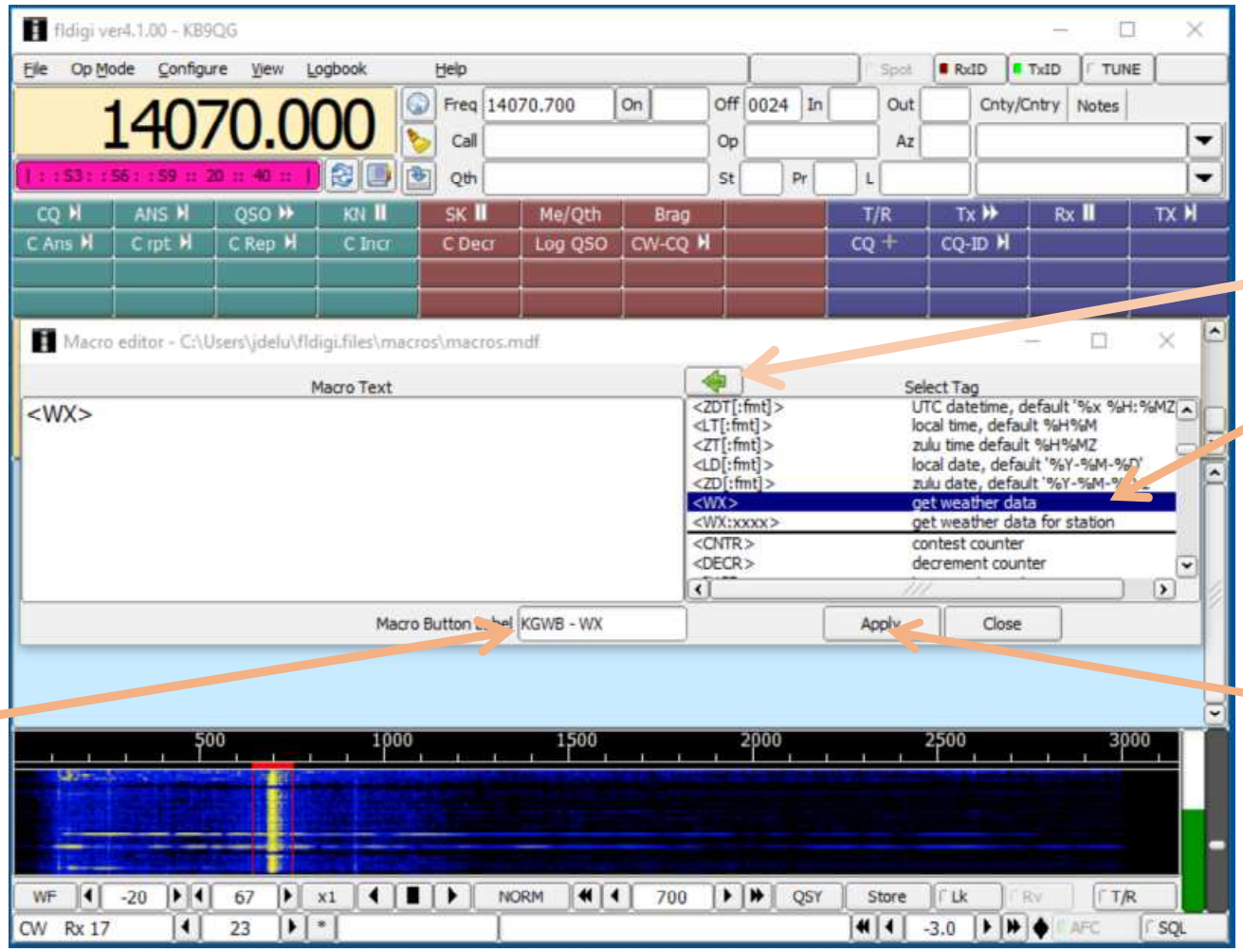


Right Click on this box

You will get this panel

Move items from this panel into the Macro Text panel via the green arrow,

FLdigi Macro Setup



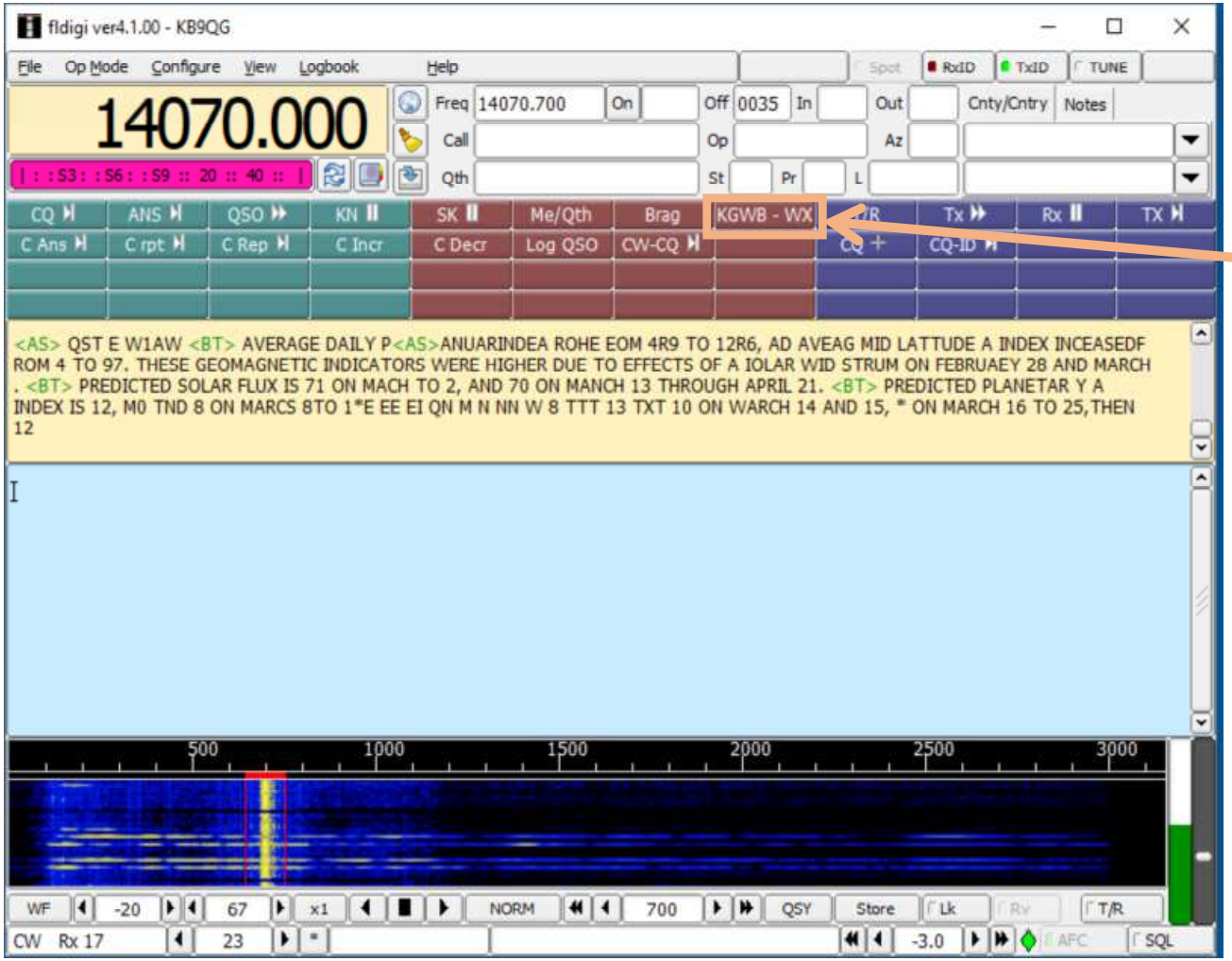
2. Move the text item to the Macro text panel.

1. Select a Macro text item

3. Give the Macro a name

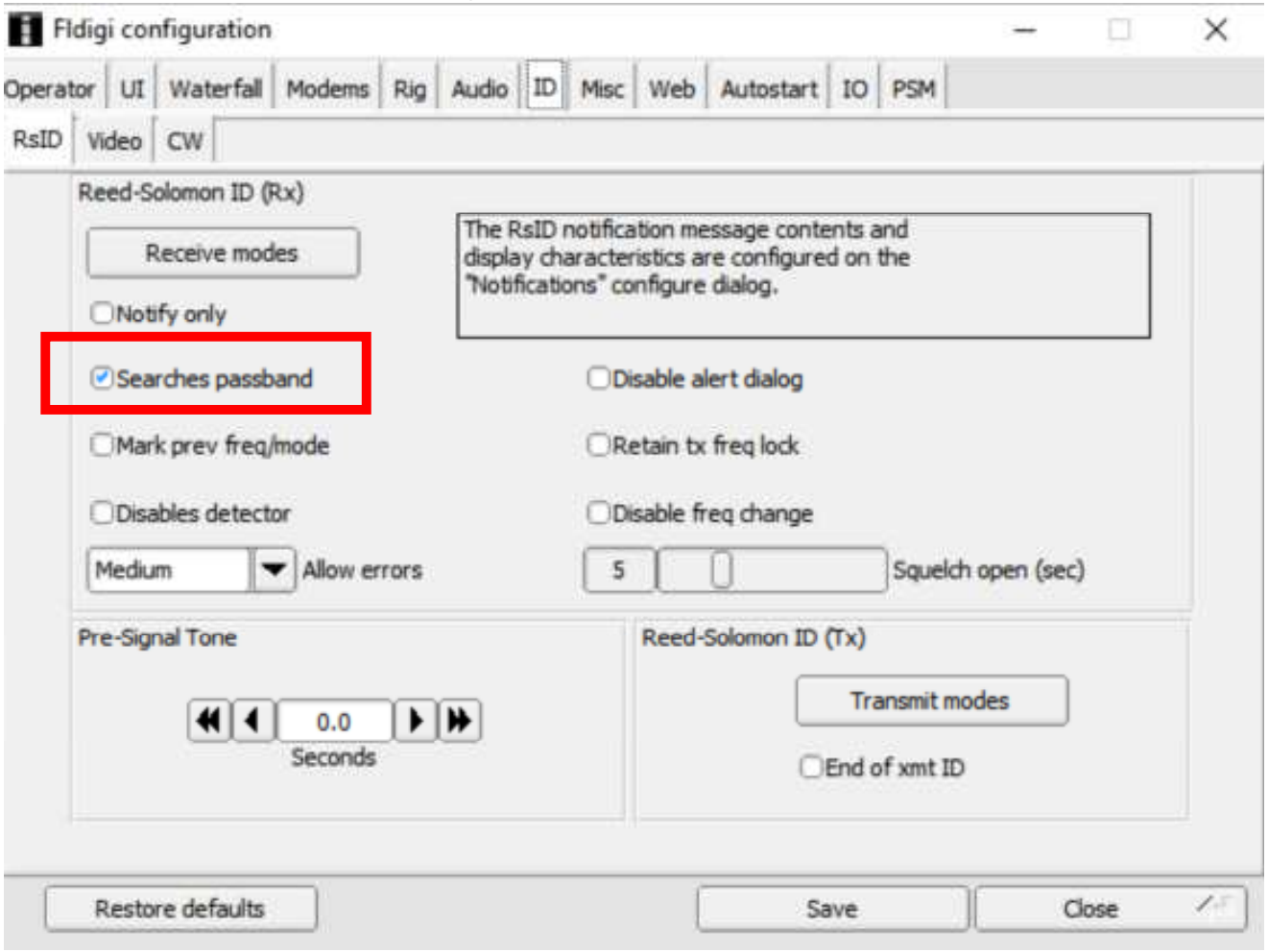
4. Click on apply

FLdigi Macro Setup

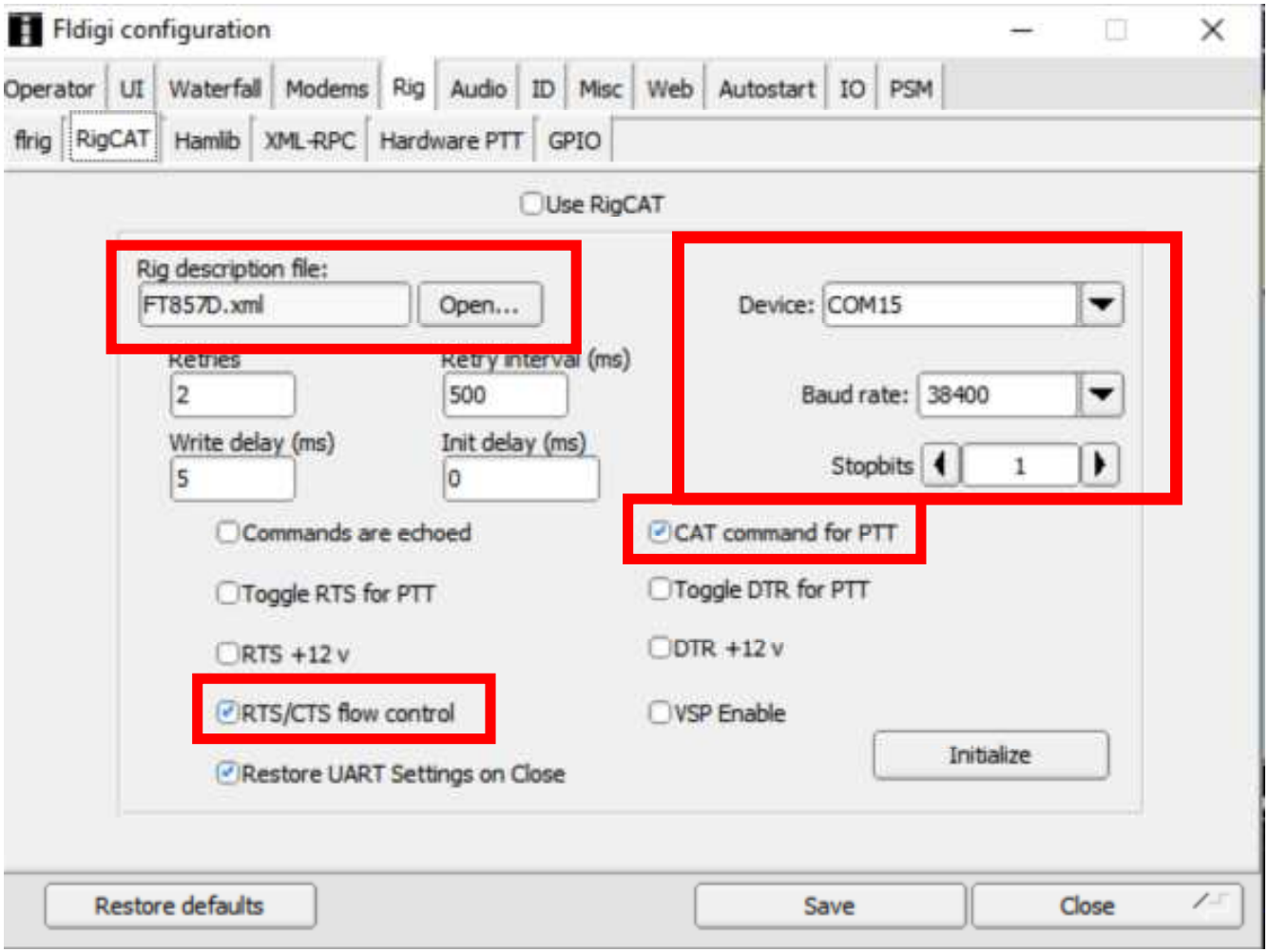


New Macro

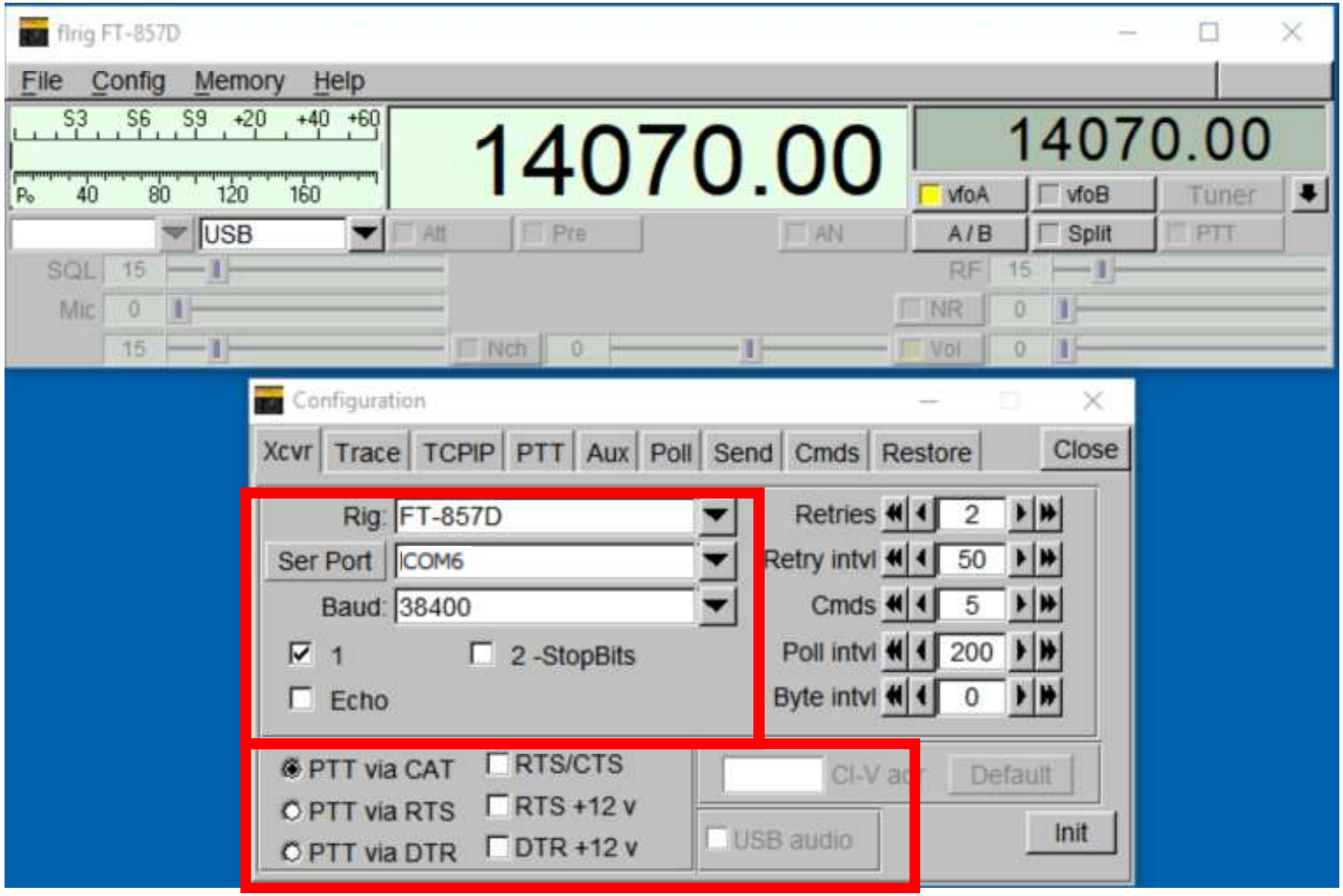
FLDIGI Computer Software Setting



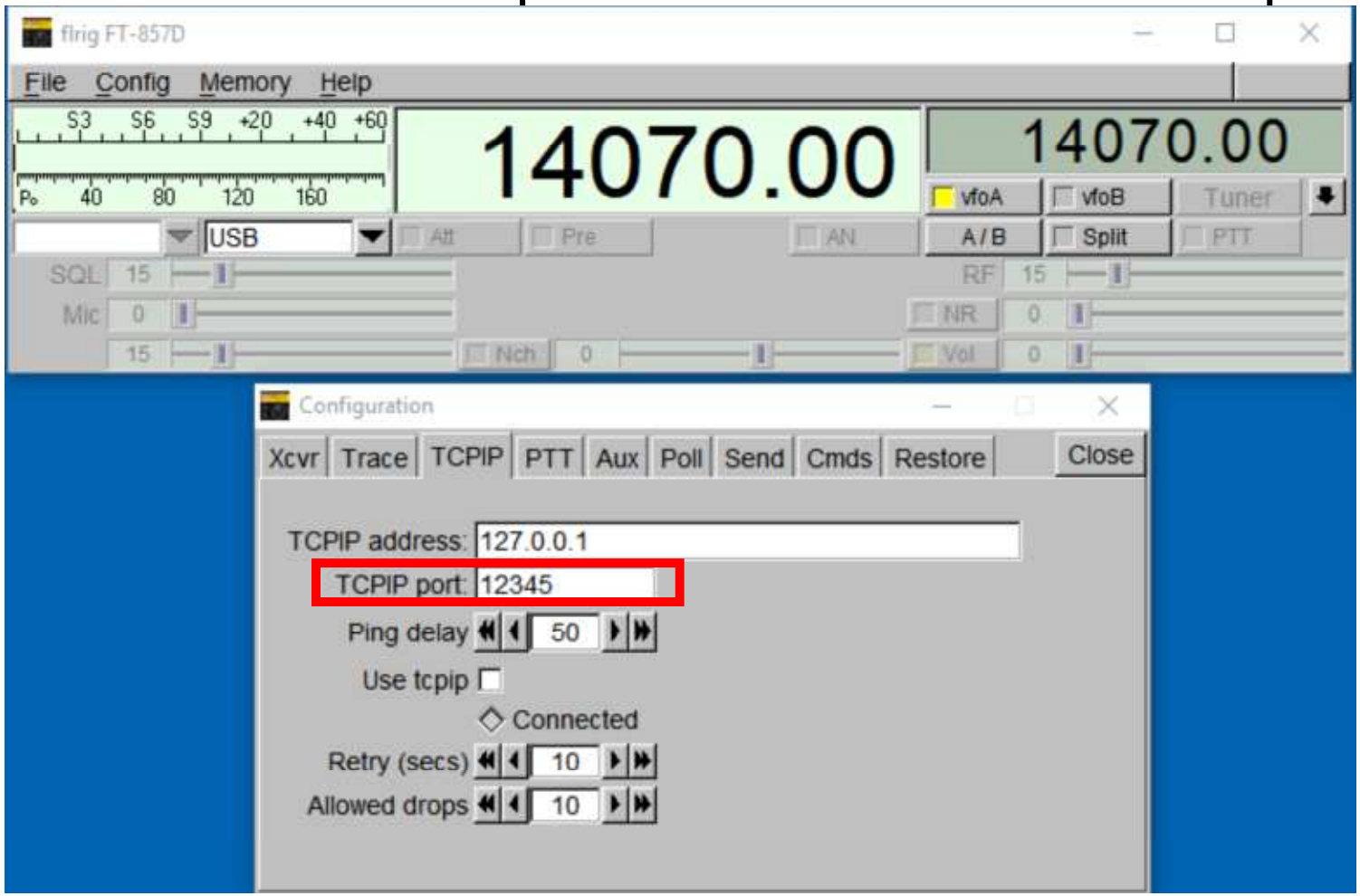
FLRIG Computer Software Setting



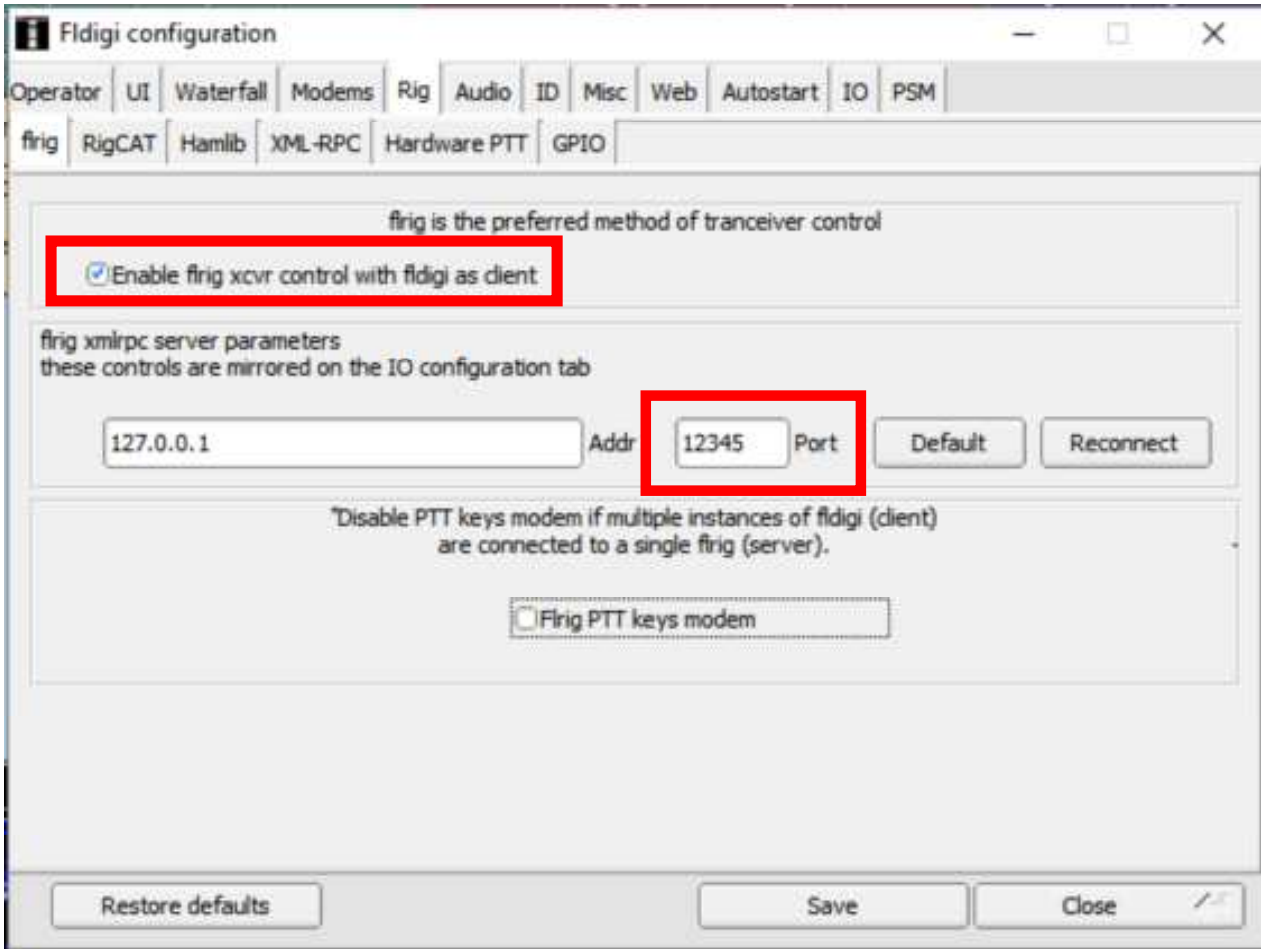
FLRIG Computer Software Setup



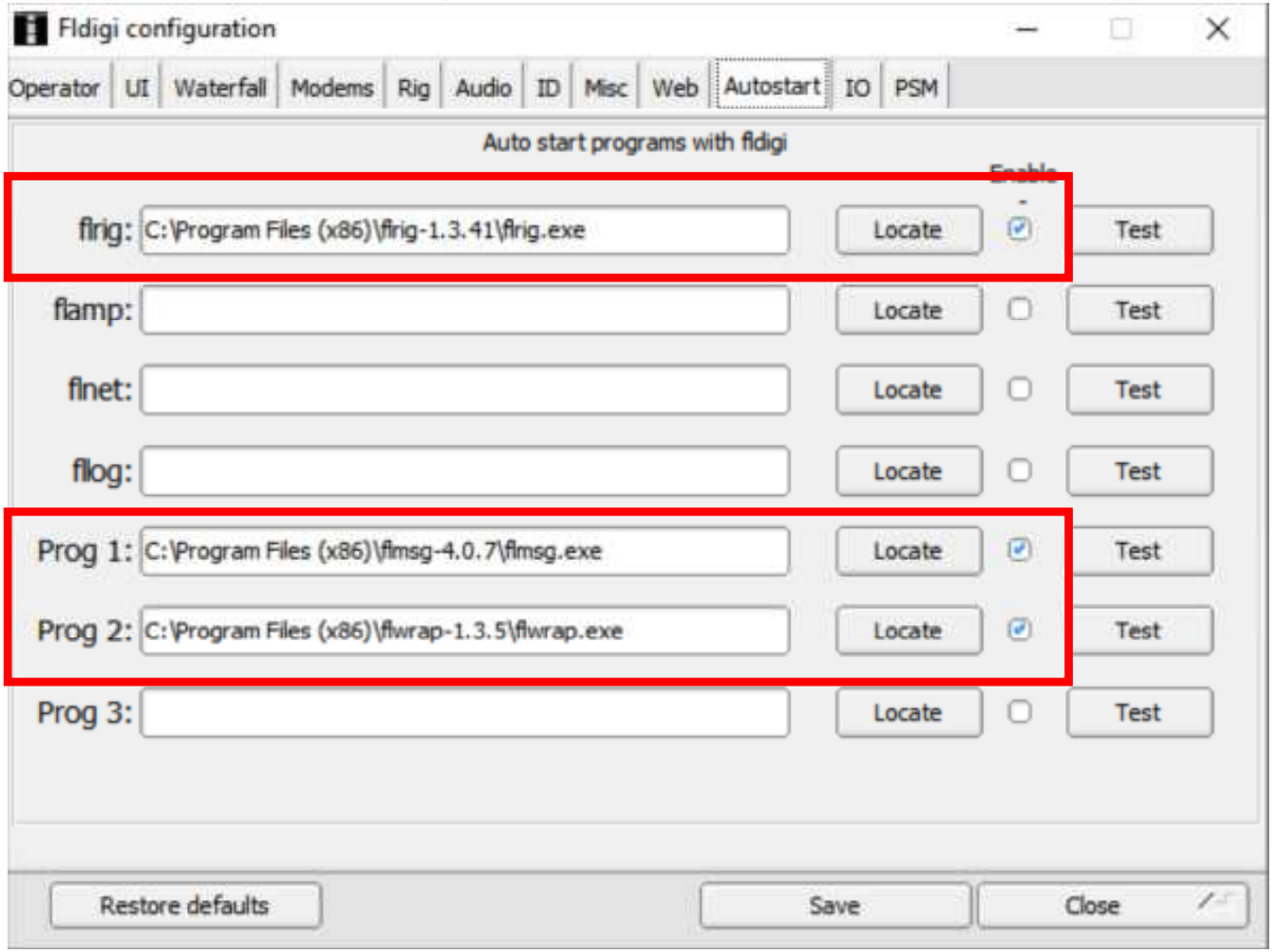
FLRIG Computer Software Setup



FLDIGI Computer Software Setting for FLRIG



FLDIGI Computer Software Setting



FLDIGI Radio Software Setting

- Any USB cable being used will require a software driver to be installed typically. Some times the operating system will recognize the USB and automatically install the driver

- The CAT USB port baudrate must be set in the radio and the computer to the same value such as 19200 if you are using FLRIG.

- Set the radio to use the USB-Data mode it it has that setting.

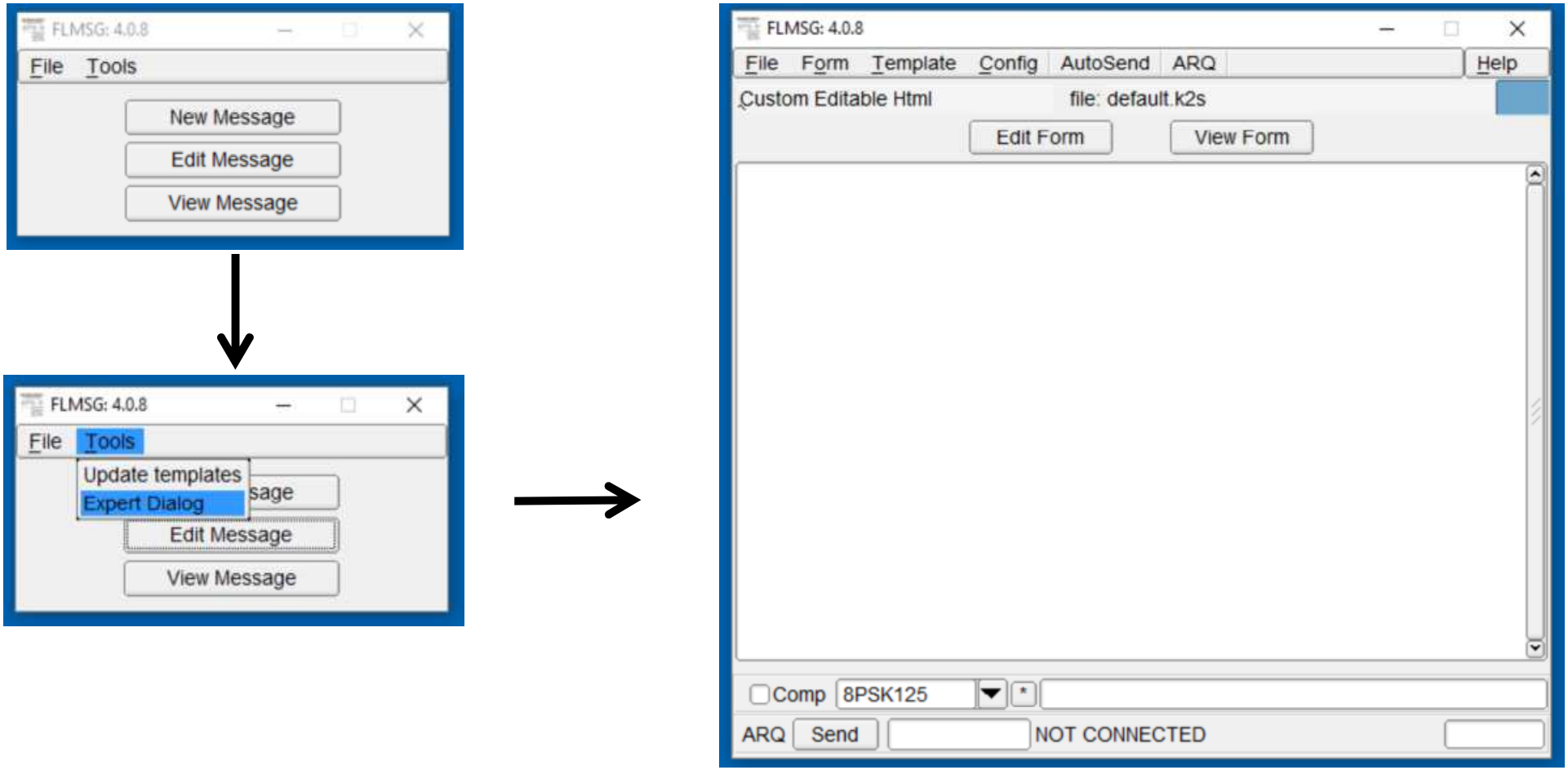
FLDIGI Radio Software Setting

- You need to set audio setting in the radio to prevent over modulating the USB-DATA signal.

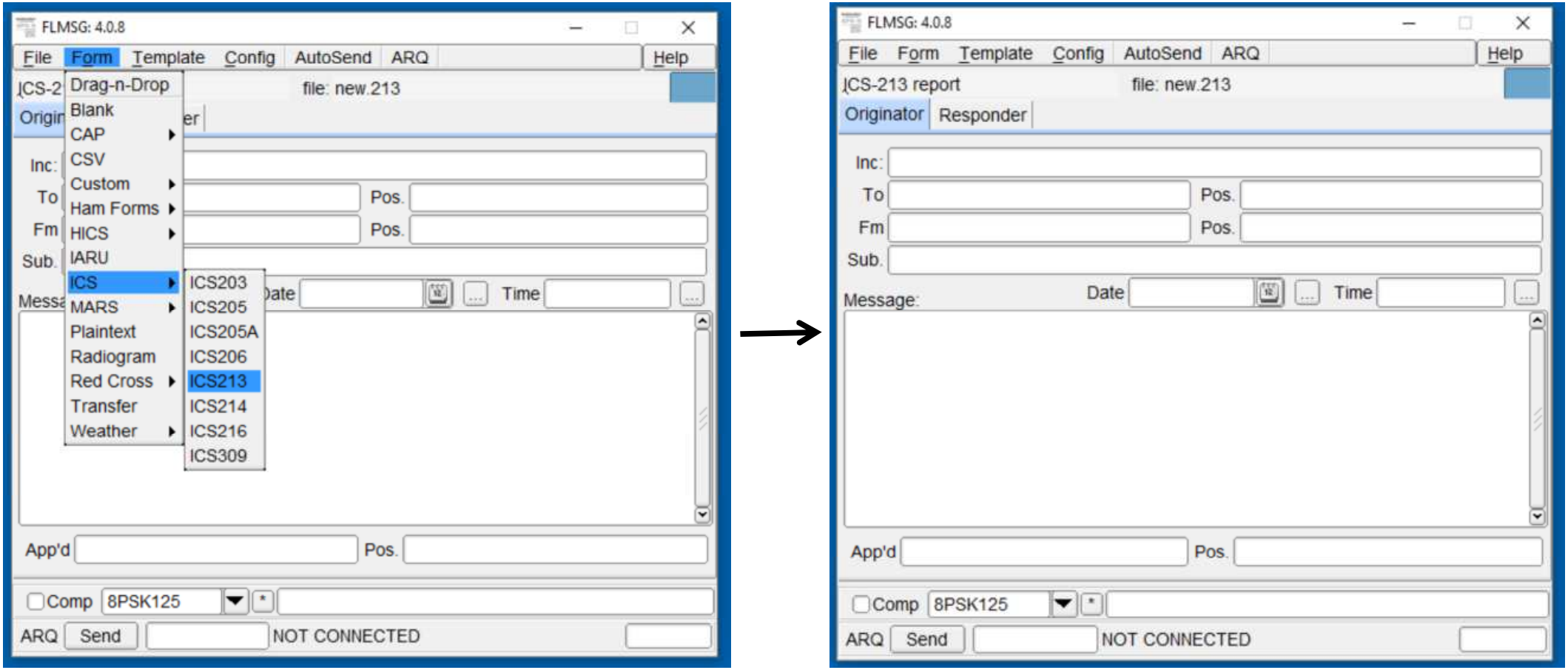
- Set the transmitter power level to 20 to 25 watts. Do not use full power output the radio. This will 100% duty cycle is some cases which will cause over heating of your transmitter also it causes over modulation of the signal.

- Additional radio setting will be required dependant on your given radio. Read the manual section on the CAT interface.

FLmsg Software setting



FLmsg Software setting



FT-857 Radio settings

MENU MODE No•019 [CAT RATE]

Function: Sets the transceiver's circuitry for the CAT baud rate to be used.
Available Values: 4800bps/9600bps/38400bps
Default: 4800bps

MENU MODE No•020 [CAT/LIN/TUN]

Function: Selects the device which is connected to the **CAT/LINEAR** jack on the rear panel.
Available Values: CAT/LINEAR/TUNER
Default: CAT

MENU MODE No•036 [DIG DISP]

Function: Defines the displayed frequency offset during DIG (USER-L or USER-U) mode operation.
Available Values: –3000 ~ +3000 Hz
Default: 0 Hz

MENU MODE No•037 [DIG GAIN]

Function: Adjusts the audio input level from terminal equipment (such as a TNC or PSK-31 sound card) during DIG (Digital) mode operation.
Available Values: 0 ~ 100
Default: 50

FT-857 Radio settings

MENU MODE No•038 [DIG MODE]

Function: Selects the mode and sideband (if applicable) in the DIG (Digital) mode.
Available Values: RTTY-L/RTTY-U/PSK31-L/PSK31-U/USER-L/USER-U
Default: RTTY-L
RTTY-L: AFSK RTTY operation on the LSB mode
RTTY-U: AFSK RTTY operation on the USB mode
PSK31-L: PSK-31 operation on the LSB mode
PSK31-U: PSK-31 operation on the USB mode
USER-L: User-programmed custom operation based on LSB mode
USER-U: User-programmed custom operation based on USB mode
In the USER-L and USER-U modes, you can define the display frequency offset and carrier frequency offset by Menu Mode No-036 [DIG DISP] and No-039 [DIG SHIFT].

MENU MODE No•039 [DIG SHIFT]

Function: Defines the carrier frequency offset during DIG (USER-L or USER-U) mode operation.
Available Values: –3000 ~ +3000 Hz
Default: 0 Hz

ICOM 7300 Settings

CI-V Baud Rate (Default: Auto)

Selects the CI-V data transfer rate.

- Options: 4800, 9600, 19200 (bps) or Auto

ⓘWhen “Auto” is selected, the baud rate is automatically set according to the data rate of the connected controller.

CI-V Address (Default: 94h)

Selects the CI-V address.

- Range: 02h ~ 94h ~ DFh

ⓘ“94h” is the default address of IC-7300.