

FlexRadio Systems

Software Defined Radios



FLEX-5000C™

Quick Start Guide

Version 1.14.0

Introduction

Thank you for choosing the FlexRadio Systems® FLEX-5000C™ transceiver. The FLEX-5000C is a highly versatile transceiver, designed to meet most if not all of your Amateur Radio needs. And especially through PowerSDR™, the “brains” of your transceiver, it continues to (rapidly) evolve.

Although setting up the FLEX-5000C is possibly a little different than you may have experienced with a traditional transceiver, it is not necessarily more difficult, as this Quick Start Guide will hopefully demonstrate.

The Quick Start Guide is designed to get you on the air with the least amount of fuss. To do this, we assume a basic HF installation and do not delve into all the FLEX-5000C's and PowerSDR's many possibilities. For that, we urge you to review the FLEX-5000 Owner's Manual.

To get your FLEX-5000C on the air you will need:

- The two cables that came with your FLEX-5000C.
- An HF-Antenna or dummy load.
- A good RF ground.
- A stabilized 13.8V DC power supply, capable of 25A continuous duty.
- A microphone/PTT and/or CW paddles/keyer/straight key.

If you run into any trouble during the set-up process, please:

- Recheck your steps.
- Review the Owner's Manual.
- Check our website <http://www.flex-radio.com/> for our many available support options.

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The following 4 steps will run you through the process of getting on the air.

Step 1: Hook Up the FLEX-5000C™

This describes how to make the physical connections to your FLEX-5000C transceiver.

Step 2: Hook-Up and Initialize the Internal PC

This step describes how to hook up your monitor, wireless keyboard/mouse and optionally, a network and/or computer audio speakers. Subsequently it walks you through the internal computer set-up process.

Step 3: Initialize PowerSDR

This walks you through the initialization of PowerSDR, the actual “brains” of your FLEX-5000C. PowerSDR determines your transceiver's functionality. It also offers a versatile user interface.

Step 4: Configure PowerSDR..

Finally, this step describes how to configure PowerSDR. On the one hand you will configure 2 parameters to be identical to those pre-set in the Device Driver. On the other hand you will select the correct audio input (microphone) and output (speakers and/or headphones) ports.

Step 1: Hook Up the FLEX-5000C™

In Step 1 you will make all the physical connections to the FLEX-5000C transceiver, required for basic HF operation.

Back Panel

A: Antenna

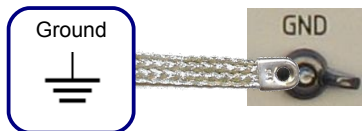
Connect an HF antenna with a 50 Ohm impedance or a dummy load to one of the 3 antenna ports marked **ANT1**, **ANT2**, or **ANT3**. Remember the port you used as you will need it in Step 4-C.



If you have the optional Antenna Tuner installed, the impedance may deviate from 50 Ohm (see the Owner's Manual)

B: Ground

Connect the terminal marked **GND** to your central station ground.



C: External Speakers

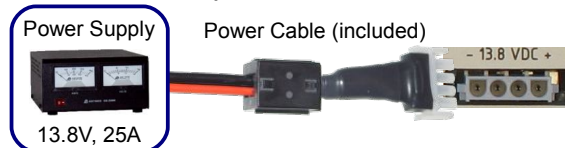
To supplement the FLEX-5000C internal speaker, you can connect a powered speaker, e.g. a pair of computer speakers, to the jack marked **PWR.SPKR/ LINE OUT** using a 1/8" stereo plug.



D: Power Supply

Use the power supply cable that came with your transceiver to hook up a stabilized 13.8V DC power supply to the jack marked **-13.8V+**.

The power supply must be rated for 25A continuous duty.



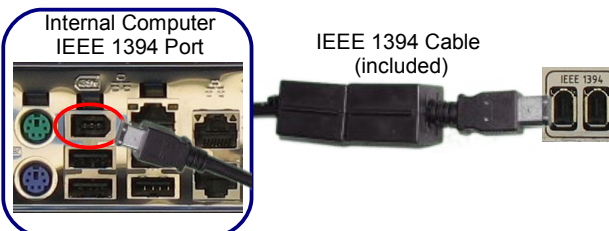
The power cable is unterminated at one end to allow you to attach your own connector(s) if needed. Make sure the 1 or 2 red wires go to the positive and the 1 or 2 black wires to the negative terminal of your power supply.

DO NOT POWER UP THE FLEX-5000C AT THIS TIME.

E: IEEE 1394

Locate the IEEE 1394 (FireWire®) cable that came with your transceiver. Connect the end with the ferrite core(s) to one of the two transceiver jacks marked **IEEE 1394**. Connect the other end to the IEEE 1394 jack on the internal computer. The plugs should insert easily with no extra force.

DO NOT INSERT THE PLUGS UPSIDE DOWN.



F: Paddles/Keyer/Key

Connect your CW paddles, keyer or straight key to the jack marked **KEY** using a 1/4" stereo (TRS) plug.



For paddles or a keyer, connect the Tip to dot, Ring to dash and Sleeve to common. For a straight key, connect Tip to key and Sleeve to common. Do not connect the Ring.

The PowerSDR Keyer is configured for iambic paddles by default. To change this, please see the FLEX-5000 Owner's Manual.

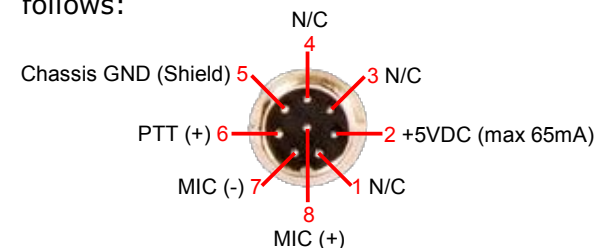
Front Panel

G: Microphone/PTT

Connect your microphone/PTT to the 8-pin microphone jack.



The pin-out of the microphone jack is as follows:



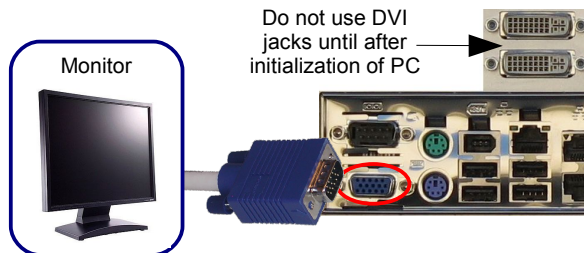
Proceed to Step 2: Hook-Up and Initialize the Internal PC on the next page.

Step 2: Hook-Up and Initialize the Internal PC

In Step 2 you will make the physical connections to the FLEX-5000C's internal PC and set up the PC.

A: Monitor

Connect a monitor to the internal PC using the blue VGA jack.

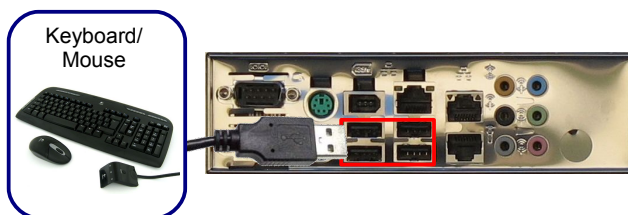


To initialize your computer you will need a monitor connected to the blue VGA jack. After initialization, you may switch to using one of the two white DVI jacks (if your monitor supports this).

B: Keyboard and Mouse

Install two AAA batteries into the bottom of the keyboard and two AA batteries into the mouse.

Connect the wireless keyboard controller to one of the internal PC's four USB ports.



C: Network and PC Speakers (Optional)

Although not required you may connect the internal PC to a local area network or Internet service and to computer speakers.



We strongly advise you to install anti-virus software before connecting to a network. FlexRadio Systems does not accept any responsibility for problems caused by virus, spyware or other malware exposure.

The computer audio speakers are different from the external communications audio speakers you connected in Step 1-C and are not required for the FLEX-5000C to function.

D: Microsoft® Product Key

The Product Key can be found on the rear of the FLEX-5000C. Write down the Product Key, as you will need it in Step F.



E: Turn on your FLEX-5000C

Turn on your monitor and power-up your FLEX-5000C: briefly press and then release the **Power** button. After a brief moment, you will hear the power relay click and the **Power** button will light up blue.

A green light will also show on the wireless keyboard controller. Briefly press the **Connect** buttons, first on the controller and then the underside of the keyboard; after waiting 20 seconds, again on the controller and then the underside of the mouse.

F: Set Up Microsoft® Windows®

For more detail, please refer to the information in your **Start Here** operating system booklet from Microsoft, included with your FLEX-5000C.

Click **Next** on the Welcome screen to start the set-up process:

- Accept the End User License Agreement and click **Next**
- Enter the Product Key you wrote down in Step D and click **Next**.
- Enter a System Name (or accept the default) and click **Next**.
- Enter an Administrator Password and click **Next**.
- If your computer is *not* in a Domain (most users) click **Next**. If your computer is in a Domain you will need to get specific instructions from your network administrator.
- Your computer will now check for Internet Connectivity. If you hooked up a network in Step C, the connection will be found and several screens will follow to set it up. Otherwise click **Skip**.
- If you are connected to the Internet you may Activate Windows by clicking **Yes**, otherwise click **No**. Click **Next**.
- Click **Finish**.

G: Time Zone and System Date/Time

Double-click the clock in the lower right of your screen. In the window that opens click the **Time Zone** tab and set your time zone. Click **Apply**.

Click the **Date & Time** tab and set your date by clicking on the calendar. Enter your time just below the clock. Click **Apply** and then **OK**.

Proceed to Step 3: Initialize PowerSDR on the next page.

Step 3: Initialize PowerSDR

In Step 3 you will Initialize PowerSDR

A: Run the PowerSDR Setup Wizard

The latest version of PowerSDR at the time of shipping has been pre-installed on your FLEX-5000C. You should see the PowerSDR icon on your desktop.

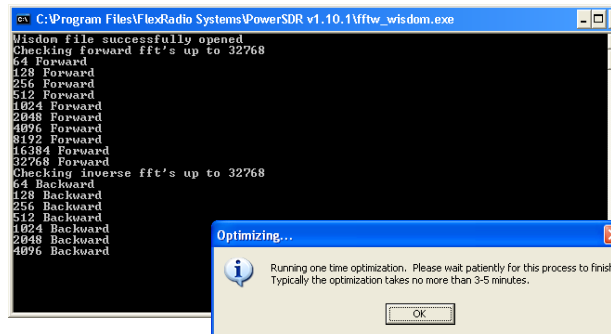


FlexRadio Systems regularly updates PowerSDR. The latest version can be downloaded from the home page of the FlexRadio website at: www.flex-radio.com/

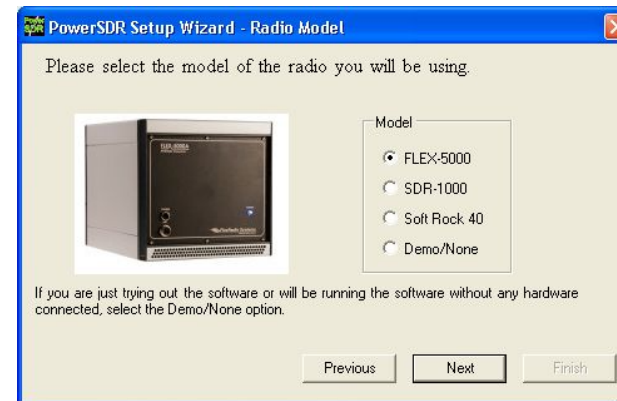
Over time, you may download and install multiple updated releases of PowerSDR. All these versions reside in the same directory on your internal computer and can be distinguished by their version numbers, currently as PowerSDR v1.n.m.

Start-up PowerSDR, either by double-clicking on the desktop icon, or clicking on **Start**, then **All Programs, PowerSDR** and select **PowerSDR v1.n.m.**

The first time a new release of PowerSDR starts up it will first run an optimization routine. Click **OK** and let the routine run.



Next the PowerSDR Setup Wizard will start and a Welcome screen will open. Click **Next**.

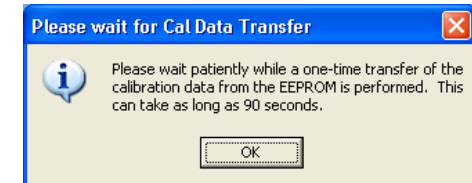


You will be asked to select your **Radio Model**. Select **FLEX-5000** and click **Next**.

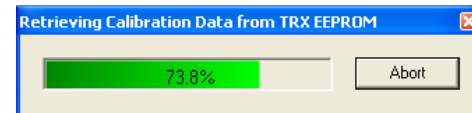
You will then be informed that the Wizard is finished. Click **Finish** to complete the Wizard.

B: Transfer of Calibration Data

PowerSDR next transfers your FLEX-5000C's calibration data to the internal computer. This only happens once, the first time you run a new release of PowerSDR.



Click **OK** to start the transfer process.



If you have the second receiver (RX2) installed, this transfer of data will be followed by a second transfer.

When the transfer process is complete, PowerSDR will finish starting up and display its front console.

Do not click the **Start** button just yet.

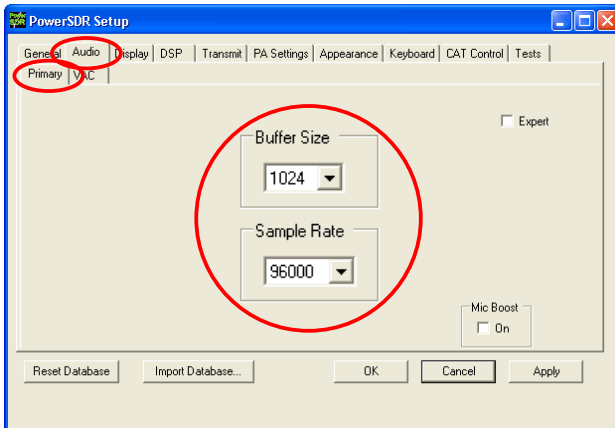
Proceed to Step 4: Configure PowerSDR on the next page.

Step 4: Configure PowerSDR

In Step 4 you will configure PowerSDR's Audio Parameters as well as the Mixer and Antenna Settings.

A: Configure the Audio Parameters

PowerSDR's Audio Parameters (Sample Rate and Buffer Size) must be configured to match those of the pre-installed Device Driver. To do so, click **Setup** in the menu bar of PowerSDR to open the Setup Form. Select the **Audio** tab and then select the **Primary** tab.



Set the **Buffer Size** to **1024** and the **Sample Rate** to **96000** (these same values have been set in the FLEX-5000 Device Driver). Click **OK** at the bottom right to complete the settings.

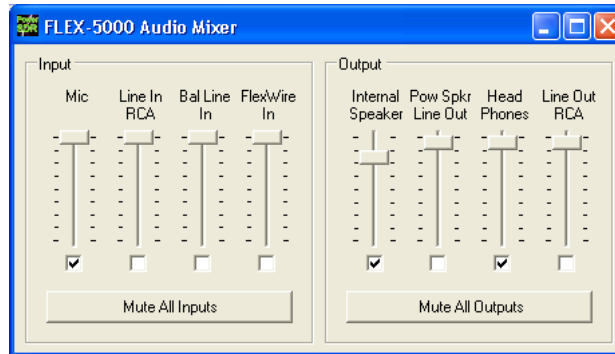
The Device Driver has been pre-installed and pre-configured on your internal PC. To modify its parameters, double-click its desktop icon to access its control panel (see the FLEX-5000 Owner's Manual).



B: Configure the FLEX-5000 Audio Mixer

Your FLEX-5000C has several input and output ports and the Audio Mixer is used to select the ones you are using and set their audio levels (just like with a sound card).

Click **Mixer** in the menu bar of PowerSDR.



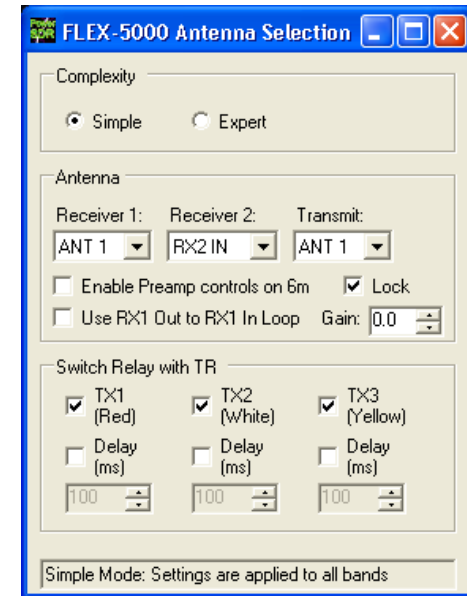
Check **Mic** as the Input to select the front **Microphone** jack. Check **Internal Speaker** as the Output, to activate your internal speaker. Check **Pow Spkr Line Out** and/or **Head Phones** if instead (or simultaneously) you want to send audio to external speakers (see Step 1-C), and/or the front **Phones** jack.

Click the red **X** at the top right to close.

C: Configure the Antenna Selector

Click **Antenna** in the menu bar of PowerSDR to open the Antenna Selector window. Set the **Receiver 1** and **Transmit Antenna** to the antenna port (**ANT1**, **ANT2** or **ANT3**) you connected your HF antenna or dummy load to in Step 1-A.

Click the red **X** at the top right to close.



D: Click Start

Congratulations! You've now completed all the steps required to set up your FLEX-5000C. In PowerSDR, click the **Start** button at the top left to operate your FLEX-5000C.

This Quick Start Guide provides only the basic steps to set up your FLEX-5000C. For more information, you are referred to the FLEX-5000 Owner's Manual, which can be found in the FlexRadio Documentation folder shortcut shown on your desktop.

