

# A Visual History of Flex Radios & Remote Capabilities



Presented to the Greater Norwalk Amateur Radio Club  
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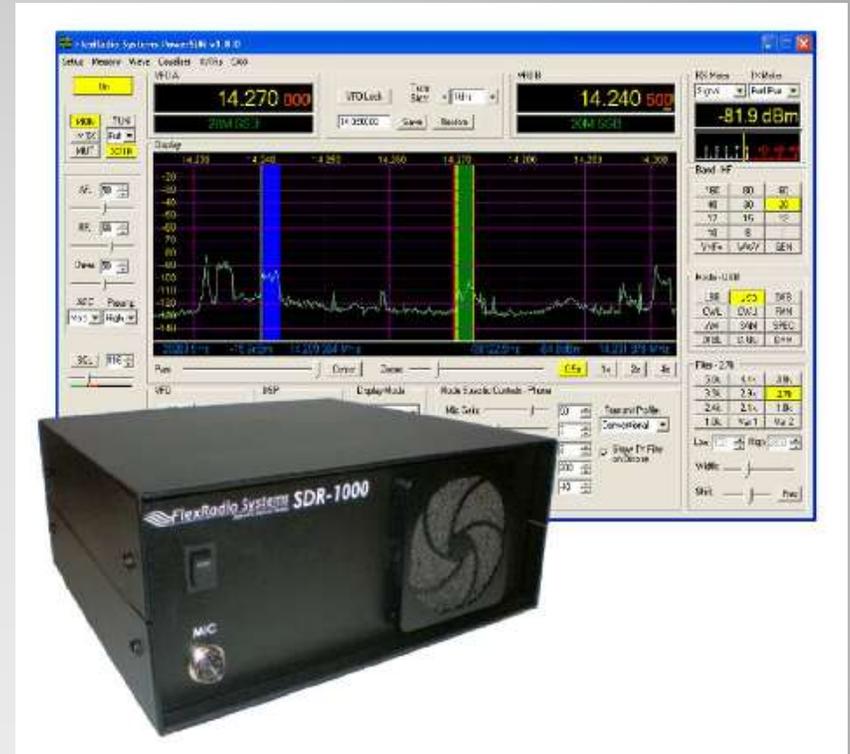
- What is SDR ?

## **Software Defined Radio**

- It works the same as a Super-Het Radio
- It replaces all the traditional parts of Oscillators, Mixers, RF filters
- It is a quieter radio
- It can support many modulation schemes (Wave Forms)
- A consumer example is your cell phone

# **SDR Technology**

- SDR 1000 introduced in 2003 and considered the 1<sup>st</sup> open source SDR
  - Required an external sound card
  - Software was open source with many contributors
  - Controlled using a PC



## Flex Radio model history

## • Flex-5000

- Hardware control over a single FireWire® IEEE-1394 connection to a user provided computer (no external sound card)
- The FireWire card is installed in the PC
- Dual receive capability
- Excellent receiver specifications
- External 10MHz reference for better stability
- Remote via PC
- PowerSDR software control



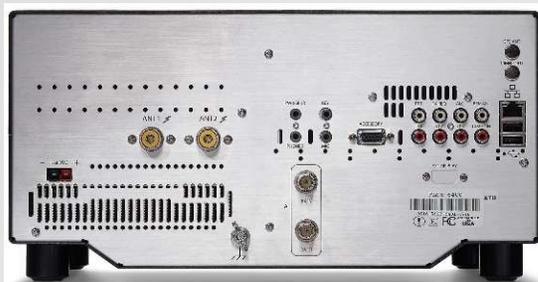
# Flex Radio model history

- Flex-1500 & 3000
  - Introduced in 2009
  - Small footprint
  - Firewire control
  - For portable operation
  - PowerSDR software control
  - Remote via PC
  - Knobless PC control



# Flex Radio model history

- **Flex 6000 Series**
  - Completely new platform
  - Introduced in 2018
  - Ethernet connected
  - Faceless & Faced models
  - Operation using proprietary SmartSDR on a PC, Maestro or Cell phone
  - Designed for remote operation
  - Multiple users can simultaneous connect

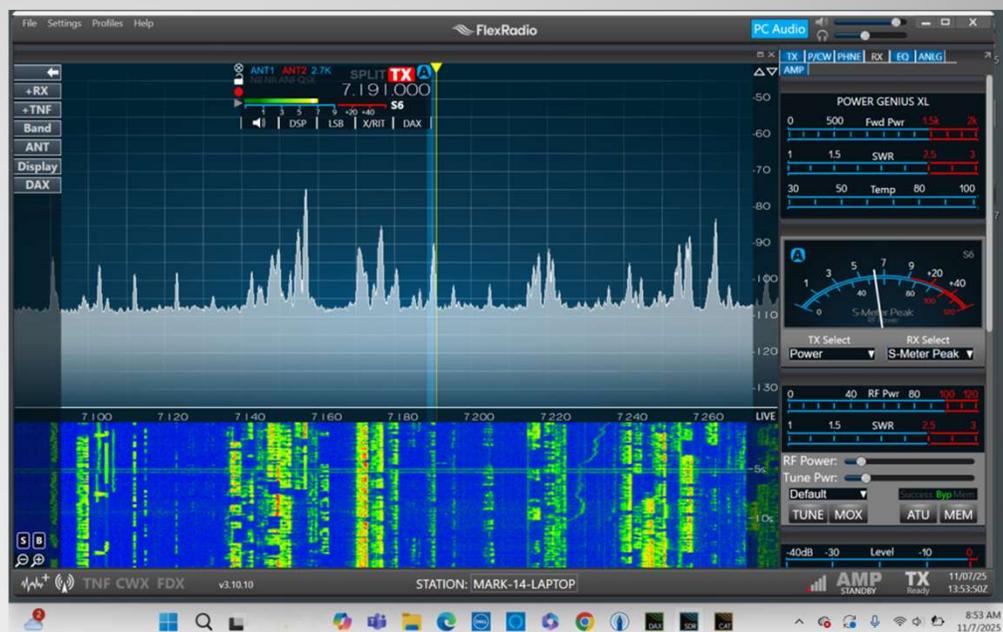


**Flex Radio model history**

- SmartSDR software

- PC – Maestro – Cellphone remote capable
- Full functionality
- Connectivity to multiple radios
- Connectivity to compatible devices; Amplifier, Tuner
- Easy connect in the PC To WSJT digital suite

- Will also control Tuner & Amplifier



**Flex Radio model software**

- Flex Maestro

- Ethernet connected
- Full remote control from anywhere
- Knobs & Buttons



**Flex Radio accessories**

- Flex Maestro
  - Connectivity



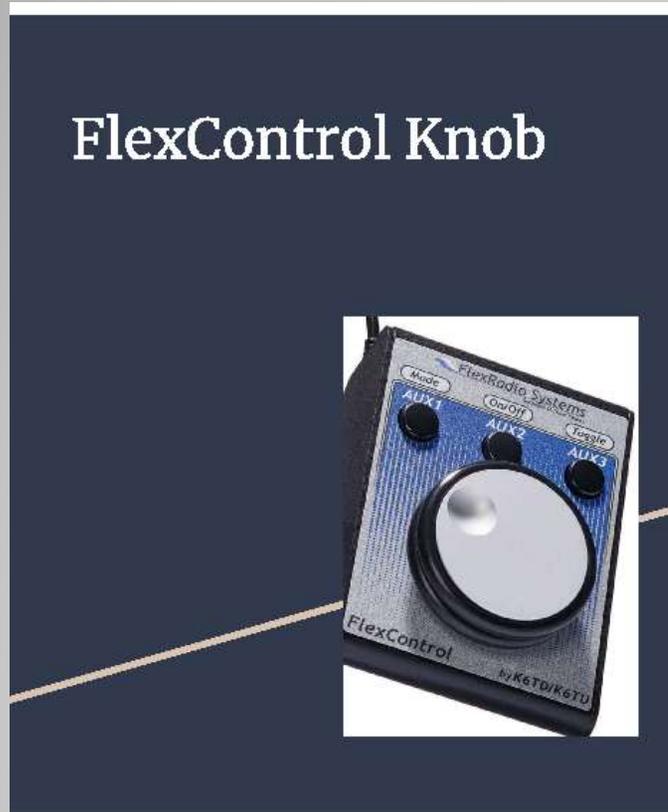
"Control Head" for all Flex 6000 series radios

- SmartSDR Client
- No additional Software required
- Runs 2 slices
- 8" screen
- Take your station with you
- Can be used remotely with SmartLink (included)
- 2.4 and 5Ghz WiFi
- Lan connection
- Headphones - #10
- CW Paddle input - #7
- Mic connection x 2 - #13 and #14
- PTT connection - #11
- Powered Speakers connection - #8
- Line out - #9
- Line in - #13

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# Flex Radio accessories

- The Knob
  - Connects to your PC



The FlexControl knob gives you VFO control of your Active Slice on your desk.

It has the feel of a well designed VFO knob

Customizable feature buttons

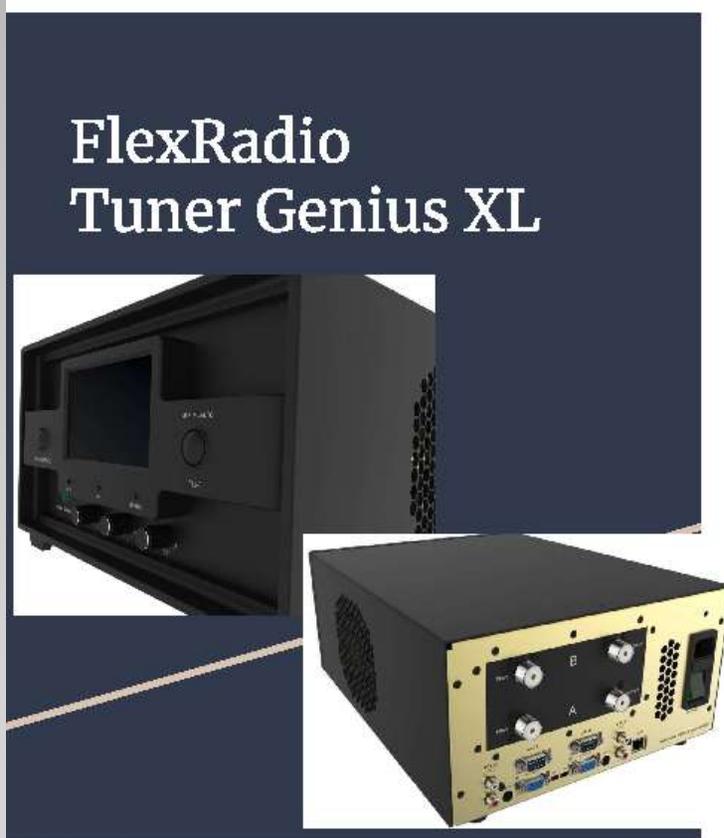
It works with SmartSDR and is plugged into your PC

<https://www.flexradio.com/products/flexcontrol-usb-controlled-tuning-knob/>

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# Flex Radio Accessories

- Tuner Genius



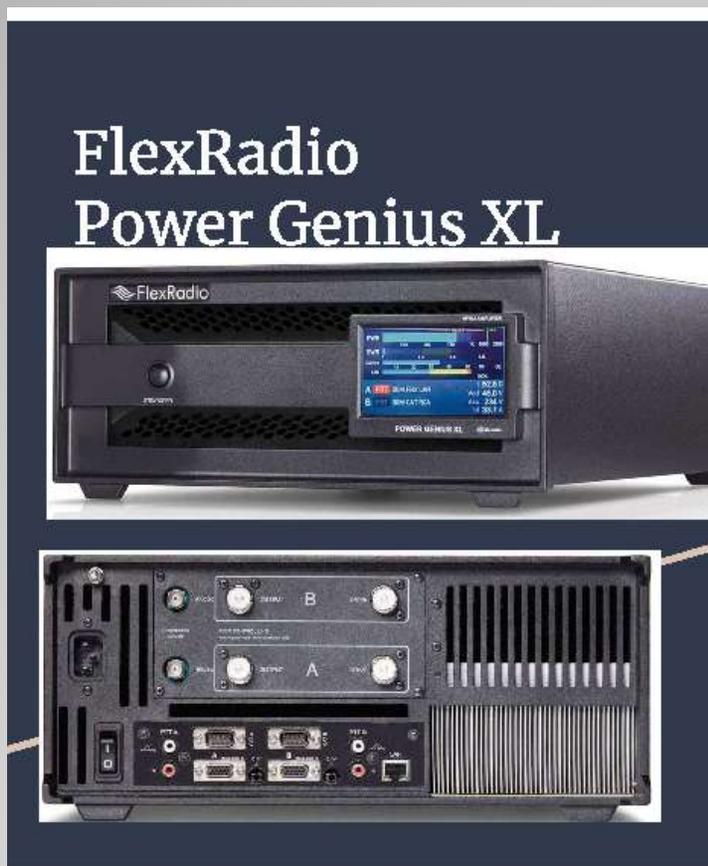
- 1.8Mhz to 54Mhz coverage
- Legal Limit output - up to 2000 watts
- Integrates with any transceiver (RS232, CI-V, Pin to Band)
- S02R or 1x3 output
- Low drive, Frequency Out of Range, Wrong band, and High power warning alarms
- Designed to complement FLEX-6000 series transceivers and the Power Genius XL™ amplifier
- Seamless SmartSDR™ software integration
- Complete control and monitoring (over LAN) from an intuitive Windows™ application
- Contest ready - the ONLY single-radio S02R solution in amateur radio
- Fast tuning (2-12 sec) with memories (20ms)
- High accuracy SWR and power meter measures in bypass mode.... and much more.
- Works with all types of HF Radio - Flex and DEM
- 100% ICAS Duty Cycle

*There is no other tuner on the market like this one!*

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# Flex Radio Accessories

- Power Genius



- 1.8Mhz to 54Mhz coverage
- Legal Limit output
- First ever MEffA™ system (Maximum Efficiency Algorithm) control efficiency as a function of output power (*no other amp does this*)
- Harmonic Load Isolation (*no other amp does this*)
- Only SO2R amp on the market
  - Reduced station costs
  - Band Pass Filters included
- UltraFast SWR Protection
- Simple FlexRadio setup
- Remote Control
- SO2R ready (*no other amp does this*)
- Support for OEM radios
- Support for 2 Exciters at the same time

<https://www.flexradio.com/products/powergenius-xl/>

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# Flex Radio Accessories

- What's required for remote operation
  - Simple station
    - Flex 6400
    - 12VDC PS
    - Internet capable relays to:
      - Power cycle radio
      - Turn 12VDC supply on/off
    - Ethernet connection
    - Multi-band antenna

# Remoting

- What's required for remote operation
  - Complex station
    - Flex 6400
    - 12VDC PS
    - Internet capable relays to:
      - Power cycle radio
      - Turn 12VDC supply on/off
    - Ethernet connection
    - Single-band antennas
    - Antenna switch
    - Bandpass filters
    - Amplifier
    - Some specialized control/monitoring software  
Node Red

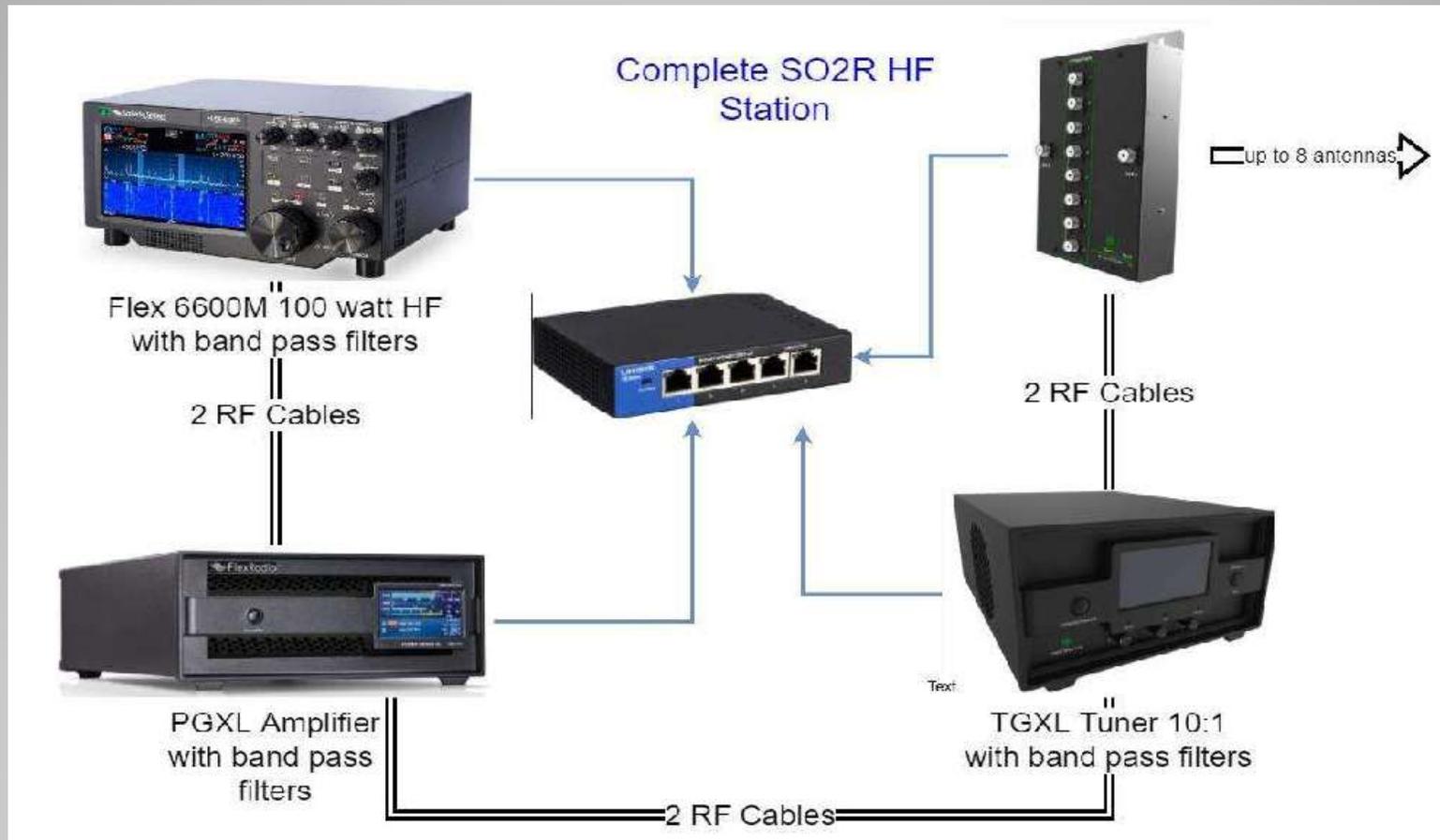
## Remoting

- SO2R configuration



# System Configurations

- SO2R station configuration



# System Configurations