Getting Started with HF Digital Modes
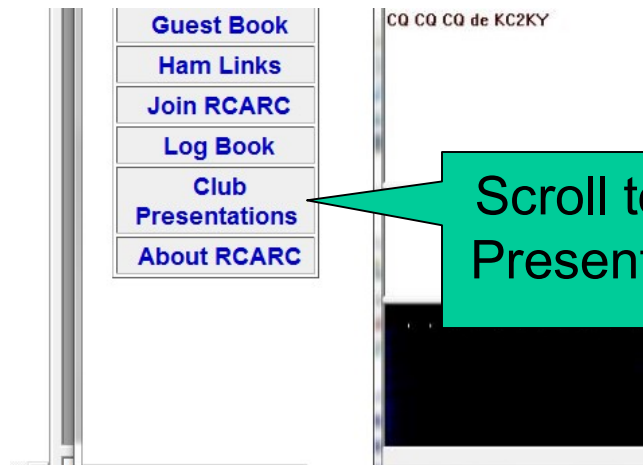
This presentation is Available on the Radio Central Web Page: www.rcarc.org

# Getting Started with HF Digital Modes

- What we Mean by HF Digital Modes
- Why Run Digital Modes
- What You will Need
- Hardware Setup
- Functionality of Interface Box
- Interface Box Options
- Some Popular Software Programs
- Commonly Used Digital Modes
- Hands-On Demo
- Questions and Feedback

VHF/UHF Digital Modes

D-STAR
WIRES
DMR
ECHOLINK
IRLP

HF Digital Modes

RTTY
PSK-31
SSTV
HELLSCHREIBER
CW
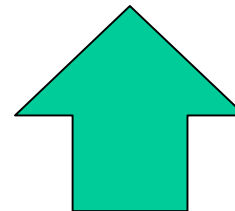
WHY Digital Modes ?

It's always fun to try new things

You probably already have most or all of the hardware you need

Most modes are implemented in software that you can download for free from the Internet

Your PC becomes an extension of your radio

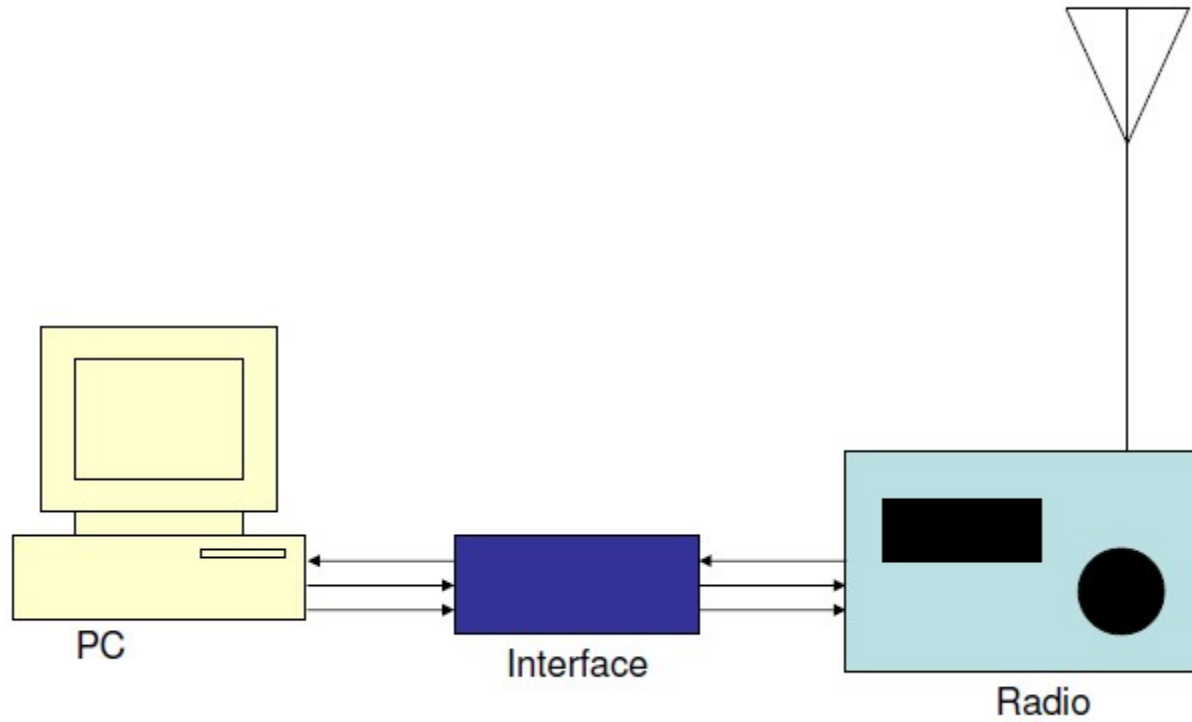New digital modes are coming out all the time

What You Will Need
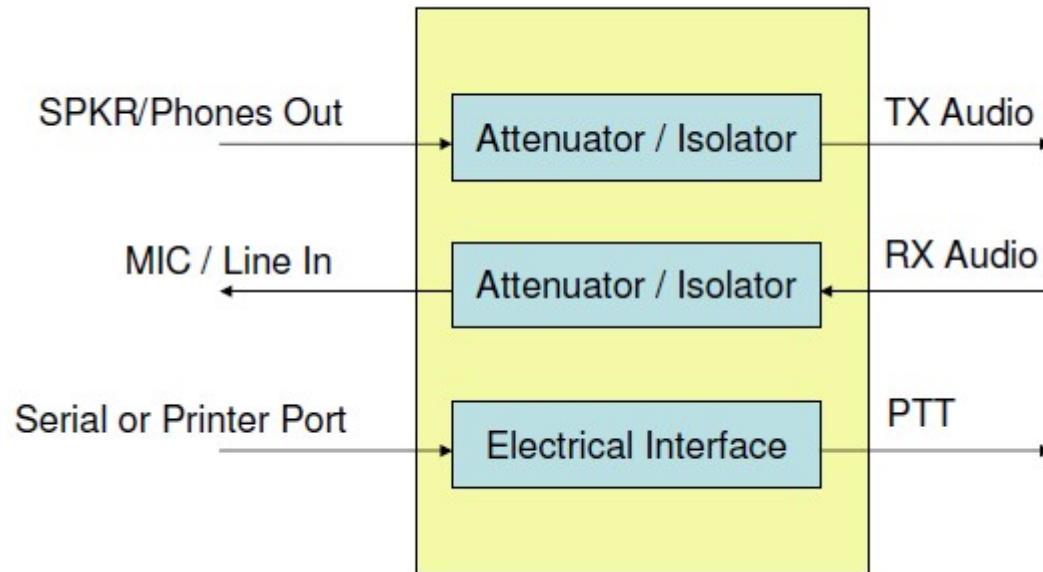
HF Rig (and Antenna!)

PC, Windows XP and up are OK

Interface Box

Software

Typical Station Setup for Digital Modes

PC

Interface

Radio

Interface Box

SPKR/Phones Out → Attenuator / Isolator → TX Audio

MIC / Line In ← Attenuator / Isolator ← RX Audio

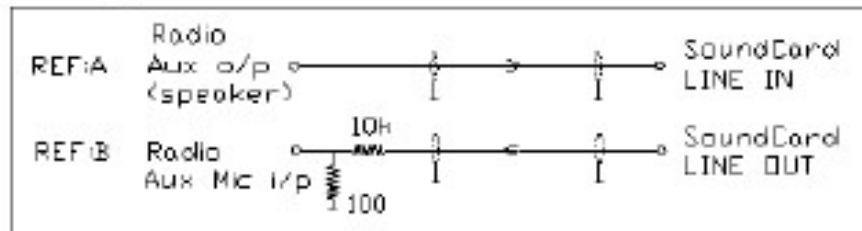Serial or Printer Port → Electrical Interface → PTT

Digital Mode Interface Box – Easy to homebrew

Several "Store Bought" Units Available

Can be used for just about all HF digital modes
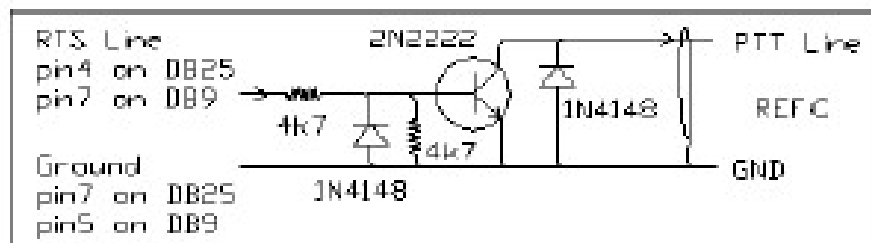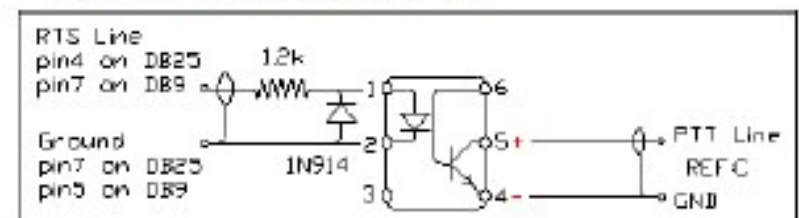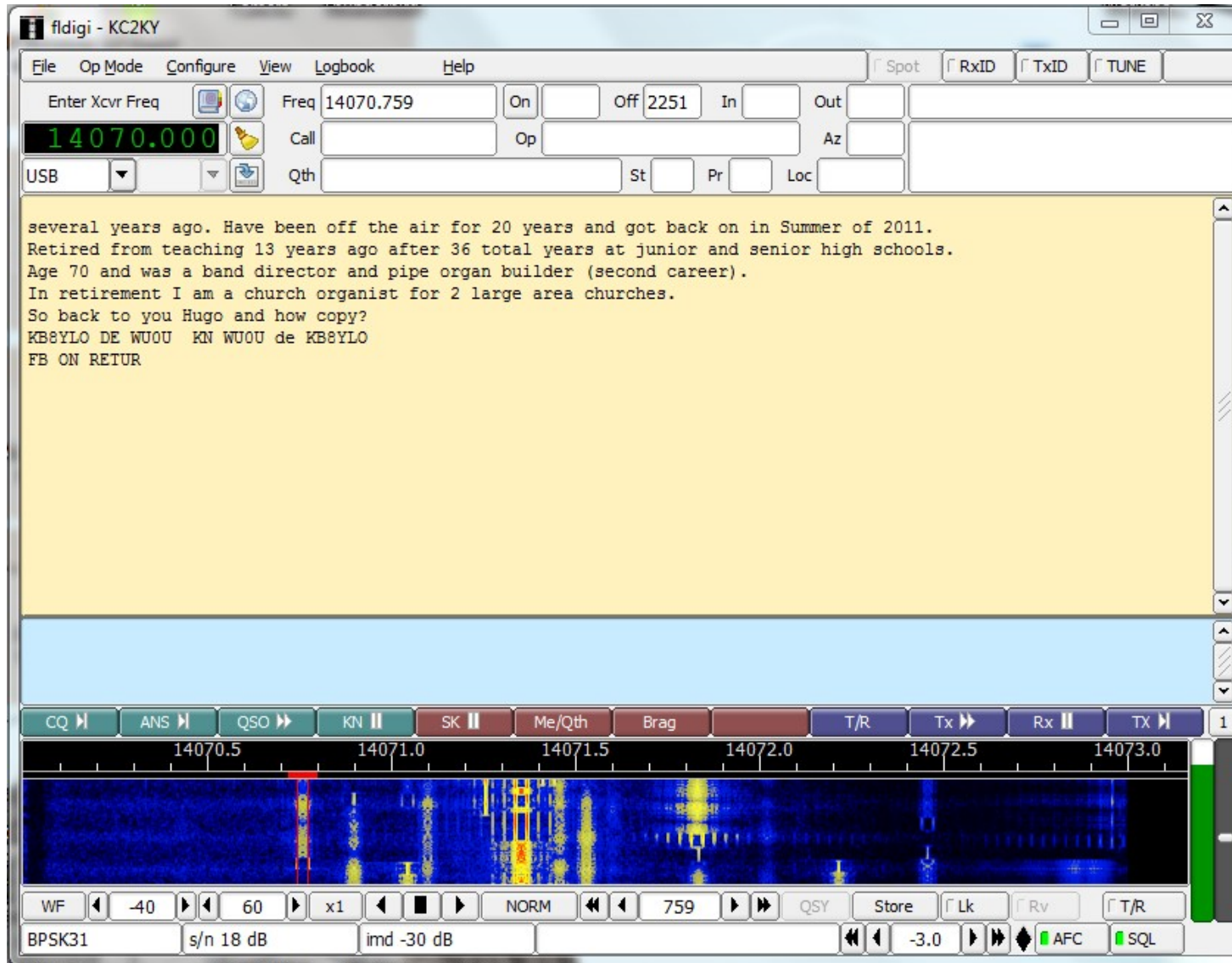
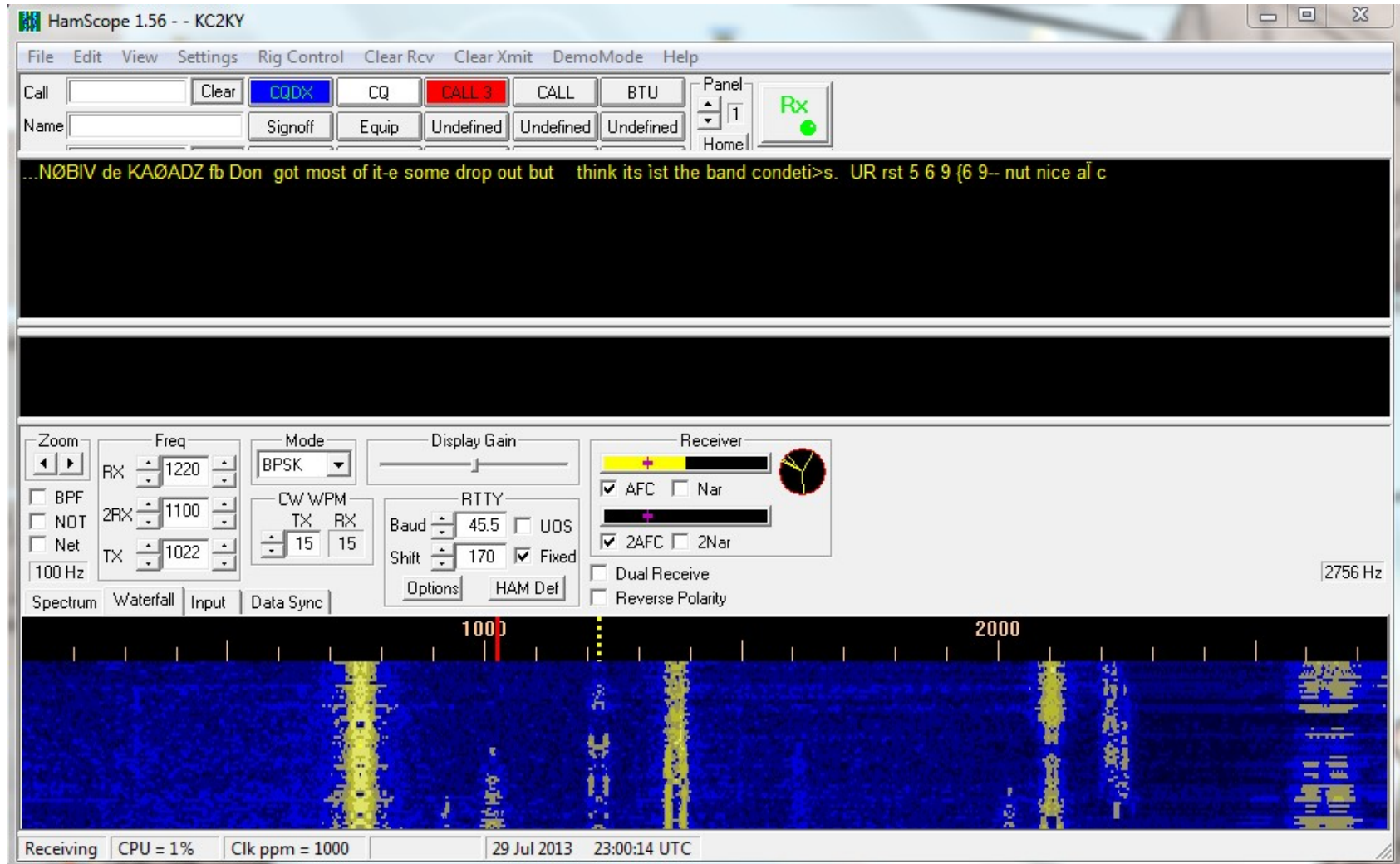# Circuits for Homebrew Interface Boxes
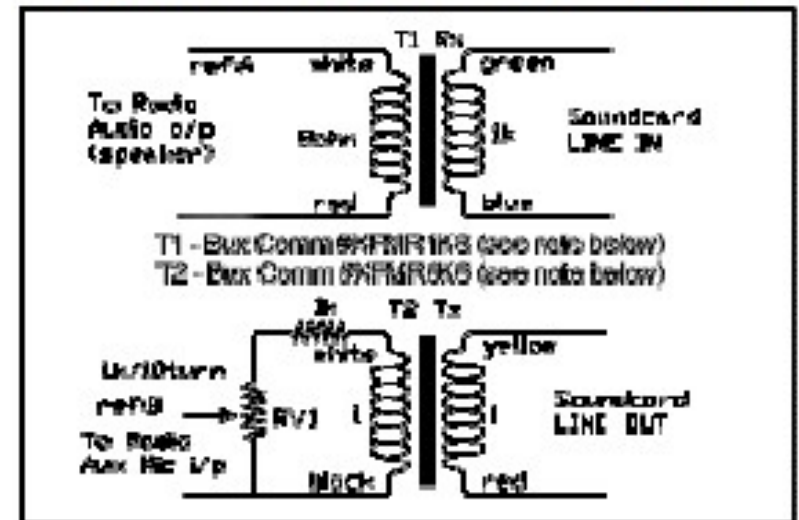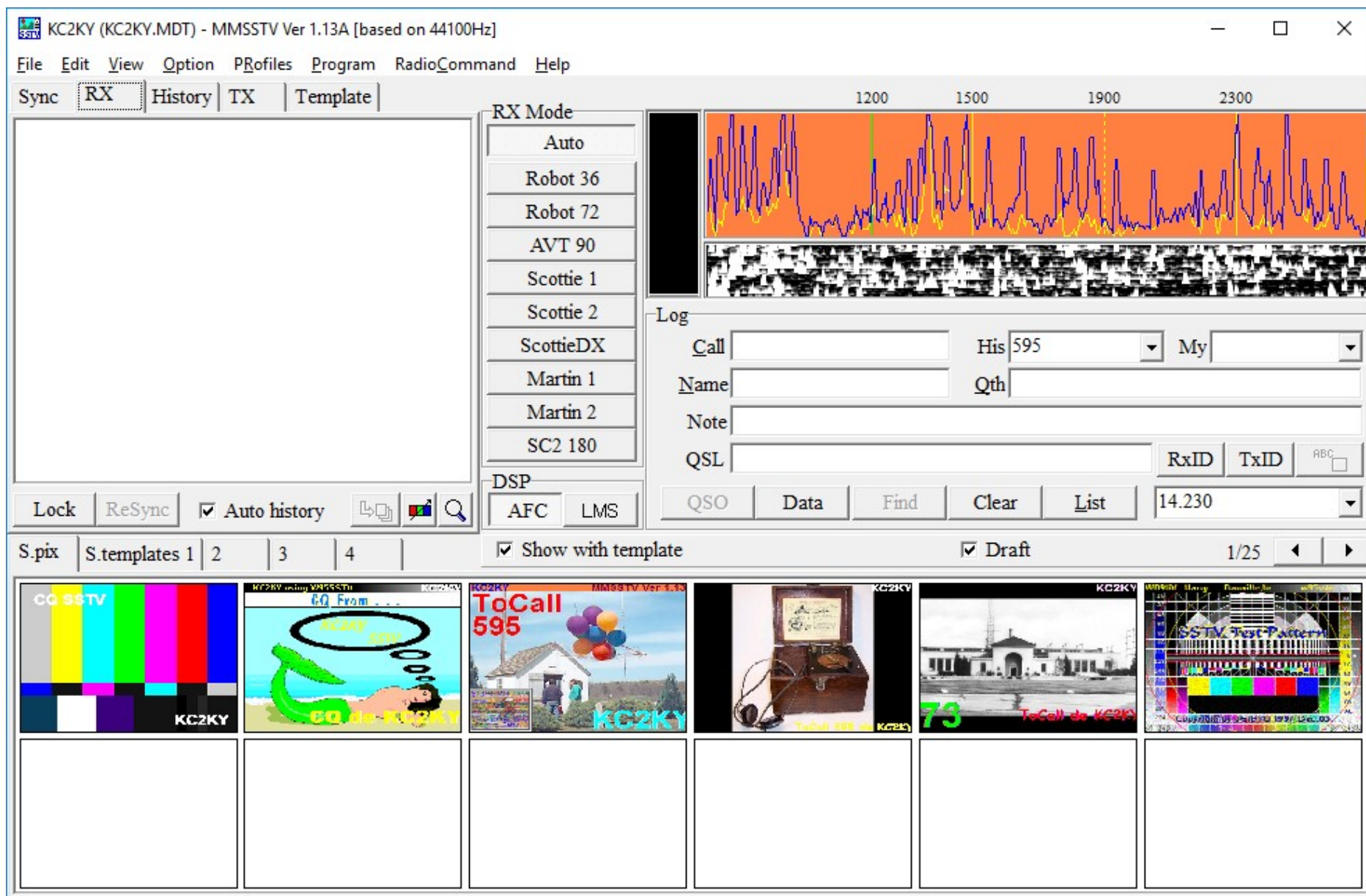
Commercial Digital Mode Interfaces

FLDigi – Introduced in 2004, Latest Version 2017

HamScope – Introduced in 2001, Latest Version 2007

MMSSTV – Send and Receive Pictures!

RIG Basics

Increase TX drive until RF output power stops increasing, then back off a little

Maximum power – 50% of rig's "rated" power (wattmeters rarely show peak power)

Speech Processor – OFF!

Leave RIT and XIT turned off

Use rig's Freq LOCK function if available – let the PC take care of frequency control

Start with widest filter

AGC – Slow or OFF

For very weak signals, go to narrow filter. You may need to adjust the IF Shift to center the filter over the station of interest

A Few Useful Web Resources

http://wb8nut.com/digital/

http://n1su.com/digital.html

http://www.qsl.net/k3asi/freqli.html