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Building a Successful VHF Multi-op and Single-op Station

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Introduction

This is a high level presentation of station concepts for High Performance Multi-op and Single-op Station building principles.

Here we will present the concepts and designs for making a Successful Station; Both Multi-op and Single-op will be presented.

Specific circuits and designs are presented in a follow on Presentation.

Agenda

- Mulit-op
  - Station Layout
  - Lower Four
  - Microwaves
  - RF Superiority
- Single-op
  - Station Layout
  - SO2R
  - Logging

Multi-op Station Layout

- What is important to M/O layout?
- Individual Station Autonomy
- Reasonable Level of Consistency between Stations
- How many Towers (rotors) do you need
- Ability to See or Reach and Touch the other Stations

Multi-op Station Layout Cont'd

- What bands can work together
- Use of Headphones
- Use of Computers and Logging Software

Contest Manager

- Separate Person, PC and Position
- Skeds WSJT and other
- Rover Schedules and Liason
- Co-ordinates Needed Grids
- Starts Months in Advance

Multi-op ‘Lower Four’

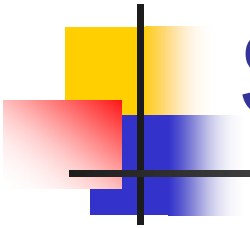
- 50MHz must be Dedicated
  - Critical band for qso’s
- 144MHz must be Dedicated
  - Critical for qso’s and liason
- 222MHz can be combined
- 432MHz can be combined

Multi-op Microwaves

- This is operated as a single station
- Ease of access to Liason
  - Proximity to other stations (222/432)
  - Use of 223.500 FM for Intercom
- Band Scope (Panadapter) is Invaluable for finding the “weak ones”

RF Superiority

- Power; More is Better
  - Matter of System Gain; EIRP
- Use of Pre-Amplifiers; A Must
- Separate TX Feedline
- T/R at the Top of the Tower
- Inter Station Interference Issues



Single-op

- Apply all concepts of the RF Superiority of Multi-op
- Apply none of the Layout concepts

Single-op Layout

- All of the comfort of a single station
- Be sure to have two radios
- Do not distribute the lower four bands
- Use all Transverters
- Computer controls all
  - Important for Logging Accuracy

Logging and Radio Control

- Have bands (transverters) controlled by each of the two Radio's
- Every Band must stand alone and be designed for RF Superiority
- Disable Transverters that are not Selected
- Have the Logging Program push and follow the Radio's Band Selection

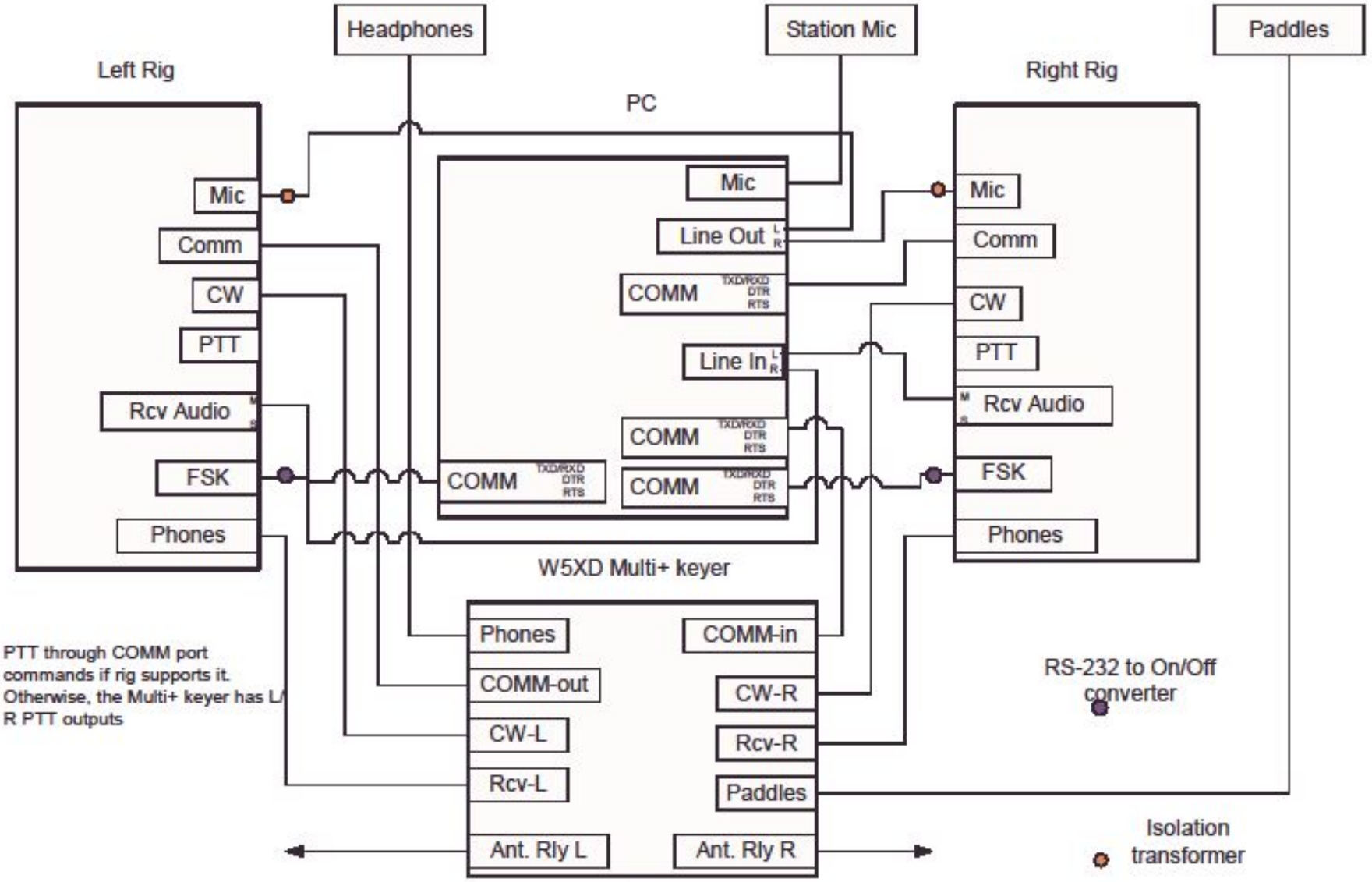
Switching Needed

- PTT
  - Could use two footswitches

- CW Key line; or Keyer
- Microphone; Computer can do this
- Receive Audio
  - Radio 1, Radio 2, BOTH

WriteLog SO2R setup

including FSK operation w/dedicated COMM ports

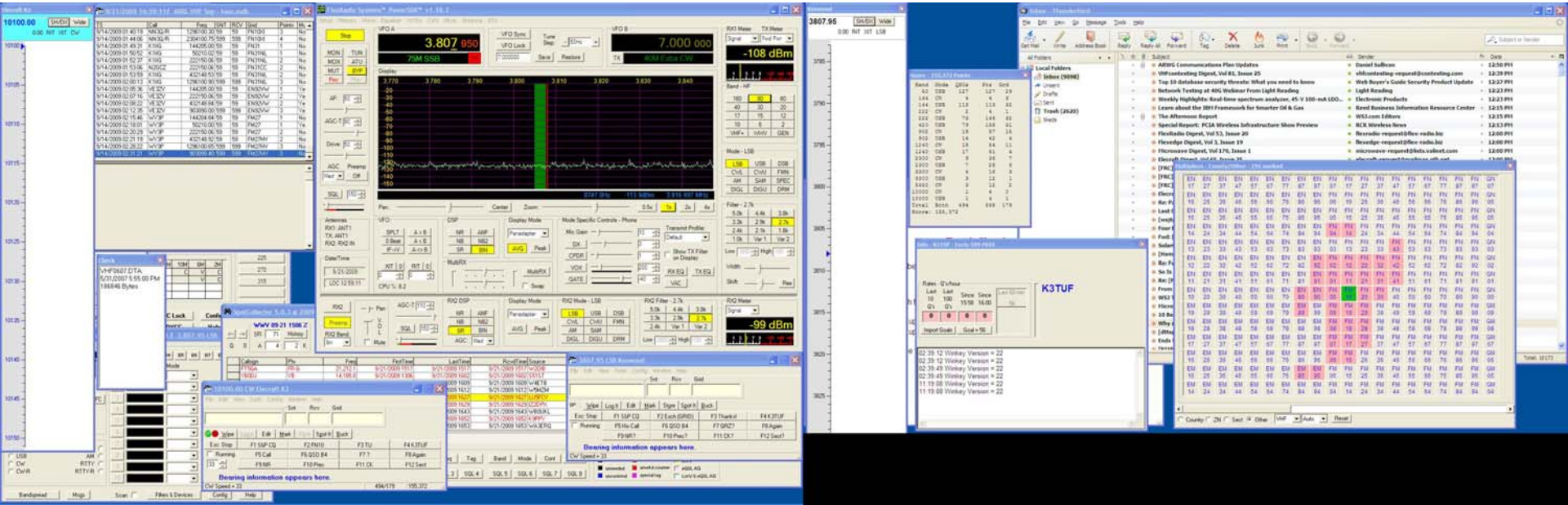


SO2R Controllers

- Homebrew
- MK-1100 from Writelog
- MK2R+ from MicroHam
- DXDoubler from Top Ten Devices
- OTRSP

Dual Screen SO2R

- Dual Wide Flat Screens
- One Software Radio
- One Hardware Radio




DELL
ELECRAFT K3 TRANSCEIVER
7.272.00
7.026.02
Logitech