BAVARIAN CONTEST CLUB

Modern contest station developing

By 4O3A - Ranko

MODERN FLEXIBLE CONTEST STATION NOWDAYS

- SOAB - SO2R is default. Newest – SO3R
- MULTI OPs– two stations and two Ops per band – Interlock (DR1A, CN8WW, NR5M)
- High level of station automation and use of latest technology is needed
- Antenna systems with many antennas and directions per band

If you wish to have station for:

SOAB, MS i M2

1. Every working position has to be with fully control of any band and all antennas – rotator controls

FLEXIBLE DEVICES AND CONCEPT

TX and RX ANTENNA CONTROL

From any working position (SAC X)

BAND INTERLOCK

SAC X and hardware interlock!

ROTARTOR CONTROL

From any working position

BASIC RULES TO BE FOLLOWED

- **Everything what can be automated – has to be**
- Execute commands have to be clean and in lowest steps possible. One touch
- Every energy saving is very helpful for 48h contesting

Operator has to be focused on operating ONLY and to be relaxed of any technical details during the contest

IN PRESENTATION WE WILL BE FOCUSED ON

- CQ WW contest as most demanding one
- SO2R station automation
- General principles
- Most important devices in station as BPF, controllers, antenna matrix and splitters

HAVE YOU EVER COUNT?

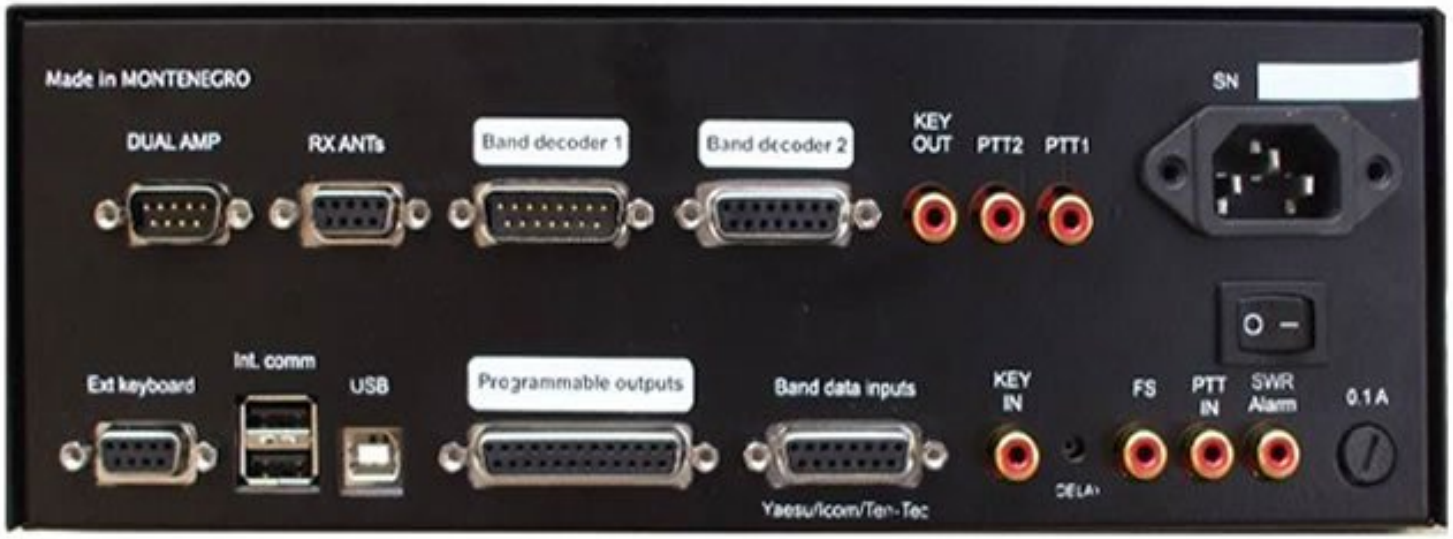
JUST TAKE LOOK ON 4O3A FIGURES

- How many elements you have? 96!
- How many RF connectors you have 219
- How many relays you have >100
- How many jumpers you use? Don’t ask…

IT MUST BE IN PERFECT ORDER

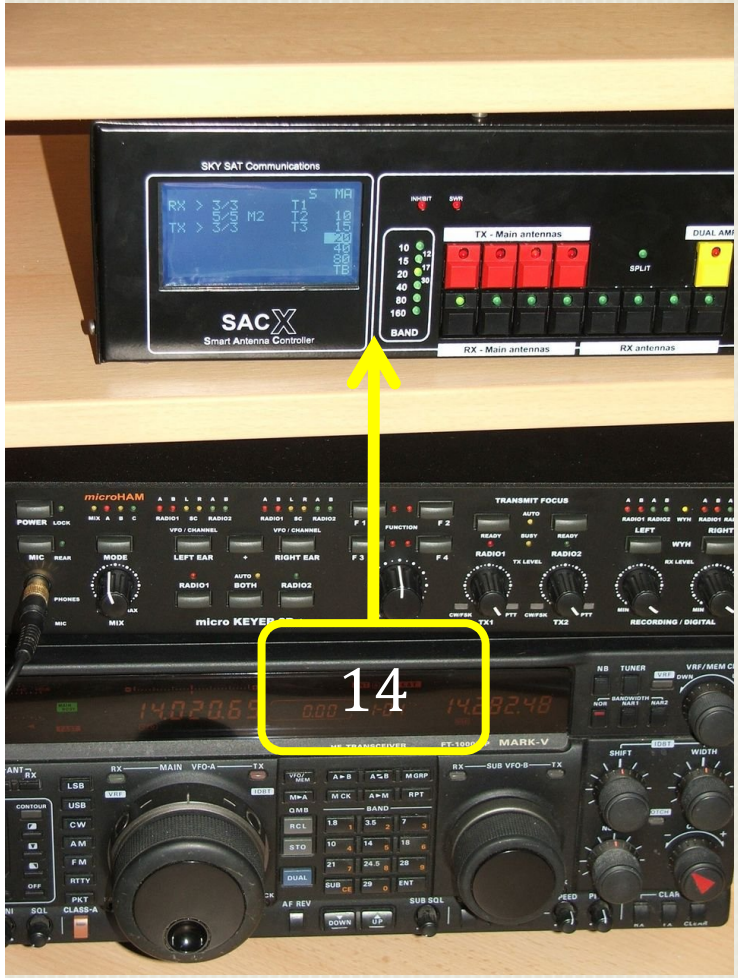
CRITICAL ELEMENTS

- FI
  - Low pc
  - High pc
    - har
    - min
  - Looks
  - New se
- CC
  - SAC X -
    - outp
  - Contro
  - Relay
    - Bev



SAC X

SAME CONTROLS ON ALL RADIOS

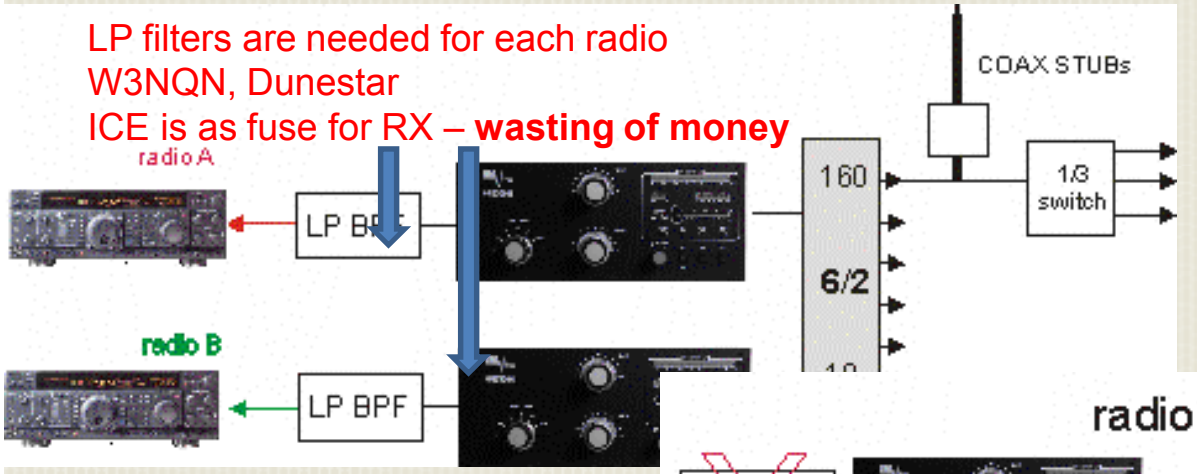


SAC X - UNIFICATION

HIGH POWER BAND PASS FILTERS

GIVE US NEW CLEANER LAYOUT AND BETTER CHARACTERISTICS

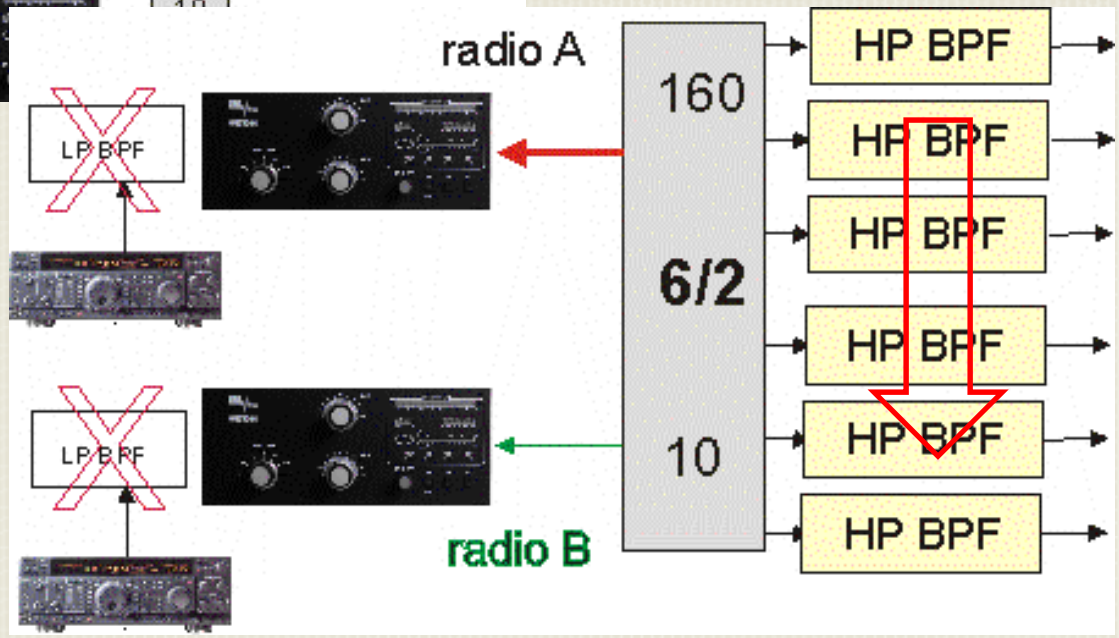
LP filters are needed for each radio
W3NQN, Dunestar
ICE is as fuse for RX – **wasting of money**



FOR SUPPRESSING HARMINICS
Many coaxial stubs or Notch filters are needed

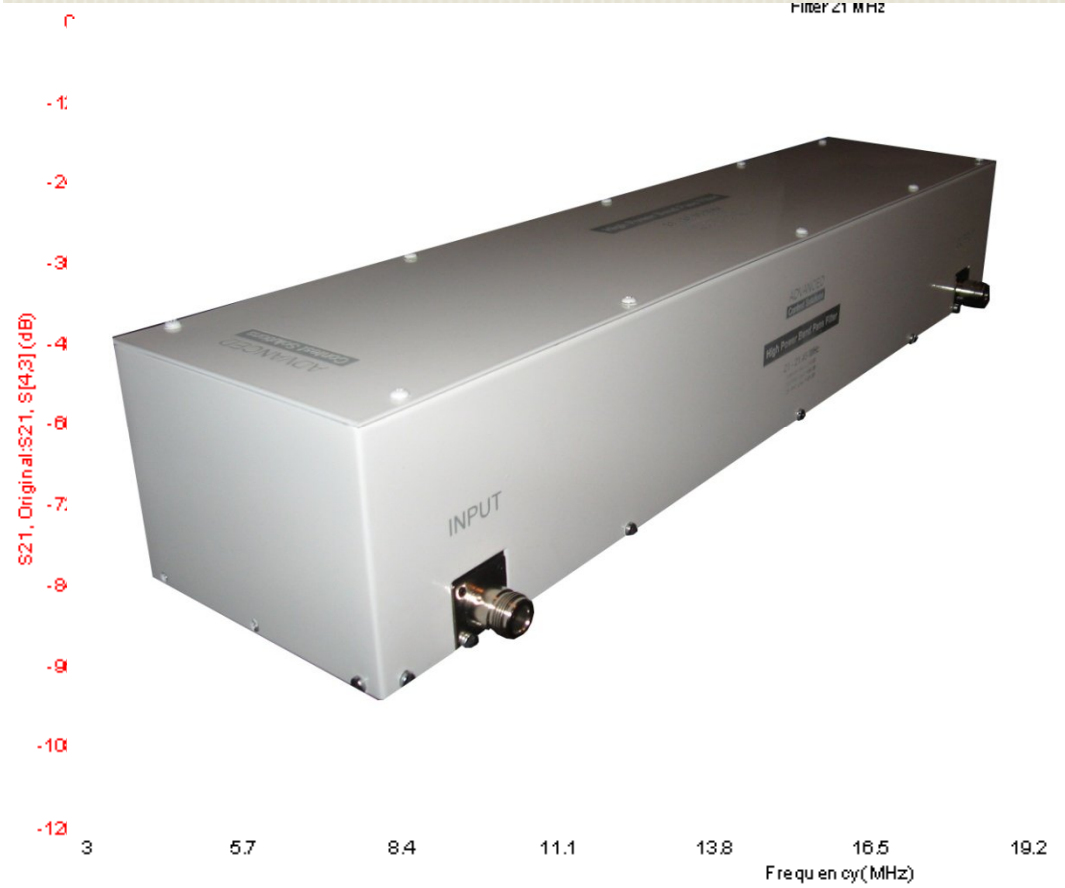
Still possibility for interference

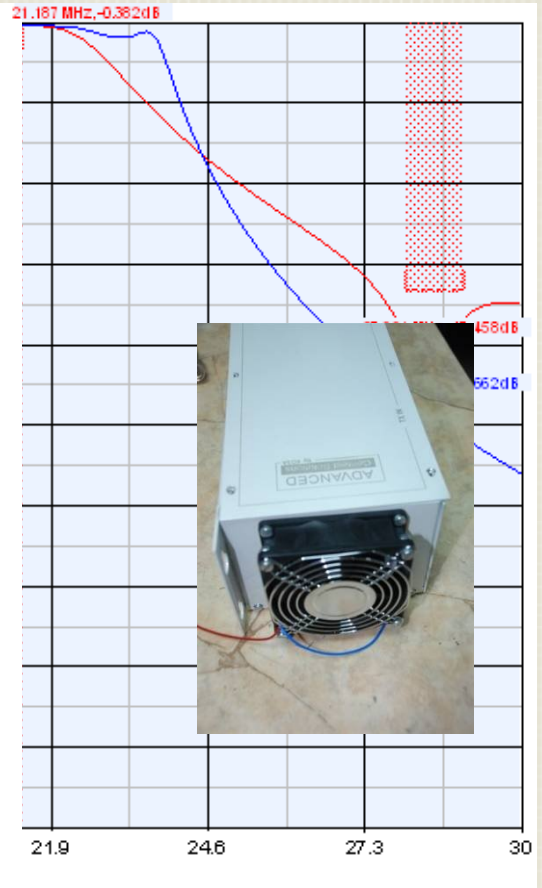
One filter per band ONLY!



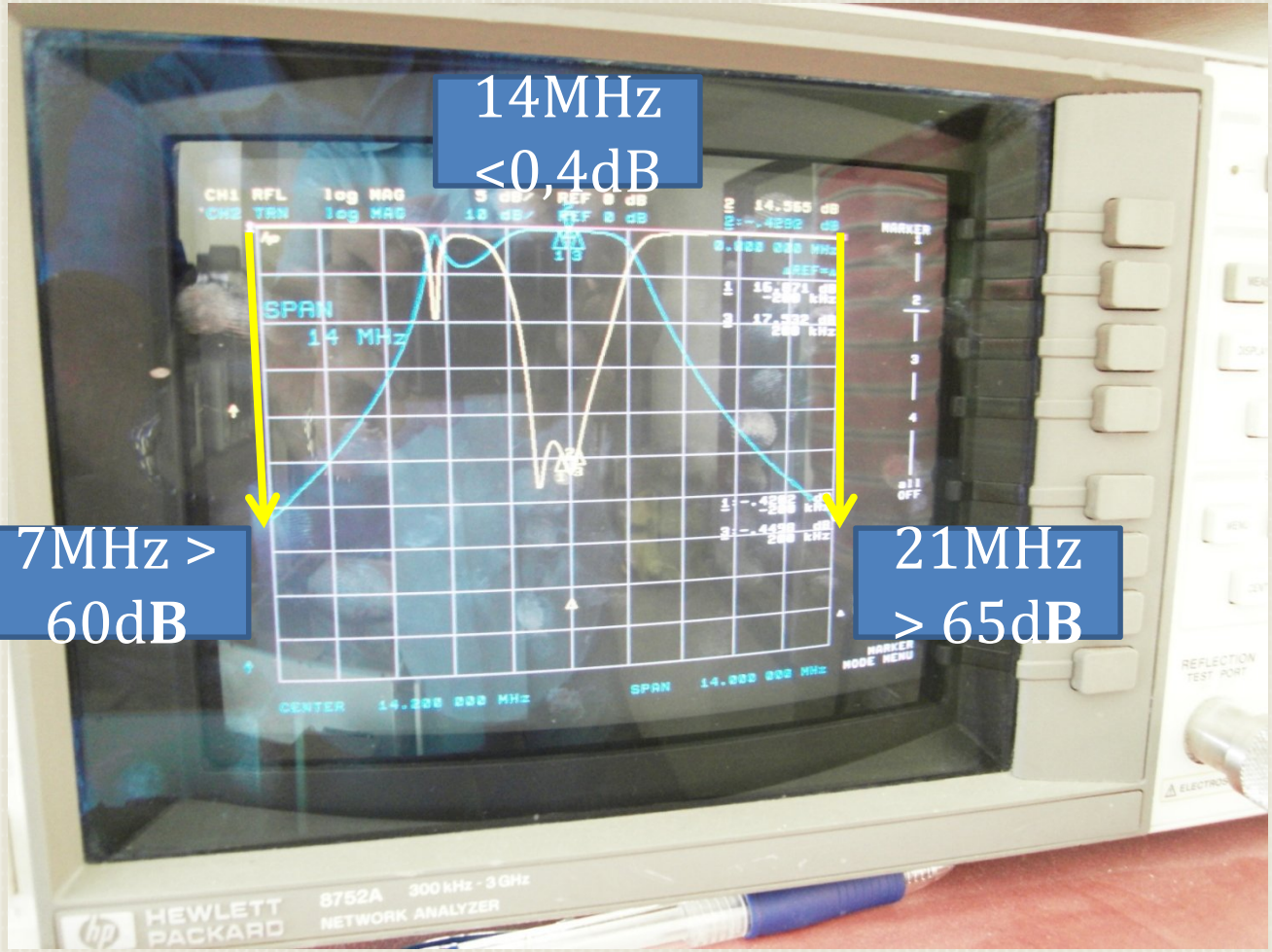
No additional switching
Superior characteristic-min 55dB
Harmonic suppression-min 55dB

HIGH POWER BPF, SERIES S AND SERIES L

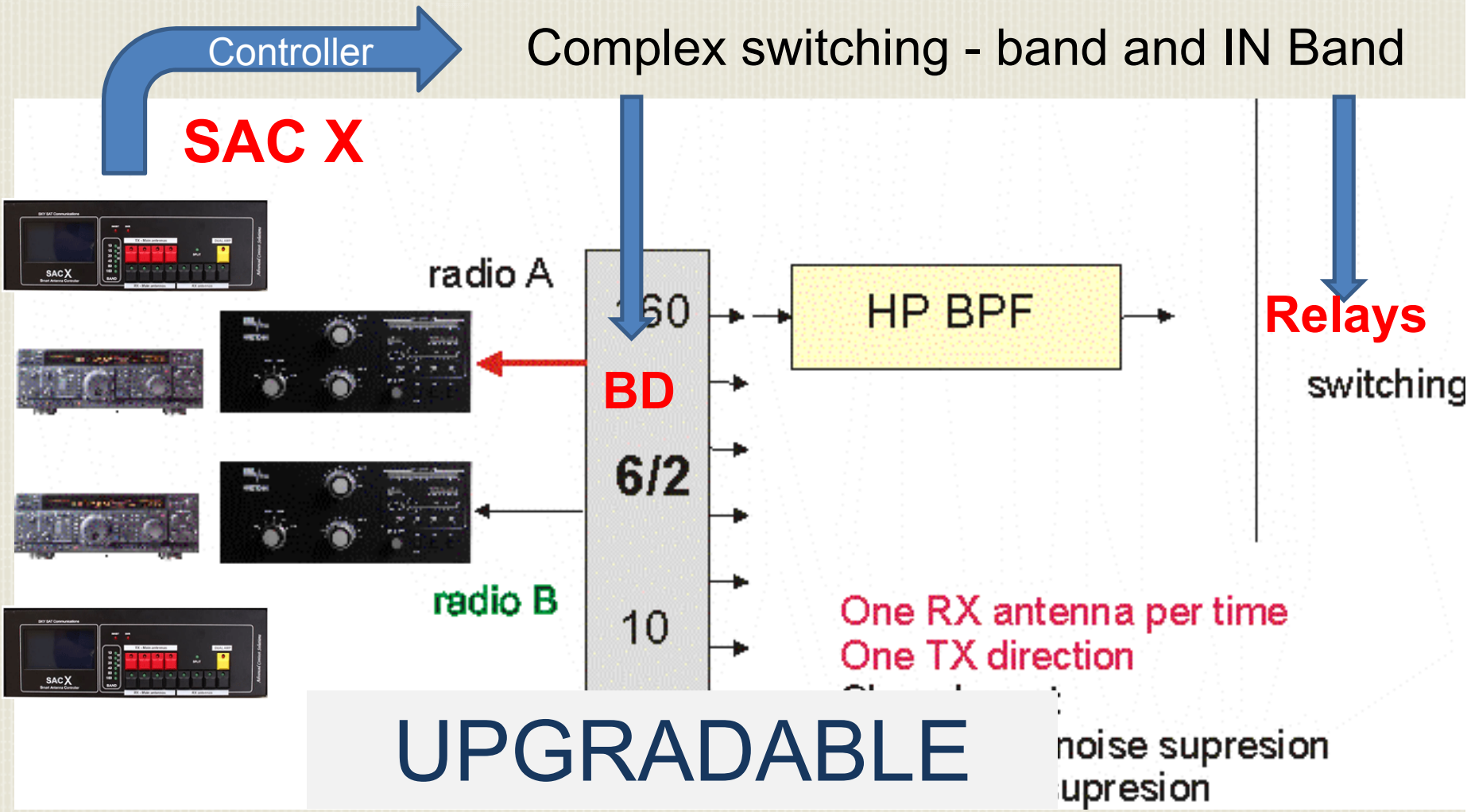




MEASURING OF 14MHZ FILTER – SERIES S

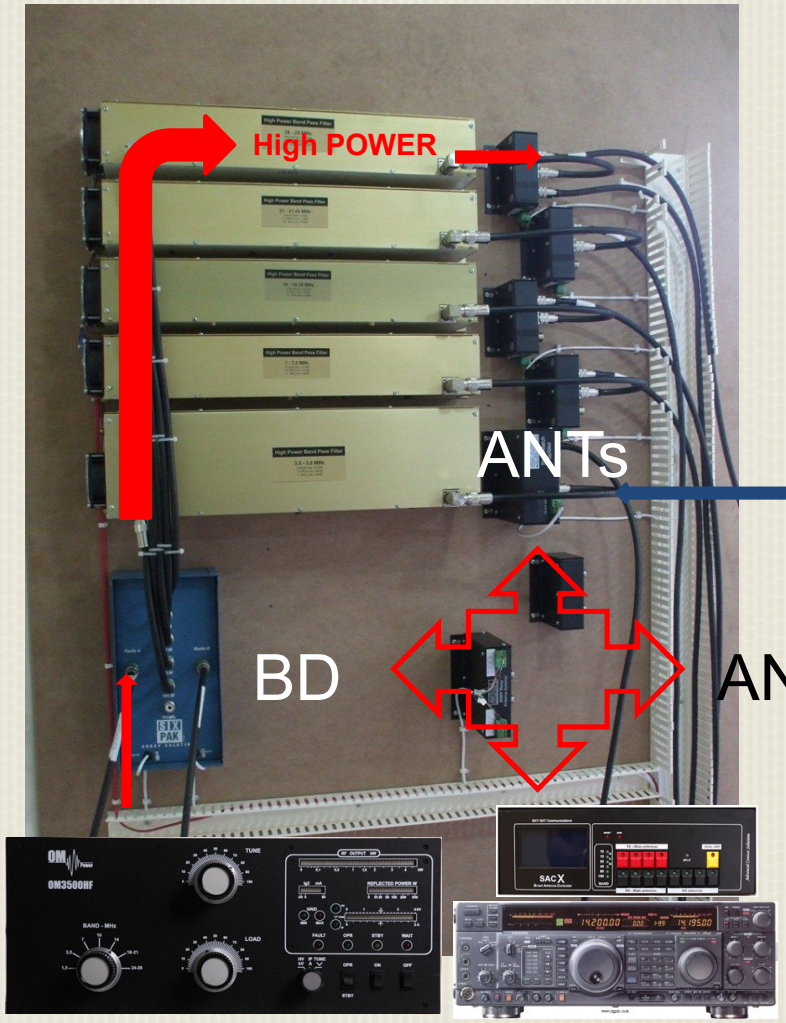


BASIC LAYOUT – MINIMUM FOR SERIOUS SO2R



UPGRADABLE

SAME CONCEPT AT PY5EG



HP BPF – No interference, no harmonics

Clean and simple

One or more RX/TX direction

SAC X controlled

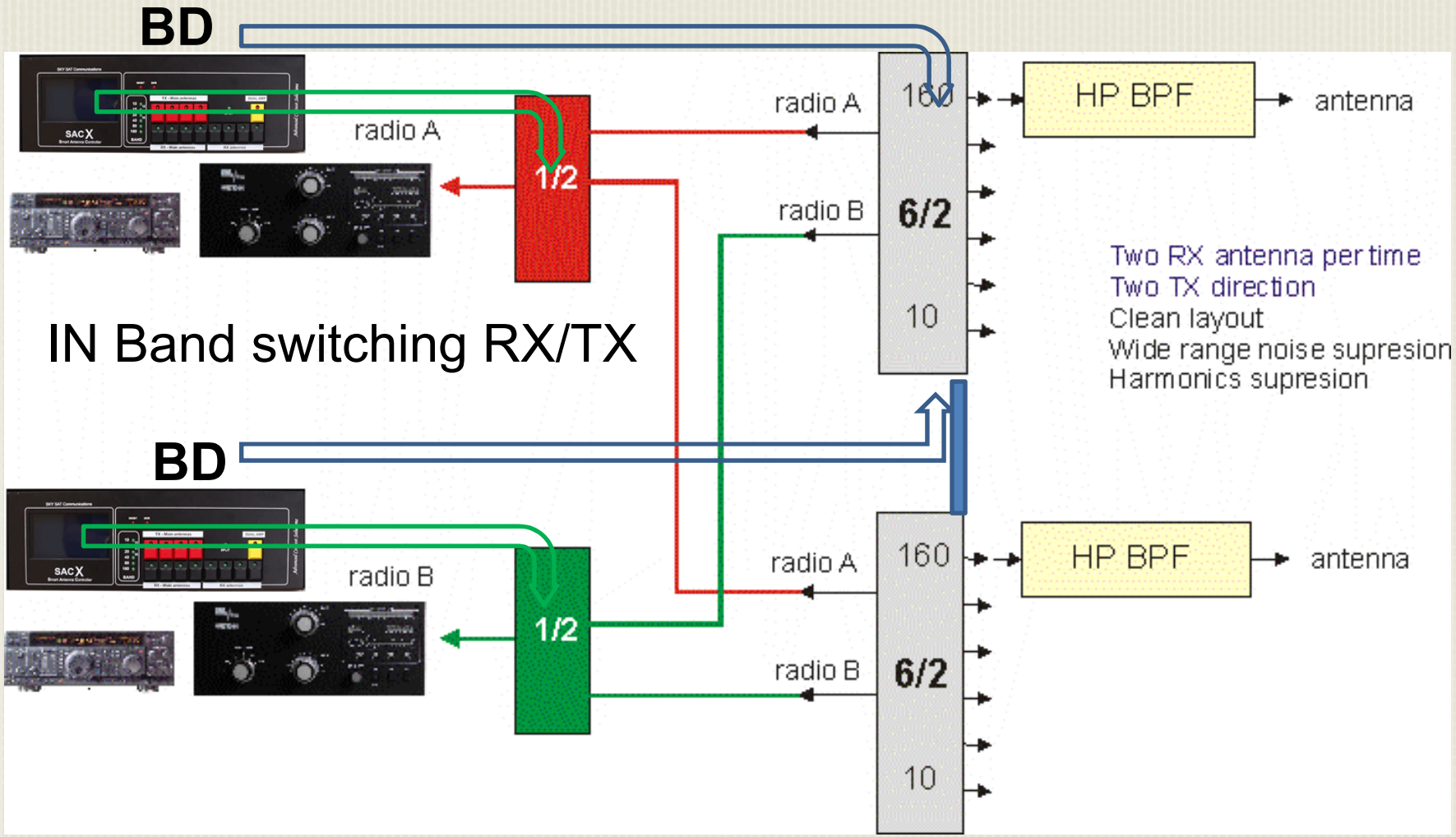
FLEXIBILITY

OH8X-big number of antennas –SOAB, Multi

S51A – mostly MS, but SOAB as well

HP BPF

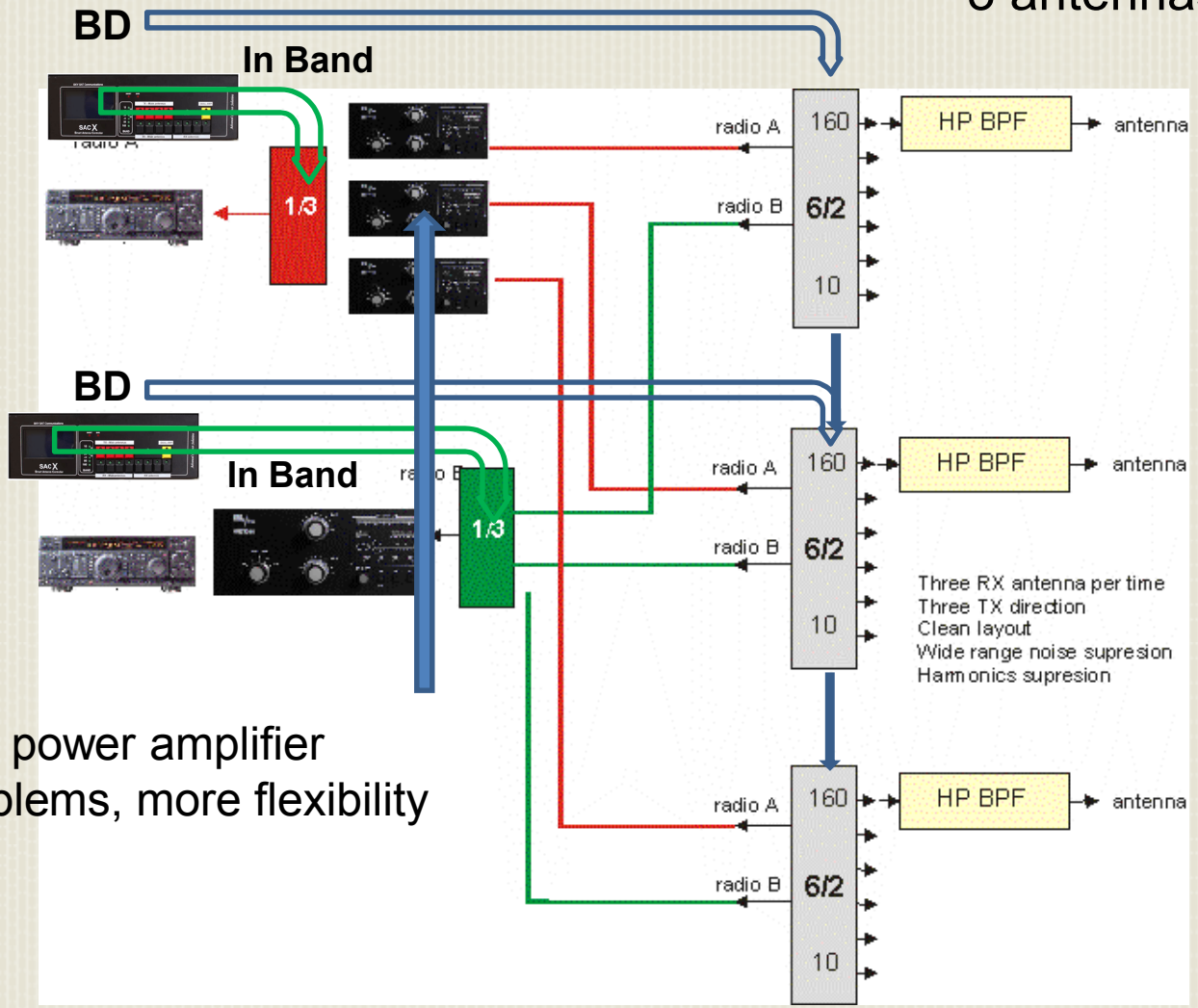
TWO DIRECTION WITH TWO AMPLIFIERS



POWERFUL CONCEPT-3 DIRECTIONS

3 SMALLER AMPLIFIERS AND COMBINING RX

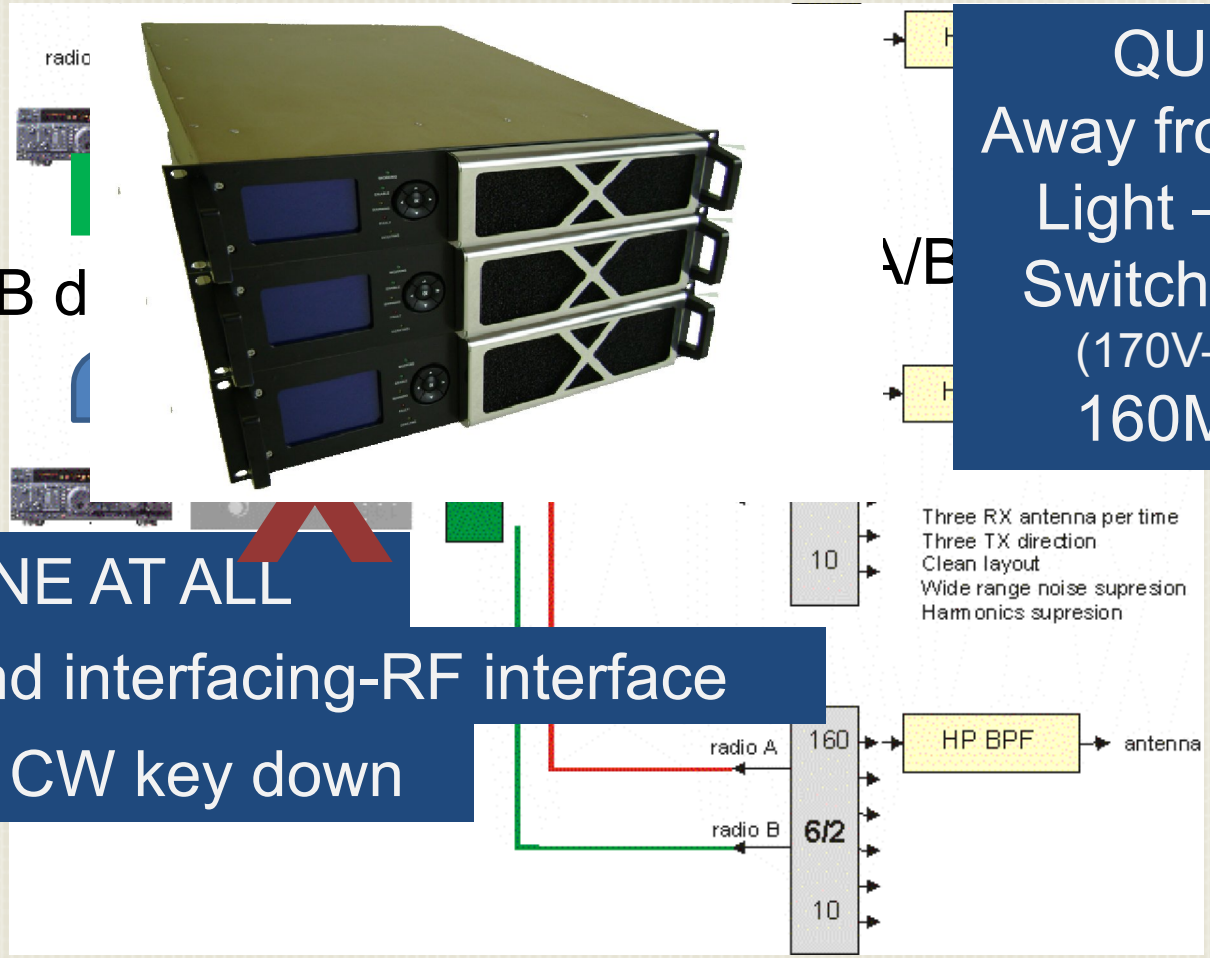
3 antennas per band



3 smaller power amplifier
Less problems, more flexibility

NEXT STEP – 3 DIRECTIONS, NO TUNE AT ALL

REMOVE OLD tube amplifiers (even auto tune takes some time)



QUITE
Away from table
Light – 20kg
Switching PS
(170V-256V)
160M-6M

NO TUNE AT ALL
NO band interfacing-RF interface
2500W CW key down

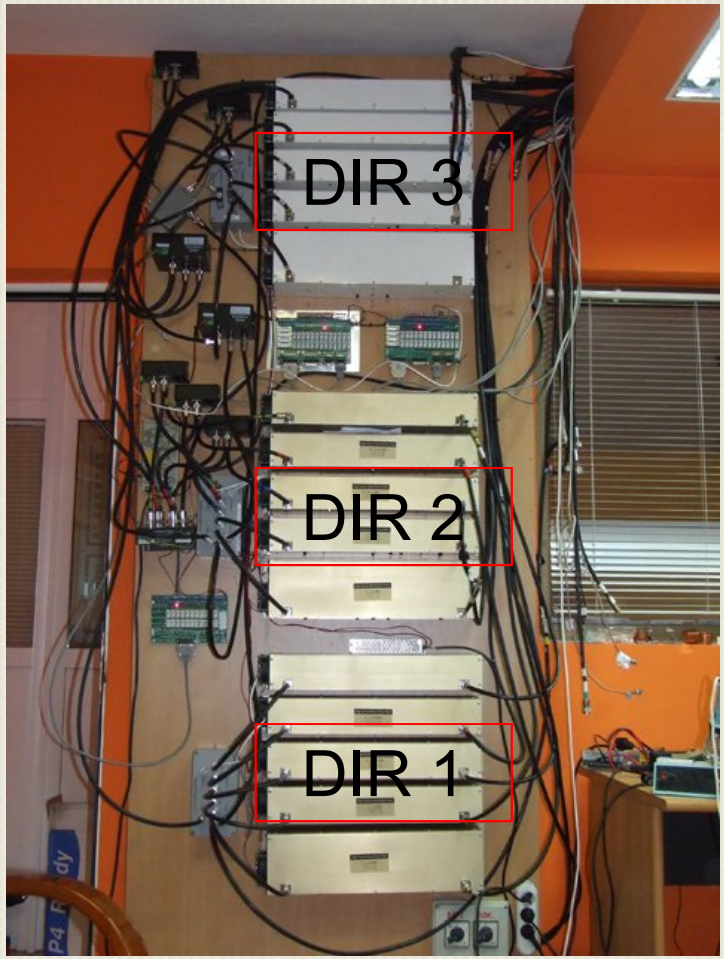
HF2K5, NO TUNE AT ALL

TO BUILD MODERN CONTEST STATION - YOU NEED

- To have clear final goal-SOAB, Multi, or all
- Switching and filtering infrastructure at the beginning – to keep flexibility
- To upgrade station by your needs

MONEY!!

3 DIRECTIONS AT 4O3A



NEW TRENDS – SO3R