Contest Transceiver: **ORION**

Ein heißer Apparat für die Wintermonate !

General Specs (I):

- **Software-Defined Radio (SDR)**
- 2x 32-bit floating-point ADI SHARC DSP processors
- Full Dual Receive capability *(simultaneously)*
- **Vy high RX IP & Dynamic Range, Vy Low Phase-Noise**
- **Up to 7 "Selectable" Roofing Filters**
- **590 RX IF - DSP Bandwidth Filters *(Shape Factor: 1.05 :1)***
- Programmable AGC Response Time
- Diversity Reception using both Receivers
- Continuous Real-Time Spectrum Display Band Monitor
- **Instant Two Radio Mode *(connect 2x PA's)***
- 100-watt PA 100% Continuous Duty *(w. optional fan)*

General Specs (II):

- Audio Equalization for both TX and RX
- "Panoramic Stereo Receive" feature
- Adjustable Rise and Decay time for CW Waveform
- Nine (9) Adaptive DSP Noise Reduction Filters
- Dual Noise Blankers
- Voice Keyer and CW Memory Keyer built-in
- 60-Meter Ready *(**5 MHz Band:** Firmware Update)*
- "Panic" on-the-fly Reset Button
- Flash-ROM Update Capability *(via Internet)*
- **30-Day Money Back Guarantee if not fully satisfied!**
  - **Only in U.S.A.**

1000 Features: Easy to Use ?

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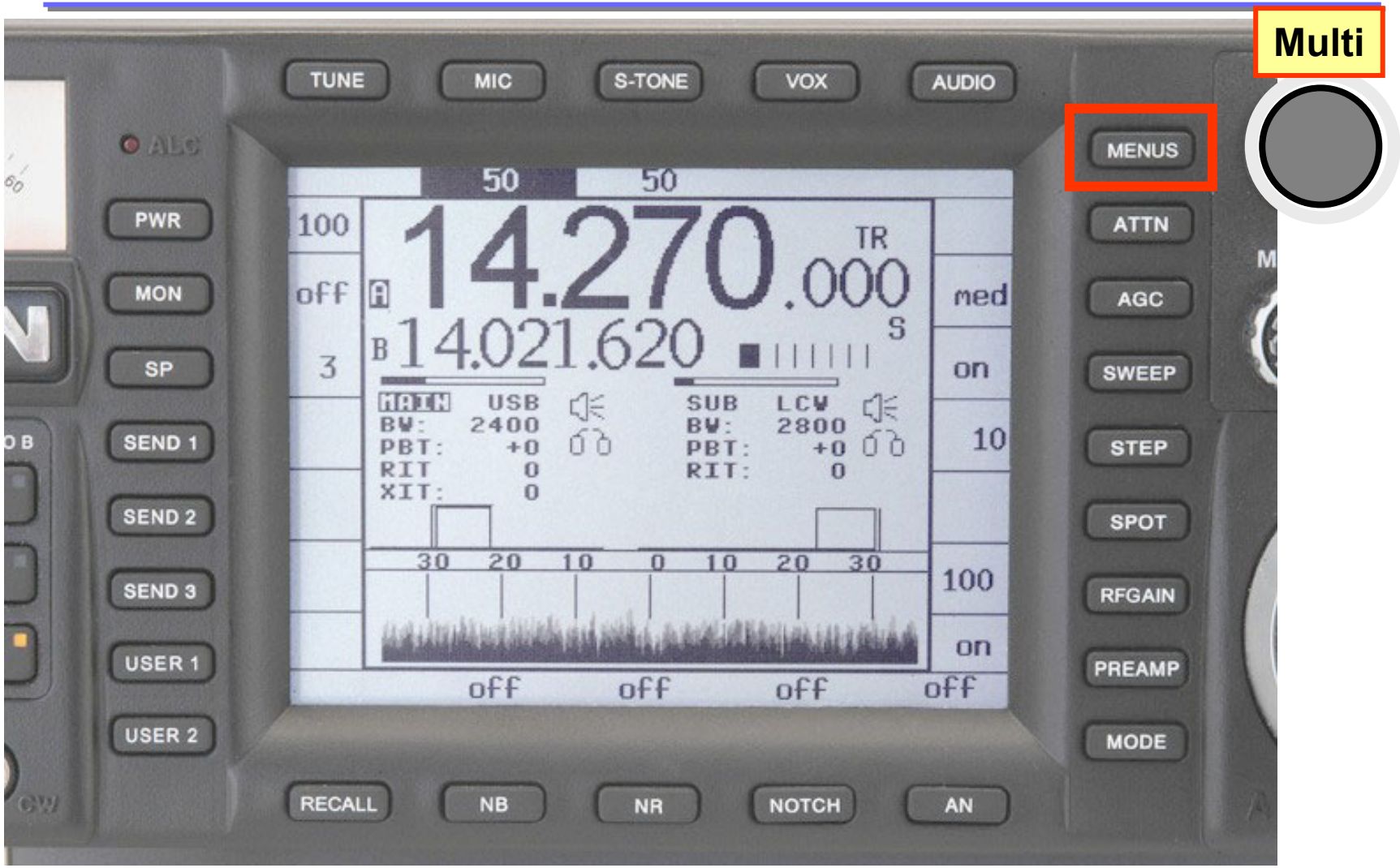
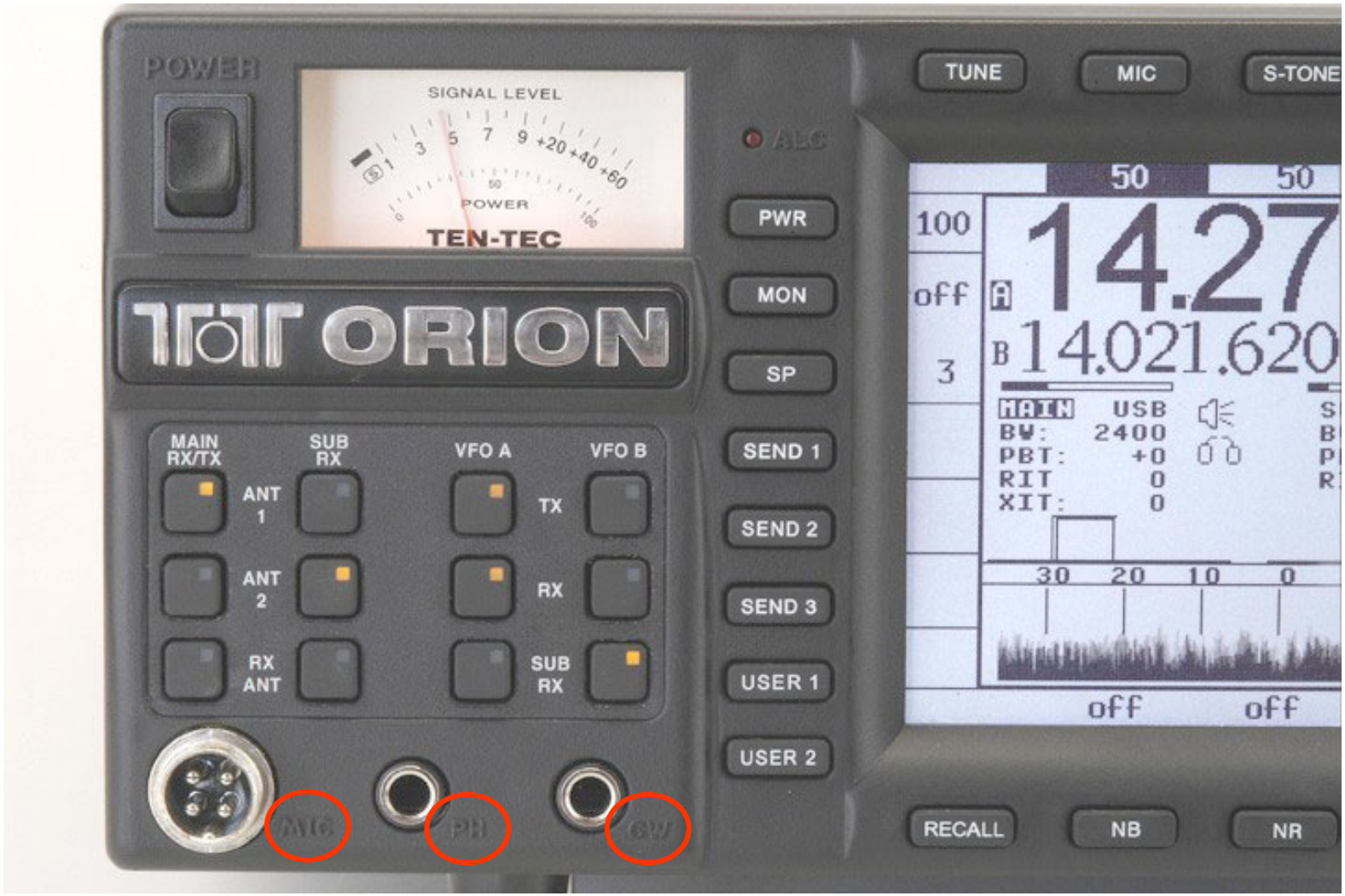
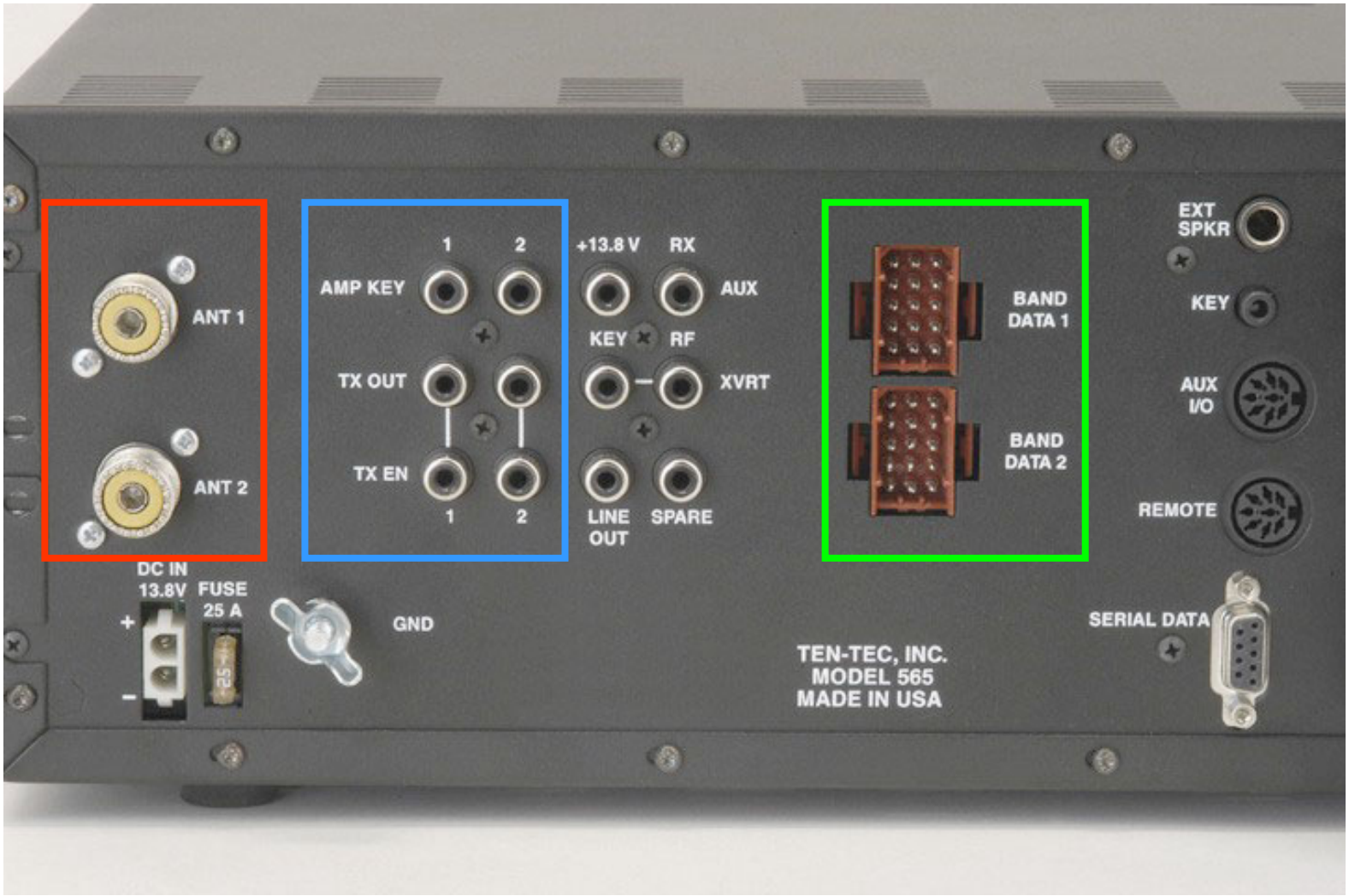


1000 Features: Easy to Use !



Instant Two Radio Mode



Top Ten ORION-to-FT-1000 Band Data Converter

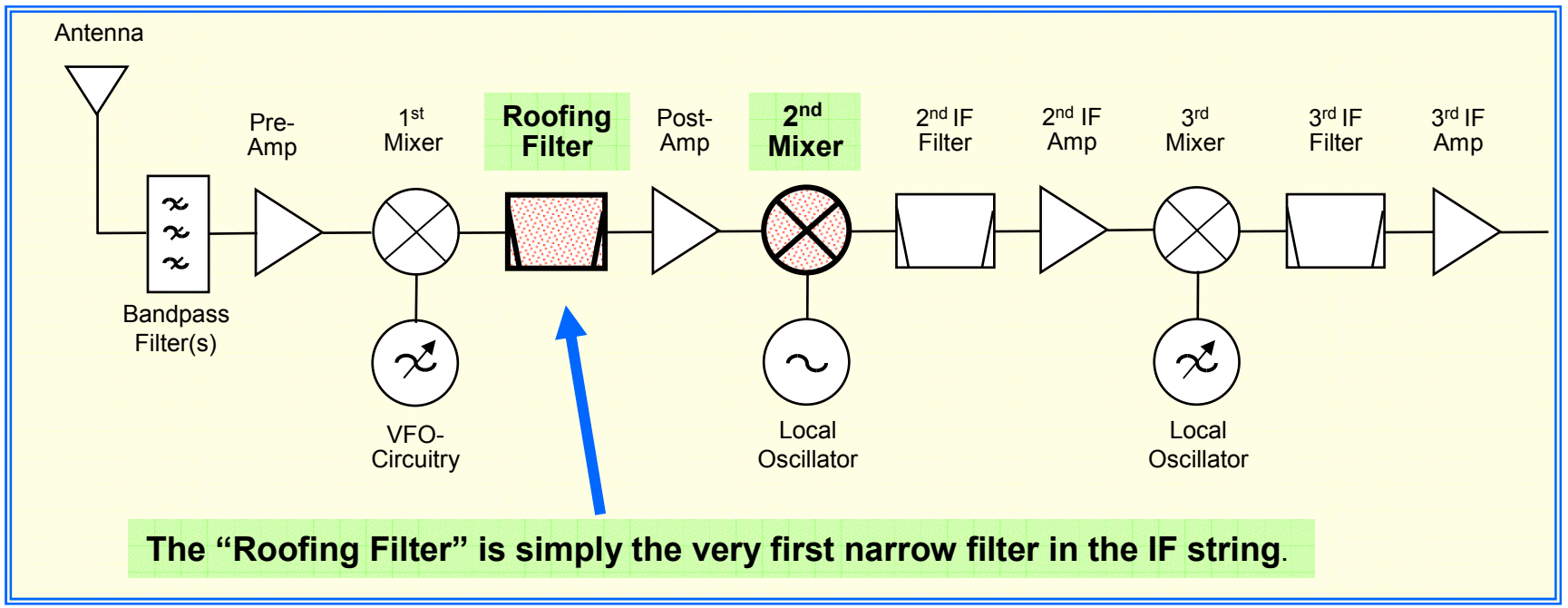
Now available from Top Ten Devices is the **"BD-O" for use with the Ten-Tec Orion transceiver.** As with other TTD decoders, this unit comes standard with sink driver outputs (switches to ground), and can be fitted with a source driver module (switches 12 Vdc to the outputs). Better yet, an existing Top Ten Yaesu decoder can be converted to a BD-O by installation of an additional circuit board. You can do this at home, or Top Ten can install it for you. **This is an excellent option for those converting from a Yaesu transceiver to the Orion**.

Roofing Filters

- ORION has 4 (standard) + 3 (optional)

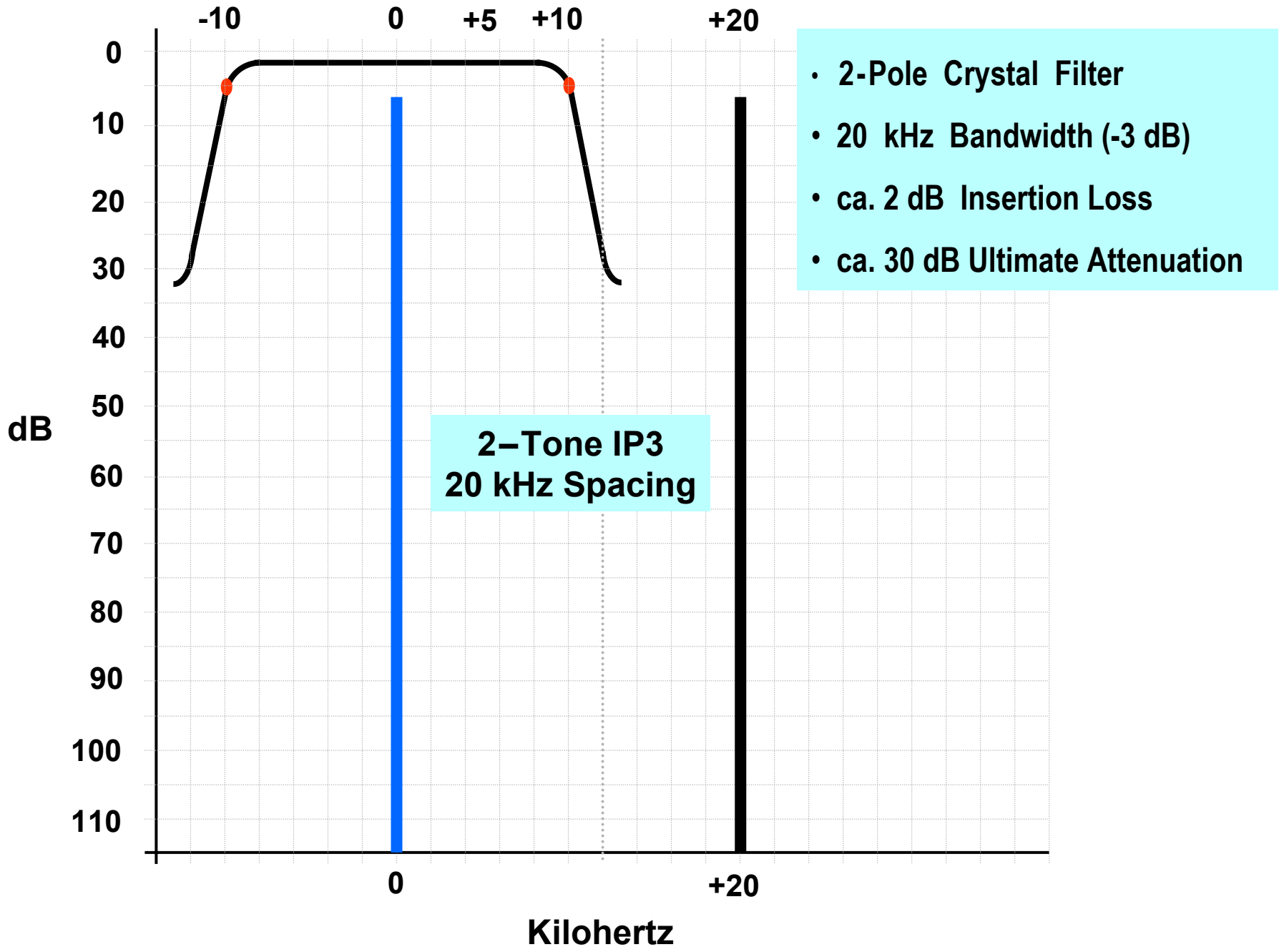
Standard	Optional
• 20.0 kHz	• 1.8 kHz
• 6.0 kHz	• 500 Hz
• 2.4 kHz	• 250 Hz
• 1.0 kHz	

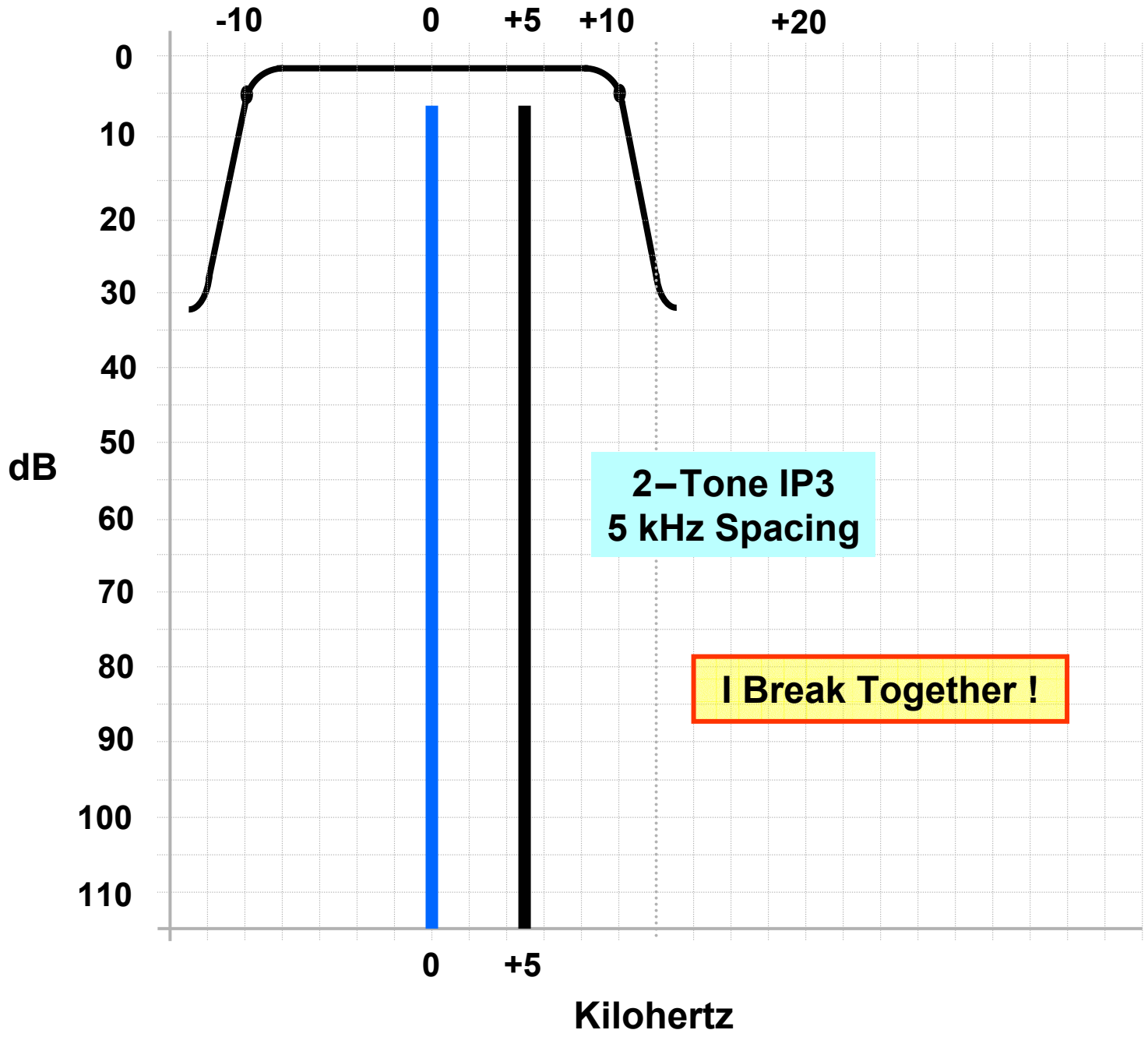
What is a Roofing Filter ?

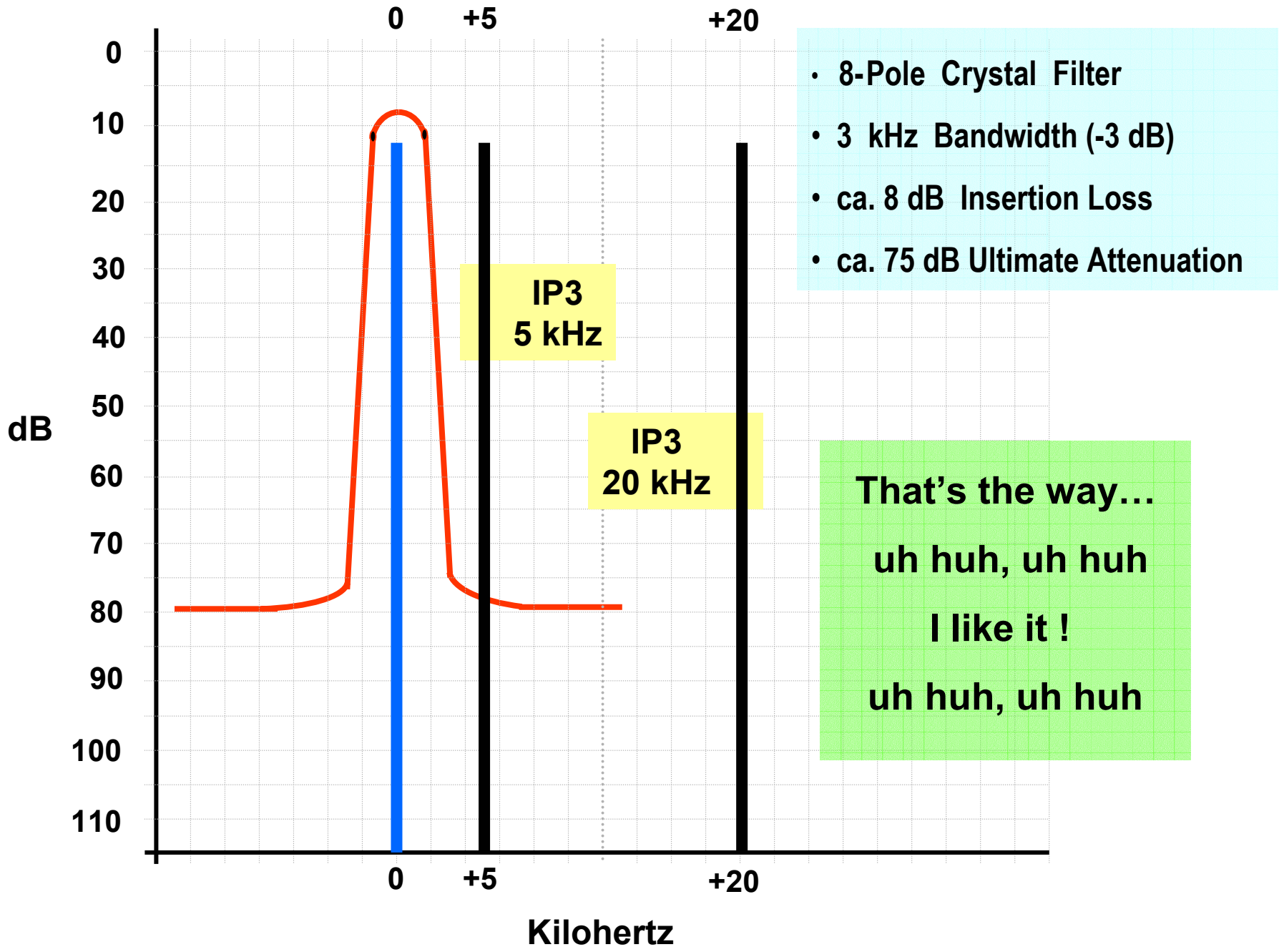


Ganz einfach gesagt:

- Das Roofing Filter soll der **Schutzengel** sein für den 2. Mischer und alles was danach kommt
- (Der 2. Mischer ist der Übeltäter, der für den "Wellensalat" zuständig ist!)


-10
0
+5
+10
+20
0
10
20
30
40
50
60
70
80
90
100
110
dB
2–Tone IP3
20 kHz Spacing
• 2-Pole Crystal Filter
• 20 kHz Bandwidth (-3 dB)
• ca. 2 dB Insertion Loss
• ca. 30 dB Ultimate Attenuation
0
+20
Kilohertz


-10
0
+5
+10
+20
0
10
20
30
40
50
60
70
80
90
100
110
dB
2–Tone IP3
5 kHz Spacing
I Break Together !
0
+5
Kilohertz


0
+5
+20
0
10
20
30
40
50
60
70
80
90
100
110
dB
IP3
5 kHz
IP3
20 kHz
0
+5
+20
Kilohertz
• 8-Pole Crystal Filter
• 3 kHz Bandwidth (-3 dB)
• ca. 8 dB Insertion Loss
• ca. 75 dB Ultimate Attenuation
That's the way…
uh huh, uh huh
I like it !
uh huh, uh huh

Transceiver Comparison Table

Source: ARRL Labs	MDS** (dBm) Sensitivity	2-tone DR3 20 kHz	2-tone DR3 5 kHz	BDR 'Desense' 20 kHz	BDR 'Desense' 5 kHz	IP3 20 kHz dBm	IP3 5 kHz dBm
Ten-Tec ORION	-128 / -136	95 dB	92 dB	129	130	+ 23	+22
Elecraft K2	-130 / -136	97 dB	91 dB	134	135	+21	+21
Ten-Tec Omni VI+	-133	97 dB	86 dB	123	119	+12	+8 *
FT1000MP Mk V	-128 / -135	97 dB	83 dB	142	119	+15	-5.2
B'holz TS-2000	?	?	69 dB	?	?	?	-15
Icom IC756 PRO II	-131 / -141	97 dB	76 dB	118	100	+20	-18.8
Icom IC-775 DSP	-138 / -143	105	Not Tested	137	Not Tested	+20	Not Tested

** PreAmp On / Off

Weak Signal Reception In the presence of Strong Signals

* Not tested by ARRL

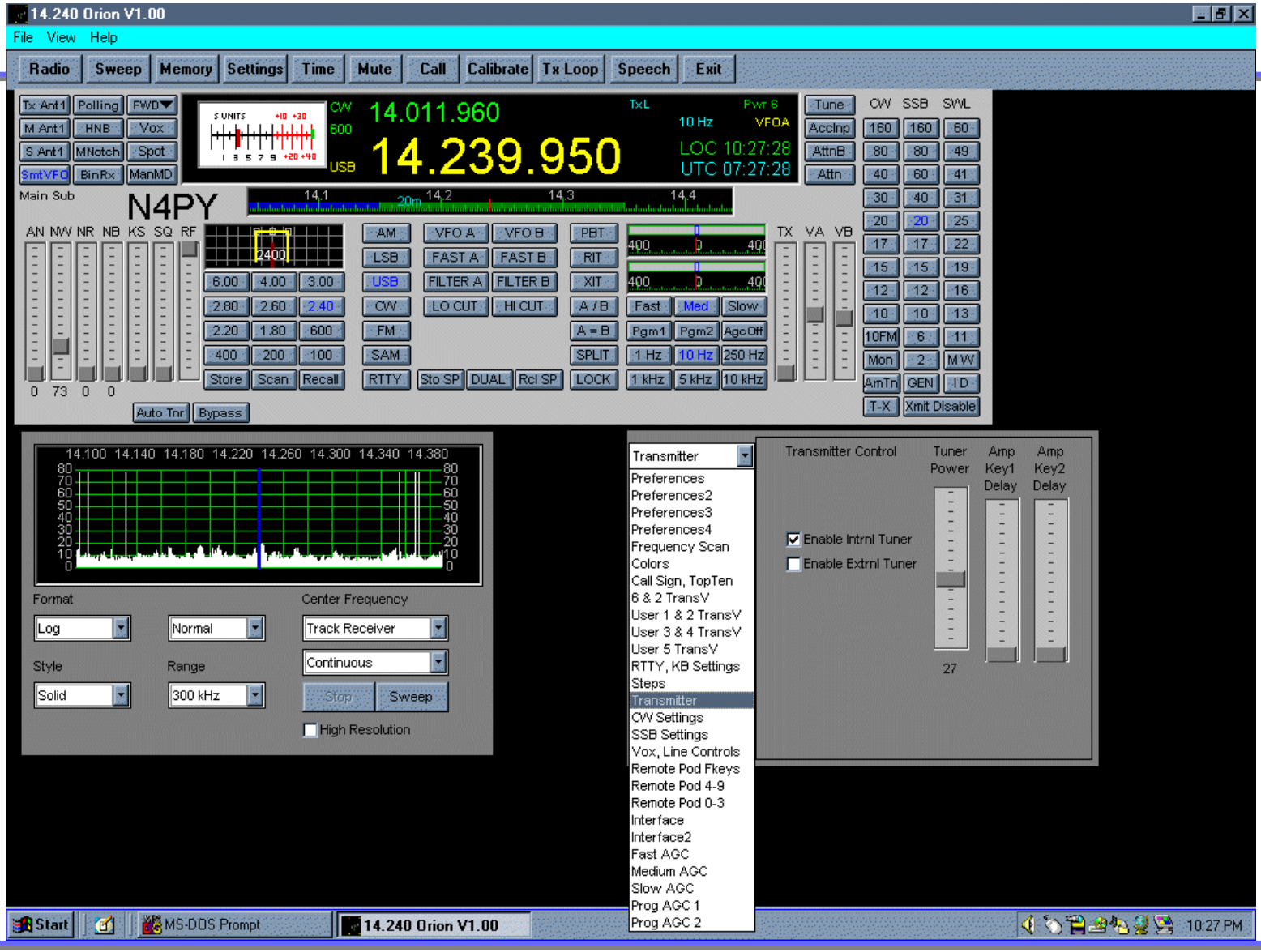
CON's (Negatives)

- Currently, **NO PTT** on **CW** mode
- Some not happy with the PLL "step".
  - 1 Hz is too slow for scanning band
  - 10 Hz seems to tune in steps
- Voice Memory Keyer too SLOW !
- Headphone Jack: Russian Roulette
  - "Jumpin' Jack Flash"
- No Carrying Handle

Links to more Information

- www.appellofunk.de
- http://www.tentec.com/TT565.htm
- http://lists.contesting.com/archives/html/TenTec/
- http://www.doug-smith.net/orion.htm

N4PY Radio Control Software http://www.ralabs.com/n4py/



TEN-TEC Amateur Radio

We are hams

We're all about hams

We're here to help hams

www.tentec.com