

# HF SDR Rig in Go-Box HF Bands for W6TRW Field Day 2018 !

**W6TRW General Meeting**

**Tuesday July 10<sup>th</sup>, 2018**

**5:30 pm**

**QTH: Roundtable Pizza Torrance**



Elmer to many hams, **Mike Aust, WB6DJI**, Presents:

**Home-brew!**

**HF SDR Rig in Go-Box HF Bands for Field Day 2018 !**



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## HF SDR Rig in Go-Box HF Bands for W6TRW Field Day 2018 !



*"This project HF Field Day 2018 radio seemed like it was putting 10 pounds of sand into a 5 pound sack !! Cutting, milling, sanding steel racks, cabling, mounting equipment onto upper & lower 2U racks into a 4U rack, special mounting brackets for front mounted KX3 HF radio and DSP speaker, not to mention the HF PA deck , Synced SDR receiver and it's custom milled out rack, etc ..... Working at Northrop was easier work than this stuff....." Mike, WB6DJI*

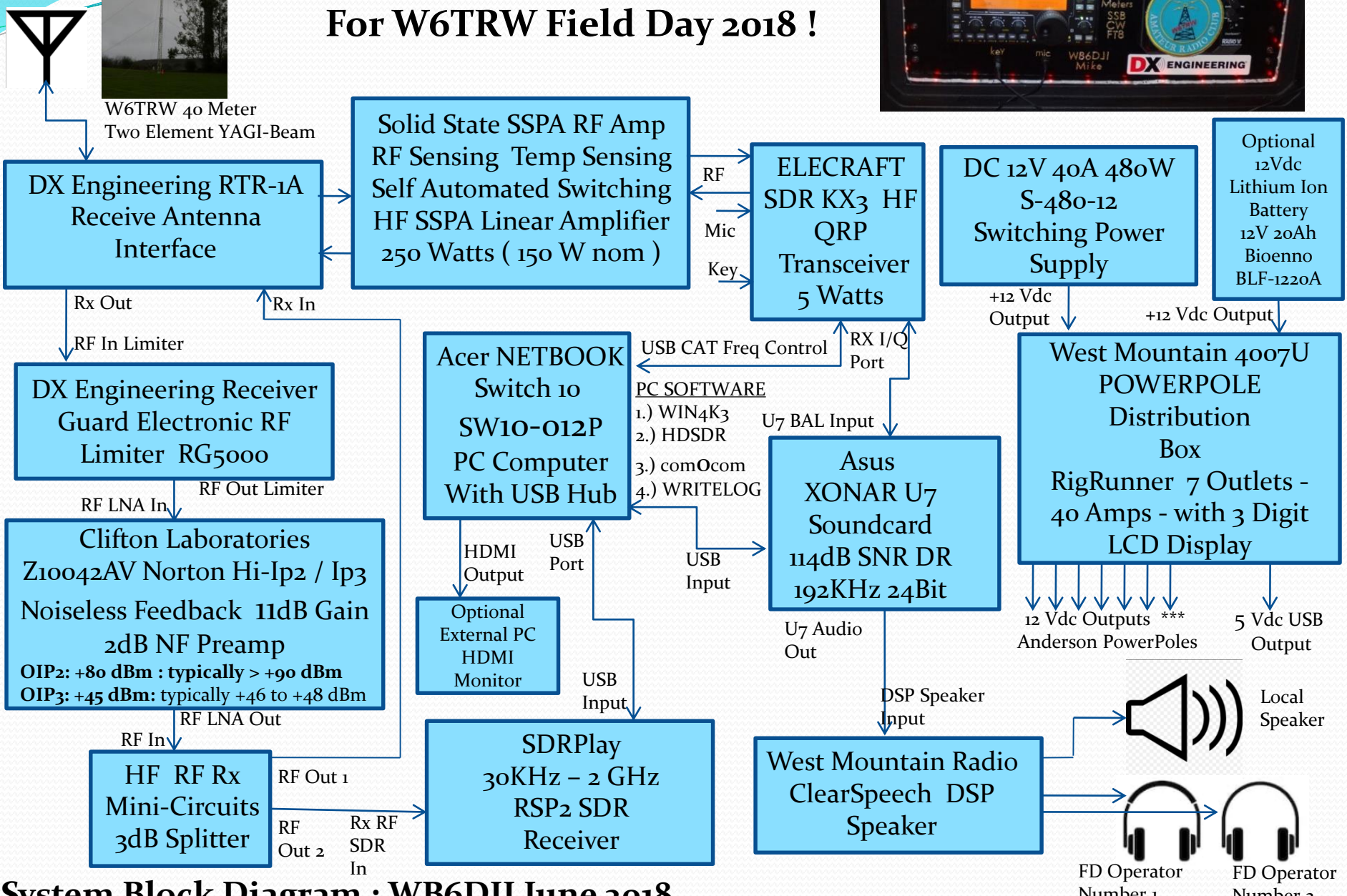


## • **HF SDR Rig Project in Go-Box HF Bands**

Goals : **for Field Day 2018 !**

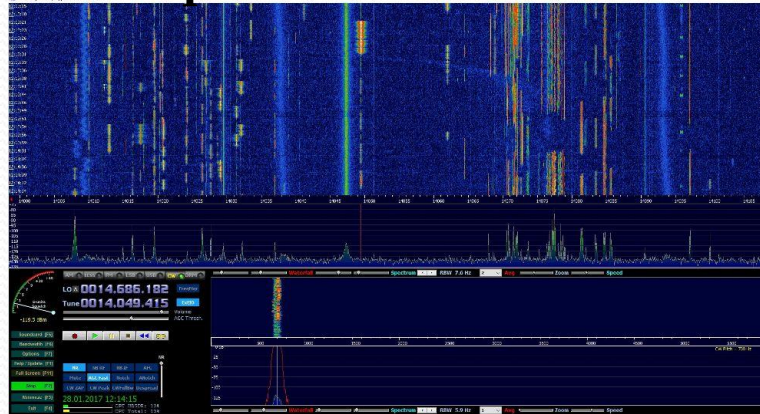
- Build a Complete Portable HF Field Day Station within a SKB 4U Studio Flyer Travel Go-Box with a Synced Software Defined HF SDR tracking Receiver
- Integrate an HF Radio that is Synced with a HF Software Defined SDR Receiver to allow Spectrum Scope/Waterfall Displays
- SDR Advantages “Point and Click” to find Stations – Sharp Rx Filtering to use when in crowded Bands
- Complete with Logging Software – PC Computer – 250Watt HF RF Power Amp Power Supply – Sound Card – SDR Rx & Main HF Rig Rx Protection Circuitry Rx/Tx Switching – Synced CAT Frequency Control Software
- Be able to operate on Go-Box from **110** VAC Input or **12** Vdc Battery if needed
- Being Self contained - Not having to have a Rat-Nest of cables/boxes at W6TRW 2018 Field Day Site

## anced SDR Radio Setup



# HF SDR Rig in Go-Box HF Bands for Field Day 2018 !

SDRplay SDRplay RSP2 “ 30KHz to 2 GHz Receiver”  
RSP2 Enhanced Radio Spectrum Processor SDR Receiver



## RSP2

### Low Pass

- 12MHz

### Band Pass

- 12 – 30MHz
- 30 – 60MHz
- 60 – 120MHz
- 120 – 250MHz
- 250 – 300MHz
- 300 – 380MHz
- 380 – 420MHz
- 420 – 1000MHz

### High Pass

- 1000MHz

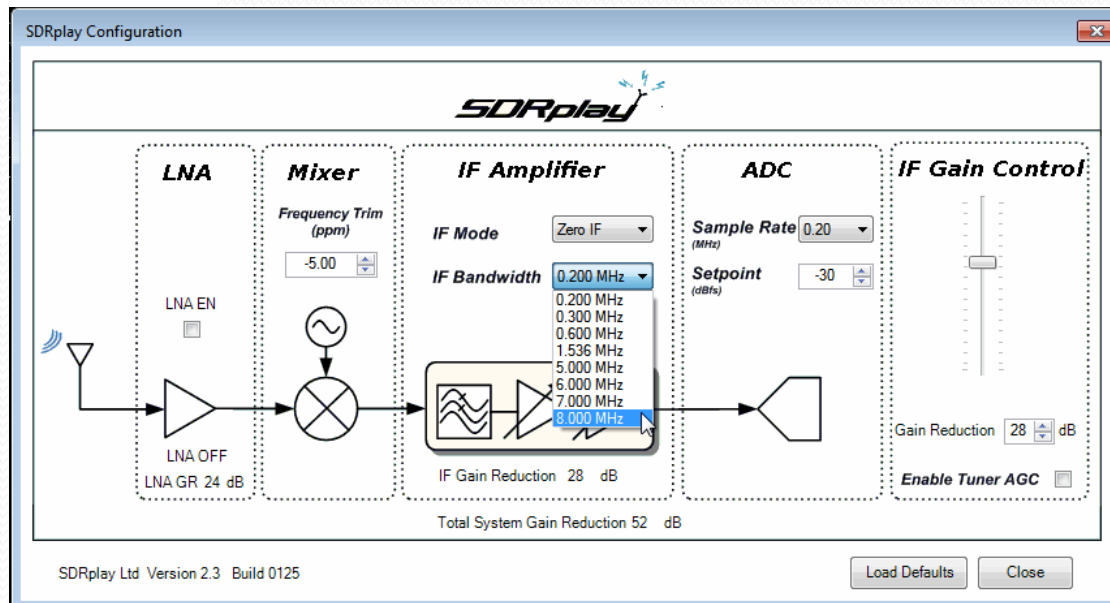
### Notch Filters

- FM Filter  
>50dB 80 – 100MHz
- MW Filter  
>30dB 680 – 1550kHz

### Front End Filtering (High-Z port)

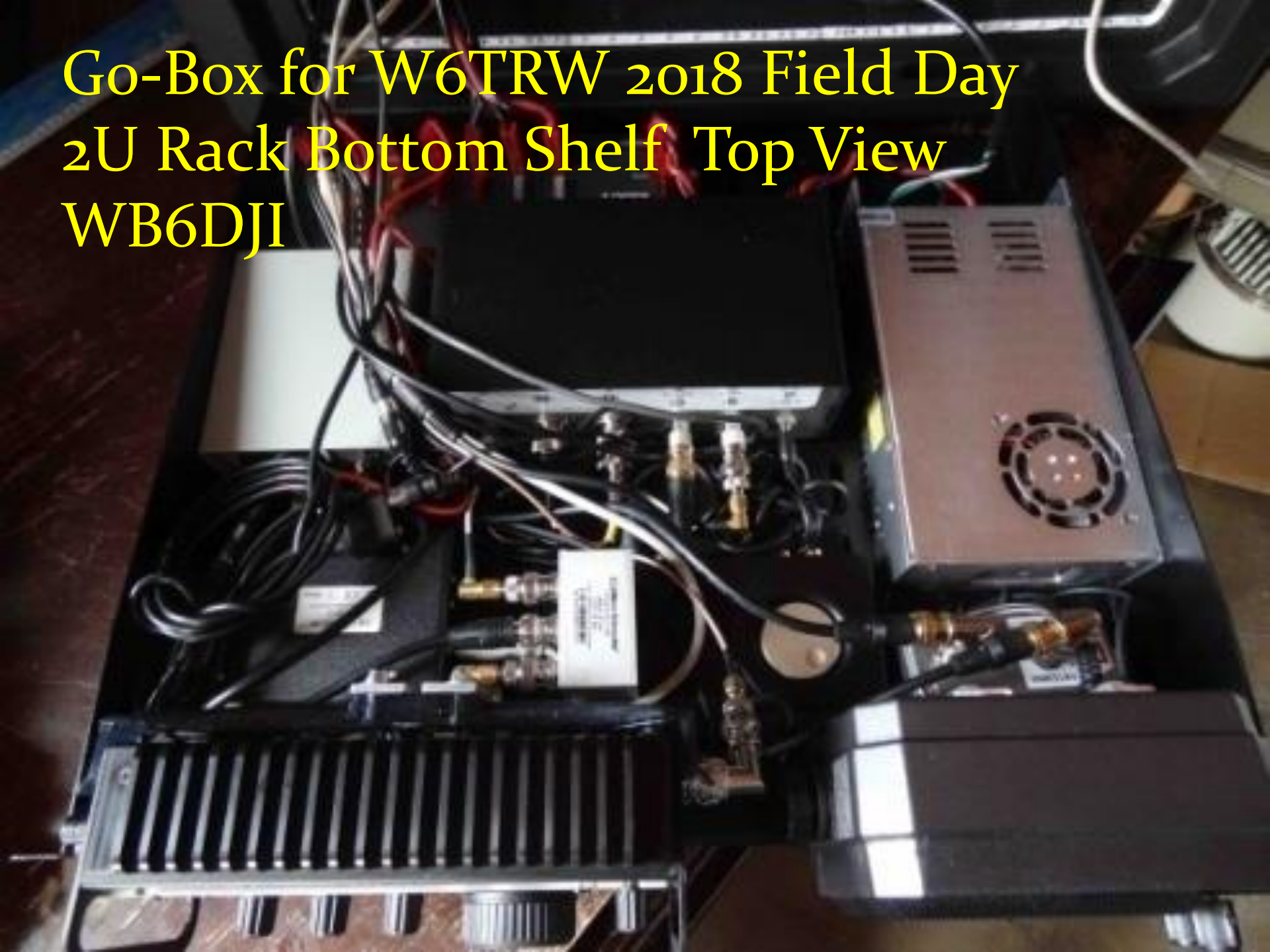
### Low Pass

- 30MHz





Go-Box for W6TRW 2018 Field Day  
2U Rack Bottom Shelf Top View  
WB6DJI

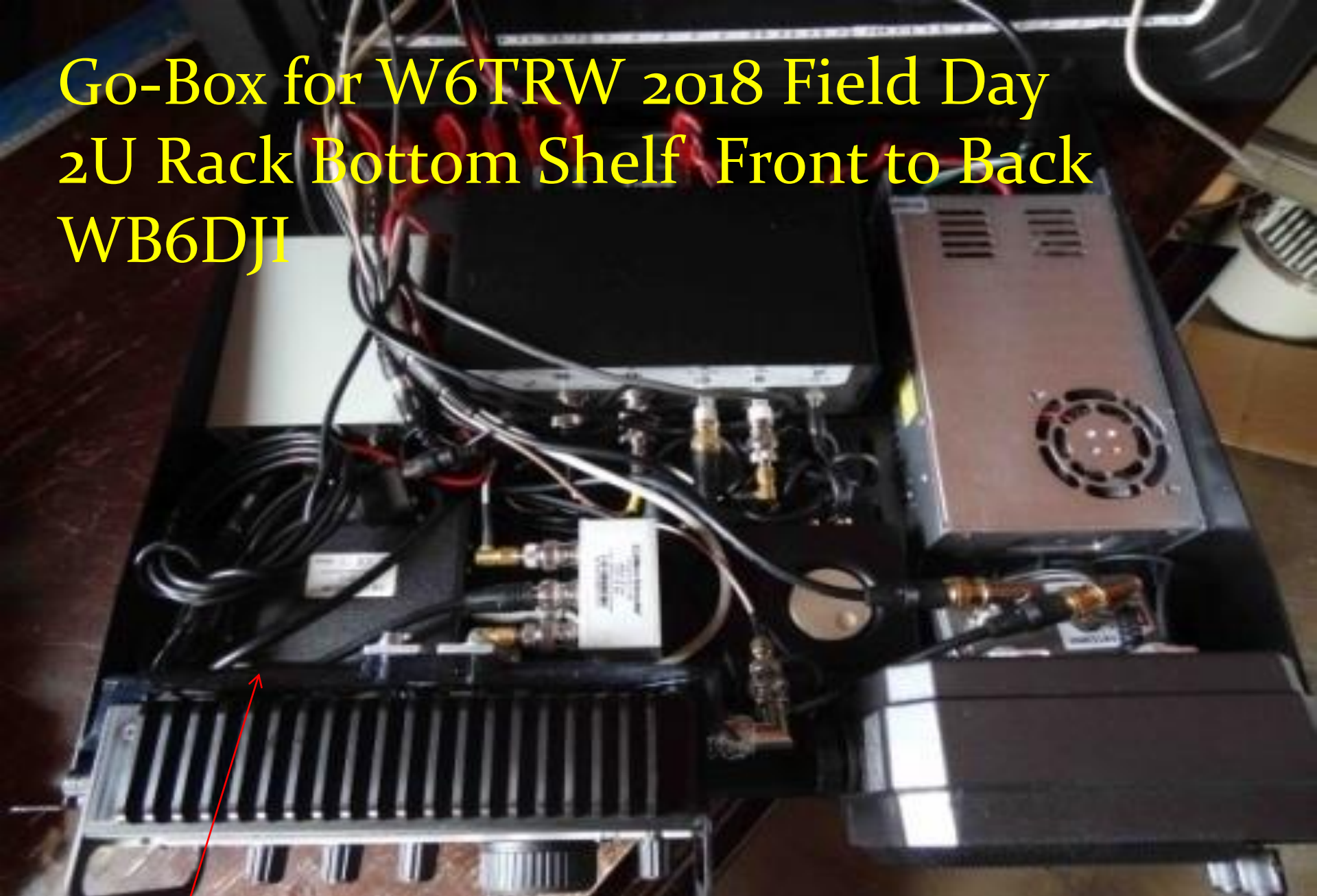


# Go-Box for W6TRW 2018 Field Day 2U Rack Bottom Shelf Back to Front WB6DJI





# Go-Box for W6TRW 2018 Field Day 2U Rack Bottom Shelf Front to Back WB6DJI



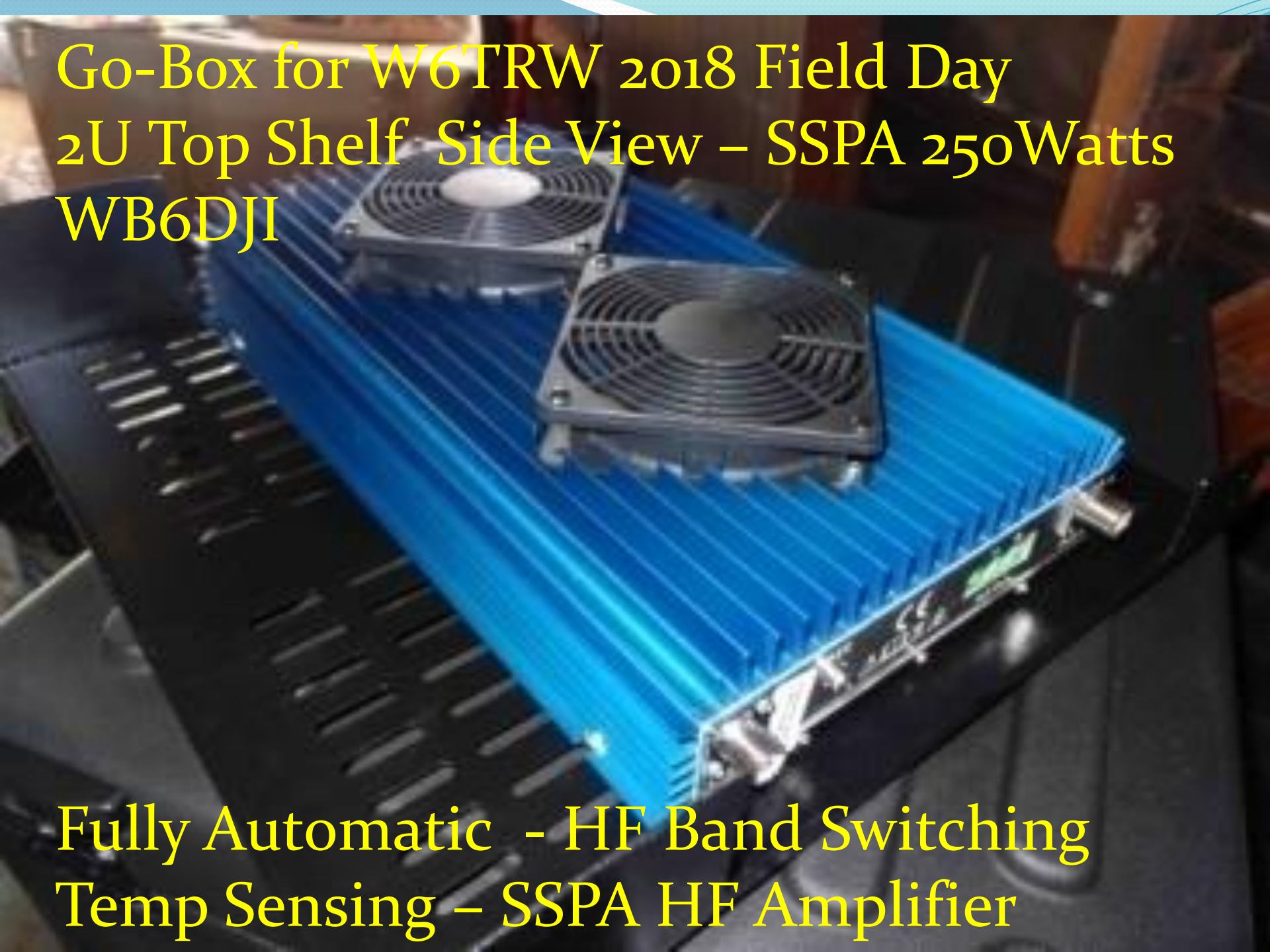
**Note : Lexan SideKick**

**KX3 Mobile Mount ( Allows Easy Release of KX3 when not in Go-Box )**



Go-Box for W6TRW 2018 Field Day  
2U Top Shelf Side View – SSPA 250Watts  
WB6DJI

Fully Automatic - HF Band Switching  
Temp Sensing – SSPA HF Amplifier



# Go-Box for W6TRW 2018 Field Day



Inside Top Cover of SKB 4U Studio Flyer Case  
NetBook PC Computer  
WB6DJI



Go-Box for W6TRW 2018 Field Day  
2U Rack Bottom & Top Shelves installed in  
SKB 4U Case  
Studio  
Flyer  
Portable  
Unit  
WB6DJI

Milled Cut-Outs

19" Rack Plate 4U Face Plate Front Mounted KX3 Radio and ClearSpeech DSP Speaker

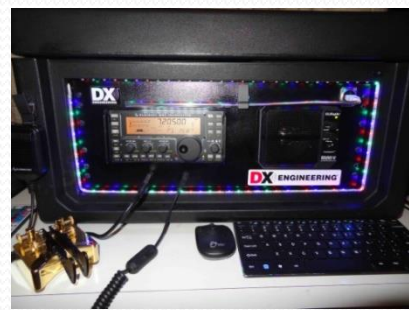
# Go-Box for W6TRW 2018 Field Day





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# HF Synced SDR Radio Setup in Go-Box HF Bands

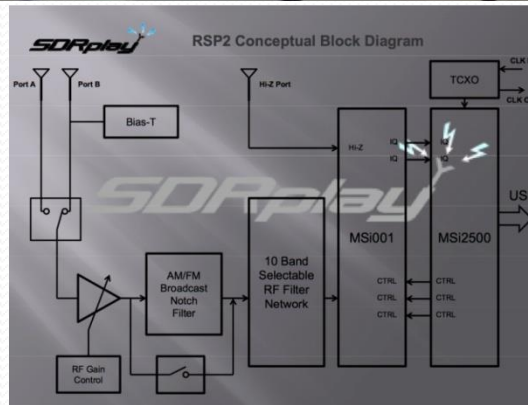
## For W6TRW Field Day 2018 !



Beam – W6TRW  
2 Element 40meter  
Field Day 2018



SKB Studio Flyer  
Case 4U Rolling  
Wheels



HF Automatic  
250Watt HF Linear Amplifier

