



K9DX

THE CONTEST REMOTE

**PRESENTED TO:
DAYTON CONTEST FORUM
2008**

K9DX REMOTE

- **28 MILES FROM HOME**
- **80 ACRES OF FARM LAND**
- **POLE BUILDING**

**Insulated 18x18 equipment
room inside**



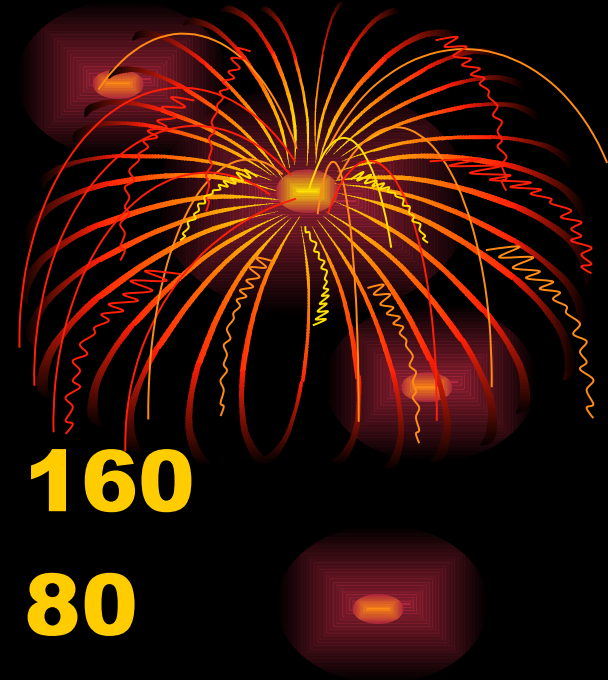
OBJECTIVES

- **CASUAL ALL-BAND CONTESTING**
- **NOT SO CASUAL (KICK-ASS) ON 160**
- **PRIMARILY CW**
- **NO COMPROMISES DUE TO REMOTE**



ANTENNAS

- **9 ELEMENT ARRAY ON 160**
- **9 ELEMENT ARRAY ON 80**
- **DIPOLE ON 40**
- **BENCHER SKY-HAWK
TRIBANDER**
- **2x4 YAGI STACK FOR EME**





160m 9-CIRCLE



AFTER ICE STORM



80m 9-CIRCLE

by ON4UN



BEVERAGES



EMF TOYS

DESIGN GOALS

- **PADDLE CW – LOW DELAY**
- **TUNES WITH KNOB – POD FEATURES**
- **EXCELLENT AUDIO QUALITY**
- **DIVERSITY RECEIVE**
- **LOTS OF ANTENNA SWITCHES**
- **MOST OF ALL ++RELIABLE++**



RELIABILITY



- **SHACK IS TEMPERATURE, HUMIDITY & DUST CONTROLLED**
- **UPS ON ALL BUT AMPLIFIER**

Everything is on 24/7

- **NO SEMICONDUCTORS OUTSIDE**
- **LIGHTNING PROTECTION**

All wires go through relays



A metal shelving unit containing electronic equipment, including a large white device on the top shelf and a smaller device on the bottom shelf. Cables are visible connecting the equipment.

A silver metal electrical control box mounted on the plywood wall. It has a door and is connected to various wires.

A white door with a silver handle and lock mechanism, set into the plywood wall. A small black mat is on the floor in front of the door.



A white corded telephone handset mounted on the wall next to a light switch.

A grey portable toilet with a curved top and a door on the right side.

A large green generator or piece of heavy machinery in the foreground, partially obscured by a green metal barrier.



Power

Line

Load

Overload

Overtemp

Overvoltage

Smart UPS

2200

APC



A metal shelving unit containing electronic equipment, including a large white device on the top shelf and a smaller device on the bottom shelf. Cables are visible connecting the equipment to the wall-mounted boxes.

A large, rectangular metal electrical control box mounted on the plywood wall. It has a door and is connected to various wires.

A white, single-door entrance to the room, featuring a silver handle and a lock mechanism. A small black mat is placed on the floor in front of the door.

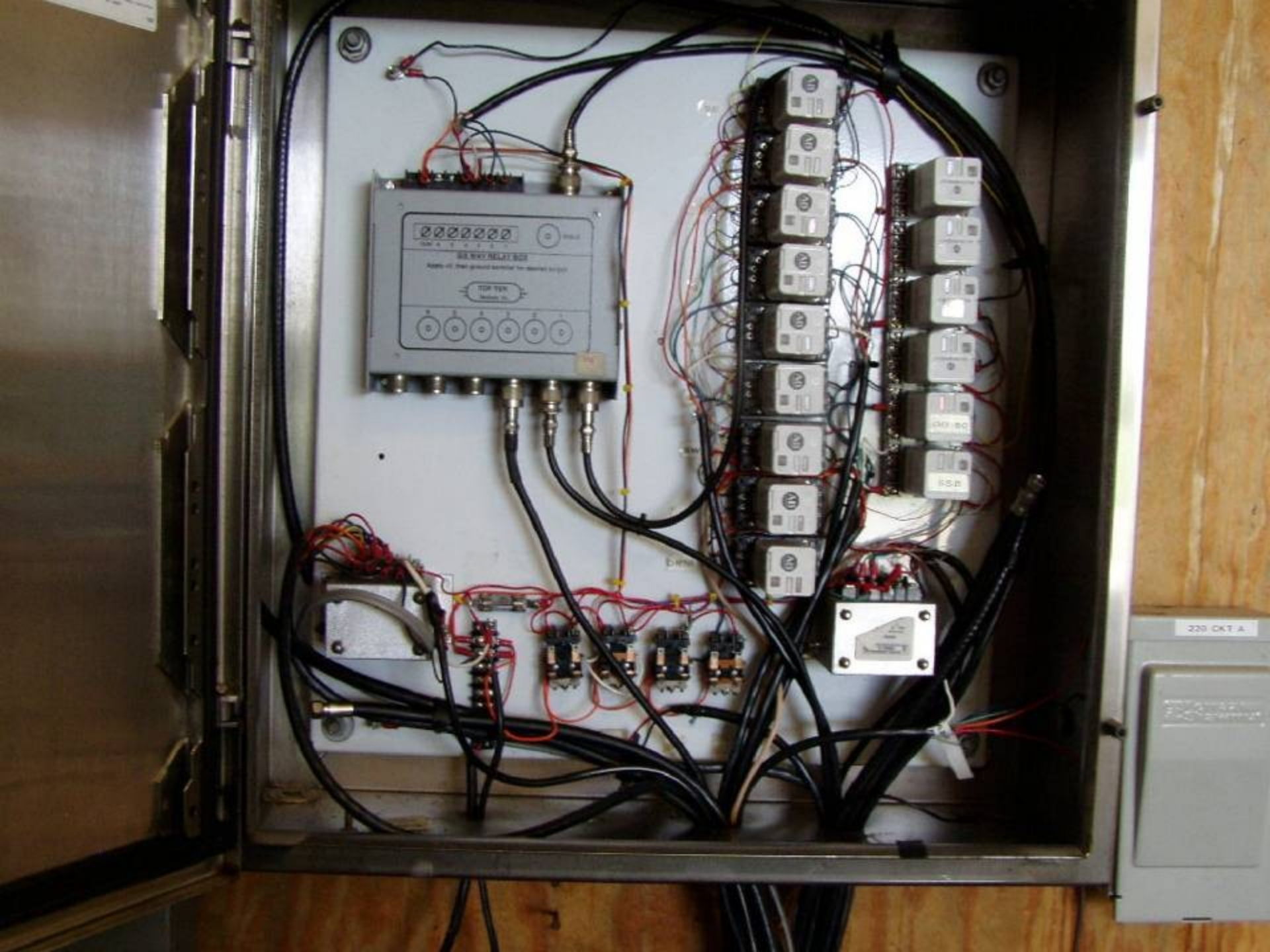


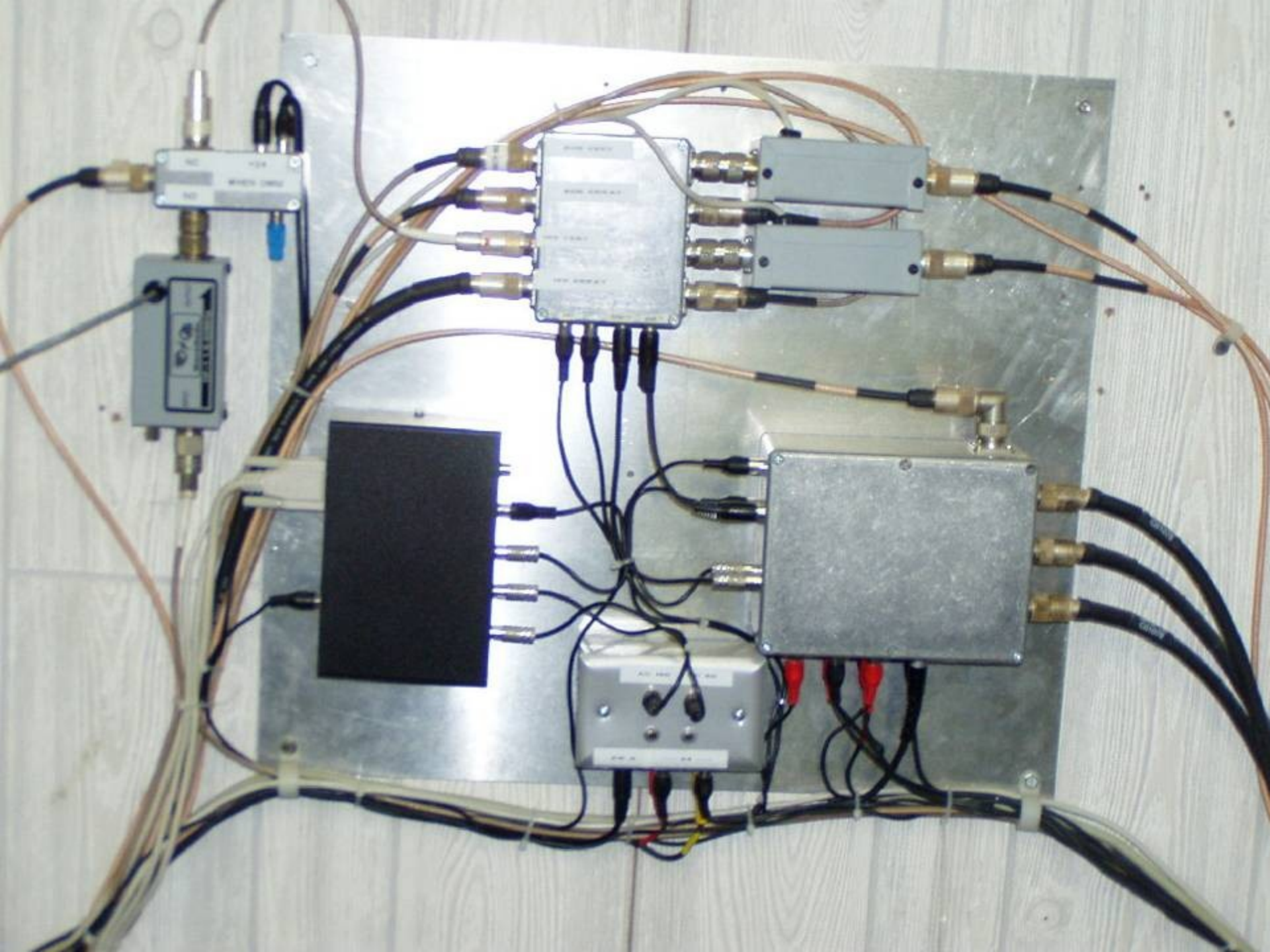
A white, corded telephone handset mounted on the wall to the right of the door, with a coiled cord hanging down.

A collection of tools, including a screwdriver and a pencil, hanging from a nail on the wall to the right of the door.

A grey, portable toilet with a curved top and a door, positioned in the corner of the room.

A large, green, rectangular object, possibly a generator or a piece of heavy equipment, located in the foreground on the left side of the room.





COMMUNICATIONS

- **Two leased 64k DDS lines**
- **DCB modems give one audio pair and a data channel per line**
- **Audio channels are ADPCM – 28k Good quality 7-8ms delay**



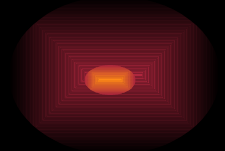




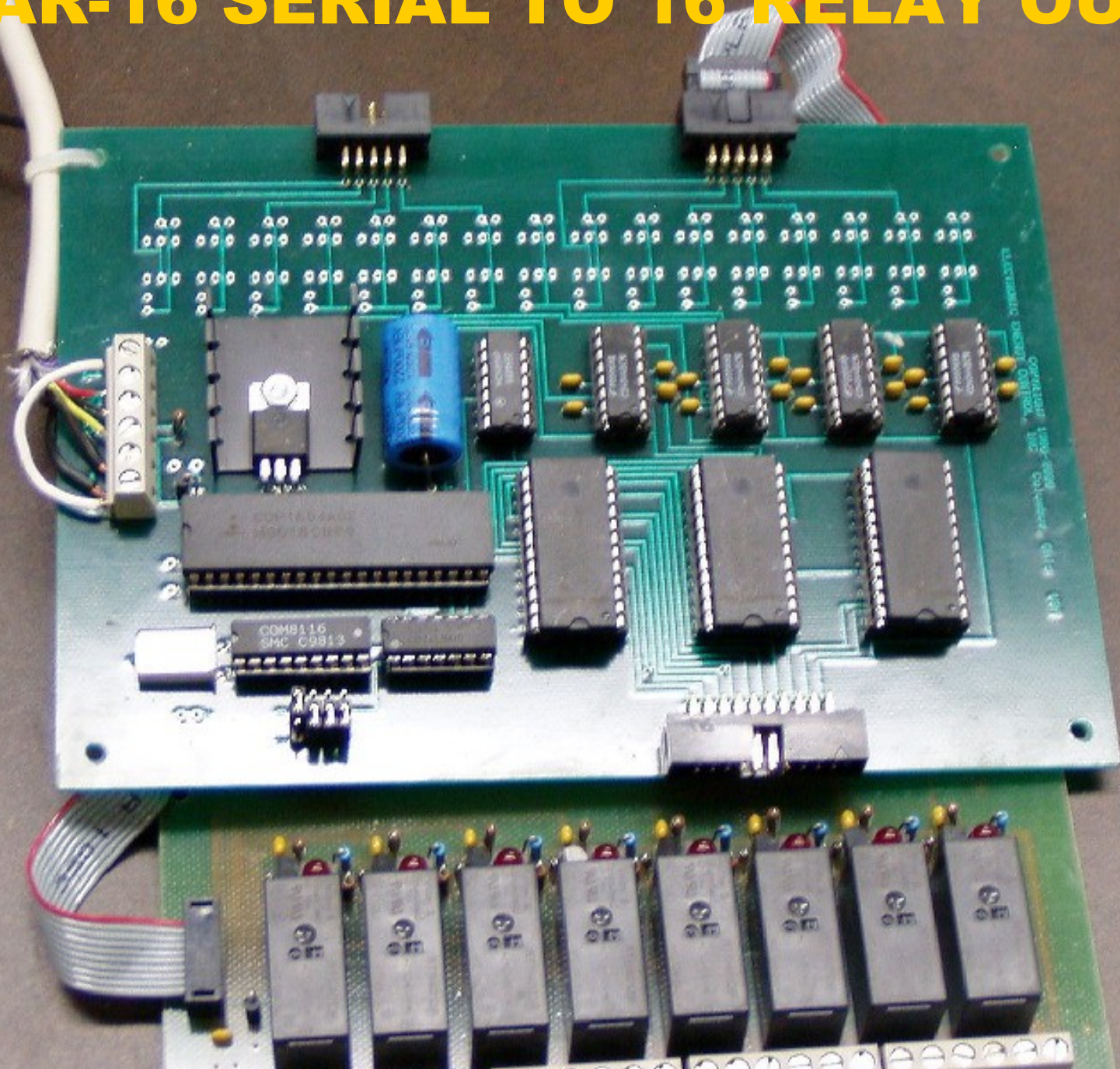
SOFTWARE ON REMOTE COMPUTER



- **PC ANYWHERE**
- **ALPHA REMOTE**
- **TWO 16 PORT AR-16 RELAY DRIVERS**
- **WAVENODE WATTMETERS**
- **WAVENODE ROTOR CONTROL**



AR-16 SERIAL TO 16 RELAY OUTPUTS





OPERATING POSITION



- **TWO MONITORS**

One controls remote

Second one controls IC-7800





AR-16 Relay Interface

COM 2 9600

Exit S

NORTH

NE

EAST

SE

SOUTH

SW

WEST

NW

OMNI TX

ARRAY OMNI

80M RF

160M RF

80M AC

160M AC

3K-EME AC

AR-16 Relay Interface

COM 7 9600

Exit S

ARRAY

CONTROL 80

SSB ANT

SSB TX

TRANSCIEVE

MOON

PTT

OMNI

580' NE

1320' NE

1160' E

580' SE

580' SW

1520' NW

870' W

580' NW

AlphaRemote

Control Help

Po 0 2.5 1.0 1.5 2.0 2.3

Pr 0 50 100 150 200 250

Ig 0 35 70 105 140

Ip 0 .5 1 1.5 2.0 2.5 3

TUNE LOAD DEFAULT

80 52 ENTER

BAND SEG FREQ TUNE

80 1 3500 AUTO

PWR STATUS MODE HV

ON STBY OPB HI

OFF OK READY OFF LO

AutoTune Disabled

ARS GM4JJJ

Start

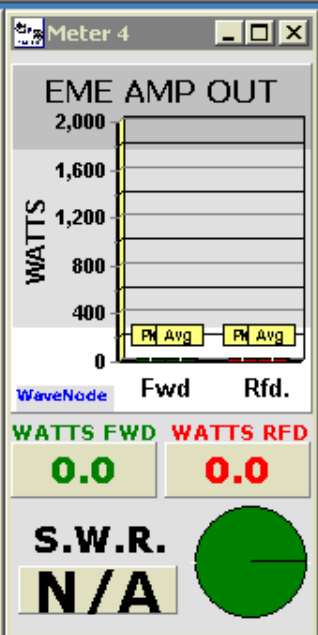
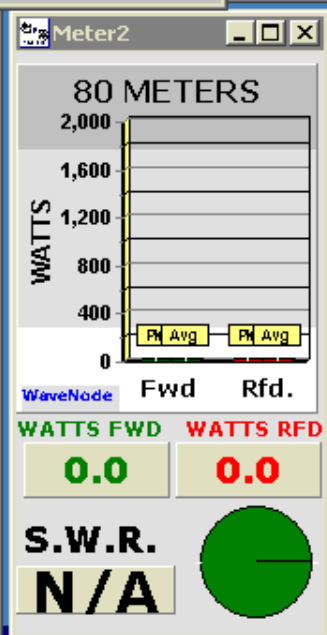
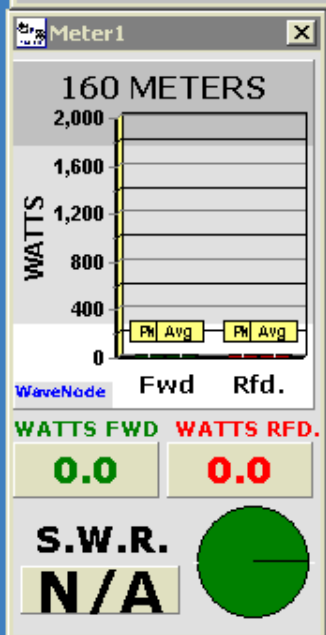
MoonSked - GM4JJJ

UTC: 16:50:00

Az: 175.98

EL: 64.32

Moon



ARSWIN

Antenna 1: 357

Black List Active

Preset: 176

Preset El: 3

Control Unit: Start, Auto-Az, Auto-EI

Moon Track

EAST 2 Mins

RX

144MHz Doppler

-197Hz

UTC: **03:22:05**

Azimuth: **319.03°**

Elevation: **-13.29°**

Preferences

wn1

Shortcut to MoonSked

Meter 4

WaveNode ...

Meter 3



144.124 IC-7800 V1.10

File View Help

Radio Sweep Memory Settings Time Mute Call Speech Exit

Roof=3 APF ManMD

Roof=6 TPF Vox

Roof=15 ANotch BSEmi

T-cieve Ant 1 Rx Ant

5 UNITS +10 +40

CW 3.503.672 ant1 at 9 pa1 Pwr 106

600

1 144.124.01 1 Hz VFOA

USB LOC 11:39:25

UTC 20:39:25

Tune CW SSB SWL

Attn 160 160 60

PreAmp 80 80 49

S Meter 40 60 41

30 40 31

20 20 25

17 17 22

15 15 19

12 12 16

10 10 13

10FM 6 11

Mon 2 MW

AmTrn GEN ID

PTT Xmit Disable

K9DX 144.0 144.1 144.2 144.3

AF NO AG NB NR KS SQ RF

-17 17

Tuner On Tuner Off

AM VFO A VFO B PBT

LSB FAST A FAST B RIT

USB FILTER A FILTER B XIT

CW LO CUT HI CUT A / B Fast Med Slow Man

FM 8 -2 A = B XFC Re-Initialize

PSK SPLIT 1 Hz 10 Hz 100 Hz

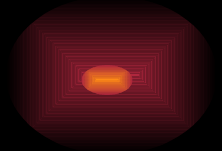
RTTY Sto SP DUAL Rcl SP LOCK 1 kHz 5 kHz 10 kHz

TX VA VB

SOFTWARE ON HOME COMPUTER



- **PC ANYWHERE**
- **N4PY RADIO CONTROL**
- **PEGUSUS CONTROLS TEC-TEC
POD KNOB**
- **TR OR WRITELOG RUNS ON
ANOTHER COMPUTER**





SR

RR

RS

TOT

A

B

A-B

VOL

RIT

6

UP

DN

3

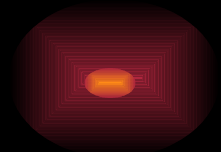
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IN THE THINK-TANK

- **MORE BANDWIDTH**
- **CHEAPER INTERCONNECT**
- **S02R**
- **RADIO CONTROL OF RADIO**
- **INTEGRATE CONTESTING SOFTWARE ... keying OK**
but band changes manual





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