



SuperLink Hub Repeater Overview

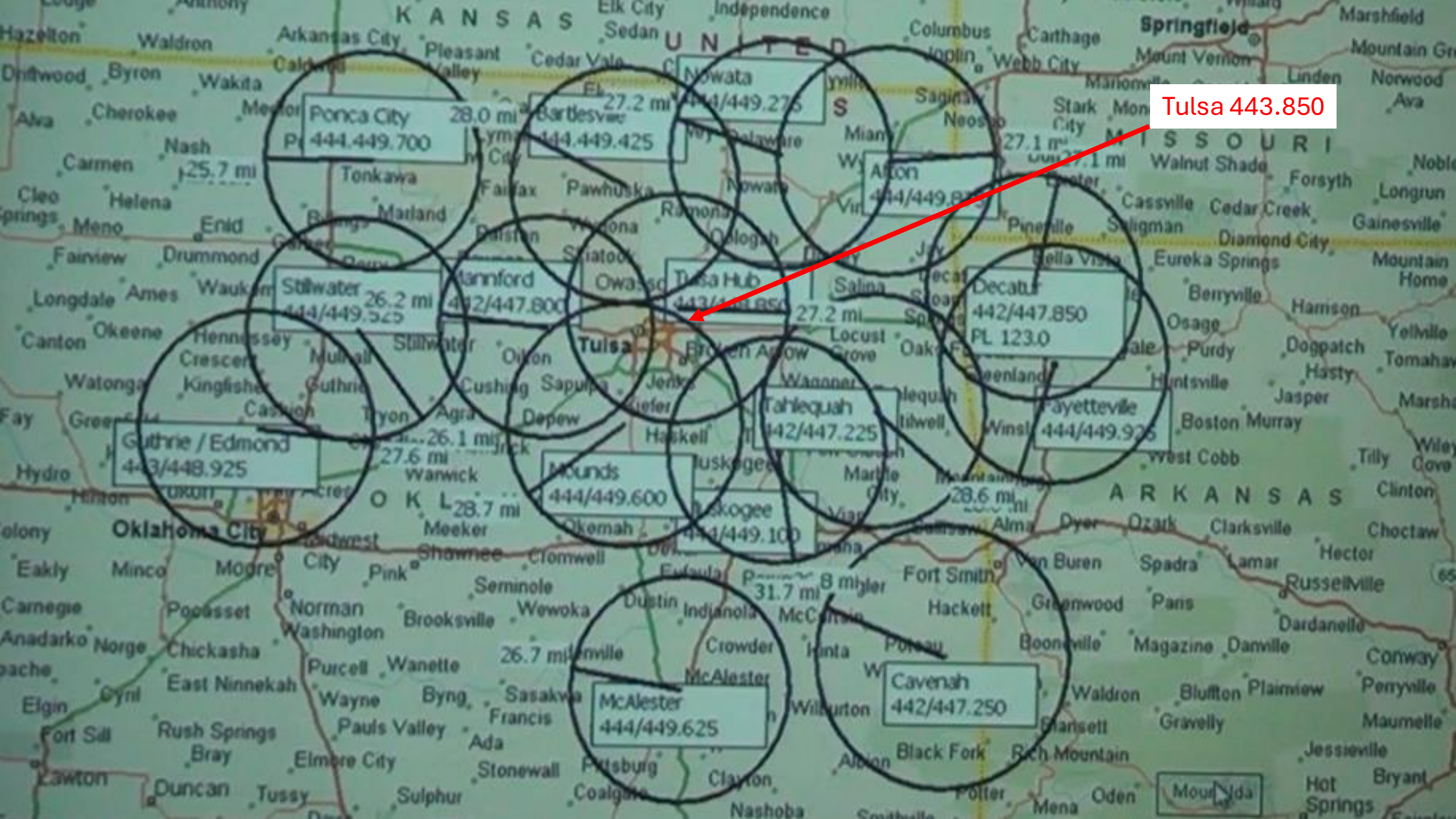
October 2024

Agenda

- A brief history of the SuperLink System
- The Scope & Scale of the System
- A deeper dive into the .850 Repeater
- An overview of the 145.170 Repeater
- Your Questions

How the SuperLink System Started

- The Early Days
 - The tower was built in the 1980's by McCaw Communications
 - Tim Diehl, KB5ZVC and Jerry Moyer, AC5JM, and the paging company
 - The original repeater was on 443.750 with a 125-watt tube amplifier
 - It was moved to 443.850 to resolve interference with BA ATV
- In 2023 we upgraded the system in a major way
 - Motorola MTR 2000 (primary and backup in the rack)
 - ARCOM RC210 controllers (primary and backup in the rack)
 - WX250 weather receiver
 - The entire rack runs on 12 volts



Tulsa 443.850



Power Amplifier

RF Isolator

UHF Duplexer

Motorola MTR 2000

Voltage & Amp Meters

Power & SWR Meter

Repeater Controllers

Weather Receiver

Motorola MTR 2000 (B/U)

Battery Bank



Tenant equipment identification label:

SBA Communications Corporation

TENANT EQUIPMENT IDENTIFICATION

SITE NAME: *LYNCHBURG WEATHER STATION*

TENANT INFO: *WISN-TV*

CONTACT INFO: *BOB RUTZ*

COAX SIZE / QUANTITY: *24 300'*

ANTENNAS SIZE / QUANTITY: *50420 20*

HEIGHT OF ANTENNAS: *200'*

FREQUENCIES: *157.425000 157.425000*

TX: 443.850 RX: 448.850 PL: 88.5

WSIAS/R TARC

MOTOROLA MTR2000

MAIN REPEATER

Warning symbols: High Voltage, Radio Frequency, and Laser.

Two digital power meters (MSAC COLLOIMETER):

- Left meter: 100.365
- Right meter: 100.166

Analog power meters:

- INCIDENT WATTS: 0 to 100 scale
- REFLECTED WATTS: 0 to 100 scale

INCIDENT WATTS
THRU LINE

REFLECTED WATTS
THRU LINE

RESET

BIRO ELECTRONIC CORPORATION

RC-210 WX-250 MTR2000

CROSS CONNECT

Arcom MAIN
RC 210 REPEATER CONTROLLER

Display ON OFF
LEDS

PTT COS CTCSS DTMF
P1 P2 P3 P1 P2 P3 P1 P2 P3

POWER

Arcom SPARE
RC210 REPEATER CONTROLLER

Display ON OFF
LEDS

PTT COS CTCSS DTMF
P1 P2 P3 P1 P2 P3 P1 P2 P3

POWER

WX-250 Weather Receiver
With S.A.M.E. Decoder

TX 443.850 RX 448.850 PL 88.5

MOTOROLA W5IAS/R TARC MTR2000

SPARE REPEATER

WX-250 Weather Receiver
With S.A.M.E. Decoder

TX 443.850 RX 448.850 PL 88.5

MOTOROLA

WSIAS/R TARC

MTR2000

SPARE REPEATER



SWER Suppressor On/Power On
WB Suppressor On/Power On

TP INSTRUCTOR
SUPERIOR SIGNAL REPEATER
Rack Mounted Protector 6154





Power Amplifier

RF Isolator

UHF Duplexer

Motorola MTR 2000

Voltage & Amp Meters

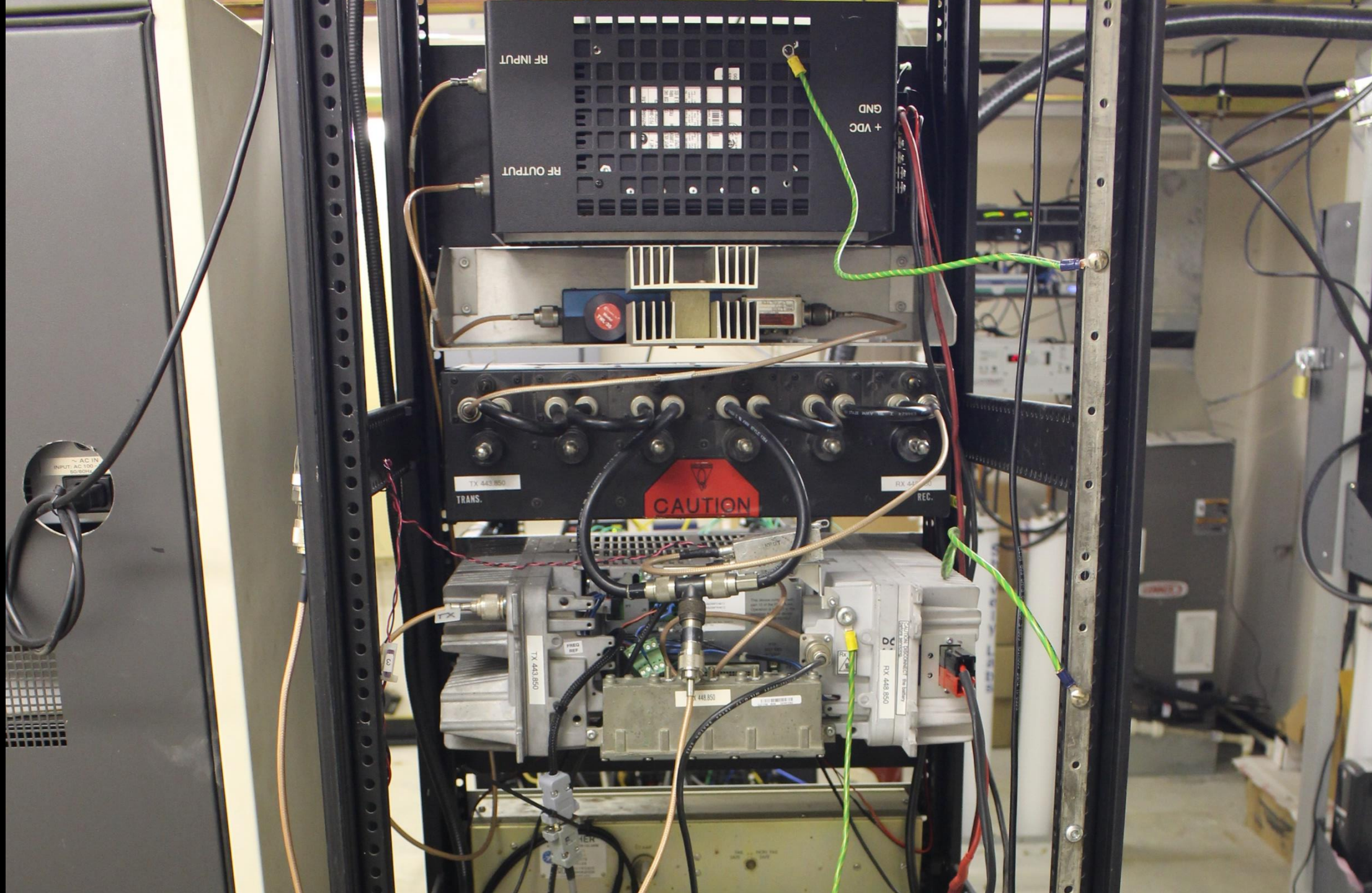
Power & SWR Meter

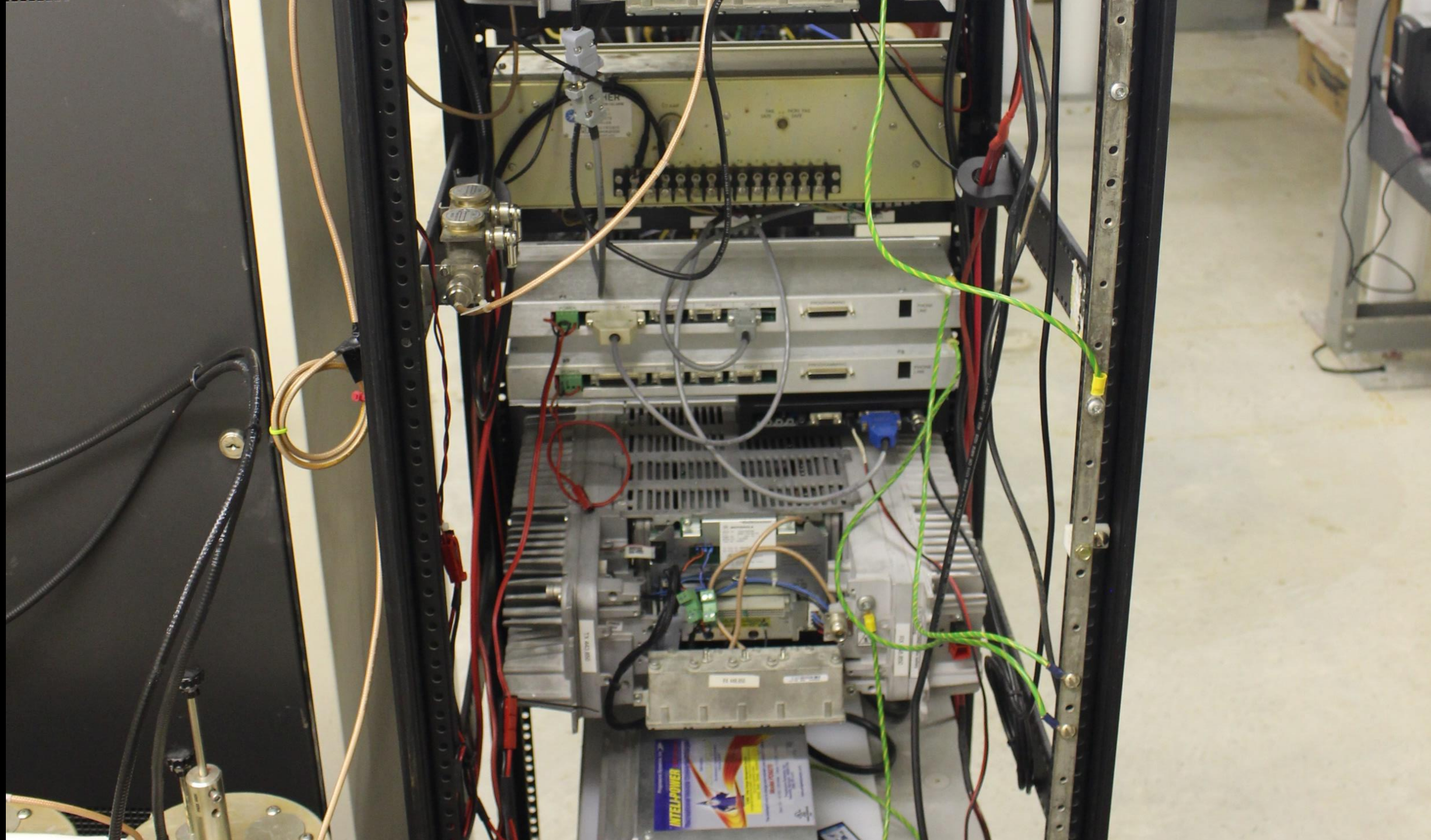
Repeater Controllers

Weather Receiver

Motorola MTR 2000 (B/U)

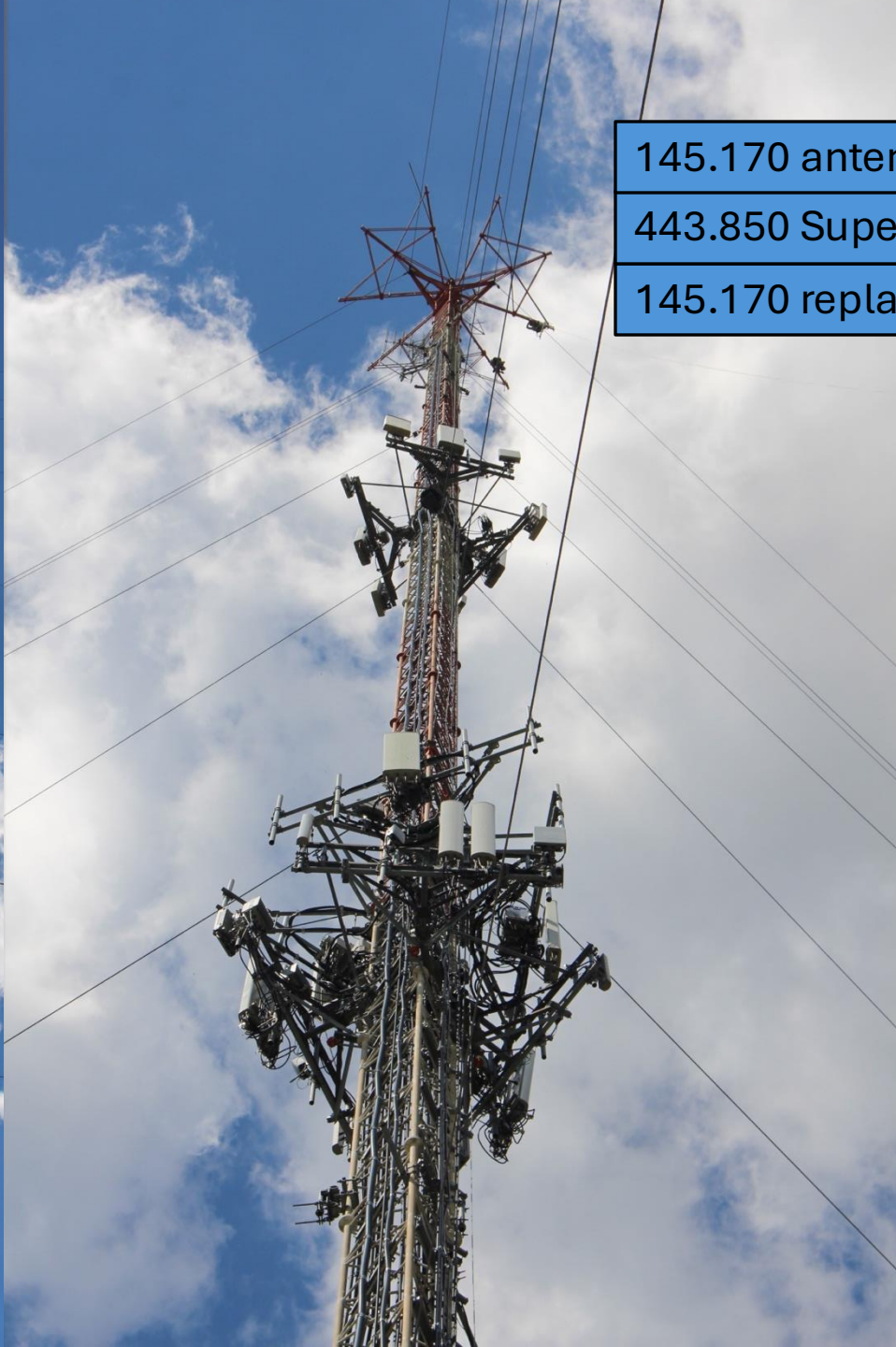
Battery Bank & Charger





443.850 Feedline to DB420 Antenna at 500 ft with Lightning Arrestor





145.170 antenna goes here

443.850 SuperLink antenna

145.170 replacement antenna

