



SuperLink Hub Repeater Overview

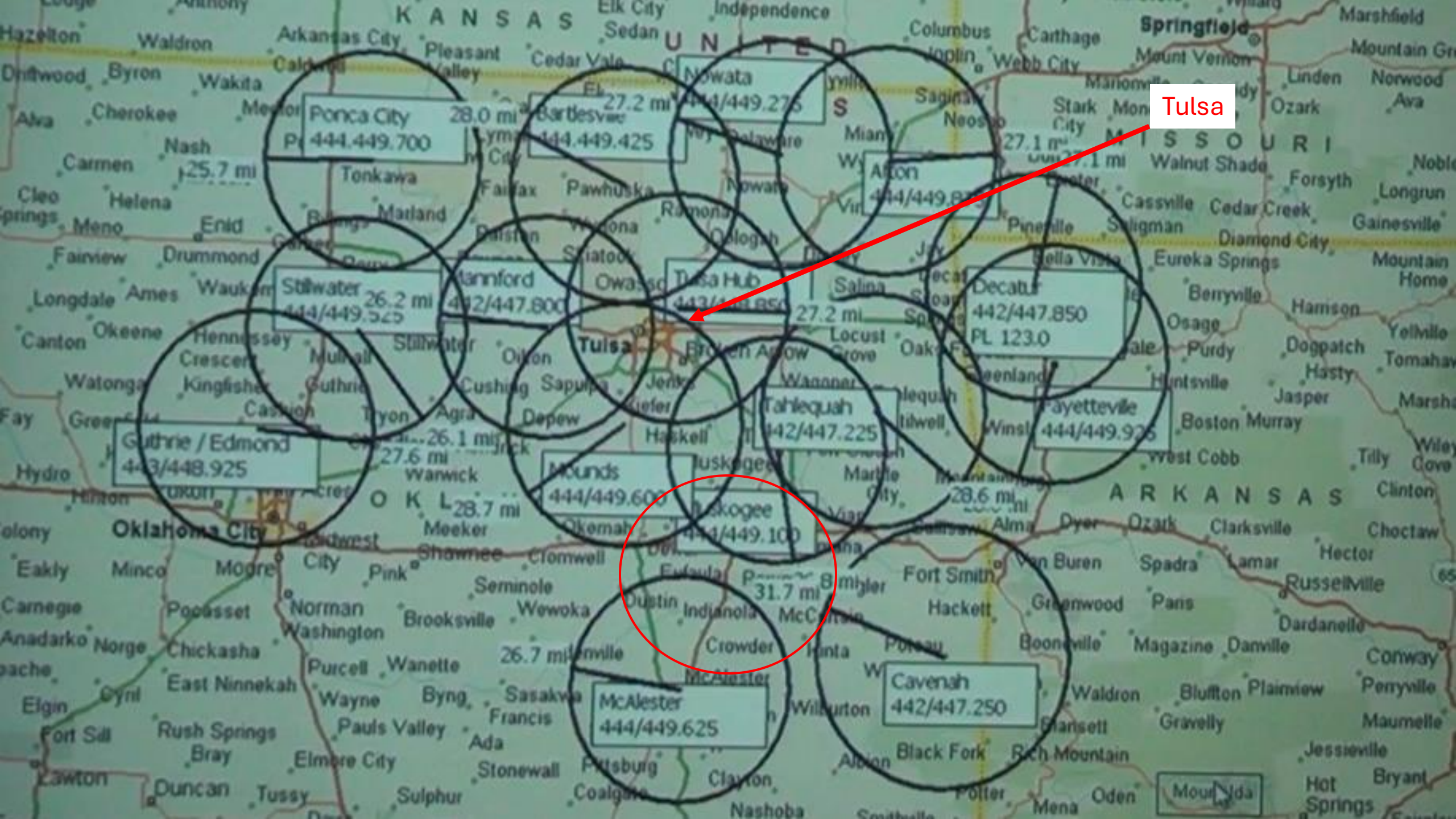
October 2024

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 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
- 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

Ponca City
28.0 mi
444-449-700

Bartlesville
27.2 mi
444-449-425

Alton
444-449-875

Stillwater
26.2 mi
444-449-540

Mannford
442-447-800

Tulsa Hub
443-448-950

Decatur
442-447-850
PL 123.0

Guthrie / Edmond
443-448-925

Mounds
444-449-600

Tahlequah
442-447-225

Payetteville
444-449-925

Okemah
441-449-100

Muskogee
441-449-100

McAlester
444-449-625

Cavanah
442-447-250



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 (TEI) label:

SBA Communications Corporation

TENANT EQUIPMENT IDENTIFICATION

SITE NAME: LYNCHBURG WEATHER STATION

TENANT INFO: State of Virginia Dept of Transportation

CONTACT INFO: BOB BURTICK
813.833.3443

COAX SIZE / QUANTITY: 24 300' 1000' 1000'

ANTENNAS SIZE / QUANTITY: 50420 01

HEIGHT OF ANTENNAS: 200' 140' 140'

FREQUENCIES: 115.1 115.175 115.2 115.275

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 COILMETER):

- 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

W5IAS/R TARC

MTR2000

SPARE REPEATER



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

TP INSTRUCTOR
SUPERIOR LOGIC CORPORATION
Rack Mounted Protector 6154





Power Amplifier

RF Isolator

UHF Duplexer

Motorola MTR 2000

Voltage & Amp Meters

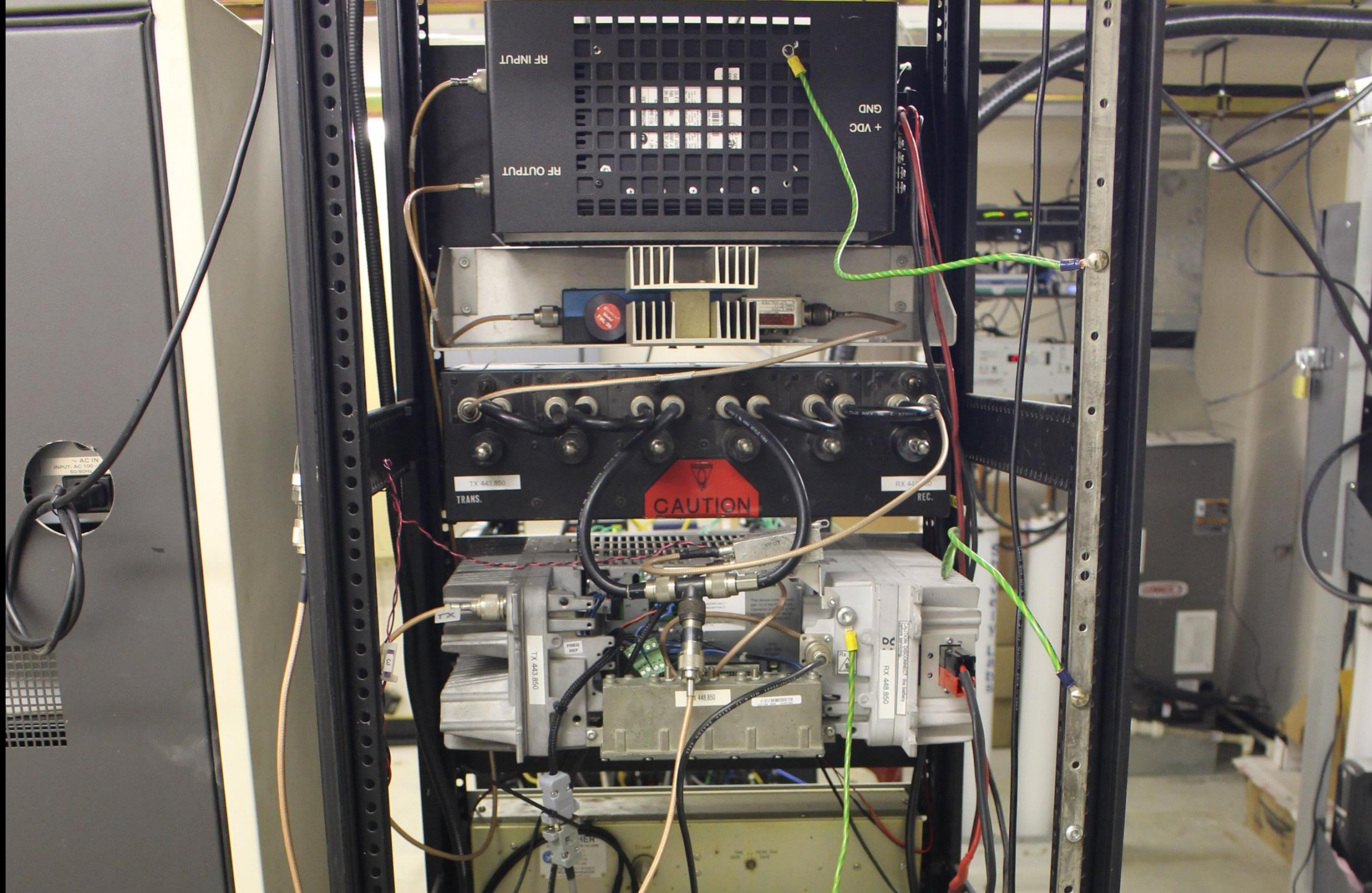
Power & SWR Meter

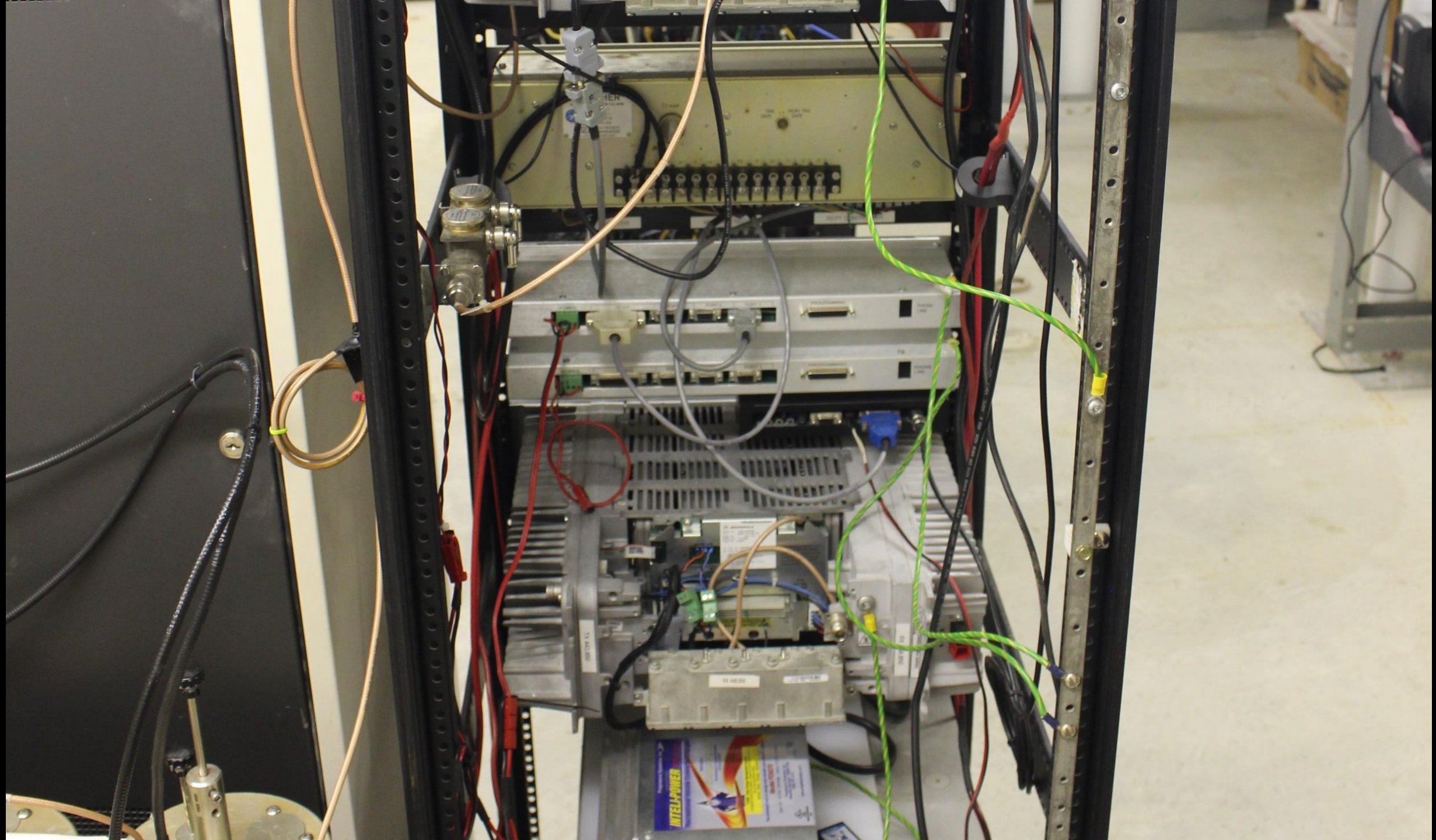
Repeater Controllers

Weather Receiver

Motorola MTR 2000 (B/U)

Battery Bank & Charger





443.850 Feedline to DB420 Antenna at 500 ft with Lightning Arrestor



