



EASTERN HEALTHCARE PREPAREDNESS COALITION COMMUNICATION UNIT

UTILIZING THE

EHPC CLUSTER DMR NETWORK

MODERN EMCOMM FOR AUXILIARY COMMUNICATIONS

The Eastern Healthcare Preparedness Coalition (EHPC) offers a regional Digital Mobile Radio (DMR) system to support emergency communications. The system consists of surplus North Carolina UHF MED equipment in conjunction with donated equipment from partners across the region. 75% of regional hospitals are covered by the system. Hospitals offer an excellent site location for emergency communications due to redundant power and connectivity resources. In addition to hospitals, the NC4ES DMR network has (3) high sites (over 500' AGL) in the region. EHPC focuses on supporting emergency management through the Auxiliary Communications (AUXCOMM) program. North Carolina Emergency Management have both direct and indirect access to the system to support the region during times of disaster. Even if internet is impacted, the radio repeaters continue to work in a dual slot format so local communications are still available. The EHPC Cluster DMR system leverages internet connectivity when available to link all Eastern North Carolina hospitals to the Healthcare Coalition (HCC) and NC Emergency Management. The system is maintained by EHPC with help from professional radio and information technology experts free of charge for the region.

- VIDANT NORTH-ROANOKE RAPIDS
- BROWN TOWER- ROCKY MOUNT
- VIDANT EDGEcombe-TARBORO
- VIDANT MEDICAL CENTER- GREENVILLE
- UNC TOWER- COLUMBIA
- UNC TOWER- FARMVILLE
- EHPC FIELDCOMM 1 - GREENVILLE

- VIDANT BEAUFORT- WASHINGTON
- PAMLICO – FWVFD BAYBORO
- VIDANT DUPLIN- KENANSVILLE
- ONSLOW MEMORIAL-JACKSONVILLE
- OBX HOSPITAL- NAGS HEAD
- CAROLINA EAST- NEW BERN
- PAMLICO CO- ORIENTAL

<http://www.nc4es.org>

SYSTEM GUIDANCE - BEST PRACTICES

1



THE GOAL OF THE NC4ES DMR NETWORK: SUPPORTING EMCOMM

The main goal of the network is to support regional healthcare emergency communications. Most of the network is surplus equipment from the NC UHF MED system and donations from regional partners

- Is one of the only DMR systems in North Carolina dedicated to AUXC support
- Fully independent network
- Most sites are in hardened facilities with redundant power and data connectivity

NC4ES HBLINK DASHBOARD:
<http://cluster.nc4es.org:8080/>
NC4ES CBRIDGE DASHBOARD:
<http://167.99.121.203:42420/CallWatch>

2



UTILIZING CHAT AND OTHER TALKGROUPS

The network has a set of predefined allowable talkgroups. For lengthy conversations it is recommended to use CHAT 1 or CHAT 2. This ensures only the needed sites are being used.

- Using CHAT TGs are responsible use of resources. Only utilizing sites that are active in the QSO
- Allows the CLUSTER Talkgroup to remain open for emergencies and calling
- Some Emergency Response agencies/facilities regularly monitor the CLUSTER talkgroup
- Please use the local TG for single site QSOs

3



OPEN TO ALL AMATEUR RADIO OPERATORS

The NC4ES DMR network is run by public safety and IT professionals that focus on EMCOMM support. The system is open to all users and encourages relationship building. A majority of the system is funded by volunteer man hours and donated equipment

- No member fees for utilizing special features of the network
- Facilitates relationships between Healthcare, Emergency Management and AUXC personnel

4



HOTSPOT CAPABILITY

Hotspots provide a unique capability for stations out of range from regional repeaters and/or impacted by infrastructure outages. Hotspots are micro repeaters or simplex nodes and can be very useful for EMCOMM

- Hotspots are excellent tools if used appropriately
- System is capable of supporting (100) simultaneous hotspots
- Any stations with network loops or misconfigurations impacting the system will be disabled and/or banned.

5



THE CLUSTER TALKGROUP IS FOR CALLING AND SHORT QSO'S

The EHPC CLUSTER Talkgroup is the main static channel "always on" at all sites. This talkgroup is for emergency calling, station hailing and short conversations. This channel should not be used for lengthily QSOs.

- If a QSO is longer than 5 minutes, please switch to a CHAT talkgroup
- When using the CLUSTER talkgroup, you are using at least (16) 100 watt regional repeaters. Please use the system responsibly

6

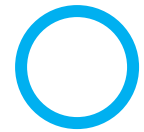


BRIDGING TO OTHER SYSTEMS

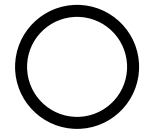
The NC4ES team welcomes the opportunity to bridge with other systems to increase interoperability. We support a unified mode (DMR), which is non proprietary. NC4ES offers connections with OpenBridge and also via a large Cbridge.

- Current connections include: NC/VA HEARS system, Carolina 440, TGIF, FreeDMR, CQ-USA
- If you are interested in bridging with NC4ES, please contact EHPCDMRCLUSTER@gmail.com

NC4ES DMR NETWORK FOOTPRINT MAP



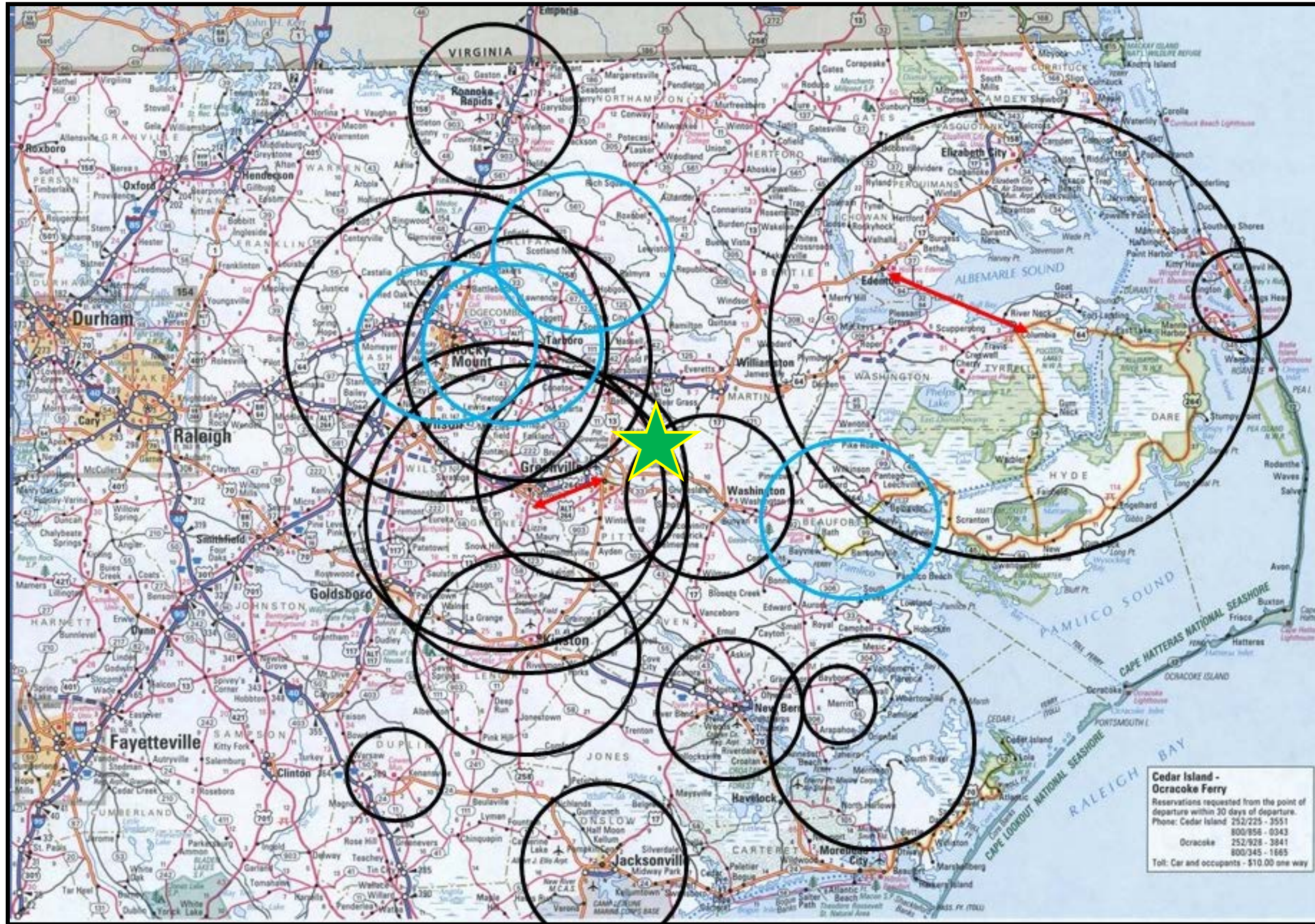
ANALOG



DIGITAL



REGIONAL
OPS
CENTER



NC4ES DMR TALKGROUP AND SITE INFORMATION

:: Talk Groups ::

TG#	TS 1	TS 2	Description
TG 2		D S	NC4ES Cluster: TGIF Link TG 31001; HEARS Link TG 310001; FreeDMR Link TG 310001
TG 31373	D	S	Eastern NC: FreeDMR Link TG 31373
TG 31377	D	S	OBX: FreeDMR Link TG 31377
TG 31379	D	S	NC TAC: FreeDMR Link TG 31379
TG 440	D	S	Carolina 440 Link
TG 43277	D	S	NC/VA HEARS Link
TG 27501	D	S	Point to Multi-Point CHAT 1: FreeDMR Link TG 31601
TG 27502	D	S	Point to Multi-Point CHAT 2: FreeDMR Link TG 31602
TG 27503	D	S	Point to Multi-Point AUXCOMM: FreeDMR Link TG 31603
TG 27504	D	S	NC4ES RF Link: FreeDMR Link TG 31604
TG 27505	D	S	EHPC: FreeDMR Link TG 31605
TG 31000	D	S	Echo Test

Hotspot: D - Duplex | S - Simplex

:: NC4ES Repeater Frequencies ::

Site Name	TX Freq	RX Freq	Description
FC1	445.512500	440.512500	EHPC FC1 Mobile Communications Vehicle, Color Code 1
Columbia	440.687500	445.687500	Pending Install UNC Tower, Color Code 1
Farmville	440.575000	445.575000	UNC Tower, Color Code 1
Greenville 440	444.625000	449.625000	Brody School of Medicine, Color Code 1
Greenville 900	927.050000	902.050000	Brody School of Medicine, Color Code 1
Jacksonville	440.700000	445.700000	Onslow Memorial Hospital, Color Code 1
Kenansville	440.537500	445.537500	Vidant Duplin Hospital, Color Code 1
Kinston	443.937500	448.937500	UNC Lenoir Hospital, Color Code 1
Nags Head	440.637500	445.637500	The Outer Banks Hospital, Color Code 1
New Bern	444.600000	449.600000	Carolina East Medical Center, Color Code 1
Oriental	147.210000	147.810000	Oriental, Color Code , Mixed mode with FM1 151.4
Pamlico	440.662500	445.662500	Florence/Whortonsville Fire Dept, Color Code 1
Roanoke Rapids	440.625000	445.625000	Vidant North, Color Code 1
Rocky Mount	441.812500	446.812500	Brown Tower, Color Code 1
Tarboro	444.500000	449.500000	Vidant Edgecombe Hospital, Color Code 1
Washington	440.525000	445.525000	Vidant Beaufort Hospital, Color Code 1



*** Check the NC4ES HBLink dashboard for the most current information: <http://cluster.nc4es.org:8080/info>***