February, 2020

LARC NEWS & VIEWS

N4LNR

Lenoir Amateur Radio Club Newsletter

Events

Next LARC Meeting
Thu. Mar. 12, 7:00 pm
Gamewell Fire Dept.
2806 Morganton Blvd. SW
Lenoir, NC
Program: FT4 / FT8 Digital Mode Communications.
Presenter: Joel Marley W4BTW

Charlotte Hamfest
Fri. Mar. 13
Concord, NC
www.charlottehamfest.org

Raleigh Hamfest
Sat. Apr. 11
Raleigh, NC
www.rarsfest.org

Catawba Valley Hamfest
Sat. Apr. 25
Morganton, NC
www.cvhamfest.com
LARC is cosponsoring

Durham Hamfest
Sat. May 30
Durham, NC
http://dfma.org

North Carolina QSO Party

LARC participated in the 2020 NC QSO Party on March 1, 2020. The event was led by John Crowe (AG4ZL) and planning had been underway for several weeks before the event. The event ran from 10:00AM to 8:00PM. Setup for the event started the day before at the old Shuford Mills ruins, with several members pitching in to assemble the antennas and test the equipment.



For this event, antennas for 2 meters, 6 meters, 20/40/80 were constructed. The radios that we were going to use were installed and tested. Propagation during the testing phase was great and gave us a glimpse into how things would go the next day.






North Carolina QSO Party cont.

Operators arrived early on the day of the event and final checks were made to make sure we were ready to go when the start time arrived.



At 10:00AM, the first CQ call was made and it was on. Stations were responding constantly, and loggers were busy logging. Within the first 30 mins, we had over 30 QSOs in the log. This was a great indication on how the day would progress. This continued throughout the day and operators took turns calling CQ and logging. Although we had several operators, the constant calling and logging did take a slight toll on the operators/loggers and we had to take small breaks just to refresh ourselves.



North Carolina QSO Party cont.

This is a sign that we need more operators/loggers for events like this. That being said, the tag team efforts and fun we had made for an exciting day of HAM radio and fellowship. At the end of the contest, we ended up with 348 total QSOs, 60,350 points (per n3fjp calculations), 44/100 NC Counties worked, 36/50 states, 4 Canadian Provinces and 1 DX Station (Puerto Rico). The log has been submitted to the NC QSO Party logging system, but the deadline is March 16, 2020, so we will not know how we did until after that date. The modes worked were Phone and CW (Tom Land and John Crowe were our CW operators with 14 total CW QSOs).

LARC would like to recognize the operators/loggers of this event:

AG4ZL – John Crowe

K0CAT – Dick Blumenstein

K4SEH – Scott Hunt

KA4HKK – Tom Land

KB4DWK – Daniel Wilcox

KN4AYE – Lisa Mast

KN4AYD – Mitch Mast

W4SCT – Brad Cook

The team would also like to thank the following members and friends for logistical support, especially the food/drinks brought to the event:

KN4GDZ – Mickey Hollar

N4PGW – Buck McDaniel

LARC Members and Friends

Vice President (K4SEH)

Scott Hunt is LARC's new Vice President. Scott is a resident of Patterson NC and has been a member of LARC since 2019. Scott is a "retired" law enforcement officer, having served 30+ years in multiple law enforcement agencies throughout NC. Well into his law enforcement career, he decided to change directions and left law enforcement full-time but maintained the required training and service requirements needed until he could leave the badge behind for good. Scott started learning computers and worked his way from basic PC knowledge, to becoming a recognized expert in the IT Networking, Collaboration field with Cisco Systems, with whom he has been employed with for 20+ years and counting.

Scott had always been interested in radio but pursued other hobbies before jumping into HAM. Scott's love for radio started as a child, when his father was into CB Radio. KTZ1256, the Carolina Hooter was his father's handle. Scott was the "little hooter". You can stop laughing now. Scott has always been active in his communities. He is a licensed pilot and has been a Firefighter, the Founder of the Blue Knights Law Enforcement Motorcycle Club Chapter NCXXI in Rocky Mount NC, Past Master (x2) of Morning Star Lodge #85 Masonic Lodge in Nashville NC and a 32nd degree Scottish Rite Mason. He is also a member of Hibriten Lodge #262 in Lenoir, the Oasis Shrine Temple and Foothills Shrine club.

Scott is an Amateur Extra class, ARRL instructor and an ARRL VE. Scott holds a Bachelor of Science Degree (Honors) in Computer Information Systems from North Carolina Wesleyan College.

Joshua Harris (KO4JDH)

Joshua Harris was born in Lenoir and grew up in Granite Falls, NC. He graduated from South Caldwell High School and earned a Bachelor of Arts from the University of North Carolina at Greensboro.

After college, Joshua worked in the newspaper business as a reporter and editor, taught English in Taipei, Taiwan. He worked as a reporter for the News-Topic for about three years before moving into local government. Joshua worked as the Public Information Officer for the City of Morganton for 10 years and has worked as the Communication and Public Information Director for the City of Lenoir since 2017.

Joshua and his wife Sarah have four children, Heidi, 10, Elias, 8, Teddy, 6, and Peter, 3 months. Joshua enjoys playing guitar, hiking, history, economics, vexillology, and radio. The family are Christians and are currently looking for a new church home in Caldwell County.

Paul Robinette (SK)

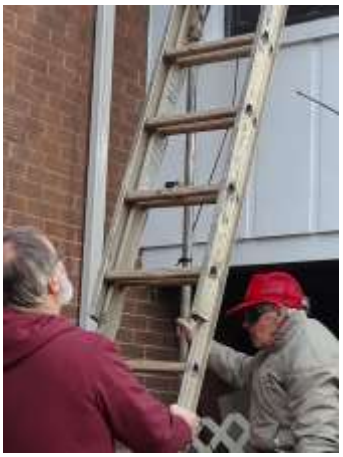
For those who knew Paul Robinette KD4OZI, he became SK in late January. Paul was active in ARES/AUXCOMM, serving as Assistant Emergency Coordinator for Area 12 for many years. Paul was a frequent visitor to the LARC Field Day events and a supporter of the Catawba Valley Hamfest, co-sponsored by LARC. He was very active on the "air waves" and will be missed by his many friends.

Hams Helping Ham

In February, some members of LARC went over to a fellow member's house to help him set up an antenna. Edgar Barr (KB4KHR) needed help installing his Tram 2m/440 ground plane antenna. Edgar lives with his sister Esther and her husband Danny so he first had to get their approval of where on the house to install the antenna. After consulting with the home owners, it was decided that the antenna would go on the side of the house near the basement entrance. That way the cabling could go in through a window of the basement.

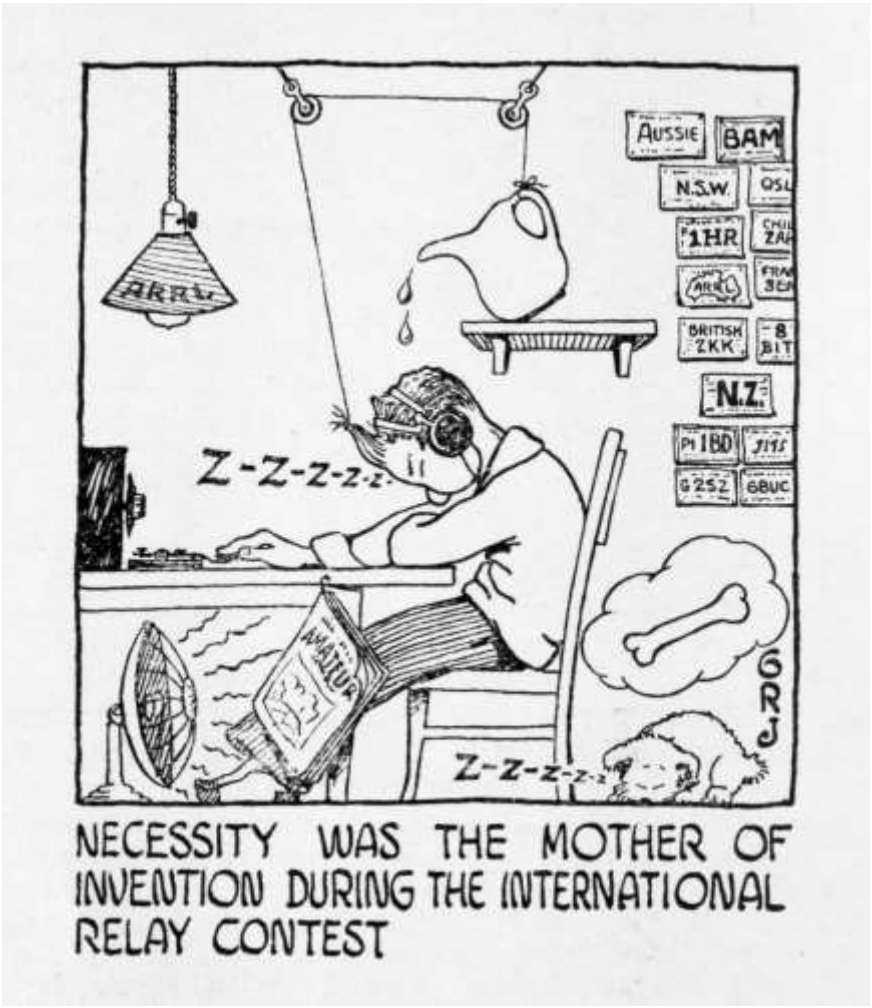
So on Feb. 15th, Dan (KB4DKW), Mitch (KN4AYD), and Lisa (KN4AYE) went to Edgar's place with some tools. It was a cold and windy Saturday afternoon. Dan and Edgar had already placed an antenna to one end of a pole that Dan had procured. Mitch braved the wind chill and climbed the ladder that Edgar provided, and proceeded to secure the pole to the side of the house near the roof. Then Dan and Mitch dug a hole in the dirt to partially bury the antenna pole. The cable was secured along the pole and ran through the window of the basement.

Edgar tested it out on the Hibriten repeater and it was a success. He can also use the LARC repeater. Now he is able to talk on the radio more often making contacts and logging them in his logbook.



Edgar Barr (KB4KHR)

Edgar Barr is a resident of Granite Falls, NC. He is originally from New York. Being from Upstate NY, Edgar didn't mind the cold and had a great time during the chilly Winter Field Day here in North Carolina. He first got into CB Radio in 1970. His father and mother were CB radio operators. So, naturally he and his siblings became CB radio operators. His call was KAAN 8759. He talked to many people and made friends on am and usb / lsb. In early 1990's his father suggested that Edgar get his Amateur Radio License since he was getting quite some experience with radio. He studied and passed his Novice in 1990. Shortly after that Edgar joined the JCRAC – Jefferson County Radio Amateur Club. He left the club for a time and then re-joined when they had a change of officers. He became close friends with the president and vice president of JCRAC and did many activities with the club. In 2006 the Vice President Phil asked Edgar if he was ready for the Technician license. With the mentorship of Phil (W3EBO), Edgar passed the Technician exam. Shortly after that he moved to North Carolina and began searching for an Amateur Radio Club on the internet. The first information Edgar found was The Lenoir Amateur Radio Club. He attended his first LARC meeting and met Tom (KA4HKK) who was president of LARC at the time. Then he met Dan (KB4DKW), who helped him join the club. Edgar also attends the Piedmont Amateur Radio Club. Edgar is learning to navigate the roads of North Carolina with the help of a vehicle GPS. He is making many friends through the clubs, talking on the radio, and enjoys the comradery.



Delayed getting on the air during Winter Field Day 2020

by Dick Blumenstein, (K0CAT)

The club went about setting up for the 2020 Winter Field Day on Saturday Jan 25th next to the ruins of The Old Shuford Mill that had burned down in 2017.

Things went smoothly and the startup time of 2PM was fast approaching. Around 1:00 PM or so, we had everything basically done, and powered up our relatively new Honda generator to work off of ancillary power (to get extra bonus points for not working off of commercial power.)

When we turned on the radios we had very heavy (S9 or higher) RF interference across most bands. We really could not effectively make out any stations. What had gone wrong?

There was a manufacturing company close by that had machinery and we initially thought that might be contributing to the noise. It turned out that wasn't the case. We rotated our dipole antenna 90 degrees which took a while as Mitch (KN4AYD) had to climb over all the burned out ruins to place one end of the dipole on what was the other side of the burned out building; trying not to break a leg on the twisted steel girders and broken bricks everywhere. That didn't make a difference!

We tried disconnecting our ground system. Nope, that wasn't it.

Recently, the trailer's power wiring had be rewired to accommodate a new power plug and cable from the Honda generator so we could now power the 240VAC baseboard heater. Had we done something wrong? We rechecked all the wiring. Nope, that wasn't it either!

Was it the new 50' power cord we had bought to connect the Honda generator to the trailer? Trying several other cords and an adaptor we determined that wasn't the case.
Was it the position of the Honda generator directly under the dipole antenna? We moved the generator and the power cord. Nope, not that either.
FINALLY, we shut OFF the generator and using John's (AG4ZL) 7300 ICOM on battery power, we discovered the source of the noise was the generator itself. What????? It only had 30 hours on it and we had used it last time on Summer Field Day in 2019. What was going on????

Background:
After much discussion, the club bought the very quiet Honda EU-7000is generator about 10 months ago. James, N4NIN, was gracious enough to get us a good buy at "Sun-n-Fun" down in Florida and have it shipped up to us in NC:

This generator had enough power to supply to all of our radio station positions in the communications trailer and to run either the air conditioning unit in the summer, or the baseboard heater in the winter.
We used it successfully for Field Day in 2019.
(Getting back to Winter Field day…..) Totally bummed out by the new revelation of a defective generator, we switched to commercial building power which immediately lowered our potential score and cause us to finally get on the air around 5 to 6PM, hours late for the start of Winter Field Day.
After Winter Field Day, Gary (K3OS), Gene (K1AVE) and I convened at the new Honda dealer on Route 321 in Granite Falls where we met the very cooperative staff. (Boy, now that place is a nice TOY store!!)
We showed them the problem by bringing a shortwave radio receiver and starting up the generator. The moment that a power cord was plugged in, the cord acted as an antenna and swamped out the HF bands.
We left it at the dealer for a couple of weeks. They reported back to us that something had looked funny on their instrumentation for the Hz read out as they put more load on the generator. One moment it was putting out 60 to 62 Hz and then suddenly would jump to 200 Hz for a short time. That convinced the Honda mothership to replace the inverter module under warranty.
After being notified that the module was changed out, we met back at the dealer. Gene brought his spectrum analyzer and we tested the repaired generator. Initially, we thought that the repair did not fix it, but then Gene noticed that the antenna of his analyzer was really close to the generator. When we moved the generator a little further away and repositioned the extension power cable, the HF hash dropped off somewhat.
I came back a couple of days later and picked up the generator and hauled it to the club's trailer just in time for the NC QSO party on March 1st. Prior to the 10AM start, we powered up all the equipment like on Winter Field Day and found that, indeed, the generator had been fixed.
The end of our 1 year warranty period was almost out. Who knows how much we would have had to pay to replace the inverter "module"? It sure looked darned expensive:

Lesson learned- if we had only turned off the Honda generator earlier, we would have saved a lot of time and effort……but we had been blinded in that it had been almost brand new?
Another lesson learned – what if this had been a real emergency and commercial power was not readily available? Did we (do we) have a Plan B? Yes. We would have had to run back to our homes and bring our smaller generators to run the equipment.

by Gary Schwartz (K3OS)

Ham Radio Tenet: Concentrate on good antennas rather than on equipment. A $10,000 radio, and yes there are some, won't do you much good without a proper antenna. Amplifiers should only be considered when you are forced into an antenna compromise. Always follow this principle and it will serve you well.

VHF/UHF Antennas

VHF/UHF Truths: Antenna height is everything. Then comes power. Low loss coax is a must for runs over 20 feet. Handhelds inside a car won't work.

A low power HT will work for some, but not for others. These are "line of sight" frequencies. Any blockage will also dramatically affect your communication range. Walking around your home will prove that some areas of the house are better than others. Sometimes it's just a few inches of movement! What to do? Use an outside antenna.

For FM repeaters only use a vertical antenna. Dual band, 144 + 440 MHz, are good choices. At home these can be clamped to any pipe. That includes the plumbing vent pipes we all have. If there is no alternative, put an antenna in an attic. All stock HT antennas are lossy. However, an HT connected to a proper antenna, perhaps with some gain, will show a marked and dramatic improvement. There are plenty of commercial dual band antennas available that aren't expensive.

For auto/truck use, a mobile dual band antenna is the way to go. An HT connected to an outside antenna will work, but you will still need to be line of sight. As the terrain changes some power might be necessary. There are small amplifier modules that can connect to an HT. These can be located out of the way. Or you could consider a high power mobile/base unit.

An antenna that is a ½ wave or full wave will not require any ground connection. A ¼ wave (quarter wave) or 5/8ths wave or ¾ wave antenna will require some connection to the car body or some radiating wires at the base. Watch your garage clearance!

Coax Cable

Coax cable by its' nature loses power. The longer the coax and the higher the frequency, the greater the power loss. That is why there are different grades of coax cable. For car/truck installations you must use small diameter cable and accept a bit of loss. I use RG8X (note: manufacturers have different model numbers for basically the same cable. Look at the specs) To go through a door jamb, I transition to teflon micro 52 ohm cable. Sometimes it's the only way. Doing so, I have avoided drilling any holes in the car. For home use and for longer runs you need LMR400 or equivalent. (LMR is the trade name for cable made by the Times Microwave Company) This is 1/2" diameter stuff. Remember to check on the flexibility of cables. Some are very stiff and require a large radius when bending them.

I never purchase coax cables with connectors installed on them. When you are routing cables at home or in the car, the connectors require a substantially larger hole and get caught all the time. Instead, I run the cable then put on my own connector. This also eliminates excess cable hanging around. Instead of soldering the complete connectors I have switched to a crimp connector with a soldered center lead. These are much easier to install, are more reliable and easier to weatherproof. You do need the tool, however.

Cables and connectors can be purchased through many sources. For years I have used The Wireman, located here in NC. You can call and speak with a real person and get advice. They make their own brand of cables, which are excellent and at lower prices than the name brands.

VHF/UHF Radios

An HT is always a good thing to own. When you travel, look up the repeaters in the area you will be in and program some of those frequencies. HTs are also good to have for public service events. They can be used simplex, one HT to another directly, or through repeaters.

Base/mobile radios are in the 30-50 watt range. If you have an HT you will quickly find out whether more power is necessary. There are lots of manufacturers, from the Japanese makers Icom, Kenwood, Yaesu, Alinco and the Chinese sources Baofeng, Tytera, Connect Systems. Many of the mobile units have detachable front panels so that the main part of the equipment can be placed under the seat or at some other location. Used at home these will require a 13.8 volt power supply.

Power Supplies

Any VHF/UHF mobile unit or HF radio when operated at home will require a 13.8 Volt DC power supply. There are two types of these, linear and switching. The linear is characterized by a larger size and heavier weight due to having a transformer inside. Until recently they were preferred because they do not radiate any noise and, therefore, don't cause any interference to our radio equipment. The switching power supplies, however, have come of age and are typically ¼ the size of its linear brother. They are "radio quiet". I have one linear supply, a 30 amp unit made by Astron. My other power supply is a new MFJ-4230MVP switching unit, which I really like. It is also a 30 amp unit.

At home I use power distribution boxes for the 13.8V equipment. One connected to each power supply. This allows me to connect multiple radios and accessories to each supply. I have standardized on Anderson Power Pole connectors. The distribution boxes and power supply have them. This facilitates equipment removal. Since I have the same connectors in the car, my base/mobile easily moves between home and car. You will find that you tend to accumulate gadgets and equipment that require 13.8V (also called nominal 12Volt), so a distribution panel is a nice accessory. These are made by MFJ, West Mountain Radio and Quicksilver.

HF Radios

HF radios are made by the same manufacturers who make the VHF equipment. Elecraft can be added to this list. Most of the HF transceivers cover 160-6 meters. Icom's 7100 covers all the ham bands from 1.8-440Mhz. It's rather unique.

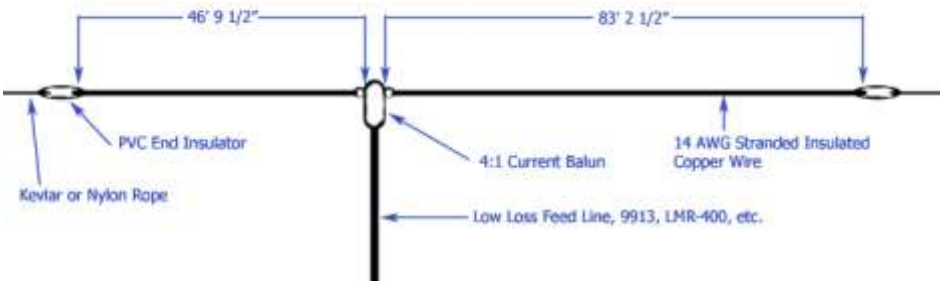
As a general rule, the smaller radios have fewer buttons. This means that each button or knob can have two or more functions. Sometimes this is confusing. But, it saves space and therefore, money. Probably the most popular HF radio today is the Icom IC-7300. At a price around the $1000 mark, it is the price/performance leader. I have one if any of you would like to get your hands on it and twiddle the dials.

HF Antennas

I am not a big fan of vertical antennas. They have never worked well for me and they pick up more local and atmospheric noise than a horizontal antenna. If you have constraints that limit you to this type of antenna, there are things that can be done to maximize their effectiveness.

The best and simplest of horizontal antennas is a dipole. But, a dipole only covers a single band. To get multi-band performance you can use traps or what is called a "fan" antenna, which consists of multiple dipoles suspended from each other by a few inches.

One offshoot of a dipole is the Off Center Fed dipole. This can give you multi-band performance with a single wire. These work very well and I have a couple of friends locally who use them. The lowest cost version is made by Maxcon antennas, their model OCF-3K80. Also needed is their in-line choke which keeps RF from getting onto the outside of the coax shield.



You can also end feed antennas. The list of antenna designs is vast and never ending. Many you can make at home if you like to experiment. If you live in a restricted community, there are ways around some of those issues.

How do you get a horizontal antenna in the air? Trees are your friend. I use a slingshot with a fishing sinker and some monofilament line on a cheap pole. Once I get it where I want it, I pull some very small twine up, then finish by pulling up black dacron cord. There is an air gizmo that shoots tennis balls over the branches with a light line attached. I can round up a crew to help if you opt to use the trees. Also consider your neighbor's trees. Do not consider a telephone pole under any circumstances.

For HF coax, you do not need to spend money on the VHF low loss stuff. RG8, RG213 or similar will do very nicely. I also use RG8X, smaller diameter for runs under 50 feet. There is also cable that can be direct buried in the ground should you need to do so.

There are many more topics that could be covered. Equipment grounding and bonding, 13.8V wire gauges, computer interfacing, using your computer, tablet or phone to access repeaters and receivers, and the list goes on. Please feel free to contact me regarding any topic.

Some final thoughts. The internet can be a great source of information, but it is loaded with blatantly wrong or misleading information. If you are considering the purchase of equipment, reviews can help you. Manufacturers tout their features and specifications. Owners on the other hand can tell you how easy it is to use or how it compares to other equipment they might own or have owned. If you read enough reviews, you'll uncover the bias and be able to interpret correctly. Many times I have to read a couple dozen reviews to uncover the "deal breaker" or the "deal maker" point. There are internet user groups for just about every product you can own. Reading their posts can be most insightful. If you have to join to read, then do so. A Google search for a "user group" or "forum" with the model number of the equipment will generally bring up some results. Groups are most likely hosted on Yahoo and now, Groups.io. Groups are also invaluable when it comes to using new equipment. The manual on my Icom IC-7300 transceiver is 174 pages, yet it doesn't explain why you would use certain controls or features. The internet is your friend, and so is YouTube.

Frequencies

146.625- 94.8
Club Repeater (N4LNR)

147.330+ 141.3
Hibriten Mountain Repeater
(KG4BCC)

145.535
Simplex

29.6
Simplex FM

28.374
Simplex USB

Nets

LARC Weekly Net
Tuesday, 7:00 PM
146.625 Minus PL 94.8
Alt. 147.330 Plus PL 141.3

Caldwell ARES Net
Sunday, 9:00 PM
147.330 Plus PL 141.3

DMR Digital Net
Tuesday, 8:00 PM
Lenoir Local DMR

Lenoir Amateur Radio Club, Inc

P O Box 3276

Lenoir, NC 28645

N4LNR.org

Serving Amateur Radio In Caldwell County Since 1986

Become a member or renew your membership

Pay your dues in person to the Treasurer or by mail

Full Member $15/year

Family Member $25/year

Ask about our Life Time memberships

Send comments concerning the LARC NEWSLETTER to Lisa KN4AYE kn4aye@gmail.com
Suggestions and your articles are appreciated. Tell us about yourself so we can feature you in our news letter.
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