



SPURIOUS EMISSIONS

INDIAN RIVER ARC

MARCH, 2020

P.O. BOX 237285, COCOA FLORIDA 32923-7285

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N4VEP

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NEWSLETTER EDITOR

ARMANDO DELGADO
KN4JN

CLUB MINUTES

Meeting called to order at 18:45 by Viron, N4VEP followed by the Pledge of Alliance.

Guest present, Paul Diaz, KK4JUT. 16 members present.

Motion to approve the minutes as published in the newsletter: voted on and approved.

Treasure Report by Larry Hendersin: Motion to approve the Treasure report by Dale and 2nd by Armando, was voted on and approved.

Old business: Tower repair. Both Larry, KK4WDD and Dave, KUOR paid James, the tower climber, \$75.00 for his services.

State filing needs to be paid shortly (May 1 is deadline, \$65.00 is required.)

Our equipment insurance has expired; we need an inventory to be completed soon.

This may take some time to complete so we will submit the previous equipment list and amend it when the inventory is completed.

Technical report by Dave: all repeaters are working.

On Sundays at 3:00 PM (15:00 hours) FLDIGI training on the 147.37 repeater. Discussions on NBEAMS (narrow band emergency messaging system) We use MT63, 1000K long.

All that is needed to operate NBEAMS is the software loaded in computer, a microphone, a speaker and your radio. The software is available on line. Steve sent an email to everyone with a link.

SET (Simulated Emergency Test) April 11 at 9:00 AM both on HF and VHF.

April's SET will be based on loss of commercial communication. Steve will send

information on the SET.

Red cross has moved to 8245 Devereux drive in Melbourne

Vice President Report: We need to finish removing equipment from the radio shack. All that remains are some batteries, shelving, and some cables. Big items yet to remove are the towers on east side with the beam on it. Tower on north side has the Red Cross 45MHZ antenna. We need a trailer to haul the towers to Dave's relative's location. Viron will need help in lowering the towers and removing the beam. The beam will be marked so it can be put back together without needing to recalibrate it.

Monthly meetings will be moved to the River of Life Assembly of God church, 1890 N. Courtenay Pkwy, Merritt Island at 7:00 PM. After small discussion before a motion to move meeting to the Third Tuesday of the month at 7:00 PM by Greg, seconded by Augusta, was voted on and approved. This will start in April.

QRP discussion: QRP will be at Manatee cove on March 21 at 10:00 AM.

JDRF WALK May 16 at Wickham Park. Field Day June 27- 28, most likely at the River of Life Church.

MS walk is still scheduled, are they requesting our services?

Need to evaluate the mission of the IRARC.

Viron then presented a brief history of the club from its inception to the present and its involvement with the Red Cross and the EOC. The full history is in the club's website archives.

Decrease of membership is due in part to the advent of cell phones and lack of

need for phone patches In the 90s IRARC received a letter from ARRL stating that we were the longest standing ARES ("amateur Radio Emergency services") club.

At this time, we don't have the manpower to provide shelter communication to all the shelters in our area. If we want to be an ARES type club and provide full community support in emergencies, we need younger members.

Further discussion centered on the club's mission for the future. We don't own towers to support our repeater antenna. Previously, we tried to associate with various county or city emergency services with poor results. At this time our best option is to support the county. Presently, Brevard county plans only 3 shelters: General, Pet Friendly, and Special Needs. Others may be added only if there is an increased demand. For net control during an emergency we should have a distributed net control from our home stations.

Motion to end the meeting at 7:42PM was proposed and voted and approved. 50-50 drawing won \$7.00 by Viron, Returned winnings to the club.

Respectfully submitted,
Ernie Hoffman, K1CPO, Secretary

HAPPENINGS

Diving deep for 'the world's most famous radio' RMS Titanic Inc., the U.S. company hoping to rescue the radio, noted in court papers that while the Titanic's radio room itself has stayed somewhat unscathed, holes are forming in the deckhouse directly above it, placing the Marconi set in peril. This is the wireless transmitter that operator Jack Phillips used April 15, 1912 to summon help for the doomed RMS Titanic, and

sent the message: "Come at once. We have struck a berg. It's a CQD, old man."

On January 24, President Donald Trump signed into law the "Preventing Illegal Radio Abuse Through Enforcement Act" or the "PIRATE Act." The measure, which amends the Communications Act of 1934, authorizes enhanced penalties for violators. Under the new law, pirate radio broadcast-

ers would be subject to a fine of not more than \$2 million, and violators could be fined up to \$100,000 for each day during which an offense occurs. The law defines pirate radio broadcasting as transmitting within the AM and FM bands without an FCC license, but excluding unlicensed operations in compliance with Part 15.

The Foundation for Amateur Radio Inc. (FAR) has invited [applications](#) for the 2020 - 2021 academic year for the scholarships it administers. Applications must be submitted via the online form. Several questions ask for essay responses. The deadline for initial submissions is April 30, 2020. Applicants may amend their applications until May 7.

HAPPENINGS

The International Amateur Radio Union ([IARU](#)) has completed the makeover of its main website and the three regional websites — all with the same basic design. The three regional sites can be accessed directly from the IARU home page.

A documentary about the 1977 discovery of a signal from the cosmos detected by the Ohio State University Radio Telescope is now available from at least one internet video site and was to become available from Amazon and Google Play. The so-called “WOW signal” is regarded as the best candidate for a signal originating from extraterrestrial intelligence. The award-winning 88-minute film, *WOW Signal*, is available on [FandangoNow](#). The documentary's trailer is free; the film itself is available for rent or purchase.

The [W8S DXpedition](#) to Swains Island in the Pacific, set to take place in mid-March, has been postponed until fall as a result of travel restrictions imposed on individuals entering American Samoa, stemming from the recent coronavirus outbreak.

The **HuskySat-1** satellite, designed at the University of Washington, was launched to the International Space Station last November and subsequently deployed into a higher orbit from the ISS on January 31. It began telemetry transmissions on 435.800 MHz with a 1,200 bps BPSK beacon active and decodable with the latest release of AM-SAT's [FoxTelem](#) software. The HuskySat-1 CubeSat will demonstrate onboard plasma propulsion and high-gain telemetry for low-Earth orbit.

Researchers with the National Institute of Standards and Technol-

ogy (NIST), in collaboration with the Department of Homeland Security (DHS) Science and Technology Directorate, are mounting miniature mobile communications networks on pickup trucks and unmanned aerial systems to measure signal strength and coverage in mountain areas lacking wireless infrastructure. Details [here](#).

The 'DXCC Most Wanted' entities list has been updated on ClubLog as of February 27th. The list contains 340 entities. The following are the top 10 entities:

1. P5 DPRK (North Korea)
2. 3Y/B Bouvet Island
3. FT5/W Crozet Island
4. BS7H Scarborough Reef
5. CEOX San Felix Islands
6. BV9P Pratas Island
7. KH7K Kure Island
8. KH3 Johnston Island

9. 3Y/P Peter 1 Island
10. FT5/X Kerguelen Island

The complete "DXCC Most Wanted" entities list (340) is available at: <https://secure.clublog.org/mostwanted.php>

REMINDER !

Due to the Red Cross shutting down their facility on Cedar Street in Rockledge, starting on April, 2020, the club will meet on the **THIRD TUESDAY** of the month (**that's April 21**) at the River of Life Assembly of God church, 1890 N. Courtenay Pkwy, Merritt Island at 7:00 PM.

ON THE AIR

The **W8S DXpedition** team is heading to **Swains Island** in the Pacific in March. An international team of 10 operators will be active from March 10 to March 25 on all HF bands on CW, SSB, FT8, and RTTY. Operation will be 24/7 from two separate camps on the island, each with two stations. Visit the Swains Island 2020 DXpedition [website](#) for more information.

Maine Bicentennial Special Event Mar 16-Mar 22, 0000Z-2359Z, W1L, Boothbay Harbor, ME. Boothbay Harbor Memorial Library. 14.262 7.262 3.962. Certificate. Via email: director@bbhlibrary.org, or from website, www.bbhlibrary.org. W1L will be operating from Boothbay Harbor, ME. Other participating calls include K1B, K1J, K1P, W1C, W1H, W1K,

W1L, W1O, W1P, W1S, W1W, and W1Y. Certificate for contact; endorsements for bands, modes, and clean sweep of contact with each of the Maine 200 Special Event call signs. maine200special.event.com for Bicentennial information; for W1L information, n1mhc@arrl.net or www.bbhlibrary.org

Vietnam War Veterans Day Mar 29, 1630Z-2130Z, W5KID, Baton Rouge, LA. Baton Rouge Amateur Radio Club. 14.250 14.035 7.225 7.035. QSL. USS KIDD Amateur Radio Club, 305 S. River Road, Baton Rouge, LA 70802. Operation aboard the USS KIDD, DD-661, WW II Fletcher class destroyer. qrz.com/db/w5kid

Sun-N-Fun International Fly-in and Conference Mar 31-Apr 5, 1400Z-2100Z, W4S, Lakeland, FL. Sun-n-Fun and Tom Ruhlmann (W9IPR).

14.250. QSL. Tom Ruhlmann, W9IPR, 465 Beechwood Drive, Cedarburg, WI 53012. W4S has been our call sign for the past several years. We typically have 12 or more operators and from several states. Walk up operators are welcome as schedules allow. We will be running about 500 watts to a beam. Event description available at www.sun-n-fun.org.

John, KB8RJ will be active as YN5J from San Juan del Sur, **Nicaragua**, 16 January - 18 March 2020. He will operate on 40 - 10m. QSL via home call direct: JOHN STAATS, 4548 CHURCH RD, BOYNE CITY, MI, 49712-9351, USA.

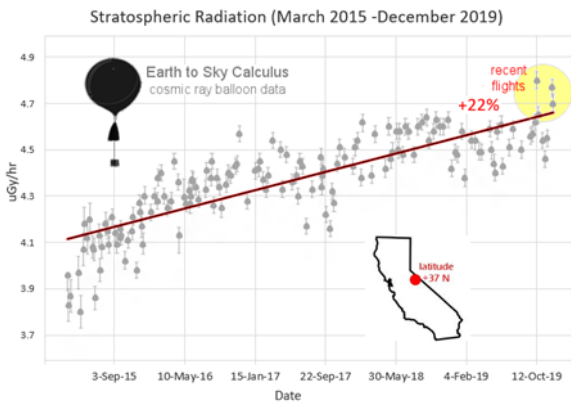
VU4R Team will be active from **Neil Island, Andaman Islands**, IOTA AS - 001 in CQ WW WPX

SSB Contest, 28 - 29 March 2020. Before and after contest they will focus on 160, 80, 40m. QSL via VU2RS direct, SARATH BABU RAYAPROLLU, 8-2-310/A/10/1, 2nd Floor, Ibrahim Nagar, Road No 10 Banjara Hills, AP, 500034, India, or LOTW.

Over the March 14 - 15 weekend, members of the Shepparton and District Amateur Radio Club ([SADARC](#)) in **Australia** will be on the air as VI3RA (Radio Australia), connecting their transceivers to the curtain array and rhombic antennas at the former Radio Australia site in Shepparton. Radio Australia ceased transmitting from the site in 2017. VI3RA will operate on 40, 30, 20, 17, and 15 meters.

Cosmic Ray Update by DR.TONY PHILLIPS

Dec. 13, 2019: Something ironic is happening in Earth's atmosphere. Solar activity is low-very low. Yet atmospheric radiation is heading in the opposite direction. Cosmic rays percolating through the air around us are at a 5 year high. Take a look at these data gathered by cosmic ray balloons launched by Spaceweather.com and the students of Earth to Sky Calculus almost weekly since March 2015:



Radiation levels have been increasing almost non-stop since the monitoring program began, with recent flights registering the highest levels of all.

What's happening? The answer is "Solar Minimum" – the low point of the 11-year solar cycle. During Solar Minimum (underway now) the sun's magnetic field weakens and allows energetic particles from deep space to penetrate the Solar System. As solar activity goes down, cosmic rays go up; yin-yang.

When cosmic rays hit the top of Earth's atmosphere, they produce a spray of secondary particles and photons that rain down on Earth's surface. This is what our balloons measure – the secondary spray. We use X-ray and gamma-ray detectors sensitive to energies in the range 10 keV to 20 MeV. This type of radiation, which you can also find in medical X-ray machines and airport security scanners, has increased more than 20% in the stratosphere.

Another way to measure cosmic rays is using a neutron monitor. Neutrons are an important type of secondary cosmic ray. They reach Earth's surface with relative ease and are biologically effective. Neutron monitors at the Sodankyla Geophysical Observatory in Oulu, Finland, are getting results similar to ours. Oulu data show that cosmic rays have

been increasing for the past 5 years and, moreover, are within percentage points of the Space Age record.

The Space Age record for cosmic rays isn't very old. It was set in late 2009-early 2010 near the end of a very deep Solar Minimum much like the one we're experiencing now. As 2019 comes to a close, neutron counts at Oulu are approaching those same levels. Indeed, a new record could be just weeks or months away.

Who cares? Anyone who steps on an airplane. Cosmic rays penetrate commercial jets, delivering whole-body dosages equal to one or more dental X-rays even on regular flights across the USA. Cosmic rays pose an even greater hazard to astronauts, of course. Cosmic rays can also alter the electrochemistry of Earth's upper at-

mosphere and are thought to play some role in sparking lightning.

Stay tuned for updates.

This article is from *Space weather.com*



W1AW CW PRACTICE TRANSMISSIONS

7 PM EST Slow CW : 5-15 WPM
Mon, Wed, Fri

7 PM EST Fast CW: 35-10 WPM
Tue, Thu

FREQUENCIES:

1.8025, 3.5815, 7.0475,
14.0475, 18.0975, 21.0675,
28.0675, 50.350, 147.555



Editor's Note:

Send comments about the Newsletter or to contribute information or articles to the Editor's email address:

olardelga@aol.com.

Cosmic Rays on Earth Since 1964



March Contests

Mar 7-8 International DX Phone Contest

Oklahoma QSO Party 1500Z, Mar 14 to 0200Z, Mar 15 and 1400Z-2100Z, Mar 15; Idaho QSO Party-1900Z

Wisconsin QSO Party 1800Z, Mar 15 to 0100Z, Mar 16

Louisiana QSO Party 1400Z, Mar 21 to 0200Z, Mar 22

Virginia QSO Party 1400Z, Mar 21 to 0400Z, Mar 22 and 1200Z-2400Z, Mar 22

| ACTIVE REPEATERS INCLUDING DMR, PACKET & SIMPLEX | | | | | | | RACESBRE0008 REV B |
|---|-----------|---------|-------------|----------|---|-------------|---|
| Repeaters & Packet are open for all licensed amateur radio operators to use. | | | | | | | |
| OUTPUT FREQ. | STD. NAME | OFFSET | TONE/CC | CALL | LOCATION | OWNER | NOTES |
| WBFM | | | | | | | |
| 145.130 | 130 VB | -600 | 107.2 | AB4AZ | VERO BEACH, INDIAN RIVER | AB4AZ | |
| 145.350 | 350 SC | -600 | 103.5 | K4OSC | St. CLOUD, OSCEOLA | K1XC | Radio Science Club, FI Club |
| 145.370 | 370 CO | -600 | 156.7 | W2SDB | COCOA-BROADCAST CT. | IRARC | Yaesu Repeater replaced with Bridgecom FM |
| 145.470 | 470 ME | -600 | 107.2 | K4HRS | MELBOURNE- RIALTO PL. | HIRAC | |
| 145.490 | 490 TI | -600 | 100.0 | WN3DHI | TITUSVILLE SR405 & Fox 1k rd. | WN3DHI | |
| 146.610 | 610 ME | -600 | None/107.2 | W4MLB | MELBOURNE- HOLMES HOSP | PCARS | Tone Downlink only |
| 146.625 | 625 MM | -600 | 100.0 | KE4NUZ | NW of MIMS NEAR HARRISON RD. | KE4NUZ | Limited coverage |
| 146.775 | 775 MM | -600 | 100.0 | K4KSC | NW of MIMS Hog Valley , W of I95 | K4KSC | |
| 146.850 | 850 ME | -600 | None/107.2 | W4MLB | PALM BAY- Port Malabar Rd. | PCARS | Tone Downlink Only |
| 146.880 | 880 RO | -600 | 107.2 | W4NLS | ROCKLEDGE- WUESTHOFF HOSP. | IRARC | FUSION Repeater replaced with Bridgecom F |
| 146.895 | 895 PB | -600 | 107.2/107.2 | K4EOC | PALM BAY- DeGroot Library | EOC | TSQL as of 5/2018 |
| 146.910 | 910 TI | -600 | 107.2 | K4KSC | TITUSVILLE Water Tower on south st. | TARC | |
| 146.940 | 940 RO | -600 | None | K4GCC | ROCKLEDGE Carver Rd.WLRQ Tower | LISATS | |
| 146.970 | 970 TI | -600 | 107.2 | K4KSC | TITUSVILLE-T'VILLE TOWERS | TARC | |
| 147.075 | 075 SC | +600 | 107.2/107.2 | K4EOC | SCOTSMOOR Near US1-Aurantia Rd | EOC | TSQL as of 5/2018 Relocated 4/2019 |
| 147.135 | 135 RO | +600 | 107.2/107.2 | K4EOC | ROCKLEDGE-EOC | EOC | TSql as of 5/2018 |
| 147.240 | 240 DE | +600 | 123.0 | KV4EOC | DELAND | VARES | |
| 147.255 | 255 PB | +600 | 107.2 | K4DCS | Near Babcock & Palm City S City limi | PBARC | |
| 147.330 | 330 TI | +600 | 107.2 | K4NBR | TITUSVILLE-PARRISH HOSP. | NBARC | |
| 147.360 | 360 TI | +600 | 107.2 | N4TDX | TITUSVILLE-PARRISH HOSP. | NBARC | DSTAR Gateway in work |
| 442.850 | 850TI4 | +5000 | 107.2/107.2 | N4TDX | TITUSVILLE-PARRISH HOSP. | NBARC | TSqI;FUSION/WBFM/WIRES-X |
| 444.325 | 325ME4 | +5000 | 107.2 | K4DCS | MELBOURNE-TRINITY TWRS-E | PBARC | |
| 444.375 | CNLBRE | +5000 | 107.2 | | 195 FDT Twr 1/2 Mile N of County Lin | SARNET | "SARNet Sebastian Repeater" |
| 444.425 | 425ME4 | +5000 | 107.2 | W4MLB | MELBOURNE- RIALTO PL. | PCARS | |
| 444.525 | 525RO4 | +5000 | 103.5/103.5 | K4EOC | ROCKLEDGE-EOC | EOC | TSqI; VOICE/NBEMS |
| 444.650 | CNMBRE | +5000 | 107.2 | W4NLS | COCOA-FHP SR520 | IRARC | "SARNet Cocoa Repeater" |
| 444.750 | 750TI4 | +5000 | 156.7/156.7 | N4TDX | TITUSVILLE- TGO WATERTOER 230 ft. | NBARC | TSqI |
| 444.875 | 875MI4 | +5000 | 107.2 | KC2UFO | MERRITT IS. COURTNEY SPRS. | K4UJZM | |
| 444.925 | 925KS4 | +5000 | 131.8/131.8 | N1KSC | KENNEDY SP. CTR.-VAB | KSCARC | FM TsqI ; P25 capable |
| 224.120 | 120CO2 | -1600 | 123.0 | AA4CD | COCOA Broadcast Ct. | AA4CD | |
| DMR | | | | | | | |
| 444.150 | 150TI4 | +5000 | CC1 | K2JO | TITUSVILLE-PARRISH HOSP. | KC2CWT | DMR FL |
| 444.575 | 575CO4 | +5000 | CC3 | K4DJN | COCOA BROADCAST CT. | AA4CD | DMR Brandmeister |
| 444.675 | 675TI4 | +5000 | CC3 | K4DJN | TITUSVILLE-T'VILLE TOWERS | AA4CD | DMR Brandmeister |
| ATV | | | | | | | |
| 427.250 | 250CO4 | | | K4ATV | COCOA BROADCAST CT. | LISATS | NTSC INPUT 439.25 See www.lisats.org |
| PACKET STATIONS: | | | | | | | |
| 145.090 | W12KPB | WINLINK | | W2PH-10 | PALM BAY-W2PH QTH | PBARC | WINLINK GATEWAY |
| 145.090 | 090 ME | PCARS | | W4MLB-2 | MELBOURNE-TRINITY TWRS-EAST | PCARS-K1YON | BBS W4MLB-4 EASTNET |
| 145.770 | 770 PB | SEDAN | | K4EOC-7 | PALM BAY | N2DB | http://www.fla-sedan.com |
| 145.770 | 770 TI | SEDAN | | KD4MWO-4 | TITUSVILLE | N2DB | INACTIVE NODE |
| BREVARD RACES/ARES SIMPLEX | | | | | | | |
| 146.480 | CENTX | SIMPLEX | | N/A | CENTRAL REG | IRARC | CENTRAL NET SIMPLEX BACKUP |
| 146.550 | SOUTHX | SIMPLEX | | N/A | SOUTH REGION | PBARC | SOUTH NET SIMPLEX BACKUP |
| 146.580 | MLBX | SIMPLEX | | N/A | MELBOURNE REGION | PCARS | MELBOURNE REGION NET SIMPLEX BACKUP |
| 146.595 | NORTHX | SIMPLEX | | N/A | NORTH REGION | TARC | NORTH NET SIMPLEX BACKUP |
| 147.540 | EOCROX | SIMPLEX | | N/A | RACES Bay | EOC | EOC VOICE/NBEMS |
| SIMPLEX | | | | | | | |
| 146.520 | CALL52 | SIMPLEX | | N/A | Station to station, anywhere | | VHF national simplex calling freq |
| 146.490 | TAC A | SIMPLEX | | N/A | Station to station, anywhere | | Standardized tactical option since 2006 |
| 146.560 | NBRX | SIMPLEX | | N/A | NBARC -Club/Parrish Hosptial Activities | | |
| 146.580 | TAC B | SIMPLEX | | N/A | Station to station, anywhere | | Standardized tactical option since 2006 |
| 147.420 | TAC C | SIMPLEX | | N/A | Station to station, anywhere | | Standardized tactical option since 2006 |
| 147.420 | IRARCX | SIMPLEX | | N/A | IRARC "FUN NET" and CLUB ACTIVIES | | |
| 147.450 | TAC D | SIMPLEX | | N/A | Station to station, anywhere | | Standardized tactical option since 2006 |
| 147.570 | TAC E | SIMPLEX | | N/A | Station to station, anywhere | | Standardized tactical option since 2006 |
| 446.000 | CALL46 | SIMPLEX | | N/A | Station to station, anywhere | | UHF national simplex calling freq |
| 446.500 | TAC A4 | SIMPLEX | | N/A | Station to station, anywhere | | Standardized tactical option since 2006 |
| 446.600 | TAC B4 | SIMPLEX | | N/A | Station to station, anywhere | | Standardized tactical option since 2006 |
| 446.700 | TAC C4 | SIMPLEX | | N/A | Station to station, anywhere | | Standardized tactical option since 2006 |
| 2 Meter & 70 cm WBFM repeaters use CTCSS; if one frequency is listed it is for uplink (user Tx) , if two are listed the repeater is set for uplink and downlink (user Tx and user Rx) | | | | | | | |
| Repeater Call Signs in bold are owned by Brevard Emergency Management and are maintained by the county. Repeater Trustee: Ron K2RJ | | | | | | | |
| NOT ON AIR | | | | | | | |
| Standard Names in Bold are recommended for Emergency Radio in Brevard * | | | | | | | |
| PBARC= Palm Bay Amateur Radio Club (Replaces DCS for South Brevard) See Ed W2PH for more info | | | | | | | |

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BUSSMAN FUSES
BUD

C.B.RADIO
CALRAD
CORNELL DUBILIER
CELLPHONE AMPS
CHICAGO MINIATURE
CINCH JONES
CLOVER
COBRA
CUSHCRAFT

DALBANI
DECIBEL PRODUCTS
DENNISON
DURACELL
DANTONA IND.

ECG (SEE NTE)
ELECTRONIC RESOURCES
ELECTROVOICE
EVEREADY

FANON-INTERCOMS
FLUKE (WAVETEK)

GC ELECTRONIC
GALAXY
GOLDLINE

HAM RADIO
HARADA
HITACHI
HYGAIN

ICOM RADIO

JSC WIRE
JW DAVIS SOUND
JVC PARTS

KENWOOD RADIO
KOSS
KESTER

LITTELFUSE
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M & G
MALLORY
MACOM
MAXON
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NTE ELECTRONICS
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