



Newsletter of the County of Orange Radio Amateur Civil Emergency Service

Captain's Corner

by RACES Captain Ken Bourne, W6HK, Chief Radio Officer

G5RV Antenna

My G5RV HF antenna broke a couple of weeks ago, which prevented me from running the Saturday morning 60-meter OCRACES nets and checking in on the Cal OES Monday 75-meter and Wednesday 40-meter nets. It appears that the 450-ohm ladder line (more accurately called window line) is the culprit. After flapping around in the wind, 18-gauge solid conductor will bite the dust. A new chunk of stranded ladder line has been shipped to me. This time it's constructed from 16-gauge conductors that are formed by 19 strands of 29-gauge copper-clad steel wire.

I'm considering replacing the G5RV with an off-center-fed dipole or with a Carolina Windom, but those antennas won't fit on my property without major bends or end droops, which would affect performance. In future columns, I will go into details of those other antennas, but for now I'll focus just on the G5RV, for those of you who are considering this antenna. (If you have room for an approximately 135-foot-long antenna, go for an OCFD or Carolina Windom, which are superior antennas.)

Shame on me! I should have homebrewed my G5RV, instead of buying a relatively flimsy MFJ-1778. But it was cheap—less than \$50 at the time (but now it's almost \$70 from MFJ). It consists of 102 feet of stranded 14-gauge antenna wire, 32.5 feet of 18-gauge solid-conductor ladder line, a fiberglass center insulator connecting the ladder line to the antenna wire, and a fiberglass end insulator connecting the ladder line to an SO-239 coax

connector. I connected a W2DU 1:1 RF isolator with double SO-239 connectors to the SO-239 on the fiberglass board, using a double-male adapter, and a 50-foot length of DX Engineering 400MAX 50-ohm coaxial cable from the isolator to my ham shack.

I will replace the MFJ fiberglass center insulator with a WA1FFL Ladder-Loc ladder-line locking center insulator, which provides better strain relief and mounting support for the ladder line. Instead of using



WA1FFL Ladder-Loc center insulator.

the MFJ end insulator with SO-239, I will connect the ladder line directly to a Spi-Ro LL-1-ISO coax-to-ladder-line 1:1 mini balun with brass terminals at one end and an SO-239 at the other end. If I were to replace the bare antenna wire or build a new antenna, it would be PVC-insulated 14 AWG stranded copper wire, comprised of 19 strands of 27 AWG solid copper. Its relaxed PVC insulation would be UV-resistant and would roll out easily, contrary to the bare 14-gauge MFJ antenna wire that

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**OCRACES
Online Meeting
on Zoom:**

**Monday,
February 1,
2021, at 7:30 PM**

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coiled and kinked while I prepared to install it

Although intended to work on 80 through 10 meters, a 102-foot G5RV antenna is shorter than a 123-foot half-wave 75-meter dipole or a 135-foot off-center-fed dipole. It's not as effective on 75 or 80 meters as a half-wave dipole, but supposedly is easy to load on 40, 20, 15, and 10 meters. Each side of the G5RV is 51 feet long. It is fed in the center with a matching section of 34 feet (MFJ says 32.5 feet) of 450-ohm line. At that length, it would not be a good match on the intended bands, but the short ladder-line matching section brings the feed-point impedance of the combination closer to a reasonable match for 50-ohm coaxial cable. With an antenna tuner, I have even used it on the 12, 17, and 30 meter "WARC" bands, as well as on 6 meters and, of course, on 60 meters.

My G5RV is basically flat, from tree to tree. It can

also be installed as an inverted-V or as a sloper. If installed as an inverted-V, the included angle at the apex should not be less than 120 degrees. The ladder-line matching section should descend at a right angle to the antenna.

Some say not to use a balun with a G5RV, because it cannot compensate for the reactive load condition presented to it by the antenna on most of the HF bands, whereas a suitable type of antenna tuner can do this most effectively and efficiently. Under certain conditions, a current may flow on the coax outer conductor. This may be reduced by winding the coax into a coil of 8 to 10 turns about 6 inches in diameter where the coax joins the ladder line. My W2DU RF isolator, which uses ferrite sleeves to avoid saturation, and is actually a 1:1 balun, seemed to work very well instead of a coax coil.

QSO Today Virtual Ham Expo: March 13-14

The QSO Today Virtual Ham Expo will return March 13-14, 2021, for a full 48 hours, *QSO Today* host Eric Guth, 4Z1UG/WA6IGR, announced in January. ARRL is a QSO Today Expo Partner. Guth said the inaugural QSO Today Expo last August attracted more than 16,000 attendees, and he anticipates that the March 2021 event will be even more successful. Several OCRACES and city RACES members attended last August.

The upcoming QSO Today Virtual Ham Expo will feature new speakers and presenters, panel discussions, and kit-building workshops among other activities. Guth pointed out that attendees can log in from anywhere. While he anticipates a good turnout by those who typically attend such ham radio events, the virtual Expo also offers an opportunity for those concerned about pandemic travel restrictions as well as for those who don't typically attend in-person events.

"At our last Expo, we found that 60% of attendees don't go to in-person national conferences, and 40% don't attend state or local events," Guth said, noting that distance and the high cost of travel and lodging were the most oft-cited reasons.

Registration is required, and, to help cover the costs of staging this event, there will be a charge to attend. Advance tickets are \$10 (\$12.50 at the "door") and include entry for the live, 2-day show as well to the 30-day on-demand period. At the Expo, visitors can:

- Learn from a line-up of such well-known ham radio personalities as Bob Allphin, K4UEE, on "My Favorite DXpeditions to DXCC Top 10 Most Wanted;" Michael Foerster, W0IH, on "Using the Arduino in Your Shack," and Ron Jones, K7RJ, on "3D Printer Basics."
- Take part in live virtual kit-building workshops. (Kits will be available for purchase and delivered to attendees in time for the Expo.)
- Walk through the virtual exhibit hall to visit an array of amateur radio vendors and see live demonstrations of the latest equipment. This show will leverage newer video technology to provide a better experience for attendees to engage with exhibitors.

Those planning to attend the Expo may take advantage of new speaker calendar technology to create their own calendar of presentations in their time zones, which can be saved to a Google or Outlook calendar.

Registrants may return over the 30 days following the live event to catch speakers and presentations missed during the live period, as well as to explore and re-engage exhibitor offerings.

"The QSO Today Virtual Ham Expo has all of the familiar hallmarks of an in-person hamfest, including opportunities to connect and learn," ARRL Product Development Manager Bob Inderbitzen, NQ1R, said. "Expect to bump into friends and well-known experts and personalities from throughout our worldwide ham radio community!" He explained that attendees visiting an exhibit or virtual lounge will be able to interact with other attendees in those settings.

FlexRadio is the Expo's Platinum Sponsor. Gold sponsors as of this time include Elecraft, RFinder, and CSI.

Mesh Networks at February 1st Zoom Meeting

Don Hill, KE6BXT, will be our featured speaker at the next OCRACES meeting on Monday, February 1, 2021, at 7:30 PM, which will once again be on Zoom. Don will make a presentation on mesh networks, which are currently being used by some city RACES units such as Mission Viejo RACES, Laguna Niguel RACES, and Tri-Cities RACES. One of the applications of their system has been to provide broadband video coverage of the annual Swallows Day Parade in San Juan Capistrano to the Sheriff's Mobile Command Center (MCC). As Sheriff's personnel were taking calls, they could see parade-route activity in real time. Information about this as well as technical details about amateur radio mesh networks may be found at the Amateur Radio Emergency Data Network (AREDN) website at <https://www.arednmesh.org>. The information is complex, but Don will make it easy to understand at our Zoom meeting.

Joe Selikov, KB6EID, will once again be the Zoom meeting host. For security reasons, please use the latest version of Zoom, which currently is 5.4.9. The meeting link, ID, and password will be emailed to RACES members.

The CQ Shortwave Propagation Handbook

The CQ Shortwave Propagation Handbook—4th Edition is an informative guide to HF propagation for the new sunspot cycle.

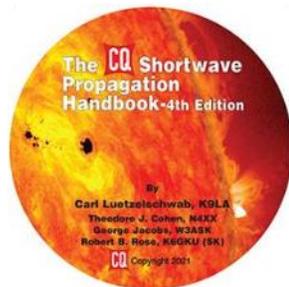
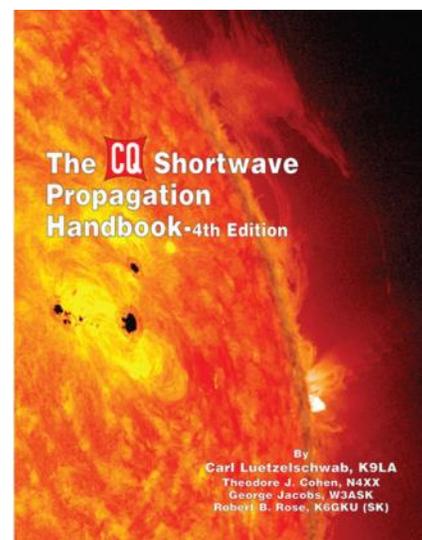
Fully updated and expanded to include the latest propagation forecasting tools, as well as time-tested "analog" tables for making your own customized predictions, the 4th edition of *The CQ Shortwave Propagation Handbook* is a must-have resource for any DXer, contester, or emergency communicator.

This 208-page, full-color title explains the many ways in which radio signals can travel long distances and how to use this knowledge to maximize your DX success. It also includes sections on low-frequency and VHF/UHF propagation in addition to its main focus on shortwave (HF) propagation.

Finally, it's all in plain English with a focus on practical applications, making it a valuable reference for the ham radio DXer as well as the ionospheric scientist and anyone in between.

This fourth edition was spearheaded by propagation authority Carl Luetzelshwab, K9LA, merging his updates with the earlier work of the previous editions' authors, Dr. Theodore Cohen, N4XX, George Jacobs, W3ASK, and Robert Rose, K6GKU (SK).

The books are scheduled to ship the week of February 15, 2021, and may be pre-ordered at \$42.95. A combo of the 8.5 x 11 paperback and book on CD may be ordered at \$61.95 from CQ Communications, POB 1206, Sayville, NY 11782. Phone: 516-681-2922.



Sheriff Sandra Hutchens

We are greatly saddened that Sheriff Sandra Hutchens passed away on Monday, January 4, 2021. She led the Orange County Sheriff's Department for ten and a half years. Her law-enforcement career spanned four decades. She graduated from the Los Angeles County Sheriff's Academy in 1978, worked as a deputy in the Sybil Brand Institute women's jail, and transferred to work patrol in Lynwood. She had retired as an LASD division chief when Orange County supervisors appointed her to the position of Orange County Sheriff on June 10, 2008. Voters elected her in 2010 and reelected her in 2014.

Sheriff Hutchens was admired by the members of County of Orange RACES. We treasure the time that she and her husband Larry visited the OCRACES Field Day site on June 27, 2009, and warmly expressed her appreciation for our service.

In a tribute to Sheriff Hutchens, Sheriff Don Barnes said, "Throughout her tenure, Sheriff Hutchens led with courage, grace, and integrity."



Sheriff Sandra Hutchens.

RACES Members to Become PSRs

OCSD Emergency Communications Coordinator Peter Jimenez, KI6UTE, made an informative presentation at the last OCRACES Zoom meeting on January 4, 2021, about the process for OCRACES members to become Sheriff's PSRs (Professional Services Responders). Although we are requiring all OCRACES members to be PSRs or sworn Reserve Deputies, we also encourage City RACES members to consider becoming OCSD PSRs. Pete also included the process that applicants need to follow to become OCRACES members while they must also apply to be PSRs. Pete provided additional details since the meeting, shown below.

The next PSR orientation at the Sheriff's Academy in Tustin is March 11th, followed by a PSR pre-screen on March 20th. You can check all dates on the Sheriff's website at <https://ocsheriff.gov/commands-divisions/field-operations-investigations-command/homeland-security/mutual-aid-bureau-10>.

Here is a rough outline of the process for RACES members and applicants to become PSRs:

- Fill out the Interest Card at <https://ocsd.typeform.com/to/feMqPo>
- Attend orientation (such as Thursday, March 11th, at 1830)
- Attend pre-screen (such as Saturday, March 20th, at 0900)
- Submit PSR application
- Submit RACES application (if you are not already an OCRACES member)
- Initiate background check
- Attend three RACES meetings (online or in-person)
- Pass background
- Obtain uniform
- Sign DSW form and get sworn in
- Set up Reserve Tracker account

Each member of RACES needs to obtain the following certifications within the first three months of becoming a RACES PSR. These do not take long to complete.

- **IS-100.C: Introduction to the Incident Command System**
<https://training.fema.gov/is/courseoverview.aspx?code=IS-100.c>
- **IS-200.C: Basic Incident Command System for Initial Response**
<https://training.fema.gov/is/courseoverview.aspx?code=IS-200.c>
- **IS-700.B: An Introduction to the National Incident Management System**
<https://training.fema.gov/is/courseoverview.aspx?code=IS-700.b>
- **IS-800.D: National Response Framework, An Introduction**
<https://training.fema.gov/is/courseoverview.aspx?code=IS-800.d>

Although optional, it is highly suggested to have an understanding of and have read:

Auxiliary Emergency Communications Overview : Units 1, 2, and 10

This is an overview of the Auxiliary Communications (AUXCOMM) position including the responsibilities, roles, and functions within the COMU, as well as roles and functions of Auxiliary Emergency Communications (AEC). Click on <https://www.cisa.gov/publication/comu-training-documents>.

The AUXCOMM course used to be offered some time ago. It is an excellent course to take when it is offered and it dives deep into the roles and responsibilities of Auxiliary Communications Groups such as RACES and how they tie into the EOC.

OCRACES members who have not already completed the IS-100, -200, -700, and -800 certifications are asked to do that soon. Send copies of your completion certs to Pete for his files. If you can't find your certs, you can obtain a transcript of your certs from FEMA Emergency Management Institute. Pete would also like to have a copy of your FCC amateur radio license.

Please follow the above procedures as we enjoy working together to expand our RACES unit and to enhance our service to the Sheriff's Department and to the community.

OC Health Care Agency COVID-19 Hotline

RACES members having general questions or needing guidelines or information about the pandemic may call the COVID-19 hotline at 714-834-2000, Monday through Friday, from 8:30 AM to 5:00 PM. Or email your questions to support@compositeapps.net. For more information, click on <https://occovid19.ochealthinfo.com>. See the following article about using Othena to schedule your vaccination appointment.

Updates on COVID-19 Vaccinations

The Orange County Health Care Agency has provided the following updates regarding the COVID-19 pandemic:

COVID-19 Vaccine Phase of Distribution

With the limited supply of vaccines, the County of Orange is following the State of California's guidance and framework for fair and equitable access to COVID-19 vaccines. See phased approach at <https://occovid19.ochealthinfo.com/covid-19-vaccination-distribution>.

The success of the County's implementation of the phased, tiered vaccination plan depends on everyone being patient and allowing priority groups to be vaccinated first.

Currently, appointments at SuperPOD locations will be provided only to the following prioritized groups:

- Phase 1A populations (all tiers)
- Law enforcement working in high-risk settings
- Adults age 65 or older
- Additionally Pfizer vaccine is only for those age 16 or older, and the Moderna vaccine is only for those age 18 and older

Overwhelming the appointment system will make it even more challenging to dispense the limited supply of vaccine currently available. As vaccine becomes more plentiful, additional appointments will become available, and eligibility will open up to other groups.

How to Get Vaccinated

Individuals who live or work in Orange County can register online through <https://www.othena.com> to view available appointments and to keep informed with upcoming availability.

Othena is a vaccine scheduling system created by CuraPatient, in conjunction with leading health care experts and public health agencies.

At-Home Testing

Test kits are available at no cost for individuals who live in Orange County and are asymptomatic or have exposure concerns. Click <https://occovid19.ochealthinfo.com/covid-19-testing> to order your test.

Volunteers Needed

In anticipation of future needs, OneOC says its Emergency Volunteer Center (EVC) is currently preregistering volunteers interested in assisting government staff with COVID-19 vaccinations at Points of Distribution (POD) sites this year. The County of Orange is looking to establish two teams of volunteers willing to serve in these crucial volunteer roles:

Medical Trained Volunteers:

- Medical licensed volunteers able to assist with vaccine preparation and distribution
- Currently licensed physicians (MD, DO, and MD/DO students), nurses (RN, LVN, mid-wives nursing students), physician/nursing assistants, dentists, medical assistants, pharmacists/pharmacist students, paramedics, and EMTs

General Support Volunteers:

- Volunteers able to assist in logistical support roles such as computer data entry, registration, traffic, and other duties as assigned

Please register at <https://oneoc.org>. For clarity, this is not an OCSD event. If you are an OCRACES member, sworn Reserve, PSR, or Explorer, and choose to volunteer, you will be doing so as a private person. Any hours volunteered will not be transferrable to any OCSD program.



RACES/MOU News from Around the County

"RACES/MOU News" provides an opportunity to share information from all City & County RACES/ACS units and MOU organizations and supportive amateur radio clubs in Orange County.

Please send your news to NetControl Editor Ken Bourne, W6HK, at:

kbourne.ocsd@earthlink.net

Anaheim RACES

Anaheim RACES Chief Radio Officer Ducky Breton, KW6ACK, reported that Anaheim CERT and RACES Fire Watch teams deployed throughout the east end of the city, and parts of Yorba Linda and Orange on Tuesday, January 19, 2021. The plan was to have four to six units throughout the day. They used the Anaheim RACES 2-meter repeater and the Fire Administration frequency for CERT members that are not licensed hams.

Laguna Woods RACES

Laguna Woods RACES now has its own website at <https://www.lwraces.org>, according to Chief Radio Officer Bruce Bonbright, NH7WG.

Orange County Fire Watch

On Thursday, January 14, 2021, the National Weather Service issued a Red Flag Warning from 1600 hours on January 14th to 1600 hours on January 15th, later extended to 1600 hours on January 16th. Orange County Fire Watch Manager Tony Pointer then deployed Fire Watch Volunteers on January 14th "virtually" to monitor wildfire cameras used for the Virtual Fire Tower activities, with regular deployment the next two days to Fire Watch locations. NWS issued another Red Flag Warning for 2200 hours on January 18th until 2200 hours on January 19th. Tony deployed Fire Watch volunteers on January 19th to 13 locations. Fire Watch hams communicated via the SOARA repeater, with Gordon West, WB6NOA, as net control.

Orange County SKYWARN

On Monday, January 18, 2021, the National Weather Service (NWS) issued a Red Flag Warning from 2200 hours on January 18th to 2200 hours on January 19th. That was followed by a High Wind Warning from 0100 hours on January 19th to 2200 hours (later changed to 1800 hours) on January 20th.

Eric Hutchins, K7ELH, Regional Coordinator, Southwest California SKYWARN, advised on Tuesday, January 19, 2021, at 1633 PM, that the NWS requested SKYWARN activation for flash floods and wind.

The flash-floods threat was mainly for the mountains and deserts. High winds were expected in all areas. Observers were asked to report significant weather to the NWS through normal channels.

SKYWARN was deactivated at 1100 hours on January 20th.

Orange County Sheriff's Department Emergency Management Division

After 26 years in local government, OSCD Emergency Management Director Donna Boston announced that she was moving to the private sector. Donna was admired throughout the Sheriff's Department and by emergency management leaders in all agencies throughout Orange County and the state for her skills and expertise in directing the Sheriff's Emergency Management Division,

which promotes, facilitates, and supports the County of Orange and the Operational Area (OA) efforts to prepare for, respond to, and recover from disasters. EMD provides emergency management and preparedness services to



Donna Boston.

the unincorporated areas of Orange County and supports the efforts of the OA. There are currently over 100 jurisdictions in the OA, encompassing all County departments and agencies, public and private organizations, and the general population within the boundaries of Orange County. EMD is headquartered at the Orange County Emergency Operations Center. OCRACES members who are frequently active in the EOC's RACES Room during drills and emergencies, and to check into the weekly Cal OES HF nets, became well acquainted with Donna, who welcomed their participation. We wish Donna the very best in her new endeavors. Effective Thursday, January 14, 2021, at 1700 hours, Michelle Anderson began serving as the Interim Director of Emergency Management. Michelle is also very familiar with OCRACES activities and capabilities, and we look forward to working with her during emergency activations.

February 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6 Weekly 60 m ACS Net
7	8 Weekly 2 m ACS Net & OCRACES Zoom Mtg	9	10	11	12	13 Weekly 60 m ACS Net
14 Valentine's Day ♥	15 Weekly 2 m ACS Net (Presidents' Day)	16	17 Ash Wednesday	18	19 Orange County Amateur Radio Club Meeting	20 Weekly 60 m ACS Net
21	22 ACS Net on 4 Bands	23	24	25	26	27 Weekly 60 m ACS Net
28						

Upcoming Events:

- **February 1:** OCRACES Meeting on Zoom, 1930 hours
- **February 19:** Orange County Amateur Radio Club Meeting on Zoom, 1900 hours
- **March 11:** Orientation for PSRs, Sheriff's Academy, 1830 hours
- **March 20:** Pre-Screen for PSRs, Sheriff's Academy, 0900 hours



<https://ocraces.org>



Mission Statement

County of Orange RACES has made a commitment to provide all Public Safety departments in Orange County with the most efficient response possible to supplement emergency/disaster and routine Public Safety communications events and activities. We will provide the highest level of service using Amateur and Public Safety radio resources coupled with technology, teamwork, safety, and excellence. We will do so in an efficient, professional, and courteous manner, accepting accountability for all actions. We dedicate ourselves to working in partnership with the Public Safety community to professionally excel in the ability to provide emergency communications resources and services.

County of Orange RACES Frequencies

60 m: 5371.5 kHz USB (dial) (Channel 4) (OC ACS Net—Saturdays, 1000 hours)
 40 m: 7250 kHz LSB
 10 m: 29.640 MHz output, 29.540 MHz input, 107.2 Hz PL (out of service)
 6 m: 52.620 MHz output, 52.120 MHz input, 103.5 Hz PL
 2 m: 146.895 MHz output, 146.295 MHz input, 136.5 Hz PL*
 2 m: 146.595 MHz simplex
 1.25 m: 223.760 MHz output, 222.160 MHz input, 110.9 Hz PL
 70 cm: 446.000 MHz simplex
 70 cm: 448.320 MHz output, 443.320 MHz input, 141.3 Hz PL (private)
 70 cm: 449.100 MHz output, 444.100 MHz input, 110.9 Hz PL (private)
 70 cm: 449.180 MHz output, 444.180 MHz input, 107.2 Hz PL (private)
 70 cm: 449.680 MHz output, 444.680 MHz input, 131.8 Hz PL (private)
 23 cm: 1287.650 MHz, 1287.675 MHz, 1287.700 MHz, 1287.725 MHz, 1287.750 MHz, and 1287.775 MHz outputs, -12 MHz inputs, 88.5 Hz PL
 *Primary Net—Mondays, 1900 hours

OCSD Emerg. Comm's Coordinator
 Pete Jimenez, KI6UTE, 714-704-8080

Radio Officer (Lieutenant)
 Scott Byington, KC6MMF

OCSD Sr. Telecommunications Engr.
 Erik Schull, KE6BVI, 714-704-7937

Assistant Radio Officers (Sergeants)
 Jack Barth, AB6VC
 Ernest Fierheller, KG6LXT
 Bob McFadden, KK6CUS
 Tom Tracey, KC6FIC

Chief Radio Officer (Captain)
 Ken Bourne, W6HK, 714-997-0073

County of Orange RACES

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**“W6ACS ...
 Serving
 Orange County”**

**Visit Our Web Site
<https://ocraces.org>
 It's Where It's @!**

Questions or Comments?
 Contact *NetControl* Editor Ken Bourne, W6HK
kbourne.ocsd@earthlink.net

Meet Your County of Orange RACES Members!

Officers →



Ken Bourne W6HK Scott Byington KC6MMF Jack Barth AB6VC Ernest Fierheller KG6LXT Bob McFadden KK6CUS Tom Tracey KC6FIC



Randy Benicky N6PRL Ray Grimes N8RG Lee Kaser KK6VIV Walter Kroy KC6HAM Martin La Rocque N6NTH Don Mikami N6ELD Fran Needham KJ6UJS



Harvey Packard KM6BV Tony Scalpi N2VAJ Joe Selikov KB6EID Robert Stoffel KD6DAQ Ken Tucker WF6F Tom Wright KJ6SPE

**OCSD
 RACES** →
Coordinators



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