#### December 2021





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**OCRACES Online Meeting** on Microsoft Teams:

Monday, December 6, 2021 at 7:30 PM

Orange County Sheriff's Department **Emergency Management Division** 



Newsletter of the County of Orange Radio Amateur Civil Emergency Service

## **CRO's Nest**

### by Ken Bourne, W6HK, OCRACES Chief Radio Officer

### **Stay Cybersecure**

Most RACES members during this holiday season are getting bombarded with emails promoting sales for the latest electronic gadgets and feature-filled transceivers and accessories. We see deals offered by ham radio stores, Amazon.com, eBay, Best-Buy, and so many more. But this is the season when many of us can fall prey to cybercriminals if we aren't careful.

Beware of phone calls, emails, and text messages advising you that your order is being shipped. If they give you a link to check your order or shipping status, it might be from a bad guy. If you have placed several orders with Amazon.com, for example, vou might not know if the message you received pertains to one of those orders, or if they want you to "press 1" or click on a link to confirm (or deny) a fake order. If you're unsure, don't press 1 or click the link. Rather, disconnect and contact the company on a known number or web address to confirm the order.

Bad guys try to take advantage of unsuspecting shoppers by searching for weaknesses in their computers or cell phones and internet connections or by attempting to extract personal and financial information through fake websites and charities. RACES PSRs and sworn Reserves may receive phone calls from fake nationwide police or fire associations. They "identify" with unfamiliar names and pose as charities wanting your donations. Don't give them your creditcard number—just hang up—and search for a known charity to support instead.

Use strong passwords, update your software, do not click on suspicious links, and



turn on multi-factor authentication. Avoid solicitations from unknown sources. Recognize phishing scams. Do not click on links or download attachments, unless you're confident where they came from. Even if they came from someone you know, he might have forwarded some "cool" link that he got from someone else, that directs you to a malware-infected website (which might look like a familiar news source, for example). Or he might have sent you an attachment that will infect your computer. Even PDFs and MP4 attachments can be infected. Do not open them, especially if you think they have been forwarded as popular media items.

Never provide your password or personal or financial information in response to an unsolicited email. Avoid using public Wi-Fi, especially when making purchases or logging into financial institutions. Hackers at the coffee shop, for example, can grab your passwords and financial account numbers

If you can, use a credit card rather than a debit card and check your account statements frequently, by initiating contacts to your account, rather than responding to someone who claims to be legitimate.

Take proactive cybersecurity measures, and have a very Merry Christmas.

# 800 MHz Channels in Orange County (Part 1) by Robert Stoffel, KD6DAQ

As RACES members, we are sometimes called upon to operate on public safety radio channels, either from the Orange County Emergency Operations Center (EOC) on Loma Ridge, in the field with the Control 7 communications response vehicle, or using a mobile or portable 800 MHz radio. In this continuing series, I am sharing information about these radio systems and channels, providing our members with a better understanding on what they are and how they are used here in Orange County.

As most of our members probably know, the 800 MHz Band is where all day-to-day communications is handled for our County and City first responders. They utilize the 800 MHz Countywide Coordinated Communications System (CCCS), the trunked radio system shared between the 34 cities and County Law, Fire, Lifeguard, and Public Works agencies. Because we have so many channels and talkgroups, it will take several articles to cover everything. This month we will take a look at the local, statewide, and nationwide conventional radio channels found in the 800 MHz Band that RACES members may be asked to monitor or transmit on. These channels are primarily used for interoperable communications with agencies in Southern California that use 700 or 800 MHz as their primary radio system. In this band we have two types of channels, simplex and repeated. First, let's take a look at the repeated channels.

The FCC created five nationwide interoperable channels, and Orange County has deployed them all. 8CALL90 (pronounced "Eight-Call-Ninety") is a "Calling" channel monitored 24/7 by Control One, used by any agency needing to contact Orange County. Four repeated tactical channels, available for use by any discipline, are known as 8TAC91 (pronounced "Eight-Tac-Ninety-One"), 8TAC92, 8TAC93, and 8TAC94. These channels operate from several different radio sites, selected from the radio console at Loma Ridge, and they are found in Zone 8 of all 800 MHz CCCS mobile and portable radios. These channels share the same CTCSS tone nationwide (156.7 Hz), allowing for seamless communications interoperability anywhere in the country.

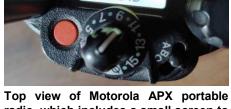
The State of California established one statewide channel to be used by any Law Enforcement agency, known as CALA-W8 (pronounced "C-A-Law-Eight"). Orange County operates this channel in a repeated and simulcast mode. It is located in Zone 8 of all 800 MHz CCCS Law Enforcement radios. The State also established one statewide channel for use by Fire and EMS, known as CAFIRE1 (pronounced "C-A-Fire-One"). Orange County operates standalone repeaters that utilize the statewide CTCSS tone (156.7 Hz) from several remote radio sites, selected from the radio console at Loma Ridge. All are found in Zone 13 of Fire Service 800 MHz CCCS radios.

All of the 800 MHz channels listed above may also be used in simplex mode

07:44
12 8TAC\*
12 8TAC91-LOM
Zone Hute Cick

APX portable radio tuned to 8TAC91-LOM, a conventional repeater using an Orange County specific CTCSS. These channels appear in Zone 12 of all CCCS radios, shown by the leading 12 in the channel display.

(also known as direct or talkaround). The channel names when in simplex mode are the same as shown above, except the letter D is added to the end of the channel name (the letter D indicates Direct). So, 8TAC91D (pronounced "Eight-Tac-Ninety-One-Direct") is the 8TAC91 channel in Direct mode, CAL-AW8D (pronounced "C-A-Law-Eight-Direct") is the CALAW8 channel in Direct mode, and so forth.



Top view of Motorola APX portable radio, which includes a small screen to display the radio channel name. Here, the radio is selected to 8TAC94-Direct.

Orange County also operates repeaters for the statewide and nationwide channels with an Orange County specific CTCSS tone. This allows Orange County users to access a specific repeater without keying up other repeaters in the region that are within radio range of the Orange County user. These nationwide repeater channels include the radio site mnemonic in the channel display name, and are found in Zone 12 of all 800 MHz CCCS mobile and portable radios. They can also be operated from the Loma Ridge radio consoles. These channels are 8TAC91-LOM at Loma Ridge, 8TAC92-SIG at Signal Peak, 8TAC93-MWD at MWD Yorba Linda, 8TAC94-CAT at Catalina, 8TAC94-CRB at Carbon Canyon, 8TAC91-MOR at Moorhead, 8TAC93-SCL at San Clemente, 8TAC92-SIL at Silverado Canyon, 8TAC92-SLG at South Laguna, and 8TAC94-BOL at Bolero Peak. It is interesting to note that 8TAC93-MWD may also be used in Emerald Bay, where a repeater that provides coverage in that area uses the same programming as 8TAC93-MWD, even though the radio does not have a unique display for this repeater. Four CAFIRE1 repeater

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## 800 MHz Channels (Part 1) Continued from page 2

channels using Orange County specific CTCSS include the radio site mnemonic in the channel name and located in Zone 13 of all 800 MHz CCCS Fire Service radios. They are CAFIRE1-LOM at Loma Ridge, CAFIRE1-SCL at San Clemente, CAFIRE1-MOR at Moorhead, and CAFIRE1-CRB at Carbon Canyon.

Orange County operates its own repeated and simulcast 800 MHz channel for interoperable communications, available for use by any discipline. This channel is called 8 OC ACCESS (pronounced "Eight-O-C-Access") and is located in Zone 8 of all 800 MHz CCCS radios. It is also on the Loma Ridge radio console.

Control One is able to electronically connect all of the above mentioned 800 MHz repeated channels to any conventional radio channel or 800 MHz CCCS talkgroup, allowing for communications between users of these channels and the 800 MHz CCCS. The electronic connecting of channels is referred to as "a patch." While RACES personnel would not be tasked with implementing the patch, we may be asked to monitor these radio channels for a specific situation or incident being supported by the EOC or in the field with Control 7.

This completes our review of the local, statewide, and nationwide conventional interoperable channels in the 800 MHz Band. Next month we will continue our journey by taking a look at the conventional channels that are unique to users of the 800 MHz CCCS.

# Winlink in Orange County by Scott MacGillivray, KM6RTE@gmail.com

Welcome to the first article of what is planned to be a monthly conversation on Winlink and related activities in Orange County. Over the next few months I'll share past and current activities, as well as thoughts on how we can expand Winlink use to become a key and vital element in our countywide Emergency Communications (EmComm) capabilities.

#### What Is Winlink?

In short, Winlink provides the ability to send and receive email using a computer connected to a radio. In its most common operating mode (known as Conventional), a message is sent via radio to a local Remote Message Server (RMS) that acts as a gateway between the radio transmission and the internet. This message is then sent via the internet to one of several redundant Winlink Common Message Servers (CMS) located around the world. The message is stored there until the recipient checks their email and it downloads to their local inbox. Receiving messages using your computer and radio works in the reverse way.

#### Why Winlink?

By utilizing email as the message medium, Winlink can easily integrate with most existing EmComm systems. Email is already extensively used and people already know how to use it. In addition, it provides the increased accuracy and speed offered by a digital system over sending message traffic using voice communications. Studies show that written messages are more accurate and faster, especially when using specialized and/or industry-specific terms (e.g., medications, unique processes, specialized tools).

Winlink is currently being used extensively across the United States by county, state, and federal organizations. It has demonstrated widespread and thoroughly tested integration into EmComm solutions at all levels for over 20 years.

A key characteristic of Winlink that makes it ideal for EmComm is that it is extremely versatile and supports different operating modes, depending on what transmission means are available at that time. For example, if the internet is down in a local area, messages can be relayed via radio from one gateway to another until it reaches a target station. This is known as

Peer-to-Peer (P2P) operating mode. In addition, messages can be sent via HF over thousands of miles to reach a station that has internet access and/or stored there for later retrieval. Reference Figure 1 for descriptions of the four different operating modes that Winlink utilizes.

Winlink has much more capabilities that support EmComm and, over the next months, I'll go into more depth into some of these.

#### **History of Winlink in OC**

In 2013, the county received a

Operating Mode	Description	Implementation			
Conventional	Stores messages on Common Message Server (CMS) backbone	Uses internet to communicate between CMS and local Radio Message Server (RMS) Gateways			
Peer-to-Peer (P2P)	Direct communication between two client stations without use of the internet or other infrastructure	Stations can act as Relays in order to bridge into hard-to-reach areas     Sending and receiving stations have P2P session up and operating			
Radio-Only (Hybrid)	HF network that transfers messages over long distances (1000's of miles)	Uses automatic HF forwarding without the internet			
MESH Network	Leverages MESH's robust networking and faster speeds     Can act as Post Office Server when incorporating RMS Relay Software	Utilizes MESH between RMS Gateways and client stations			

Figure 1. Winlink system provides four operating modes for transferring messages.

### Winlink in Orange County Continued from page 4

grant to set up Winlink across the county. This extensive effort established three gateways strategically located that provided complete coverage across the county. In addition, Winlink end-user stations consisting of a computer, several radios, digital to analog adapters (e.g., TNCs [Terminal Node Controllers]) and printers were provided to over 22 cities and agencies across the county. These state-of-the-art stations included a Dell computer (running Windows XP, Microsoft Outlook, and Winlink Paclink software), Kantronics TNCs, Yaesu and Alinco radios, Printronix dot-matrix printer, antenna, and cables. The system was set up to operate on UHF and support the fastest speed then available of 9600 baud. Once these systems were set up, it the cities were then relied upon to integrate Winlink into their respective organizations, as well as train and maintain personnel proficient in operating it. However, it appears that some cities did a better job than others in integrating Winlink into their EmComm processes.

#### **Our Current Situation**

Over the intervening years, most of the cities in Orange County do not currently have a working Winlink system station and/or haven't used it in years. On a recent test, of the 22 cities and agencies, only three (14%) responded to a message sent to them, and 13 (59%) returned "undeliverable" responses, indicating that it had been so long since it was last used, their account has been disconnected from the Winlink system.

These older client stations don't use the current Winlink software (i.e., Winlink Express), and the computer cannot be easily upgraded to the current Windows 10 operating system. However, the rest of the hardware (i.e., radios, TNCs, and cables) are still very operational and can be used as part of any "refresh" of the system to support current needs.

The current situation has been made worse by the fact that the current OC RACES RMS gateways have been unavailable since July 2020 as a result of being disconnected from the internet. The internet connection was terminated due to a significant change to the firewall protocol implemented by the county IT organization. Currently, work is ongoing to figure out an alternative way to reconnect the gateways to the internet.

#### What the Future Holds

While the current situation may seem a little stagnant, the county is really in a good situation for reestablishing a vibrant and productive network of Winlink client stations and gateways.

#### Winlink Express

The client setups distributed in 2013 are out of date; however, they just need to be refreshed to current computer standards and software. They can easily be upgraded with a newer computer that utilizes the current Winlink Express software. This software is free from Winlink.org and is very similar in look and operation to other email software that people are already familiar with. The computer needed doesn't have any special and/or significant processing requirements, other than to have unhindered access to the internet for software updates. This should be relatively easy to acquire, since a 2- or 3-year-old system should be sufficient.

#### Winlink RMS Gateways

Even when the OCRACES gateways are operational, there is still the need to have additional gateways throughout the county in order to have redundancy and provide a backup relay network for when the internet is unavailable. This is best implemented by the various city organizations, but individuals are highly encouraged to set up a gateway as well. Technical help is available in setting these up (i.e., me), but the equipment will need to be provided by each organization or individual. It doesn't take much, an older VHF radio can be recycled, along with an older computer that can still support Windows 10. The Winlink gateway software is free and doesn't require much computer horsepower. Other items include a digital to radio interface (e.g., TNC, or newer combination of free software and digital radio adapter), cables, and antenna. It would be preferred if the system were on backed-up electrical power, like a UPS. More on how to set up a gateway in future articles.

#### **Next Steps**

There are several activities planned in the near future that you can participate in.

#### **Countywide Drills**

An informal countywide Winlink Peer-to-Peer (P2P) practice drill is planned for Saturday December 11, 2021. Instructions have been sent out to the OCSD-RACES Groups.io mailing list. If you have any questions, please contact me. This drill is just the latest in Winlink P2P drills that have been going on every 3 months since March 2021. The spring quarter drill is tentatively planned for Saturday, March 12, 2022. In addition, Winlink is planned to be part of future countywide exercises.

#### **Online Training**

Early in 2022, online training (Zoom) classes will be offered to anyone interested in learning Winlink Express software and setting up your own Winlink client station. Stay tuned for future announcements in future *NetControl* articles and through the OCSD-RACES Groups.io mailing list for when these will be scheduled and how to sign up.

#### **Future Topics**

Please don't hesitate to contact me if you have a recommendation for a Winlink topic that is relevant and you'd like me to share. In addition, reach out to me if you're interested in assisting in the growth of Winlink across Orange County.

# Being a PSR Is More Than Just RACES by Eric Bowen, W6RTR

As a new OCRACES member and a new PSR, I originally became a PSR because it was a requirement to join RACES. Thankfully, I didn't look at it as a process I would go through and never really participate in, except to get on the radio. There is so much more to being a PSR. It has been a fantastic opportunity for me outside of RACES. I would encourage all RACES members that do not participate in other units under the PSR "umbrella" to get out there, try it out, and have some fun!

There is a lot that you can do, regardless of your skill level or your physical activity level. If you don't know how to do something and that is holding you back, don't worry, you will be trained on it. During my first week as a PSR, I was given training on how to drive the Sheriff's Department Humvees. How exciting! We have three of them and I have driven them



Some PSRs are able to serve while driving this Humvee.

all. I've been all throughout Orange County in the Humvees, from Rossmoor, to Dana Point, and quite a few areas in between. These are great opportunities to get out in the public, represent to the public a positive law-enforcement presence, and to support each of the communities the Sheriff's Department keeps safe. I can't tell you how rewarding it is to be driving one of the Humvees to or from an event and having the public drive by us and give us a thumbs up.

What I have also really enjoyed has been working with the different personnel from the Sheriff's Department, whether they are full-time Deputies, reserve Deputies, Sheriff's Special Officers, Community Service Officers, civilian employees, and other PSRs. All of them truly exemplify the core values of the Sheriff's Department—Integrity without compromise; Service above self; Professionalism in the performance of duty; Vigilance in safeguarding our community. That professionalism carries over into the PSR program under their leadership. After all, that is what we are—Professional Services Responders.

There are many different units that you can join and be very active in, whether it is participating in their training, being called out for service, or just attending community events. If you do not want to devote the time in joining a specific unit, there are still many opportunities that you can participate in. These include helping with traffic at events such as Academy Class graduations, cooking hot dogs for the Fallen Officer Memorial Runs for each graduating class, being a school crossing guard, this year we helped at the Medal of Valor ceremony, and many other events as needed. Check the Reserve Tracker Calendar and you will see all that is available. Also, check with your Zone representative to find out about other needs in your area that might not be listed on the Tracker.

During all of the events that I have been a part of, I have met many PSRs that participate in RACES with other city units. Now that OCRACES allows its members to be a part of more than one RACES unit, I would also encourage those PSRs to think about joining OCRACES. I know many of those people that I have spoken to already and they would tell you that I always mention this to them.

As OCRACES members, we get the privilege of assisting the Sheriff's Department when we are called upon. As PSRs, we have many opportunities to assist the Sheriff's Department on an almost daily basis. RACES may be activated just once or a few times a year, but as PSRs we have almost limitless possibilities to participate in different Sheriff's Department events, callouts, community events, recruiting, training, social events, and many more. It is a great opportunity for us to give back to the Sheriff's Department and one of the reasons I am proud to be a PSR.

# **Next OCRACES Meeting: Dec. 6th on Teams**

Our next OCRACES meeting will be on Monday, December 6, 2021, at 7:30 PM. Joe Selikov, KB6EID, will host this online meeting on Microsoft Teams. You can download Teams here for your <u>desktop</u> and for your <u>mobile</u>. A meeting link will be emailed to the ocsd-races Groups.io list and to OCRACES applicants. Members of city, county, and state RACES and EmComm units are invited to attend this meeting.

At this meeting we will discuss our wish lists for amateur-radio-oriented Christmas presents, including features (and known bugs) of popular transceivers (HF, VHF/UHF, and 220-MHz), digital radios, antennas, and accessories.

## **Countywide RACES/EmComm News**

#### MESAC Chief Radio Officer Patrick Williams, KJ6PFW, Silent Key

We are deeply saddened to report that Costa Mesa RACES (Costa Mesa Emergency Service Amateur Communications, MESAC) Chief Radio Officer Patrick Williams, KJ6PFW, passed away on Sunday, October 31, 2021. He was a dedicated public servant and a close friend of OCRACES and City RACES units.

Patrick became an amateur radio operator in October 2010. He devoted countless hours to Costa Mesa, the Police Department, and many events, including the Orange County Marathon, Costa Mesa Con-



Patrick Williams, KJ6PFW, at Radio Rodeo.

certs in the Park, Baker to Vegas, and the Huntington Beach Air Show. He participated not only in OCRACES conducted exercises but also in other Orange County Emergency Communications exercises in which he represented the Costa Mesa Police Department (CMPD) while testing Department communications interoperability with County and Regional agencies, such as CommEx (Radio Rodeo) on May 19, 2021. Operating out of the CMPD Mobile Command Vehicle, the MESAC team led by Patrick acted as Communications Lead (COM-L) for "Honda Team 2," comprised of the Los Angeles County Sheriff's Communications Team, La Habra Police Department, and Brea Police Department. Patrick also participated in the October 21st Great ShakeOut earthquake exercise.

During the first months of the COVID-19 pandemic in 2020, Patrick often volunteered



Patrick Williams, KJ6PFW, at Baker to Vegas.

20 to 30 hours or more per week, addressing early operational challenges at the Costa Mesa EOC. His contributions to the City included managing FCC radio license training for CMPD personnel and tracking and organizing Emergency Management resources. He was also involved with the CERT program.

We appreciated Patrick's contributions (and humor) during OCRACES and City/County RACES & MOU meetings over the years. He also participated in OCRACES cooperative T-hunts.

#### **Fountain Valley RACES**

Garry Jones, N6NQN, is the new President and Chief Radio Officer for Fountain Valley RACES. He was formerly the Assistant Radio Officer.

### American Red Cross Orange County Chapter

Mark Warrick, KM6ZPO, has been appointed DST Communications Region Lead of the American Red Cross, OC Chapter.

#### H.B. "Corky" Corcorran, W5BYG, Silent Key

We are sad to report that Corky Corcorran, W5BYG (formerly N6HQI), passed away due to COVID earlier this year. Corky was an ARES DEC for Orange County through October 10, 1999. He was net control for ARES/RACES information on the CLARA repeater on 145.220 MHz. He was a member of the former Santa Ana Radio Team (SART, Santa Ana RACES) and an OCRACES member over 40 years ago.

"RACES/ **EmComm** News" provides an opportunity to share information from all City & County RACES/ACS units and **EmComm** organizations and supportive amateur radio clubs in Orange County, as well as from Cal **OES** and federal agencies.

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

kbourne.ocsd@ earthlink.net

# December 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4 Weekly 60 m ACS Net
5	6 Weekly 2 m ACS Net & OCRACES Teams Mtg	7	8	9	10	11 Weekly 60 m ACS Net
12	13 Weekly 2 m ACS Net	14	15	16	17	18 Weekly 60 m ACS Net
19	20 Weekly 2 m ACS Net	21	22	23	24	25 Merry Christmas!
26	27 ACS Net on 4 Bands	28	29	30	31	

#### **Upcoming Events:**

- December 6: OCRACES Meeting on Microsoft Teams, 1930 hours
- **December 25**: Christmas Day
- January 1: New Year's Day
- January 6: PSR Patrol/Radio/ Situational Awareness Training, Sheriff's Academy, 1800-2000 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

 $10~\mbox{m}{:}~29.640~\mbox{MHz}$  output,  $29.540~\mbox{MHz}$  input,  $107.2~\mbox{Hz}$  PL (down for repair)

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)

\*Primary Net-Mondays, 1900 hours

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Assistant Radio Officers
Jack Barth, AB6VC
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> **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



"W6ACS ... **Serving Orange County**"

## Meet Your County of Orange RACES Members!

**Officers** 



Ken Bourne W6HK



**Scott Byington** KC6MMF



Jack Barth AB6VC



**Ernest Fierheller** KG6LXT



**Heide Aguire** K3TOG



Randy Benicky N6PRL



Eric Bowen W6RTR



**Ray Grimes** N8RG



Peter Jimenez KI6UTE



Walter Kroy KC6HAM



N6NTH



Martin La Rocque Steve Livingston



Scott MacGillivray KM6RTE



Don Mikami N6ELD



Fran Needham KJ6UJS



Harvey Packard KM6BV



John Pilger K6PIO



Joe Selikov KB6EID



**Robert Stoffel** KD6DAQ



**Chuck Streitz** KK6HFS



Ken Tucker WF6F





Lee Kaser KK6VIV