



# County of Orange RACES

## NetControl

October 1998



Newsletter of the County of Orange Radio Amateur Civil Emergency Service

### Top Story

#### Wild Fire 98

By: Robert Stoffel



In early September several wild land fires struck the Southern California area. In Orange County, fire activity was present in the Holy Jim Canyon area, Carbon Canyon area and Santiago Canyon area. OCRACES was activated by Sheriff/Emergency Manage-

ment on the morning of the 1<sup>st</sup> for communications and logistical support.

OCRACES personnel were notified of the activation via pager at 0730. Personnel were dispatched to Loma Ridge and two field command post locations for Carbon Canyon and Santiago Canyon. Staffing at these locations remained in place until 2200 hours, except Carbon Canyon, which secured at 1400. On Wednesday the 2<sup>nd</sup> OCRACES personnel again provided staffing at Loma Ridge and Santiago Canyon IC between the hours of 0530 and midnight.

Our primary mission was to provide field intelligence to the Loma Ridge EOC. Our secondary mission was to provide any required communications support for the Sheriff and Fire personnel who were on scene. In this endeavor we utilized Amateur Radio, 800 MHz fire radio and even a satellite phone that was provided by EMS.

### October Meeting

The topic for October's general meeting will be Amateur Microwave. Our guest speaker will be Dick Bremer from Brea RACES. Dick will talk about and Demo equipment related to this emerging technology.

There will not be a staff meeting due to the Columbus day Holiday.

Thanks to the following OCRACES personnel who collectively provided over 131 hours of service for this activity: Al Baird, Jack Barth, David Boehm, Jim Carter, Nancee Graff, Ray Grimes, Walter Kroy, Mike Krueger, Floyd Martin, Ken Mirabella, Marty Mitchell, Harvey Packard, Amish Parashar, John Roberts, Joe Selikov, Steve Sobodos, David Steffen, Chris Storey, Dan Welch, Dave Wilson and Roger Woodcock.

### Upcoming Events

Oct. 5	General Meeting, Alternate EOC
Oct. 10	ERI 98, Ben Clark Training Center
Oct. 12	Columbus Day, NO NET, NO Staff Meeting
Oct. 17	County/City RACES Drill
Nov. 2	General Meeting, Alternate EOC
Nov. 3	Election
Nov. 9	Staff Meeting, Alternate EOC
Nov. 14	La Palma Days Parade, Mutual Aid Requested
Dec. 7	General Meeting, Alternate EOC
Dec. 14	Staff Meeting, Alternate EOC

#### Inside this issue:

Top Stories	1
Upcoming Events	1
Captain's Corner	2
ECC News and Views	2
Event Coordination	3
Training	4
Committee Reports	5
Editorial Response	5

---

## Captain's Corner By Ray Grimes

---

As we finally enter the fall season, most of us settle back into our daily routine, enjoying the pleasant cool days. The rains and flooding of early 1998 and recent wildfires are over (at least until the Santa Ana's pickup). We only have one major RACES event scheduled for this month. It's very easy to get into a mindset that everything is under control and that a disaster is but a remote possibility. That theory fell apart on Monday, September 20 at 05:00 hours when in the City of Westminster a concrete water reservoir failed and 5 million gallons of water deluged a residential neighborhood. Numerous homes and 14 vehicles were destroyed, including Westminster OCFA Station 64. Amazingly, no human loss of life occurred, though several injuries were treated. A Fire USAR team was called, using trained dogs, to search the wreckage for trapped victims. OCRACES was alerted to standby for possible activation, as the Westminster EOC was activated. A page call went out on the OCRACES

pager net as an advance notice of possible activation. Thanks to the County, most of us have alphanumeric pagers. We had been asking for these for a long time, knowing how valuable a pager would be for simultaneous notification of emergencies and incident updates. It is disappointing to observe that a few OCRACES members don't receive these critical page messages in a timely manner. It's not a fault of the paging system, but the fact that some OCRACES pagers reside in parked vehicles, sitting on the kitchen table, in a briefcase, left for the dog to chew on, or the kids to play with.

These pagers are our emergency connection to the County. Batteries should be replaced at least monthly, and repairs promptly requested when needed. The pager should be kept in proximity to where the RACES member is. Your family should be aware that if they hear it "beep", it might be important, and you should be told that it activated. During

initial response to the Santiago Fire and the Westminster Flood, I initiated a telephone callup of OCRACES staff, to make sure that all available personnel were notified, knowing that not all members would receive the page alert. We can never depend on having the luxury of a working telephone system during a disaster though.

While you have some inclination that an emergency could occur during rainy or hot and windy weather, you never know when the unusual will occur, such as a reservoir failure at 05:00AM, or an earthquake across town. You may not sense the event, and the media may not always have information on local situations. Your pager then becomes your most important connection. Make sure it is always in working order, but more importantly, make sure you are close by when it alarms.

---

## ECC News and Views by Robert Stoffel

The final preparations are underway for the City/County RACES Mutual Aid drill. On Saturday, October 17, 1998 we will activate OCRACES and request mutual aid from participating city organizations. At 0800 the exercise will officially begin. Each RACES Radio Officer and City Coordinator has been provided a copy of the drill plan. We look forward to an interesting drill that will test, for the first time, communications between multiple RACES organizations both in and out of Orange County. All participants are invited to the drill debriefing that will be held at OCS/Communications, Monday, November 9, 1998 at 1930 hours.

OCRACES was involved in a number of activities this last month, providing support for the wild land fires, staffing a dis-

play at the Red Alert Safety Show and providing assistance at the John Wayne Airport disaster drill.

Over 131 hours of service was provided by OCRACES for the wild land fires on September 1 and 2, 1998. See the Top Story on page one of NetControl for all the details.

On Saturday, September 19<sup>th</sup>, OCRACES provided a display that included Control Six at the Red Alert Safety Show in Laguna Niguel. This annual event is sponsored by the Laguna Niguel City Council and provides an interesting array of exhibits, displays and demonstrations of emergency services. This is by far one of the more enjoyable activities we are involved with, allowing us to share Amateur Radio and RACES to the general

public. Thanks to Joe Selikov, Jim Carter, Steve Sobodos, Jack Barth and Roger Thomas for participating.

Every three years the FAA requires a disaster exercise at John Wayne Airport. This drill was conducted on September 29<sup>th</sup>. OCRACES was requested by HCA/Emergency Medical Services to provide communications and logistical support at the exercise. Ken Mirabella and David Boehm provided the necessary support for this event.

Thanks to our members for their participation in the various activities this past month, and I look forward to our next RACES "Technical Topics" general meeting that will feature amateur microwave. See you October 5<sup>th</sup>!

OCRACES members are reminded to mark your calendar with the dates you have net control duty. This information is published monthly in Net Control, and is also available on the OCRACES web page. There are a growing number of incidents

where the assigned person fails to assume scheduled net control duties and no backup operator has been arranged. While we all have busy schedules which can take us away from OCRACES obligations, it remains the duty of each member to arrange a re-

placement for net control or other assumed duties. If it is not possible to locate a replacement OCRACES member, then you should notify your sergeant, lieutenant, or myself as soon as possible.

# Event Coordination

## Mutual Aid

### La Palma

OCRACES has received a request to provide communicators for their annual La Palma Days parade which is

planned for November 14. There will be a signup sheet circulated at the October OCRACES meeting but I would like to also have e-mail responses directed to me. The event time is 0600 to 1400 hours. A 2 Meter handheld transceiver is required (144.300 MHz simplex,

no PL). The reporting point will be at the City Hall, located at 7792 Walker Street, La Palma.

Capt. Ray Grimes, W6RYS  
Chief Radio Officer  
County of Orange RACES

## Election Volunteers Needed November 3, 1998

By: Walter Wilson, K7WWW

OCRACES has again been asked to support the upcoming General Election on November 3<sup>rd</sup>. This election, like the June election will be large in size (collection centers and ballot boxes) and will require 25 to 30 RACES operators. A RACES communicator will be assigned to a Collection Center and will provide a communication link to the Vote Tally Center in Santa Ana. Information regarding the Collection Center, ballot transportation vehicle arrivals, box counts will be transmitted to the Command Post (Control Two) at the Vote Tally Center. The hours of operation will be just prior 2000 hours on Tuesday Nov. 3<sup>rd</sup> to a time when all ballot boxes have been transported and arrived at the Vote Tally Center in Santa Ana. The average Collection Center time is usually less than 3 hours. I have listed below the assignments that will need to be covered during this election. If you have a preference, please let me know and we'll try and work it out. In years past several city RACES organizations have provided support, some include: Buena Park, Fullerton, Orange, Placentia and Westminster.

Table 1 shows the current assignment list. It is all subject to change. It may be determined that some positions may not need a communicator. We will have a little discussion at the next OCRACES meeting and an election briefing at the general OCRACES meeting in November. I can be reached at:

W) 704-7917, H) 870-8483

### Table 1 - COLLECTION CENTER ASSIGNMENTS

CC#1	ANAHEIM LIBRARY 500 W. Broadway/Harbor Blvd., Anaheim
CC#2	CANYON HILLS LIBRARY 400 Scout Trail, Anaheim (Imp/91)
CC#3	BUENA PARK PD 6650 Beach Blvd, Buena Park
CC#4	COSTA MESA PD 99 Fair Drive, Costa Mesa
CC#5	SANTA ANA SCHOOL DISTRICT 1601 E. Chestnut, Santa Ana
CC#6	FOUNTAIN VALLEY PD 10200 Slater Ave., Fountain Valley
CC#7	FULLERTON PD - Fullerton RACES 237 W Commonwealth Ave., Fullerton
CC#8	GARDEN GROVE PD (may require two operators) 1301 Acacia Parkway, Garden Grove
CC#9	HUNTINGTON BEACH PD 2000 Main Street, Huntington Beach
CC#10	IRVINE PD1 Civic Center Drive, Irvine
CC#11	LAGUNA BEACH PD 505 Forest Ave., Laguna Beach
CC#12	LEISURE WORLD 24112 Moulton Parkway, Laguna Hills
CC#13	LA HABRA PD150 N. Euclid Street, La Habra
CC#14	LOS ALAMITOS PD 3201 Katella Ave., Los Alamitos
CC#15	ORANGE PD 1107 N. Batavia Street, Orange
CC#16	OCFA Station #4530131 Aventura, Rancho Santa Margarita
CC#17	PLACENTIA PD 401 E. Chapman Ave., Placentia
CC#18	SAN CLEMENTE PD 100 Ave Presidio, San Clemente
CC#19	SADDLEBACK VALLEY SCHOOL DIST OFFICE 25631 Diseno Drive, Mission Viejo
CC#20	TUSTIN PD - Jim Carter WA6HAG 300 Centennial Way, Tustin
CC#21	WESTMINSTER PD - Westminster RACES 8200 Westminster Ave., Westminster
CC#22	OCFA FIRE STATION #4931461 Golden Lantern Street, Laguna Niguel
CC#23	ALISO VIEJO LIBRARY 1 Journey, Laguna
	VOTE TALLY CENTER (VTC) 1300 S. Grand, Santa Ana
	VTC Staging -
	VTC Parking -
	VTC Radio -
	VTC Computer -

County pager # 7569

At this time I have access only to AOL in my office, so please direct election email to: Walter1WW@aol.com If you have any questions, please call.

Walter W Wilson, K7WWW  
OCSD Election Project Manager

---

# Training

---

## It's Not That Simple

by: Ray Grimes, W6RYS

A recent e-mail inquiry was the inspiration for this article on emergency communications uses of cell-phones in disasters. Oftentimes disaster planners and communications people include cellular telephones in their disaster plan as primary or secondary communications systems. Why not? They are plentiful, relatively low cost to operate, allowing one to call most anyone, with generally good urban radio coverage. What happens when most everyone within 5 miles of the disaster has the same desire to make urgent and emergency calls? The system fails miserably.

If we reflect back to the Loma Prieta and Northridge earthquakes, we remember that most of the cellular systems were operational, except for a few sites which failed due to loss of telephone control lines, misalignment of microwave link dishes, loss of both AC and backup power, or structure damage. The problem is not large-scale system outage, but inability to access due to extreme traffic blocking. In other words, everyone is trying to make calls at the very same time.

If you recall, radio and TV stations were asking the public to not use the telephone systems except for extreme emergencies. Obviously the public's perception is that a cellular radio is not a "real telephone". Sadly enough, many of these unnecessary calls were made by nervous people calling other nervous people to discuss the earthquake, preventing others from summoning emergency help. A significant and unfortunate impact on the cellular system in

both earthquakes mentioned was caused by the media itself. At the time of the Loma Prieta earthquake the World Series was in progress in Candlestick Park. The media was already there covering this event. When the earthquake occurred, the media tied up cellular circuits, holding continuous calls to their home offices for use as network feeds. The very same situation occurred in Northridge when the media captured so much of the limited cellular resources in the epicenter vicinity. Though the cellular service providers eventually brought in C.O.W.S. (cell sites on wheels), it was too little, too late.

There are a number of cellular "disaster communications" packages on the market. These include several cell-phones, chargers, a portable mobile FAX machine, and a yagi antenna with tripod. It would appear to be a great idea for a large corporation to buy several of these and keep them around for "the big one". The truth of the matter is that even though most everyone now has a cellular telephone (or has at least talked on one), that doesn't make them radio communications experts.

Cellular telephone coverage these days is designed primarily for urban portable coverage within a 1 to 2 mile operating radius of a site, with no guarantees about performance within buildings or from elevated locations. As the cellular system is exactly what its name implies, a frequency reuse plan where the same RF frequencies are reused over and over for limited-coverage cells, specific rules of engineering must apply. When someone takes a cell-phone to the top of a large building or on a hillside, it may not work. FCC Rules prohibit

use of cell-phones in aircraft. This isn't just a law, it's good RF engineering policy. If a mobile or portable cell-phone is operated in a line-of-site condition to multiple cell sites, then data contention will occur and a usable telephone call will not be maintained. Also, the cell-phone will attempt to self correct poor signal conditions by adjusting its internal power setting and will ultimately attempt to reassign itself to a neighbor site. In degraded operating conditions as described, this won't work.

The idea of using a yagi antenna on a cell-phone portable has some merit, but requires a competent technician to set it up. While it might be possible to establish really good communications with one cellular local site using a gain antenna from an elevated location, distant co-channel traffic will be produced, causing an RF interference impacts to numerous other cell sites. If this interference causes the call in progress to fail, it may not be possible to "see" neighbor cell sites if the yagi antenna is too selective.

While a cell-phone might be useful as a supplemental communications device, its success is driven by exact operating location and local environmental effects, and of course, the expertise of its operator. An area of concern which is almost always overlooked or ignored is the ability to carry a cell-phone into a HAZMAT location where explosive gasses may exist. I know of no cell-phone which is intrinsically safe rated for use in specific hazardous atmospheres (that also goes for all amateur radio products).

---

## ESP Oct. '98 Wildfires



The warm dry climate that has attracted millions of people to California brings with it the potential for disaster each summer and fall. You can reduce your risk of fire-related death, injury or

property damage by conducting a fire "Hazard Hunt" and taking steps to make the environment outside and inside your home safer.

Make sure you clear brush outside your home, trim tree branches away from the house, have smoke detectors and fire extinguishers in your home, have a plan for evacuation, and know what to do when a fire occurs. Check your equipment monthly.

For more information on the Earthquake Survival Program (ESP), contact your local Office of Emergency Services.

---

The Los Angeles County Office of Emergency Management has a program called ESP which stands for Earthquake Survival Program. As part of that program they supply a set of articles which focus on a different hazard each month. **NetControl** will publish each month's hazard through the end of the year.

---

# Committee Reports

---

## Visual Communications

Coordinator: Jim Carter (WB6HAG)  
Web page:  
[http:// www.qsl.net/wb6hag/](http://www.qsl.net/wb6hag/)

**Tri-Agency Update** - The September Tri-Agency meeting was cancelled because of our recent fires. This also caused us to cancel our SCRRBA meeting for obtaining frequency coordination for linking other agencies to our EOC. The meeting will be rescheduled at a later date

**ATV Supports Canyon Fire** - Amish Parashar (KE6EZM), Jack Barth (AB6VC), and Jim Carter (WB6HAG) provided support during the canyon Fires. Amish operated net control at Loma

Ridge while Jack provided video from Irvine Park IC. Jim provided weather information via ATV and technical support on the 144.39 MHz Com frequency to Loma Ridge.

**2.4 GHZ Project:** Jack Barth project leader, reported that one WaveCom transmitter was upgraded from 2Mw to 90 Mw for less than \$8.00. This increase in power will provide a P5 line of sight picture for 30 miles when using 24db gain antennas.

**ERI Training** - Visual Communication Committee members, Jack Barth (AB6VC) and Jim Carter (WB6HAG) will present "ATV, usage in RACES

communications", at the Emergency Response Institute (ERI) being held at March Air Force Base on October 10<sup>th</sup> and 11<sup>th</sup>. This presentation will be similar to the one provided to the ARRL in August.

**RED ALERT:** Jim Carter (WB6HAG) and Jack Barth (AB6VC) provided live 2 Ghz ATV demonstrations during the Red Alert exhibits in Mission Viejo on September 19<sup>th</sup>. This provided the general public on how ATV is used during emergency situations.

**Members Needed** - Please contact Jim Carter (WB6HAG) for additional information.

---

## Editorial Response

By: Ray Grimes, W6RYS  
Chief Radio Officer, OCRACES

A recent commentary in Net Control has evoked considerable discussion over the legality and propriety of 10 Code use on Amateur Radio. Much like politics, everyone seems to have an opinion on this topic, with some having a strong opinion. A benefit of writing articles for Net Control is that I get to see my opinions in print! This topic is particularly interesting, leading to some research on the history of radio codes, their use, and their legality in Amateur Radio service.

The original Morse Code of 1837 was also known as 'American Morse'. This was a system of dots and dashes in which various configurations represented letters and characters. In 1851, much of Europe adopted a new code known as 'Continental' or 'International' Code. This was a modification of the original Morse Code which eliminated the characters using spaced dots and dashes. These were found to produce transmission errors on undersea cables. This new code became the world standard, except in North America where the original Morse was used on all land-line circuits (but not un-

dersea cables) and lives on in Amateur Radio and some government services. A 'new' communications mode evolved around the late 1800's which was 'wireless' or radiotelegraphy. These radiotelegraph operators were originally trained land-line telegraphers who may have worked for the railroads or Western Union.

A vital purpose of this new wireless telegraph system was ship-to-shore maritime radio communications which relayed urgent and timely information on weather, ships in distress, voyage progress and arrival updates, and of course, message traffic for passengers. The importance of radio communications and a subsequent need to develop worldwide communications standards evolved from the well-publicized Titanic sinking. The failure to save a greater number of passengers was in part, the fateful result of a relatively minor change in communications code terminology. Prior to the Titanic event, the accepted international radiotelegraph distress code was CQD, which could mean either Call to Quarters Distress or Come Quick Danger. Apparently there was some perceived ambiguity with CQD, and so the Titanic became the first vessel to use the new and not well-publicized SOS (Save Our Ship) signal. Nearby vessels either didn't recognize the new distress signal, or

believed it was a hoax, as everyone knew the Titanic was unsinkable.

The 'Q' signals we know today evolved from the early days of maritime radiotelegraph. These afforded concise and brief codes which were easy to understand by all nations. Some particularly interesting Q Signals which reflect the maritime origin of this system are :

- QAK Is there risk of collision?
  - QSC Are you a cargo vessel?
  - QUK Advise the sea condition at \_\_\_\_
- Many of these early Q signals transferred to military and civilian aviation. Some of these are:
- QAL Are you going to land?
  - QAZ Are you experiencing difficulties flying through a storm?
  - QFQ Are the approach and runway lights lit?

There are also some special international code signals which have found a place in all radio communications disciplines. These are MAYDAY which everyone knows means "help", but few know the origin of this term which comes from the French, translated from "venez m'aider", meaning come and help me. There is also a phrase which finds use in commercial aircraft. This is PAN, or please answer

*(Continued on page 6)*

## Editorial Response (continued)

### Meetings:

**General:** First Monday of Month  
(open to public) @ 1930 hr.

**Staff:** Second Monday of Month  
(members only) @ 1930 hr.

### Meeting Location:

OCSD/Communications  
840 N. Eckhoff St., Suite 104  
Orange, Ca. 92868-1021

### County RACES Frequencies

6 m: 52.62 MHz output, 52.12 MHz input, 103.5 Hz PL

2 m: 146.895 MHz output,  
146.295 MHz input, 136.5 PL;  
(primary net Mondays, 1900 hrs.)

2 m Packet: 145.07 MHz  
(1830 – 1900 hours)

1.25 m: 223.76 MHz output,  
222.16 MHz input, 110.9 Hz PL

70 cm: 449.175 MHz output,  
444.175 MHz input, 110.9 Hz PL (private)

### OCRACES Web Page:

<http://www.ocraces.org>

### OCSD/Comm's Staff:

Emergency Comm's Coord.  
Robert Stoffel, KD6DAQ  
(714) 704-7919

Chief Telecomm. Engineer  
Gary Gray, W6DOE  
(714) 704-7911

OCRACES Chief Radio Officer  
Ray Grimes, W6RYS  
(562) 594-0065

Assistant Chief Radio Officer  
Ken Mirabella, KM6YH  
(714) 990-6656

Assistant Radio Officers  
Mike Krueger, N6MIK  
John Roberts, W6JOR  
Joe Selikov, KB6EID  
Steve Sobodos, KN6UX

### Sergeants

Al Baird, KC6TWI  
Jim Carter, WB6HAG  
Marty Mitchell, N6ZAV  
David Wilson, KE6AFR

### NetControl Editor:

Lt. Joe Selikov, KB6EID  
[jalsel@earthlink.net](mailto:jalsel@earthlink.net)

*(Continued from page 5)*

now. This term is a request for urgent assistance which is at a level just below MAYDAY. PAN can misstate the urgency of an aircraft situation which is best addressed by a MAYDAY call.

As there is a very long list of recognized Q signals, these eventually found their way into Amateur Radio service, undoubtedly because so many early radio hams were also commercial or military radio operators. You may think you have all of this figured out until you travel to the east coast where you will hear police radio traffic requesting the QTH of the subject, 10-4?, or 10-9, there was QRM. To balance things out, I once heard a Los Angeles area police helicopter pilot talking with Approach Control who responded to a directive to "turn left to 120 degrees and maintain 1000 feet" with a 10-4. I suppose what matters the most is that both parties understand the meaning of these message abbreviations and that safety is not compromised by misunderstanding of non-standard terminology.

Getting back to the 10 Codes I spoke of earlier, I learned that there is a wide spectrum of these as applied by commercial, public safety, medical, utility, transit, railroad, military, and government radio users, to name only a few. For example, the APCO 10 Codes have become the standard and widely accepted public safety radio shorthand. There are also numeric Radio Codes such as Code 7 (meal break), my favorite. Some departments deviate from the accepted meanings of these codes, with variations such as LAPD's Code 6 (out for investigation) also meaning (responding from a distant location) for another agency. There are the 900 Codes such as 933 (turn off the mobile relay), and a 950 (control burn in progress). Just when you thought you knew all of the 10 Codes, you learn of 10-0 (exercise great caution), 10-58 (a garbage complaint), 10-63 BOLO (be on the lookout), or 10-91 (a stray horse). There are 11 Codes such as the CHP uses, and 12 Codes used by the NYCTA such as 12-2 (smoke and fire in the train), or 12-8 (armed passenger). You may

also locally hear CPC's (California Penal Codes) such as a 402b (abandoned refrigerator), or CVC's (California Vehicle Codes) such as 23112 (throwing garbage on highway), and last but not least are H&S (Health and Safety) Codes such as a 12677 (fireworks) or a 11368 (forged prescription).

Anyway, what does this have to do with Amateur Radio and the use of 10 Codes? Quite a lot actually, as a question is raised about whether the use of standard recognized and published radio codes is a violation of FCC Part 97 Rules. Revisiting FCC Rules Section 97.113, Para. 4., Prohibited Transmissions, we see language stating that "...messages in codes or ciphers intended to obscure the meaning thereof,..." are prohibited. It should then become clear that the legal test of radio code use in Amateur Radio is whether it can be positively concluded that there was (or wasn't) an intent to obscure the meaning of a transmission. I personally would find it inconceivable that abbreviated radio signals taken from public literature and media sources would be thought of as secret. The Amateur Rules do in some special cases specifically permit Amateur transmission of encrypted and secret codes. For example, Section 97.211 Space Telecommunications, provides for "...special codes intended to obscure the meaning of telecommand messages ...of space operations". Amateurs also enjoy the ability to transmit in specialized modes such as RTTY and Data, respectively using Baudot, AMTOR, ASCII, CLOVER, G-TOR, and PACTOR encoding modes. These are widely publicized and accepted as standard protocol by worldwide governments and radio enthusiasts. Whether one believes the use of 10 Codes is appropriate or not in Amateur Radio communications, it is difficult to argue that they are but publicly recognized and accepted forms of shorthand and not secret messages.

Copyright © 1998 by County of Orange RACES. All rights reserved. No by-lined article may be reproduced or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the author. Once such permission has been obtained, reproduction must include credit to the author and to the publisher (OCRACES and **NetControl**). Non by-lined material may be reproduced, provided that credit is given to the publisher (OCRACES and **NetControl**).