

OCRACES

*Orange County
Radio Amateur
Civil Emergency Service*

*FINAL DRAFT
04/13/2011*



*Baker to Las Vegas
Challenge Cup
Relay Race*

*Our 21st year,
Supporting OCSD
and other Teams
since 1991*

April 15th-17th, 2011



*Co-Coordinator
& Communicators
Handbook*



County of Orange Radio Amateur Civil Emergency Service

2011 Baker to Las Vegas Challenge Cup Relay Race

Communications Handbook

April 15th-17th, 2011

SUMMARY

This handbook provides information for OCS teams who are either utilizing amateur radio band voice communications or automated tracking systems or both. For those teams which are not using voice communications support from OCRACES, there are only two things to remember:

- From 30 minutes before 1st Race Start (approx. 0830 Saturday) until the last team crosses Mountain Springs Pass (approximately 0700 Sunday), Follow Van position reports may be obtained by calling either:

*714-936-9778 (Nextel Direct Connect 124*856*11585)*

Call Sign: OCRACES Command Post (OC CP) (W6ACS)

or

- From the time when the last team crosses Mountain Springs Pass (approximately 0700 Sunday) until all tracked teams have finished, Follow Van position reports may also be obtained by calling the number below on Saturday the following number may be used during the day until about 1500 and between 1800 and 2100 or so. On Sunday, from the time when the last team crosses Mountain Springs Pass (approximately 0700 Sunday) until all tracked teams have finished:

*714-287-4745 (Nextel Direct Connect 122*25*11994)*

Call Sign: LV Equipment Recovery (W6CSP)

1.0 OCRACES COMMUNICATIONS SYSTEM

1.1 PURPOSE

To establish procedures for handling communications and provide a communications radio system that will be a resource for teams participating in the 2011 Baker to Las Vegas Challenge Cup Relay Race. This resource will provide a communications link for tracking teams utilizing APRS and provide emergency assistance should the need arise.

1.2 OBJECTIVES

To utilize established high level UHF communications sites with voice radio coverage, which will have the capability to cover the 120-mile race course. The radio coverage will provide communications for car-to-car and car-to-staging locations and will provide a link to a communications Command Post in Pahrump, Nevada.

To provide a communications Command Post where information about teams supported by OCRACES or utilizing APRS can be obtained via telephone (primary), radio (secondary) or in person.

1.3 OVERVIEW

Orange County RACES has coordinated with the Race Communications Committee the use of several radio channels in the Amateur Radio bands to support running teams participating in the Baker to Vegas Challenge Cup Relay. **The system has been designed to support the operations of multiple teams using a limited number of frequencies. For this reason, it is important that all transmissions be kept**

short, concise and professional at all times.

The primary goal is to provide a communications network along the 138 miles of highway and 120 miles of race course between the communities Baker, Shoshone, Pahrump and Las Vegas. This will be accomplished by establishing Command Post in the city of Pahrump and technical support in Baker on Saturday and Equipment Recovery in Las Vegas on Sunday. All communication sites, follow vehicles and shuttle vehicles will monitor the backbone repeater frequency for emergency or priority traffic.

The OCRACES communication Command Post (CP) in Pahrump will be monitoring the teams below with Automatic Position Reporting System (APRS Vehicle Tracking) via global positioning satellite software. This will enable the Command Post to constantly track the vehicles following the runners.

2.0 OCRACES SUPPORTED TEAMS, TEAM # AND START TIME:

<u>Agency</u>	<u>Team #</u>	<u>Start Time:</u>	<u>Agency</u>	<u>Team #</u>	<u>Start Time:</u>
Orange Co. Forensics*	245	0900	Orange Co. MX INV*	189	1100
Orange Co. SD-OPEN*	12	1500	Women Orange Co. SD*	181	1400

3.0 THE OCRACES COMMUNICATIONS SYSTEM

The OCRACES Communications System consists of four modes:

- A. VHF SIMPLEX OPERATION:** 2-meter Vehicle-to-Vehicle communications.
- B. UHF REPEATERS:** UHF repeater sites.
- C. APRS VEHICLE TRACKING:** Coordinated APRS radio traffic will be utilizing 144.95 MHz.

3.1 METHOD OF OPERATION (OCSD Teams and Teams desiring to utilize the OCRACES CP)

All vehicle radios should be dual-band mobile. This configuration will allow the following operations:

- A. UHF REPEATER:** The UHF Repeater radio system should be programmed on the 440 MHz band as:

- 1. Channel 1 = BLUE ZONE -- 447.680 (-) 156.7 PL
- 2. Channel 2 = ORANGE ZONE -- 448.525 (-) 156.7 PL

- B. VHF SIMPLEX:** The Vehicle to Vehicle (simplex) operations should be programmed on the 2-meter band as

- 1. Channel 1 = AGENCY ASSIGNED FREQUENCIES & COORDINATED THROUGH THE RACE COMMITTEE

This radio configuration allows the operators (mobile or fixed) to transmit and receive radio traffic on the simplex 2-meter band, while monitoring the UHF repeater 440 MHz system for radio traffic from the Orange County Command Post.

3.2 UHF REPEATER OPERATIONAL ZONES

The UHF repeater system consists of two zones that will be covered by two linked repeaters. The high-level

repeater sites provide almost complete race course coverage; therefore, regardless of your location on the race course, from Baker to Las Vegas, your radio transmission will be heard by the OCRACES Command Post in Pahrump. Common sense and good judgment will determine zone selection along the race course.

A. BLUE ZONE – 447.680 (-) PL. 156.7

The repeater site in Blue Zone is located at Turquoise Peak. The Blue Zone will cover from the city of Baker to approximately Stage 9. The indicated switching point, is approximate only. Common sense and good judgment will determine zone selection between Stage positions 9 and 10.

B. ORANGE ZONE – 448.525 (-) PL. 156.7

The repeater site in Orange Zone is located on Mt. Potosi. The Orange Zone will cover from approximately Stage 9 to the finish line.

3.3 SIMPLEX OPERATIONS

Simplex radio operations will be the PRIMARY mode of communications for all mobile vehicles. Each team (other than GPS only) will be assigned a simplex radio frequency for their agency use. This will allow communications to be conducted between the agency Follow and supporting vehicles without (hopefully) outside interference.

The simplex mode of communications should also be used to communicate to the staging locations whenever possible. Using the simplex communications mode will allow the repeater system to remain free of car-to-car radio traffic. This will allow the handling of emergency communications or passing of radio traffic to and from Las Vegas, and to the staging locations without delay.

2-METER SIMPLEX FREQUENCY ASSIGNMENTS

- YELLOW-1 - OCSD(18) Team 012: 145.770 (PL 203.5 Hz) (primary)
- YELLOW-2 - OCSD(18) Team 181: 146.115
- YELLOW-3 - OCSD(18) Team 189: 145.215
- YELLOW-3 - OCSD(18) Team 245: 145.215
- YELLOW-5 - OCSD(18) All Teams: 145.785

All simplex operations should function with a 233.6 PL unless otherwise indicated above. The simplex frequencies may have to be changed on race day due to interference. The department Communications Team Leader should coordinate frequency changes. Any change in department frequencies should be reported to the OCRACES Command Post in Pahrump.

3.4 TEAM TACTICAL CALLS

The use of tactical calls will easily identify the team and specific vehicle. Communications operators should use the tactical call of the mobile vehicle when communicating with other vehicles or the OCRACES Command Post in Pahrump.

A. CITY TACTICAL CALL SIGNS (The first two digits will be the agency number.)

OCSD Team 012	18	OCSD Team 189.....	18
OCSD Team 181	18	OCSD Team 245.....	18

Duty	Team 012	Team 181	Team 189	Team 245
Follow Van	1801	1811	1821	1831
Expeditor	1802	1812	1822	1832
Catcher	1803	1813	1823	1833
Shuttle	1804	1814	1824	1834
Coordinator	1805	1815	1825	1835

The last two digits denote vehicle duty as shown above. Refer to the chart above if your agency has more than one team in the race.

Under this format, the OCSO Follow van for team 012 will be 1801 etc.

Tactical call signs will also be used for communications team personnel. The communications coordinator for the event will be assigned the 1850 call sign, and should use it when communicating on the voice repeater system.

To call another unit, state that unit's tactical call sign, followed by your own. For example, 1805 wishes to contact 1802: "1802, 1805". Unit to unit calls on simplex channels are also conducted this way. When calling the Orange County Command Post, also state the channel being used. For example: OC CP, 403 on Blue.

Other Tactical call signs of note:

1850 - OCRACES Event Coordinator and APRS Tech Support - Lt. Ralph G. Sbragia (W6CSP)

1851 - OCRACES CP Captain - Sgt. Chuck Dolan, (KG6UJC)

Baker Installation Contact: Call for 1850 or "Baker Tech. Support" on YELLOW-1 or BLUE

Don't forget – *FCC regulations requires amateur operators to identify every 10 minutes and at the end of a conversation.*

3.6 ORANGE COUNTY COMMAND POST TACTICAL CALL

The tactical call for the Orange County Command Post is "**OC CP**". This is the headquarters for OCRACES. The Command Post will be located in the city of Pahrump at the Days Inn.

TELEPHONE NUMBERS:

*714-639-9778 (Nextel Direct Connect 124*856*11585)*

The Orange County Command Post will be set up and operational by 0830 hours Saturday and will remain operational until the last team being tracked crosses Mountain Springs Pass. This position has primary responsibility for monitoring and responding to radio traffic on the Blue Zone and Orange Zone UHF repeater radio systems. This position will forward/relay radio traffic to other sites, staging, and vehicles as needed.

The Orange County Command Post will be a primary location for tracked teams to obtain APRS Tracker/Follow Vehicle location information. This information may be obtained by phoning the Command Post at the numbers listed above. Visitors are always welcome to drop by and say hello and obtain team information.

4.0 LIVE INTERNET RACE COURSE COVERAGE

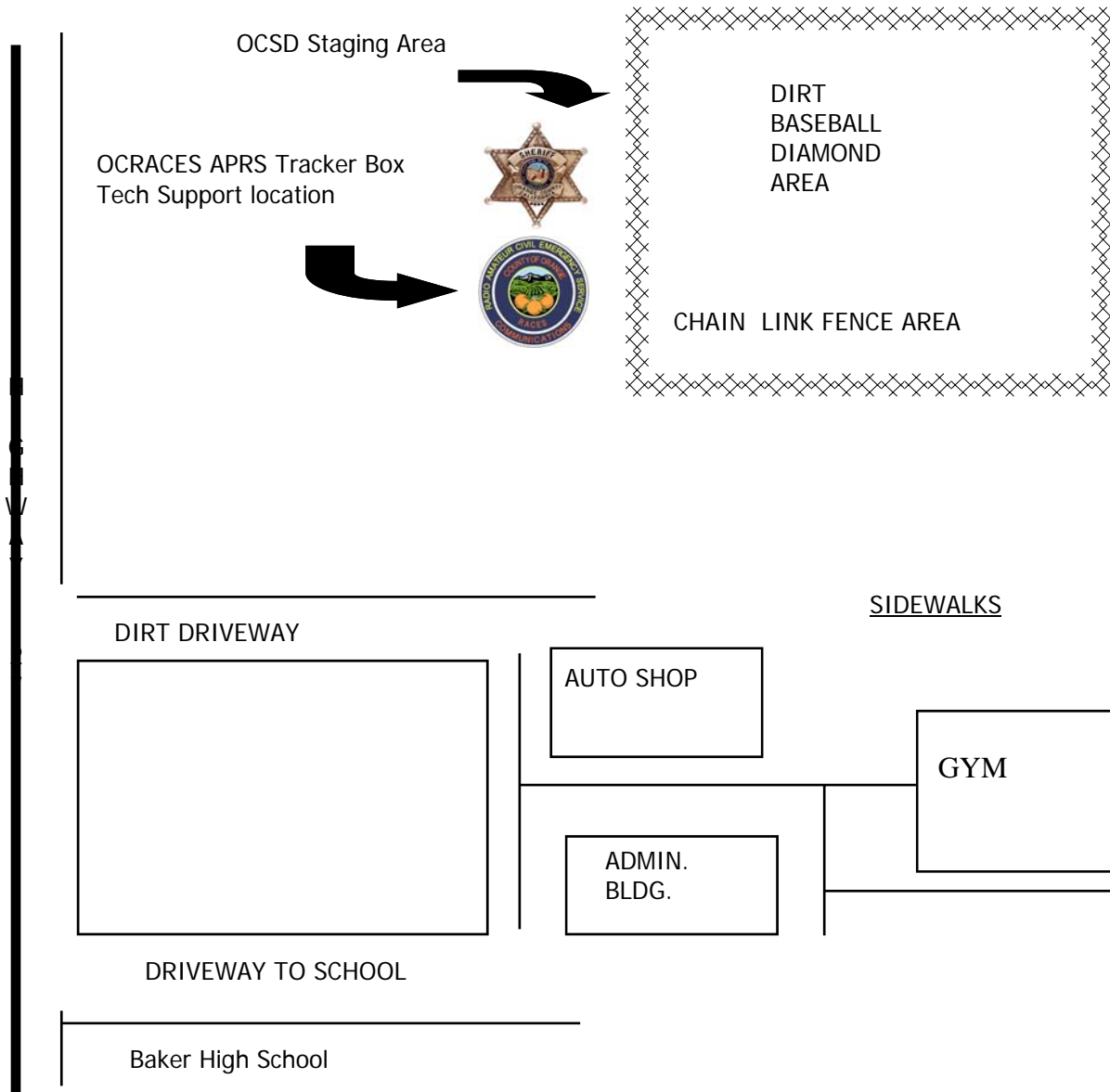
OCRACES supports a Vehicle Tracking System that will utilize Automatic Position Reporting System (APRS) equipment in the Follow Vehicles on the racecourse. The Tracker data will be transmitted from these vehicles to high-level digi sites and then into Las Vegas where it will be connected to the Internet. Live racecourse coverage may be viewed at:

<http://b2v.findu.com>

5.0 APRS INSTALLATION LOCATION

The OCRACES APRS Tracker Box installation team will be at Baker High School Saturday to begin installations at noon. The installation area is just north of the main High School building area and in a large dirt area on the east side of the highway. Look for a 25 foot motor home and a white trailer with "W6CSP Mobile Amateur Radio" on the side. Ralph G. Sbragia W6CSP is the Installation Coordinator.

6.0 APRS EQUIPMENT REMOVAL LOCATION



Due to the success last year of the impromptu removal location, the Circus Circus KOA Kampground will be the designated removal location this year. Since the exact location is subject to change when the Removal Team checks in, last leg Follow Van Driver or Team Contact is asked to follow the procedure below:

Upon completion of the race and dropping off of Follow Van passengers, the Follow Van driver or Team Contact is asked to contact Ralph Sbragia @ 714-287-4745.

We will remove the tracker box, antennas and wiring and lock your vehicle while you attend to the finish of the race. Ralph G. Sbragia, W6CSP is the coordinator.



7.0 OCRACES DUTY ASSIGNMENTS

The following tables detail duty assignments for OCRACES personnel who have indicated their availability for this mission.

16 April: Baker Installation & Technical Station				
2100-2300 (04/15): W6CSP arrives in Baker with Equipment Trailer				
0800: K7WWW meets WCSP in Baker				
Teams	Arrive Install	Leave Baker	Check In	Start Time
OCSD-T245	0600	0700	0800	0900
OCSD-T189	0800	0900	1000	1100
OCSD-T181	1100	1200	1300	1400
OCSD-T012	1300	1400	1500	1600
1500 (or upon completion of last van): Baker I&T shut down, relocate to Las Vegas.				

N6PRL will deploy to Las Vegas from Orange Co. 15 April at approximately 1200. KG6UJC, N6NTH, AB6VC and KI6WZS will depart Orange Co. at their leisure to arrive in Pahrump between the afternoon and evening on Friday.

Pahrump Command Post
Friday, 15 April, 2011 - Command Post Team Arrives and occupies room, begins on-site planning for Saturday Operations. Team Captain: Sgt. Chuck Dolan, KG6UJC Team Members: Sgt. Jack Barth, AB6VC; Martin La Rocque, N6NTH; Brian Turner, KI6WZS
0600 - 0900 Saturday, 16 April: Command Post Team conducts set up operations on 144.95 (APRS), 447.680 and 448.525 (voice) and telephone.
0900, Saturday, 16 April - 0700, Sunday, 17 April: Pahrump CP maintains continuous operations providing position reports and monitoring for emergency traffic.
0700 Sunday 17 April: Command Post Team begins tear down, pack up and check out.

Las Vegas Recovery
0500: W6CSP prepares at Circus Circus RV Park for follow van recovery.
0515 - 0900: W6CSP assists in Follow Van clean up and equipment removal
0900 - last equipment recovered: recovery and de-install of APRS and voice radio equipment.
~0900: W6CSP completes duties at Circus Circus



Comm-Coordiators & Communicators Summary Sheet

VOICE COMMUNICATIONS (Ham Radios & Operators)

UHF

Channel 1 = BLUE ZONE -- 447.680 (-) 156.7 PL

Baker Grade to approximately Stage 9.

Channel 2 = ORANGE ZONE -- 448.525 (-) 156.7 PL

Stage 9 to the Finish Line.

VHF

Channel 1 = TEAM SIMPLEX (Yellow)

YELLOW-1 - OCSD(18) Team 012: 145.770 (PL 203.5 Hz) (primary)

YELLOW-2 - OCSD(18) Team 181: 146.115 (PL 233.6 Hz)

YELLOW-3 - OCSD(18) Team 189: 145.215 (PL 233.6 Hz)

YELLOW-3 - OCSD(18) Team 245: 145.215 (PL 233.6 Hz)

YELLOW-5 - OCSD(18) All Teams: 145.785 (PL 233.6 Hz)

Duty	Team 014	Team 181	Team 189	Team 245
Follow Van	1801	1811	1821	1831
Expeditor	1802	1812	1822	1832
Catcher	1803	1813	1823	1833
Shuttle	1804	1814	1824	1834
Coordinator	1805	1815	1825	1835

POSITION REPORTS (Telephone)

OCRACES CP Pahrump (24 hrs during race)
 714-936-9778 (Nextel Direct Connect 124*856*11585)

On Saturday the following number may be used during the day until about 1500 and between 1800 and 2100 or so. On Sunday, from the time when the last team crosses Mountain Springs Pass (approximately 0700 Sunday) until all tracked teams have finished.

*714-287-4745 (Nextel Direct Connect 122*25*11994)*

Internet:

<http://b2v.findu.com>