

FREQUENCY INFORMATION FOR THE SVRCS:

This information shall be used for official purposes only.

The following sections outline relevant information about the Silicon Valley Regional Communications System (SVRCS) Project 25 Land Mobile Radio (LMR) system, for use by Distributed Antenna System (DAS) / Bi-Directional Amplifier (BDA) system designers in order to ensure an optimum DAS/BDA design and avoid negative impact to the P25 LMR system.

Each local jurisdiction may provide additional frequencies or requirements.

Donor RF Site Locations and Site ERP

(Do not use sites in Yellow as donor)

Simulcast Cell	Site Name	Latitude	Longitude	ERP (Watts)
West	Carol Drive (West)*	37° 17' 15.15" N	121° 51' 56.93" W	173
	Doyle Rd	37° 18' 23.96" N	121° 59' 40.53" W	169
	Fire Station 5	37° 24' 26.74" N	122° 1' 26.56" W	162
	Mtn View PD	37° 23' 43.90" N	122° 4' 54.10" W	162
	Palo Alto Civic Center	37° 26' 40.04" N	122° 9' 36.32" W	316
	Valley Medical Center	37°18'49.86" N	121°55'59.87" W	100
	Rodoni	37° 13' 5.50" N	122° 1' 57.50" W	79
	Santa Clara Ecomm	37° 22' 5.80" N	121° 57' 29.70" W	177
	Stickney	37° 13' 14.01" N	121° 59' 38.55" W	245
	Sunnyvale DPS	37° 22' 13.10" N	122° 2' 23.60" W	154
Central	Cadwallader	37° 18' 4.43" N	121° 47' 5.68" W	316
	Carol Drive (Central)*	37° 17' 14.70" N	121° 51' 56.80" W	173
	Coyote Peak	37° 12' 31.80" N	121° 46' 30.80" W	239
	Eagle Rock	37° 23' 46.15" N	121° 48' 56.59" W	223
	Fire Station 29	37° 24' 4.60" N	121° 56' 2.12" W	186
	Frazier	37° 28' 31.83" N	121° 51' 39.22" W	100
	Good Samaritan Hospital	37° 15' 7.64" N	121° 56' 46.60" W	190
	Milpitas PD	37° 26' 56.60" N	121° 54' 37.00" W	269
	San Jose City Hall	37° 20' 16.00" N	121° 53' 7.08" W	169
	Sierra Azul	37° 13' 30.58" N	121° 55' 29.59" W	204
	SJPD Substation	37° 14' 44.30" N	121° 47' 19.86" W	169
South	Gilroy Reservoir D	37° 1' 10.22" N	121° 37' 5.08" W	218
	Gilroy Target Range	36° 59' 23.06" N	121° 31' 55.70" W	208
	Holiday Lakes	37° 9' 5.70" N	121° 36' 35.70" W	218
	Woodland Acres	37° 7' 21.70" N	121° 41' 46.10" W	309

*Carol Dr RF site is common to the West and Central simulcast cells. DAS systems requiring a signal from both simulcast cells can achieve that by pointing their donor antennas towards this site.

Frequencies Used Per Simulcast Cell
(Frequencies in Green are control channel)

Simulcast cell/ standalone site	Transmit	Receive	Simulcast cell/ standalone site	Transmit	Receive
West	774.68125	804.68125	Central	774.48125	804.48125
	774.40625	804.40625		774.20625	804.20625
	773.93125	803.93125		772.08125	802.08125
	773.18125	803.18125		771.78125	801.78125
	772.90625	802.90625		771.48125	801.48125
	772.60625	802.60625		771.18125	801.18125
	772.45625	802.45625		770.83125	800.83125
	772.30625	802.30625		770.55625	800.55625
	772.15625	802.15625		770.28125	800.28125
	771.85625	801.85625		769.61875	799.61875
	771.40625	801.40625		769.36875	799.36875
	770.08125	800.08125		769.08125	799.08125
South	771.93125	801.93125			
	771.70625	801.70625			
	771.55625	801.55625			
	770.75625	800.75625			
	769.75625	799.75625			
	769.50625	799.50625			
	769.31875	799.31875			
769.11875	799.11875				

Guidelines:

- Modulation used by P25 Phase 2 TDMA system is H-DQPSK on downlink and C4FM on uplink.
- Use of Class A channelized or Spectrum Agile DAS is strongly recommended.
- Registration of BDA/DAS with Authority Having Jurisdiction (AHJ) is recommended to enable quick location and troubleshooting when required.
- It is imperative to ensure that the gain of BDA/DAS for uplink is adjusted to the minimum required for operation. The gain of BDA/DAS should be set at least 15db below the isolation required between the uplink and downlink antennas.

- Uplink muting is recommended to reduce the power on a channel when not used to prevent unnecessary noise from being generated.
- Segregation of cellular and public safety signals is required at every component and signal distribution level.
- The uplink signal from the BDA/DAS to a donor RF site should be no stronger than -95 to -105dBm as measured at the receiver of the RF donor site it points towards. Path loss calculations can be conducted to account for preliminary design, but the gain of the BDA/DAS needs to be adjusted to achieve desired receiver signal level as measured by a County Communications Technician.
- The downlink gain of the BDA/DAS has to be optimized such that the indoor distribution antennas do not transmit more power than required to prevent bleeding of RF outside the building. i.e. no stronger than -95dBm as measured at the interior side of building exterior walls and 15dBm below macro site signal strength as measured on the street next the building.

For technical assistance with uplink optimization and prior to your systems going live, please contact Santa Clara County Communications Radio Shop at (408) 977-3222 Monday through Friday, 8am to 5pm, or email at radioshop@911.sccgov.org

Or, you can contact Eric Nickel at the Silicon Valley Regional Interoperability Authority (SVRIA) at (408) 615- 5571; enickel@svria.org