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**Sound and Communication Apprenticeship Program Report
For Greater South Bay and Peninsula Region
(Santa Clara and San Mateo Counties)**

Communications Systems Installation and Repair Technology

CIP 2010: A program that prepares individuals to apply technical knowledge and skills to assemble, install, operate, maintain, and repair one- and two- way communications equipment and systems, including television cable systems and mobile or stationary communication devices. Includes instruction in diagnostic techniques, the use of testing equipment and the principles of mechanics, electricity, and electronics as they relate to the repair of communications systems.

Target Occupations‡

Radio Operators (27-4013)

Communications Equipment Operators, All Other (43-2099)

Radio, Cellular, and Tower Equipment Installers and Repairs (49-2021)

Telecommunications Equipment Installers and Repairers, Except Line Installers (49-2022)

Electronic Home Entertainment Equipment Installers and Repairers (49-2097)

Security and Fire Alarm Systems Installers (49-2098)

Telecommunications Line Installers and Repairers (49-9052)

Camera and Photographic Equipment Repairers (49-9061)

Electrical and Electronic Equipment Assemblers (51-2022)

‡Based on EMSI crosswalk of the Classification of Instructional Programs (CIP) codes with Standard Occupational Classification (SOC) codes as published by the U.S. Department of Education.

In 2012, the number of sound and communication (communications systems installation and repair technology) jobs in the target occupations in Santa Clara and San Mateo Counties totaled 10,664. The Bureau of Labor Statistics (BLS) expects the total number of positions to decrease by 7.4% over the next three years. Regional openings in 2012, which included created jobs and turnover, totaled 427. There were no regional completions for communications systems installation and repair technology programs, but there were 164 regional completions for other related programs. These other programs are linked to multiple occupations and not all those who complete will enter the target occupations indicated in this report.

Target Occupation Performance

10,664* Jobs (2012) National Location Quotient: 1.76 [†]	-7.4%* Growth (2013-2016) National: -1.0%	\$21.43/hr Median Earnings National: \$20.98/hr
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*Based on total number of jobs for target occupations Santa Clara and San Mateo Counties.

[†]Represents occupation density as compared to national average (national average=1).

Regional Openings (2012)**	427
Regional Program Completions (2012)	0
All Regional Completions for Target Occupations ^{††} (2012)	164

**Openings include created jobs and turnover.

^{††}Includes all regional programs applicable to target occupations.

Sound and Communication Occupations Performance

Target Occupations	Regional Openings (2012)	Average Hourly Earnings	Growth (2013-2016)
Communications Equipment Operators, All Other (43-2099)	1	\$12.56*	-1.5%
Electronic Home Entertainment Equipment Installers and Repairers (49-2097)	12	\$16.77	-2.4%
Telecommunications Line Installers and Repairers (49-9052)	26	\$30.03	-24.6%
Radio, Cellular, and Tower Equipment Installers and Repairs (49-2021)	16	\$19.95	9.3%
Security and Fire Alarm Systems Installers (49-2098)	107	\$27.35	0.9%
Radio Operators (27-4013)	0	\$15.68*	-18.6%
Telecommunications Equipment Installers and Repairers, Except Line Installers (49-2022)	55	\$30.21	-20.7%
Camera and Photographic Equipment Repairers (49-9061)	1	\$23.67	8.7%

Target Occupations	Regional Openings (2012)	Average Hourly Earnings	Growth (2013-2016)
Electrical and Electronic Equipment Assemblers (51-2022)	210	\$17.26	-0.6%

*Median Hourly Earnings

Regional Breakdown for Sound and Communication Occupations

County Name	2013 Jobs	2016 Jobs	2013 Annual Openings	Median Hourly Earnings	2013 National Location Quotient
Santa Clara	9,463	8,896	160	\$20.94	2.10
San Mateo	1,417	1,175	22	\$24.53	0.84
Total	10,880	10,070	183	\$21.43	

Other regional program may train individuals eligible for the targeted sound and communication (communications systems installation and repair) occupations, which are based on an occupation-program crosswalk developed by the Department of Education. These additional programs are offered at the Institute for Business and Technology and the College of San Mateo. This other program is linked to multiple occupations and not all those who complete will enter the target occupations indicated in this report.

Related Regional Programs Allowing Entry to Sound and Communication

3 Programs (2012)			164 Completions (2012)		
Program	2008	2009	2010	2011	2012
Electrician (46.0302)	327	191	260	147	164
Industrial Electronics Technology/Technician (47.0105)	6	1	0	0	0









Target Occupations Demographics

The demographics among those employed in sound and communication occupations in Santa Clara and San Mateo Counties for 2013 show that almost three-fifths are men (62.8%) and nearly three-fourths are over the age of 35 (74.3%).

Gender Demographics (Regional)

Gender	Jobs (2013)	% of Total	
Male	6,829	62.8%	
Female	4,051	37.2%	

Age Demographics (Regional)

Age	Jobs (2013)	% of Total	
14-18 Years	52	0.5%	
19-21 Years	197	1.8%	
22-24 Years	385	3.5%	
25-34 Years	2,162	19.9%	
35-44 Years	3,133	28.8%	
45-54 Years	3,049	28.0%	
55-64 Years	1,633	15.0%	
65+ Years	269	2.5%	

Industries Employing Sound and Communication Occupations

A number of industries in Santa Clara and San Mateo Counties employ those trained in sound and communication and its related occupations. The following table represents a regional industry breakdown of the number of sound and communication positions employed, the percentage of sound and communication jobs employed by industry and the percentage sound and communication jobs represent within all jobs by each industry. While semiconductor and related device manufacturing employed 19.3% of all regional sound and communication positions in 2013, sound and communication and its related occupations represent 6.8% of the total jobs in that industry.

Inverse Staffing Patterns (Regional)

Top Five Industries	Occupation Group Jobs in Industry (2013)	% of Occupation Group in Industry (2013)	% of Total Jobs in Industry (2013)
Semiconductor and Related Device Manufacturing (334413)	2,098	19.3%	6.8%
Wired Telecommunications Carriers (517110)	1,330	12.2%	35.3%
Electronic Computer Manufacturing (334111)	1,109	10.2%	2.8%
Electrical Contractors and Other Wiring Installation Contractors (238210)	964	8.9%	12.4%
Cable and Other Subscription Programming (515210)	408	3.7%	31.9%

Data Sources and Calculations

State Data Sources

This report uses state data from the following agencies: California Labor Market Information Department

Institution Data

The institution data in this report is taken directly from the national IPEDS database published by the U.S. Department of Education's National Center for Education Statistics.

Completers Data

The completers data in this report is taken directly from the national IPEDS database published by the U.S. Department of Education's National Center for Education Statistics.

Occupation Data

EMSI occupation employment data are based on final EMSI industry data and final EMSI staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and Non-QCEW Employees classes of worker) and the American Community Survey (Self-Employed and Extended Proprietors). Occupational wage estimates also affected by county-level EMSI earnings by industry.

Staffing Patterns Data

The staffing pattern data in this report are compiled from several sources using a specialized process. For QCEW and Non-QCEW Employees classes of worker, sources include Occupational Employment Statistics, the National Industry-Occupation Employment Matrix, and the American Community Survey. For the Self-Employed and Extended Proprietors classes of worker, the primary source is the American Community Survey, with a small amount of information from Occupational Employment Statistics.

Industry Data

EMSI industry data have various sources depending on the class of worker. (1) For QCEW Employees, EMSI primarily uses the QCEW (Quarterly Census of Employment and Wages), with supplemental estimates from County Business Patterns and Current Employment Statistics. (2) Non-QCEW employees data are based on a number of sources including QCEW, Current Employment Statistics, County Business Patterns, BEA State and Local Personal Income reports, the National Industry-Occupation Employment Matrix (NIOEM), the American Community Survey, and Railroad Retirement Board statistics. (3) Self-Employed and Extended Proprietor classes of worker data are primarily based on the American Community Survey, Nonemployer Statistics, and BEA State and Local Personal Income Reports. Projections for QCEW and Non-QCEW Employees are informed by NIOEM and long-term industry projections published by individual states.