



**Cable Infrastructure- Design,
Installation & Management**

We at Arrowhead Communications Corp. would like an opportunity to bid the voice, data & fiber optic cabling for your upcoming projects. Arrowhead Communications Corp. specializes in the design, installation and management of communications networks; we have provided quality, standards-based infrastructure design and installation for our customers since 1980. The team at Arrowhead Communications would like the opportunity to demonstrate our ability to provide complete solutions for voice, data, and Internet infrastructures, which are “second-to-none” in the industry.

At Arrowhead, our certified and experienced staff are trained to work in all types of environments, including commercial office settings, high-rise buildings, educational campuses, clean rooms, medical facilities and manufacturing fabrication plants. We are proficient and experienced with a wide array of systems, including Fiber Optics, enhanced 5e and 6 data cabling, voice infrastructure, broadband/video systems and coaxial installations.

With our broad base of knowledge and experience, we are able to meet our customer’s varied and rapidly changing needs, with the most current and cost-effective technologies available. We are proud to have customers that include Intel, Motorola, American Express, MTI, Paul Koehler, and Saddleback Communications.

I would like to extend a personal invitation to you and your staff, at your convenience, to visit our state-of-the-art facilities, for a demonstration of our capabilities. In looking forward to that opportunity, I have included some literature describing our services and a partial list of client references. Should you need further information, please don’t hesitate to contact me at 623-847-9384. Thank you in advance for your time and consideration.

Sincerely,

Director of Technology

The logo for Arrowhead Communications, featuring the company name in a bold, sans-serif font and a stylized arrowhead icon to the right.

Communications

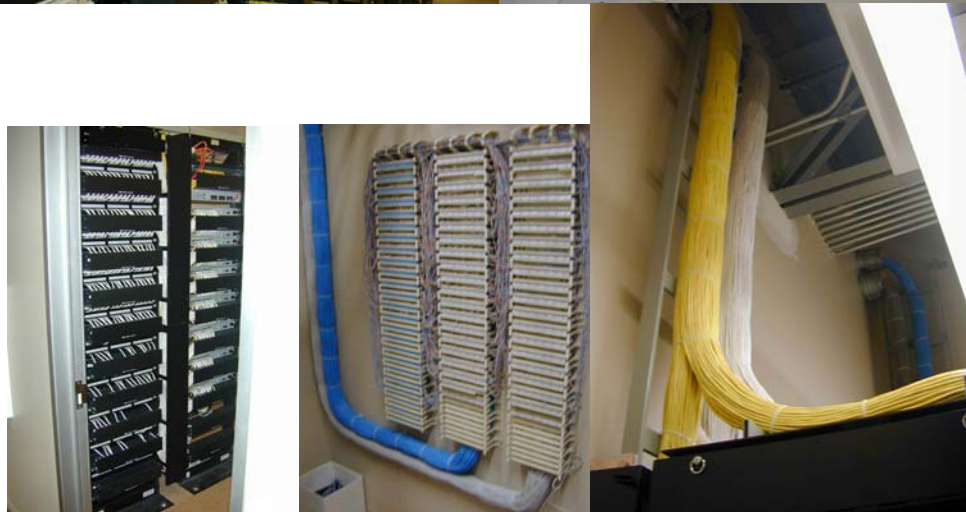
Voice
Data

Fiber Optics

Our Clients Include:

Intel, Motorola, Turner Construction, USPS, Fort McDowell Casino,
American Express, Pizzagalli Construction, Mountain Telecom, Saddleback
Communications, Wireless Retail, Paul Koehler Engineering

How Can We Earn Your Business?







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Corporate Information: Key Personnel

Theodore C. Tyler “Ted”: Board Member

Ted Tyler is a retired executive of Lucent Technologies. For over 30 years, Ted has worked in a number of different industries, including manufacturing, marketing, sales, distribution, installation, information systems, finance and purchasing. He has relocated 14 times to Lucent Technologies’ throughout the United States. During his tenure with Lucent, he aspired to Chief Operating Officer in charge of managing U.S. and International sites and overseeing over 20,000 employees with annual revenue exceeding several billion dollars. After retiring from Lucent, Ted joined Scriptel Corp., in Columbus, OH as Chief Operation Officer.

Ted attended the University of Michigan where he obtained his Bachelor of Arts degree in Economics in 1956. He also obtained his Master of Business Administration (MBA) and Master of Public Administration degrees in 1958. In addition, he attended Columbia University’s Graduate School of Business Operations and Production Management executive education program. Prior to moving to Arizona, Ted was working towards his Ph.D. in Business Administration at Ohio State University.

Ted has lived in Scottsdale, AZ since 1998. He currently heads up the workforce development effort in Scottsdale for the Scottsdale Chamber of Commerce. In addition, he is a commissioner on the Scottsdale Human Relations Commission, on the Board of Directors of the Arizona Senior Industries Cluster.

Robert Pettycrew:

Telecommunications Infrastructure Manager

Robert Pettycrew was regional real estate manager, western region for Advanced Radio Telecom (ART). Mr. Pettycrew brought more than 19 years of general management, real estate and telecommunications experience to ART with his extensive involvement in government affairs, property acquisition and zoning. Mr. Pettycrew began his career in telecommunications as a consultant to the wireless industry in Arizona, working with municipalities and other Government jurisdictions to bring them into compliance with the Federal Communications Act. Robert was then hired by Sprint PCS, and demonstrated the creative ways to implement sensitive design and network build-out opportunities. Robert has been the most successful Real Estate Manager for both Teligent and ART representing the Western Regional markets.

Robert represents the City of Scottsdale on the Information Technology and Communications Policy Committee of the National League of Cities, on the Human Services Coordinating Committee of the Maricopa Association of Governments and on the Papago Salado Association Board of Directors.

Jerry Wallace

Project Manager

10yrs of telecom experience, 10 yrs of security experience. Projects managed include: Bank One Ballpark, all Bank One Call centers in Tempe, AZ, Ak-Chin Casino and Hotel, Charles Schwab, SGS Thompson, Motorola, EFTC, USAA, City of Phoenix, State Farm Corporate Buildings, Qwest SFB Project state-wide, McClane Southwest, Community First Bank, ASU Campus, U of A Fiber Projects, Mayo Hospital, Flagstaff Hospital Women’s Center, AT&T Call Center - Mesa, AZ, Revlon, Scottsdale Community College, Discover Card, US Border Patrol, Department of Public Safety, ADOT, Phoenix Airport Runway Fiber, Phelps Dodge, Asarco Mines Corporate Offices, Express Scripts, American Express, Blue Cross Blue Shield of Arizona Corporate Buildings, Bank of America Disaster Recovery Center – Mesa, AZ, Greentree Financial. Certifications include: Lucent I&M ND3341 Systimax, Panduit PSC103, Mohawk, Modtap, Nordx, Hubbell, Berk-Tek, Ortronics. Preparing for certifications in: RCDD and PMP.



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Chris Larkin

Sales Manager

7yrs of telecom experience. Previously he was an Engineer/Estimator for Encompass Network Services, where he was the Lead Design Engineer for the \$100 million QWEST/SFB project. Directly responsible for the design and implementation of the project and of 3 engineers and CAD personnel. Other projects involved in include: Marriott Desert Ridge Resort, Harrah's Ak-Chin Casino, USAA, Collier Center, Alltel and Call Center. BICSI Certified, along other various BICSI design training classes enroute to RCDD certification. Ortronics design certified

Thurman Peshlakai

Project Engineer

5 years project management

Projects include; IAC, American Express, Molex (Mexico), DMJM, Motorola, Pizzagalli.

Certifications- Hubbell, Panduit, Siecore, Siemen, Modtap, Nordx, and Leviton, fiber optic and copper infrastructures.

Jeremy Beaudette

Project Engineer

4 years project management, 2 years lead technician

Projects include; USWest, IFT, Johnson Carlier, West Ex (West Coast), Tucson Unified School District, Gila River Casino.

Certifications- Hubbell, Panduit, Siecore, Siemen, Modtap, Nordx, and Leviton, Lucent, fiber optic and copper infrastructures.

Thomas C. Rauscher: Sales

Mr. Rauscher was Vice President of a regional cable installation company. His responsibilities included cable plant infrastructure design and project coordination for local and national projects. Mr. Rauscher has over fourteen years of experience in the technology and communications industry and has been actively involved with Division 17, a national initiative, which is working to ensure that Communications Systems are proactively and strategically designed into buildings.

As an active member of BICSI – A Telecommunications Association, he is vice-chair of the Technical Information & Methods committee, Chair of the Construction Industry Work Group, a member of the Governmental Affairs Committee, and represents BICSI as a member of the CABA Intelligent Integrated Buildings Council.

He is also Chair of TIA TR-42.6 subcommittee, which develops and maintains standards for Telecommunications Infrastructure and Equipment Administration.

Memberships:

CSI - The Construction Specifications Institute - Institute and Chapter Technical Committees

BICSI - A Telecommunications Association - Governmental Relations Committee and Vice-Chair of TI&M Committee

ACUTA - The Association for Telecommunications Professionals in Higher Education

TIA - Telecommunications Industry Association - TR 42.3 and Chair of TR 42.6 Subcommittees

Relevant Professional Experience:

University of Rochester, Rochester, NY - Worked with the Telecommunications and Information Systems Divisions providing project management and quality assurance services for the URM Network Infrastructure Project, including 60 Communication Rooms and 3500 dual CAT 5 drops. Responsibilities included bid specification development through to as built drawings.

University of Rochester, Rochester, NY - Worked with the Planning and Project Management Department as the Project Manager for Phase II of the Residential Life Network including the inter-building as well as the intra-building infrastructure.



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PSC, Webster, NY - Worked over the course of a year to design and coordinate the installation of a flexible cabling infrastructure to support plant and office space requirements in a new 130,000 square foot facility. Initial design included 2250 cables. During the installation process, 800 additional cables were added to the system. As the PSC expanded and reorganized over the next year, the cable plant grew to over 4000 cables from 7 wiring closets.

Brockport High School, Brockport, NY - During a five-year period, designed, built, and maintained a campus-wide infrastructure to support Administrative and Educational LANs and the telephone system. Systems and networks include AS400, Token Ring, Ethernet, CAT 5, Type 1 and fiber optic cable.

Albion Central School, Albion, NY - Provided site and system documentation, a needs analysis including cable plant, LAN and PBX requirements, and a detailed design. Produced a technology plan that included inter and intra building copper, site plan fiber, building of new communication equipment rooms and Category 5 wiring.

Mr. Rauscher holds a bachelor's degree in Psychology from the University of Rochester. He also received a Certification of Completion from the Simon School of Business at the University of Rochester.

James J. O'Reilly: Sales

Mr. O'Reilly was with Schindler Elevator Corporation for 10 years, holding various sales, project management and field supervision positions.

Mr. O'Reilly has over 17 years of experience in the construction industry. He is also a regular presenter of the Division 17 and web-based documentation subject matter at telecommunications and construction industry association conferences, CSI chapter programs and traditional design and construction firms.

Mr. O'Reilly holds a bachelor's degree in Business Management-Marketing from the State University of New York at Buffalo.

Memberships:

ACUTA - The Association for Telecommunications Professionals in Higher Education

CSI - The Construction Specifications Institute

BICSI - A Telecommunications Association -

BOMA - The Building Owners and Managers Association

Relevant Higher Education Account Experience:

University of Rochester, SUNY College at Geneseo, SUNY College at Oneonta, Boston College, Yale University, Brown University, Northeastern University, and Nazareth College: - Mr. O'Reilly is responsible for overall account management for higher education clients. Duties associated with these account include customer relationship management, project estimates, proposal preparation and submission, project time and work scope reporting.

ACUTA: Mr. O'Reilly has been selected by ACUTA to present the Division 17 Organizational Model at the ACUTA Spring Seminars in Philadelphia, PA in April 2002.

Mark L. Howland, RCDD

Designer/Project Manager

Previously, as project supervisor for the Bianchi Trison Corp., his responsibilities included project management and supervision for local and national demolition, environmental remediation and construction projects.

Certificates:

Registered Communications Distribution Designer (RCDD)



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Relevant Professional Experience:

University of Rochester, Rochester, N.Y. - Worked with the Telecommunications Division and Information Systems Division, providing project management and quality assurance services for the URMC Network Infrastructure Project, including 60 Communication Rooms and 3500 dual CAT 5 drops. Responsibilities included project drawing development, quality assurance, and as built drawing documentation.

University of Rochester, Rochester, N.Y. - Worked with the Telecommunications Division providing project management and quality assurance services for the Sports Complex Renovation Project.

Nazareth College, Rochester, N.Y. – Worked as Project Manager and design professional for the cable plant infrastructure portion of the Lyons North Residence Hall project.

State University of New York at Geneseo, Geneseo, N.Y. - Worked as Project Manager and design professional for the outside cable plant infrastructure portion of the recently completed residence hall project.

Boston College, Chestnut Hill, MA – Worked in a consulting role in writing a cable plant master specification, in 3 part format, and design guideline document for the Telecommunications department’s use in communicating its project requirements to the facilities planning department and outside design and construction firms.

Yale University, New Haven, CT - Worked in a consulting role in writing a cable plant master specification, in 3 part format, and design guideline document for the Telecommunications department’s use in communicating its project requirements to the facilities planning department and outside design and construction firms.

University of Rochester, Rochester, N.Y. - Worked with University Telecommunications Division as a Project Manager for the electronic documentation of the horizontal and backbone telecommunication cabling infrastructure.

NEC, Rochester, N.Y. - Worked on University of Rochester Switch Infrastructure Replacement Project providing project management, as-built drawing and documentation services for the Switch Infrastructure Replacement Project.

University of Rochester, Rochester, N.Y. - Worked with the Telecommunications Division providing drafting and consulting services for multiple renovation projects on the Medical Center Campus.

Mr. Howland holds a bachelor’s degree in Economics from Fredonia State University. He also completed the Education Certification Program at LeMoyne College in Syracuse N.Y.

Dennis T. Punch, RCDD

Cable Infrastructure Design Engineer/Project Manager

Certificates:

Registered Communications Distribution Designer (RCDD)

Relevant Professional Experience:

Infrastructure Design Concepts

4383 Luna Course

Liverpool, NY 13090

Owner and Cable Infrastructure Design Engineer/Project Manager

Responsibilities included design, costing and project management of copper, fiber, and broadband video networks.

NEC Business Network Solutions, Inc.

5823 Widewaters Parkway

East Syracuse, NY 13057



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Responsibilities included design, costing and project management of copper, fiber, and broadband video networks on a national basis. Also responsible for the development of subcontractor RFPs. Primary customers were in the vertical markets of higher education, health care and hotel/motel. Typical work scope, 2000-20,000 lines/workstations largely based upon customer provided Request for Proposals and/or a design build methodology. I am very familiar with I.S.P. and O.S.P. telecommunications wiring standards and with various construction installation methodologies.

Large projects that I have designed and/or managed include Columbia Presbyterian University (New York, New York), University of Rochester (Rochester, New York), SUNY Oswego (Oswego, N.Y.) Mary Baldwin College (Staunton VA.) The majority of these projects were installed based upon Mr. Punch's voice, data and video networking design recommendations.

Ambassador Communications, Inc.
7384 Boughton Hill Road
Victor, N.Y.

Operations Manager/Cable Plant Engineer

Solely responsible for the survey, design and pricing of voice and data networks ranging in size from ten (10) users to five thousand (5,000) users. Designed voice systems to support NT Meridian, SL-1, Norstar, AT&T Merlin, Legend, Partner, IBM ROLM 6000, 9000, 9751, 9006I, Redwood and various other small electronic key systems. I am well versed on the pros and cons of all systems from a cable plant design perspective.

Mr. Punch attended Mohawk Valley Community College in Utica, NY.

Thomas W. Oles, RCDD

Manager Cable Infrastructure Design

Certificates:

Registered Communications Distribution Designer (RCDD)

Relevant Professional Experience:

Infrastructure Design Concepts

4383 Luna Course

Liverpool, NY 13090

Owner and Cable Infrastructure Design Engineer/Project Manager

Responsibilities include design, costing and project management of copper, fiber, and broadband video networks.

NEC Business Network Solutions, Inc.

5823 Widewaters Parkway

East Syracuse, NY 13057

Manager Cable Infrastructure Design

Developed cable plant designs and evaluated subcontractor pricing for projects. Developed detailed installation specifications, site surveys, etc. Provided design, implementation and project management support to large scale projects. Sample higher education market customer included Syracuse University, University of Rochester, Elmira College, Miami University, Paul Smith's College and the Fashion Institute of Technology.

Costcom, Inc

Syracuse, N.Y.

Design Specialist/Project Manager

Responsibilities included project management, Cable Plant surveys for large projects, design & cost estimates for new and reused cable plants. Developed engineering package/subcontractor bid package for major telecommunications interconnect companies. Higher education customers included Fordham University and St. Lawrence University.

Mr. Oles is a graduate of the State University of New York College at Brockport



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Current Customer References and Project Locations

Turner Construction- Intel FAB Queen Creek, Arizona
Troy Hansgen- Project Manager
Office (480) 723-0567 (Intel)

Dodge Theater-
Avaya Voice, Data & Fiber Optic infrastructure- Fast Track Project
Vicki Berryman-Director of Telecommunications- America West Arena & Bank One Ballpark
Phone- 602-379-2099

Bank One Ballpark-
Fiber Optic cabling addition
Vicki Berryman-Director of Telecommunications- America West Arena & Bank One Ballpark
Phone- 602-379-2099

Paul Koehler Engineering Building Project
Paul-Koehler Engineering
Cliff Paul, Principal
7434 E. McDonald Drive
Scottsdale, AZ 85250
(480) 922-8854 Office

Motorola MOS 12 wafer fab plant- 1.1 billion dollar FAB plant Chandler, Arizona
Barry Roark- Senior Program Manager Earth Tech (A TYCO company)
Advanced Technical Services
(208) 855-2041 Office
(208) 761-0110 Mobile

Chaparral Business Park Call Center
Paul Jensen
Director of Operations
Wireless Retail
8800 E. Chaparral
Suite 300
Scottsdale, AZ 85250
(480) 346-4406 Office

2 Mile fiber optic project for casino
Orlando Moreno
MIS Manager
Fort McDowell Yavapai Nation
Fountain Hills, AZ 85269
(480) 836-8513 Ext 18 Office



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American Express

Horizontal and Vertical cable infrastructure for new office

Michael H. Folb, C.P.A.
Chief Operating Officer
American Express
2777 East Camelback Rd.
Phoenix, Arizona
(602)760-2786 Office

United States Postal Service

Additions for local satellite offices and upcoming IDF and MDF demo and rebuild

Robert D. Garman
Telecommunications Systems Specialist
Phoenix, AZ 85026-9501
(602) 225-3084 Office