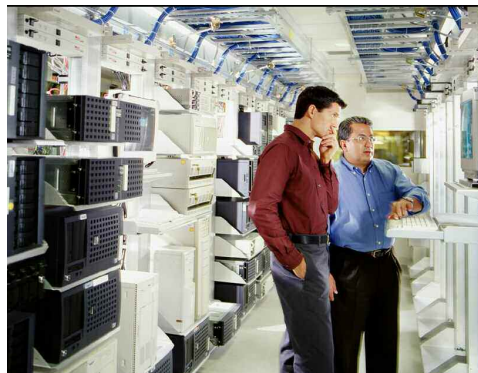


Engineering and Installation Services

Accuracy and Efficiency Without Hidden Costs

KEY FEATURES

- Certified Hardware and Software Installation Personnel
- All-Inclusive Statement Of Work
- No Hidden Costs
- Site Surveys and Cutover Support
- Project Management
- Global Reach
- Quality System Certified to TL 9000, Telcordia GR-2981-CORE and ISO 9001:2000



OVERVIEW

When ordering an installation, costs can be misleading. There are often local vendors who pledge full equipment installation for a seemingly low price. But do they understand synchronization? Are they trained to determine the optimal location for installing a GPS antenna? Are they certified in proper methods of installation for the equipment? If your sync equipment is installed incorrectly, you may have to pay for corrective work. Even worse, improper installation could affect your network service. Saving money initially won't justify the customer complaints and lost revenue you could encounter if the installation's done wrong. And the money you may have to spend getting the job done right could wipe out any cost savings you thought you had achieved with a local installer.

Contracting installation professionals who understand the specialized world of synchronization is always a safe practice. Our certified experts are your best guarantee for a successful and expected outcome.

In 2001, the Network Reliability Steering Committee (NRSC) formed a special task group to investigate network timing outages, determine their root causes and recommend preventive best practices. Their final report was published in 2002. Their recommendations to network operators and service providers include controlling engineering and installation practices. Doing so helps avoid timing outages.

HARDWARE INSTALLATION

Our standard installation package includes the planning, parts and labor necessary to ensure smooth network integration of Symmetricom equipment. Documentation, drawings and updating of office records can also be included. Before any work begins, we provide you with an all-inclusive statement of work. This statement of work is comprehensive and covers all project contingencies. It ensures there are no hidden costs or expensive surprises midway through a project. As long as the original specifications are unchanged, the price we quote the first time includes everything and will not increase. We cover all the details from floor to roof with trained, certified



personnel. The appropriate level of project management is always included at no additional charge.

Project management includes coordinating equipment delivery and on-site work between our personnel and yours. We can manage all phases of the project for you, including a site survey, installation, optioning and commissioning, and final test and acceptance. Regular status reports can be provided for multiple site projects.

Installation covers materials and labor. Intra-rack power wiring, alarm cabling (50 feet/15 meters maximum) and timing output cabling (500 feet/150 meters maximum) are included. For rooftop antenna installations, antenna masts, antenna cabling and full conduit installation can also be ordered.

Test and Acceptance means we make sure the equipment has been properly installed. We install circuit packs and apply power. We can also make final configuration and optioning changes to meet the standards you've defined for your sync network. Finally, we verify the equipment's operation in accordance with our certified Test and Acceptance procedures.

Quality Assurance controls are an integral part of our process. Our methods include following a pre-installation checklist, giving you our written Completion Report at the project's end, periodically auditing our on-site installation teams, and if required, taking digital installation photographs for the site record. We also call most of our installation customers a few months after completion to do a quick satisfaction survey. Ordering our hardware installation service means your Symmetricom equipment will be installed by our experts. We always strive to complete projects to your satisfaction, in the fastest, most efficient and skilled manner possible.

HARDWARE TEST AND ACCEPTANCE SERVICE

If you decide to perform the majority of an installation with your own personnel or a third party contractor, our certified engineers can perform the test and acceptance procedures for you to verify installation quality, operation in accordance with Symmetricom's product specifications and proper optioning and commissioning of the systems to your company's standards.

SITE SURVEY

Completing a Site Survey helps ensure a successful installation. We use it to determine the most cost-effective and time-efficient method for the project's completion.

When you order our Site Survey, we verify the site's accessibility for installation. We also confirm the site's overall readiness, ensuring the electrical power and rack location(s) are suitable. If anything will inhibit installation, we identify it and determine the scheduled date when the site will be ready.

If antennas are included, proposed locations will be evaluated for optimal functionality. We perform a feasibility check on satellite receivers and recommend the ideal location for installing GPS antennas. We confirm existing plans or, if needed, suggest an alternate and more effective antenna solution.

Next, we measure cable lengths and recommend a grounding plan. We make any necessary edits to the equipment configuration, conduit or interduct cable routing. We identify any special installation skills or lifting equipment required. Then we prepare sketches and drawings of the installation area, including photographs if necessary. Any special requirements you supply regarding how to option and configure your equipment will also be documented.

SOFTWARE INSTALLATION

We offer full installation, set up and configuration of Symmetricom Network Management System (NMS) software products. The software can either be installed on your server at our factory or on-site at a location you designate. We can also create individual elements in the NMS database so the system is fully configured to your network upon completion.

ALL-INCLUSIVE STATEMENT OF WORK

Our methods reflect our attitude – we respect our customers and believe in full disclosure. Before we deliver any service, we clarify your requirements and gather information. We build a

statement of work for your specific project, which includes all the details. Your final quote is built around this comprehensive, all-inclusive statement of work. This gives you all the information up front so you can avoid any expensive surprises midway through a project. Our commitment to you is that the job gets done right, and it begins and ends the way we said it will.

QUALITY GUARANTEED

Our Quality system is certified to TL 9000, Telcordia GR-2981-CORE and ISO 9001:2000. We also maintain ISO Auditors on staff and regularly solicit your comments regarding our support services to continually improve your experience. Your satisfaction is our goal.

SYMMETRICOM GLOBAL SERVICES

Symmetricom Global Services (SGS) is the dedicated services division of Symmetricom, Inc. We offer services designed to help you lower costs, streamline processes, ensure quality and save time. We are 100% focused on service, delivering the support you need to increase customer satisfaction and grow your business.

CONTACT US

Please visit us online at <http://www.symmetricom.com>. Your Symmetricom sales representative has more information on all our products and services. You can also contact any of our regional offices.

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