

HOWARDTM



Response To
Alabama Community College System
Request for Bid
RFP #ACC-2024-01
Technology Equipment & Peripherals

Due:
February 9, 2024 @ 5PM CST

Presented by

HOWARD
TECHNOLOGY SOLUTIONS

Our Vision and Strategy

We do IT



**RESOLUTION OF THE BOARD OF DIRECTORS
OF HOWARD INDUSTRIES, INC.**

“BE IT RESOLVED that on behalf of Howard Industries, Inc., Michael Howard, Cyndi McCoy, David Perkins, Kyle McCoy, Darlene Parker or Brandey Boyd be and they are each hereby authorized to execute contracts on behalf of Howard Industries, Inc. with its customers to provide and deliver products as specified in said contract and to execute, submit and deliver bids, bid bonds and documents pertaining to quotations and orders.

BE IT FURTHER RESOLVED that Michael Howard, Cyndi McCoy, David Perkins, Kyle McCoy, Darlene Parker or Brandey Boyd be and they are each hereby authorized to deliver a copy of this resolution with said contracts, bids, bid bonds and documents pertaining to quotations and orders to provide proof of their authorization.”

.....

I hereby certify that I am the duly elected and qualified Secretary of Howard Industries, Inc., a Mississippi corporation, and that the foregoing is a true and correct copy of a certain resolution duly adopted at a meeting of the Board of Directors of this corporation held in accordance with the bylaws of the corporation on the 18th day of January 2022.

IN WITNESS WHEREOF, I affix my name as Secretary of the corporation mentioned above on this the 10th day of January, 2024.


Steven L. Howard, Secretary

Letter of Transmittal

February 2, 2024

RE: RFP #ACCS-2024-01: Technology Equipment and Peripherals, Software, Networking, Equipment, Maintenance, and Professional Support Services

Dear: ACCS JPA:

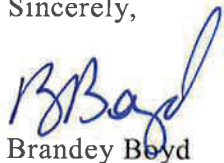
Howard Technology Solutions (a division of Howard Industries, Inc., Federal ID Number 640466143 and SPIN 143022153) (Corporation) is pleased to offer a response to your RFP. Howard Technology Solutions has read and understands the bid and are able to provide the services requested. Howard Technology Solutions, with its 40+ years of manufacturing experience, is well versed in the manufacturing and production of technology products and services.

Howard Technology Solutions, a division of Howard Industries, Inc., was established in 1998 with our parent company being founded in 1968. Howard Technology Solutions currently employs approximately 4,531 employees. Howard Technology Solutions is driven by helping our customers understand technology products and services that could benefit their organizations.

While Howard clients from state governments and hospitals to the Kennedy Space Center, HOWARDedu focuses solely on the needs of K12 schools and higher education facilities, supplying them with affordable, advanced technology – everything from distance learning and interactive 21st Century classroom products to network security and storage solutions.

The office location that will serve as the main point of contact is Howard Technology Solutions at 36 Howard Dr., Ellisville, MS 39437. (Phone) 601.425.3181; (Email) bids@howardcomputers.com. Your point of contact for this RFP is: Brandey Boyd: Bids & Contract Manager, (Phone) 601.399.5831 (Fax) 601.399.5077 (Email) bboyd@howard.com.

Sincerely,



Brandey Boyd
Bids and Contracts Manager
Phone: 601.399.5831
Fax: 601.399.5077
Email: bboyd@howard.com

ORIGINAL

Evaluation Submission Form

The purpose of this form is to provide a single summary document per submitting vendor, that references required materials. This document is intended to assist the Evaluation Committee easily find specific items of information during the evaluation process and to assist participating agency personnel in locating specific vendor information after the award of the bid.

Vendor Contact Information

This will be published for participating agencies to streamline the vendor contact process. Please complete this information as accurately as possible. If the information below changes, please send a revised version of this page to jpa-notifications@accs.edu

Vendor Name: Howard Technology Solutions Date: 2/1/2024

Website Address: <http://www.howardcomputers.com>

	Name(s)	Phone Number(s)	E-Mail Address(s)
Primary Contract Executive(s)	Brandey Boyd – Contracts Manager	601.399.5831	bboyd@howard.com
Senior Account/Sales Manager(s) (by region if necessary)	Chis Lyman – Sales Manager	601.399.5812	clyman@howard.com
	Jennifer Dreager – Operations Manager	601.399.5638	jdreager@howard.com
Account/Sales Manager(s) (by region if necessary)	Bennett Witcher – Outside Sales Manager	601.577.1069	bwitcher@howard.com
	Kelly Turner – Inside Sales Representative	601.399.5047	kturner@howard.com
Technical Support	Darrell McCullum – Technical Support Manager	601.399.5087 1.888.323.3151	dmccullum@howard.com

BID INFORMATION INDEX

Please complete the following form to assist the Evaluation Committee in finding specific information related to your bid response.

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Problem Resolution	ACCS-2024-01 Howard Response Doc	11-12
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Reporting	ACCS-2024-01 Howard Response Doc	17-18, 59
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P.O. Box 1590 • Laurel, MS 39441

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TECHNOLOGY SOLUTIONS

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A Division of Howard Industries, Inc.

Response to General Requirements And Specifications

GENERAL REQUIREMENTS AND SPECIFICATIONS

3.1 Acceptance of Conditions Governing the Procurement

Vendor must indicate their acceptance of the Conditions Governing the Procurement section in the letter of transmittal. Submission of a bid constitutes acceptance of the Evaluation Factors contained in this RFB. Vendor must also include ISO 9001 certification as required by the State Code governing Joint Purchase Agreements. According to Alabama law, any companies, or contractors whose affiliates, subdivisions, subsidiaries, or departments have ISO 9001 certification can bid on the information technology to be jointly purchased by educational institutions. ISO 9001 certification is only required for vendors who are providing hardware.

Howard Technology Solutions acknowledges and complies. Please see our ISO certificates behind table labeled "ISO Certifications".

3.2 Incurring Cost

Any cost incurred by the vendor in preparation, transmittal, and presentation of any material submitted in response to this RFB shall be borne solely by the vendor.

Howard Technology Solutions acknowledges and complies.

3.3 Vendor Responsibility

The selected vendor(s) shall be solely responsible for fulfillment of the responsibilities under the terms and conditions of the contract. The procuring entities will issue purchase orders and make payments to only the named vendor(s).

Howard Technology Solutions acknowledges and complies.

3.4 Serving Sub-Contractors

The System recognizes the fact that the potential vendors have different business models for the delivery of support services. Whereas one potential vendor may provide support services through a wholly owned subsidiary, another may provide support services through a local business partner, certified education partner or qualified organization herein referred to as a servicing subcontractor. Therefore, vendors may propose the use of servicing subcontractors for the performance of local marketing, maintenance, or technical support services in accordance with the terms and conditions of the contract. Servicing subcontractors may not directly accept purchase orders or payments for products or services from procuring entities under the terms and conditions of the contract.

Howard Technology Solutions acknowledges and complies.

3.5 Amended Bids

A vendor may submit an amended bid before the deadline for receipt of bids. Such amended bids must be complete replacements for a previously submitted bid and must be clearly identified as such in the transmittal letter. The Evaluation Committee will not merge, collate, or assemble bid materials.

Howard Technology Solutions acknowledges and complies.

3.6 Vendors' Rights to Withdraw Bid

Vendors will be allowed to withdraw their bids at any time prior to the deadline for receipt of bids. The vendor must submit a written withdrawal request signed by the vendor's duly authorized representative addressed to the representative listed above.

The right is reserved to waive informalities, select alternatives, and reject any or all responses, in the event such appears to be in the best interest of the System.

Howard Technology Solutions acknowledges and complies.

3.7 Bid Offer Firm

Responses to this RFB, including prices, will be considered firm for ninety (90) days after the due date for receipt of bids.

Howard Technology Solutions acknowledges and complies.

3.8 Disclosure of Bid Contents

The bids will be kept confidential until the contracts are awarded. At that time, all bids and documents pertaining to the bids will be open to the public.

All responses become a matter of public record at award. The System accepts no responsibility for maintaining confidentiality of any information submitted with any response whether labeled confidential or not.

Howard Technology Solutions acknowledges and complies.

3.9 No Obligation

This RFB in no manner obligates Alabama Community College System or any authorized entity to the lease or purchase of any products or services offered until a contract is awarded and vendor receives a valid purchase order from an authorized procuring entity.

The System has the right to cancel any contract, for cause, including, but not limited to, the following: (1) failure to deliver within the terms of contract; (2) failure of the product or service to meet specifications, conform to sample quality, or to be delivered in good condition; (3) misrepresentation by the vendor, (4) fraud, collusion, conspiracy, or other unlawful means of obtaining any contract with the state; (5) conflict of contract provisions with constitutional or statutory provisions of state or federal law; and (6) any other breach of contract.

Termination - the System reserves the right, for its convenience and without cause or penalty, to terminate any agreement with 30 days' written notice.

Howard Technology Solutions acknowledges and complies.

3.10 Legal Review

The System requires that all vendors agree to be bound by the General Requirements contained in this RFB. Any vendor concerns must be promptly brought to the attention of Alabama Community College System.

Howard Technology Solutions acknowledges and complies.

3.11 Governing Law

The vendor shall observe, perform, and comply with or require compliance with all federal, state, and local laws, ordinances, rules and regulations and all amendments thereto which in any manner may affect the operation of vendor's activities undertaken pursuant to this Agreement. The vendor shall also comply with all state and local building, fire, health, zoning laws, codes and/or regulations that affect or that are applicable to vendor's activities and operations hereunder. This RFB and the final agreement shall be governed and construed in accordance with the laws of the State of Alabama without giving effect to any choice-or-conflict-of-laws, provision, or rules (whether of the State of Alabama or any other jurisdiction) that would cause the application of the laws of any jurisdiction other than those of the State of Alabama.

Howard Technology Solutions acknowledges and complies.

3.12 Basis for Bid

Only information supplied by the System in writing or in this RFB should be used as the basis for the preparation of vendor responses.

Howard Technology Solutions acknowledges and complies.

3.13 Agreement Terms and Conditions

The agreement between the System and the vendor will follow the format specified and contain the terms and conditions outlined in this request. However, Alabama Community College System reserves the right to negotiate with a successful vendor provision in addition to those contained in this RFB. This RFB, as revised and/or supplemented, and the successful vendor's response will be incorporated into and become part of the agreement.

Vendors are encouraged to submit specific alternate language to the terms and conditions, that vendor believes would enhance the efficient administration of the agreement or result in lower product prices or both. The System may or may not accept the alternative language. General references to the vendor's terms and conditions or attempts at complete substitutions are not acceptable and will result in disqualification of the vendor's response.

Howard Technology Solutions acknowledges and complies.

3.14 Vendor Qualifications

The Evaluation Committee may make such investigations as necessary to determine the ability of the vendor to adhere to the requirements specified within the RFB. The Evaluation Committee will reject the bid of any vendor who is not a responsible bidder or fails to submit a responsive offer as defined.

Howard Technology Solutions acknowledges and complies.

3.15 Change in Vendor Representatives

The System reserves the right to require a change in vendor representatives if the assigned representatives are not meeting its needs adequately.

Howard Technology Solutions acknowledges and complies.

3.16 Equipment and Services Schedules

The vendor may offer only those products and services that are included on the Equipment and Services Schedule (ESS). Vendors shall keep the schedule current and correct on an Internet website maintained by the vendor and shall reflect changes in technology in accordance with the terms and conditions of the contract.

Howard Technology Solutions acknowledges and complies.

3.17 Benefit of Cost Reduction

The System is to be given the benefit of any reduction in price below the quoted price during the term of this contract. Examples include, but are not limited to, manufacturer price reductions and special promotional offerings.

Howard Technology Solutions acknowledges and complies.

3.18 Bid Terms

By submitting a response, the vendor agrees that this contract is to be governed by the terms and conditions set forth in the bid. Any exceptions to the specifications must be clearly identified in the last section of the vendor's response.

Howard Technology Solutions acknowledges and complies.

3.19 Fiscal Funding

The continuation of the contract is contingent upon the appropriation of funds to fulfill the requirements of the contract by the legislature. If the legislature fails to appropriate sufficient monies to provide the continuation of a contract, the contract shall terminate on the date of the beginning of the first fiscal year for which funds are not appropriated.

Howard Technology Solutions acknowledges and complies.

3.20 Insurance

The vendor shall bear the full and complete responsibility for all risk of damage or loss of equipment, products, or money resulting from any cause whatsoever and shall not penalize the System for any losses incurred in association with this agreement. Any insurance policy or policies shall cover the entire travel service operation at the System including all areas that may in the future be placed under the control or use of the vendor. The vendor shall maintain, during the life of this contract, the following minimum insurance:

KIND OF INSURANCE	MINIMUM LIMITS OF LIABILITY
Worker's Compensation	Statutory – Alabama
Employer's Liability	\$2,000,000 (each employee, each accident and policy limit)
Commercial General Liability:	
Each Occurrence	\$2,000,000
Personal and Advertising Injury	\$2,000,000
Products/Completed Operations	\$2,000,000
General Aggregate	\$3,000,000
Automobile Liability	\$2,000,000 each accident – combined single limit

These policies shall contain a thirty- (30) day written notice to the System before cancellation, reduction, or other modification of any kind to the required coverage.

The vendor, at its cost, must provide acceptable evidence of compliance with the worker's compensation insurance requirements of the State of Alabama. In the event the vendor fails to maintain and keep in force, all Insurance and Worker's Compensation coverage listed above, the System shall have the right to terminate this contract. The System and vendor shall each be listed as the named insured in said policy (ies) so that each is independently protected to the face amount of the policy.

Upon notification of award and prior to issuance of contract, the vendor shall provide the System with certification of insurance with the required kinds of insurance and minimum liabilities specified, issued by an insurance company licensed to do business in the State of Alabama and carrying an AM Best rating of A- or better, signed by an authorized agent. In the event of cancellation, material change or intent not to renew any of the insurance requirements specified, thirty (30) days written notice shall be given to the System by the party initiating any revision.

Howard Technology Solutions acknowledges and complies.

3.21 New Products

Unless specifically called for in this request, all products for purchase must be new, never previously used, and the current model and/or packaging. No remanufactured, demonstrator, used, or irregular product will be considered for purchase unless otherwise specified in the request. The manufacturer's standard warranty will apply unless otherwise specified in the request. All equipment should be supplied complete, ready to be installed, including all cabling and connectors where applicable.

Howard Technology Solutions acknowledges and complies.

SPECIFICATIONS

This section contains specifications and relevant information vendors should use for the preparation of their responses.

Vendors should respond as described to each specification. The responses along with the required supporting material will be evaluated and awarded points accordingly.

3.22 Product and Services Delivery Overview

Vendors must describe their ability to provide professional services, technology equipment including related products and support services to the System and the various authorized entities. The response to this requirement should, at a minimum, include a map with an indication of the locations where products may be delivered plus the number and type of support personnel or other resources that may be employed to service procuring entity purchase orders (a very basic example map for a fictitious company is provided in Appendix B). The narrative in response to this specification should include, at a minimum, a general overview of the proposed services and an overview of how the services are to be provided in the locations indicated.

Howard Technology Solutions is pleased to present the attached proposal to the Alabama Community College System (ACCS). We have worked well with and look forward to an even greater relationship with ACCS and all of its member agencies and institutions. Howard manufactures its own line of desktops, notebooks, and servers and have partnered with numerous other industry-leaders such as Fujitsu, FrontRow, Extron, Crestron, Polycom, Exagrid, Toshiba, Mimio, Extreme, Xirrus, and many more in order to provide our customers with complete technology solutions according to their needs. Howard also offers a complete line of professional services to our customers, including, but not limited to, training and installation.

Howard Technology Solutions utilizes UPS or LTL carriers for shipping purposes. Howard Technology Solutions' parent company, Howard Industries, Inc., has a wholly owned subsidiary, Howard Transportation, which is a trucking/brokerage firm that assists with LTL deliveries on large orders. Using these avenues, Howard can deliver our products to any address in the State of Alabama. Please see that the map below is completely red-filled, indicating our ability to deliver to any locale in Alabama. Please also see tab labeled "Sales, Service, and Distribution Map".



Howard Technology Solutions is located in Ellisville, Mississippi and houses all executive staff, the engineering and design staff, network services staff, customer and telephone support staff, and production facilities. Our proximity to the State of Alabama means these personnel are available to assist ACS member personnel with any issues that may arise.

Vendors must thoroughly describe their procedures for resolving customer problems and complaints including timelines and escalation measures.

ACCS members have two main avenues to choose from when a complaint or issue needs to be resolved. Issues can be divided into two categories: technical and non-technical. Nontechnical issues may be addressed by calling your dedicated Howard ACCS Representative at our toll-free number 888.912.3151. Your account representative can assist any member of ACCS with issues such as invoicing, billing, order status, delivery changes and/or instructions, or any other issue non-technical related. Your ACCS account representative can handle all problems of this nature on their own. If a problem occurs they cannot immediately resolve to the customer's satisfaction, the problem will then be taken to Josh Jefcoat, Vice President of Educational Sales. If he cannot resolve the issue, it will be taken directly to our Executive Vice President, President, or CEO for resolution. Most issues of this nature can be resolved in a matter of minutes or, in extreme cases, 24 hours.

If technical issues should arise, ACCS has direct access to our Customer/Technical Support Department. This department may be reached via our toll-free number 888.323.3151 or website www.howardcomputers.com. Please find our problem resolution and escalation procedures for our Customer/Technical Support Department below:

Howard Technology Solutions has established clear guidelines within the Customer Service Department regarding problem escalation. A description of the problem escalation rules and three tiers of Howard Technology Solutions' technical support organizations are provided below:

Problem Escalation

1. Customer Service Technician is unable to resolve customer's issue/problem on third attempt. (An attempt is defined as phone conversation, email instructions, and/or service technician on-site.)
2. Customer expresses dissatisfaction with service being provided by the Howard Technology Solutions' Customer Service Technician.
3. Customer becomes agitated and/or angry with the Customer Service Technician.
4. Customer Service Technician requires additional assistance in resolving customer's issue/problem.

Tiers/Level of Support

Tier One Customer Service Technicians have a minimum of one-year customer service experience and are familiar with all operating system environments and standard office application products. They are familiar with basic to mid-level diagnostic procedures and troubleshooting techniques for hardware and software.

Tier Two Customer Service Technicians have a minimum of two years of customer service experience and are familiar with all operating system environments and advanced office application products. They are familiar with advanced diagnostic procedures and troubleshooting techniques for hardware and software.

Tier Three Customer Service Technicians are staffed by Howard Technology Solutions' Engineering Department. These engineers and technicians provide the Customer Service Department with a high degree of expertise, experience, and educational background. The Engineering Department gives ready access to Microsoft Certified Systems Engineers (MCSE), Certified Novell Engineers (CNE), COMPTIA A+ Technicians, and electrical and computer engineers.

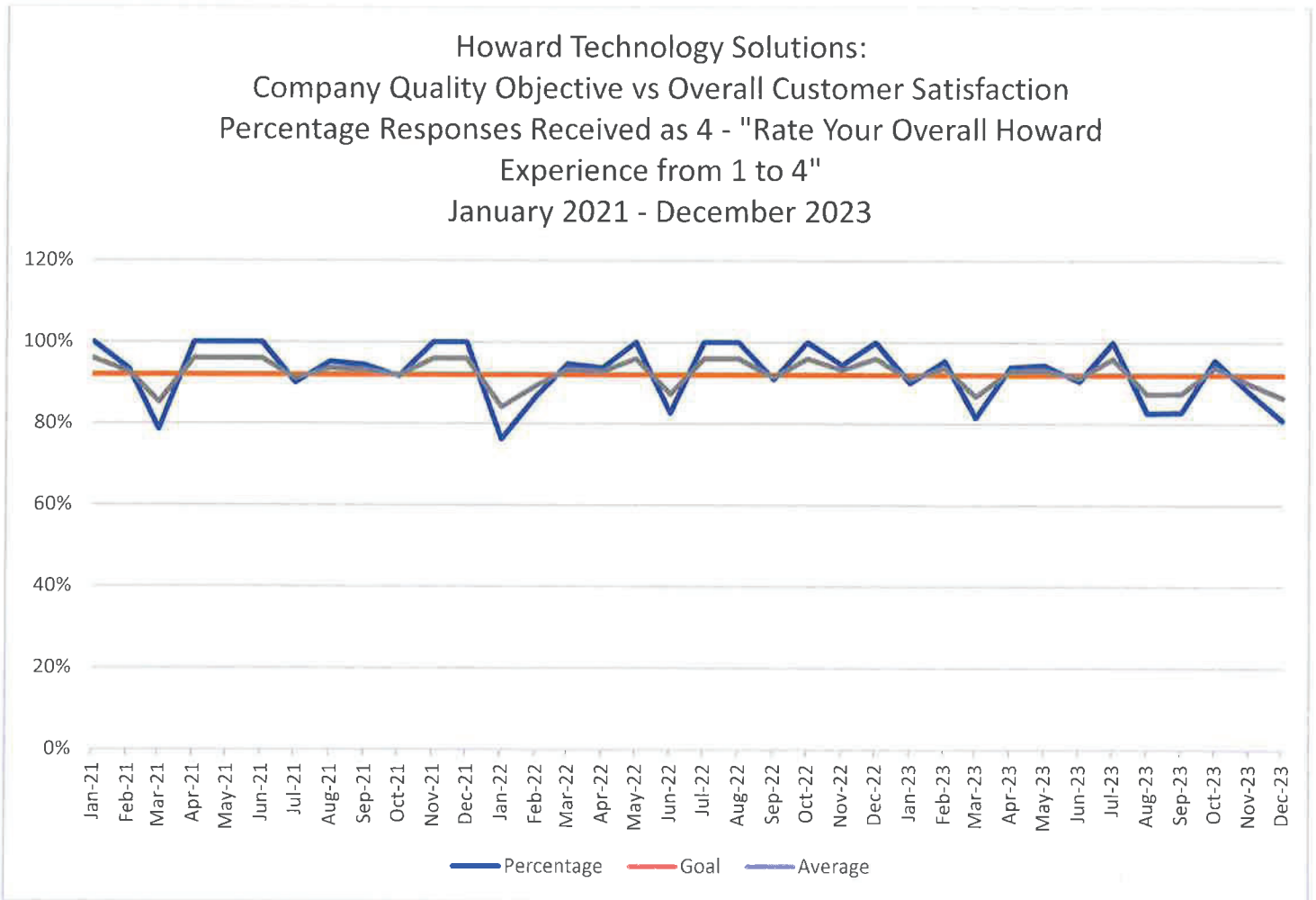
Howard Technology Solutions has an outstanding initial call response time. On average, Howard Technology Solutions Customer Service Technicians answer an incoming call within forty-five (45) seconds. A "live" technician answers 89% of calls to the Howard Technology Solutions Customer Service toll free line. This is far better than the industry average, as evidenced by the chart below:

Company	Howard	Dell	HP	IBM
Average time on hold (min:sec)	1:00	9:54	10:18	11:18

The not-to-exceed time established by Howard is one (1) minute. Through Howard Technology Solutions' toll-free phone support, 7x24x365, our customers have the ability to make one phone call to initiate the warranty service process. Upon receipt of an initial customer call, a Tier One Customer Service Technician will first attempt to diagnose the issue and obtain a resolution within the initial phone call. Problem resolution for customer phone calls is typically between five (5) minutes and one (1) hour depending on the type of problem and level of customer's computer knowledge. If an on-site service call is required, which is typically next business day, the service representative will consult with the Customer Support Manager to determine the most efficient means of supporting that customer. All serviceable parts (new or used) are shipped via UPS next business day delivery service. Within one hour of confirming on-site is needed, a support representative will be contacted to provide the next business day on-site support. In all areas and instances where it is in the customer's best interest, Howard will utilize one of our partners, located within the customer's geographical area, to expedite the next business day on-site service. Under special circumstances, if the problem is large-scale and requires the attention of a direct Howard employee, a direct Howard employee will be contacted and dispatched, regardless of the geographical area, instead of utilizing one of our partners or contract support representatives.

Vendors must submit customer satisfaction statistics or survey results concerning the quality of the products and/or services offered.

Our Customer Service personnel use the Howard Technology Solutions survey randomly. This survey is used bi-monthly. To gauge our customer’s perception of Howard products and services, we based all the questions on customer satisfaction. Please see results of survey below. This chart identifies the total percentage of customers who ranked us as “4 – highest” regarding the question “Rate Your Overall Howard Experience” from 1 to 4 with 4 being the highest level of satisfaction. Howard strives to maintain a satisfaction ranking of 92%. This chart also shows where we rank percentage wise in reference to our 92% goal along with our average ranking for the months January 2021 – December 2023.



Vendors must thoroughly describe their ability to provide value added technical services including installation, training or directly related optional services and the geographic area where the services may be provided. Vendors should provide a map with an indication of the locations where each type of value-added service may be provided.

Howard Technology Solutions' Value-Added Services offerings are broken down into three distinct categories:

1. **Network Consulting & Integration Services** consist of services that revolve around Network infrastructure development and implementation and are typically project driven.
2. **Technical Management Services** consist of support services that revolve around ongoing day to day support of technology and typically have a contracted time frame.
3. **Product Procurement Services** consist of the procurement, configuration and delivery of computer equipment.

Please see below for a detailed listing of products and services provided as value added services by Howard Technology Solutions.

- **Systems Integration and Consulting Services**
- **Network Design, Implementation, Management and Support**
 - LAN and WAN
- **Network and Data Security Review**
- **Network Assessment**
- **Wireless Network Solutions**
- **Structured Cabling**
- **Customized Training Programs**
- **Application Development**
- **Internet/Intranet Development**
- **Web Site Hosting and Management**
- **Hardware Sales, Service and Support**
- **Software Sales, Service and Support**
- **Service Level Agreements — Contract for Services**
 - Regularly Scheduled Preventative Maintenance
 - Full-time, On-site Technicians and/or Engineers
 - Part-time, On-site Technicians and/or Engineers
 - As-needed, On-site Technicians and/or Engineers

Company Narrative Value-Added Services Howard Project Design and Management

As a value-added service, Howard Technology Solutions is pleased to provide project design and installation services for audio-visual equipment, networking equipment, and physical security equipment to include project management and system integration. Our standard operating procedures include Scope Management, Schedule Management, Cost Management, Task Management, and Quality Management to ensure all projects are kept on schedule and on budget.

Scope Management is handled by our Presales Team. A presales engineer meets with the customer for a thorough site survey, which includes inspecting the space where the installation will take place, taking measurements, pictures, and gathering all pertinent information. Our engineer will speak at length with the customer regarding their expectations, current room functionality, and final room functionality required/expected. This information is passed on to our design engineer, who then creates the bill of materials based on the site survey information provided. A scope of work is created and provided to the customer for review. Once the scope of work has been finalized, a line drawing is generated for the system and provided to the project manager. All technical documents, including drawings and programming, if applicable, are provided to the customer once the project has been completed.

Schedule Management is handled by the assigned Project Manager. Each installation project is assigned a Project Manager who handles all aspects of the project once the order for the end-user is placed. This includes product delivery, project scheduling, time management, cost management, task management, quality management, and delegation of tasks. The PM will contact the customer for dates and times that the site will be available, taking into consideration delivery and estimated delivery dates of all products purchased for the individual project. The PM will schedule the appropriate team members to fulfill tasks related to each individual project. All scheduling is verified with the customer as far in advance as possible.

Once the project has been quoted and agreed upon by the customer, the cost management of the project is overseen by the Project Manager. All costs are logged within the Howard Technology Solutions' Project Management Database, where the information is monitored by the PM and Operations Management to ensure the project stays on budget and all expenditures are accounted for throughout the installation process.

Task Management is also overseen by the PM assigned to the individual project and executed on site by the Lead Technician. The Lead Technician stays in contact with both the PM and the customer to ensure all delegated tasks are assigned and completed by each team member daily.

Quality Management is monitored throughout each project daily by the PM and the Lead Technician to ensure all aspects of the installation are handled professionally and with the greatest quality possible. The PM will do a final walkthrough once completed, and a second walkthrough with the customer for approval. In addition, a brief tutorial is given during the walkthrough regarding the basic functionality of the system.

Additional value-added services include product training and an optional Standard Service Contract.

Training for product functionality is handled through our Presales Design Team. While a brief and basic tutorial is given through the walkthrough phase of the project completion, the end-user also has the option to purchase additional, in-depth training sessions based on the customer's individualized needs. All training will be scheduled and carried out by

our trained, certified staff to ensure the end-user is both knowledgeable and comfortable with their project functionality and operation. Optional follow-up training sessions are also available.

The Standard Service Contract is offered as an optional value-added service for audio-visual and security installations. Please see the attached Standard Service Contract form for additional details.

All services discussed above are available throughout the continental United States. A few key highlights of our value-added services can be found below:

1. HTPP

Howard Technology Solutions realizes many organizations handle basic hardware service and support in one of two ways: they make a significant investment in establishing and maintaining a group of local service providers, or they use their own internal support staff. For this reason, we have developed the Howard Technology Partnership Program (HTPP) so we can satisfy either option by facilitating timely, cost effective, quality service in conjunction with our high standards of customer satisfaction. Please see tab labeled "HTPP" for further details of this program.

2. Custom Imaging

Because we understand the real-world demands many organizations face, we offer free custom imaging to make life easier for our customers purchasing desktops, notebooks, and chromebooks. It is just another commitment to our customers and their individual needs.

3. Customized Box Labeling and Bar-Coding

4. Training and Installation

The map below is again red-filled in its entirety as Howard is able to provide services to the entire state of Alabama. Please also see tab labeled "Sales, Services, and Distribution Map."



3.23 Reporting

Vendors must agree to provide quarterly utilization reports to the System based upon the schedule and minimum content as described in this request. Quarterly reports must be submitted to The System Office to JPA-Notification@accs.edu. The electronic copy must be in the form of a PDF file. Vendors must describe their ability and commitment to meet this requirement and include a sample quarterly report with the bid response. The required report must be compiled and forwarded to the Joint Purchase Agreement Initiative Administrator within two weeks of the end of each quarter. Vendors may count quarters either from the calendar (i.e., the end of March will be the end of the first quarter) or from the time we awarded you the bid (i.e., May 1 will be the end of the first quarter). An example of the required reporting format is included in Appendix C. Failure to provide the required report in the specified format could result in removal from the contract.

Vendors are encouraged to describe and include additional sample reports. Vendors are encouraged to describe other reporting capabilities such as electronic delivery of reports or direct access to Internet or other databases that may be used to administer the agreements or support marketing.

Howard Technology Solutions agrees to provide quarterly utilization reports to the Agreement Administrator on or before the following dates:

January 01 - March 31	April 15
April 01 – June 30	July 15
July 01 – September 30	October 15
October 01 – December 31	January 15

The quarterly utilization report will be submitted to the Agreement Administrator via an email attachment in the form of a PDF file per stated guidelines. The quarterly utilization report will include the net sales for the reporting period, the purchasing entity's name, item description, and the state of the purchasing entity. Howard Technology Solutions agrees to include all Reseller Agent sales in this report. In addition, the report will include a supplemental returns report that will include all systems returned to Howard Technology Solutions within the reporting period.

In a continuing effort to provide the best possible experience, Howard Technology Solutions will provide a dedicated ACCS admin website which will allow members to login and download the quarterly reports on or before the reporting date deadline. As an added value, the site will include the same report in Excel format which allows for filtering the report by a variety of data including, but not limited to, purchasing entity name, PO information, state, and customer type.

Howard Technology Solutions will have the ACCS admin site operational and login credentials sent to the appropriate reporting party within sixty [60] days of the contract start date.

Admin site will be available at the following URL, to be fully functional within sixty [60] days of contract start date:
<http://www.howardcomputers.com/State/AL/Admin>

Howard Technology Solutions provides reports to the state entities based on agreed upon schedules. Typically, these reports are sent via email quarterly. Please find sample copies of some of our quarterly reports in the section labeled "Sample Reports."

3.24 Electronic Commerce

Vendors must describe their ability to provide and maintain, at a minimum, an Internet website that contains the complete ESS as well as product specifications and options. Vendors are encouraged to describe an existing capability or commitment to implement a website that would provide procuring entities guidance and assistance with product selection, purchase order tracking, reporting or other relevant capability. The ability or commitment to accept and process purchase orders electronically should be thoroughly described. Internet URL's may be provided which reference sites that demonstrate the desired functionality.

Howard Technology Solutions agrees that our website for ACCS, located at the below URL, will be available for immediate usage barring any scheduled maintenance upgrades. Notice of such upgrades will be sent at least twenty-four [24] hours in advance of the outage and will only be performed during the early morning hours (i.e. 12AM to 2AM Central).

The Howard Technology Solutions/ACCS website will include a full ESS of our agreed upon product offering, an online configurator to configure said products, and an online quote generation utility to save quotes for later retrieval, and an online ordering system for immediate processing of all items. In addition, all contact information, service agreements, order tracking, and product specifications will be available on the website within sixty [60] days of contract start date.

Pricing catalog will be accessible at the following URL, to be fully operational within 60 days of contract start date:

https://www.howardcomputers.com/state/al/admin/ACCS_Catalog_Bid-020722.xlsx

We will provide the following sites to ACCS, to be fully operational within 60 [days] of contract start date:

<http://www.howardcomputers.com/State/AL/Admin>

Administration Site:

This site will allow ACCS members to review dynamic and static reports, track orders by company, order number, PO number, and state, review quote-to-order ratios based on type of system, state, and company, and the ability to review tracking information on orders.

Purchasing Site:

This site will allow ACCS members to fully configure systems, to quote and order the system via credit card or purchase order, and to track the status of the order once placed.

3.25 Breadth of Offering

Vendors must, at a minimum, offer products or services in at least one of the following categories:

- Client Computers (Workstations, Desktops, Terminals, Laptops, Tablet, Notebook, Handheld Devices)
- Servers
- Printers
- Monitors
- Storage
- Networking Equipment

Audio and Video Conferencing Equipment
Multimedia Hardware
VOIP/Unified Communications Solutions
Video Surveillance Solutions
Key and Access Control Equipment
Software
Professional Services
Other

Vendors must provide a comprehensive list of the models or variations available in each of the following categories for which a vendor offers products:

Client Computers (Workstations, Desktops, Terminals, Laptops, Tablet, Notebook, Handheld Devices)
Servers
Printers
Monitors
Storage
Networking Equipment
Audio and Video Conferencing Equipment
Multimedia Hardware
VOIP/Unified Communications Solutions
Video Surveillance Solutions
Key and Access Control Equipment
Software
Other

The narrative that is submitted in support of the list should provide the Evaluation Committee with a clear indication of the breadth of the product line flexibility and performance.

**Breadth of Offering
Howard Technology Solutions
Computing Equipment**

Workstations

A synopsis of Howard's performance workstation models follows. It is then followed by a synopsis of our desktop, laptop, and tablet categories, which also fall under the workstation heading within this ACCS RPF.

Howard Technology Solutions performance workstations are designed by and for the professional who requires the absolute best of everything. From high end graphics to blistering processor speeds, Howard workstations are designed to handle the work load. Utilizing cutting edge technology from Intel, Howard performance workstations are highly engineered for power-hungry, graphic-intense applications and today's media-rich content.

Performance Workstations:

WX790

Engineering Workstations:

SW3-4204

SW3-4108

AW3-4108

A specification sheet is being provided for reference where applicable. This includes type of processor with maximum speed, front side bus, type of memory, maximum amount of hard drive space, number of expansion slots, number of ports, type of video, type of audio, type of network adapter, and OS available. Please see tab labeled "Howard Specs" for full comparison materials.

Howard Technology Solutions also offers workstations from the following third-party manufacturers:

Acer: all models

Dell: all models

HP: all models

Lenovo: all models

**Breadth of Offering
Howard Technology Solutions
Computing Equipment**

Desktops

Howard Technology Solutions offers a comprehensive line of fully customizable “Built-to-Order” desktop systems. A wide range of options is available on each model. Each model carries its own set of unique features ranging from chipsets, graphics, and LAN options as well as chassis size and storage options. Howard offers systems built on both Intel and AMD platforms with the latest technology available. By utilizing industry standard, an open non-proprietary standard, Howard Technology Solutions is not only able to offer Built-to-Order systems, but also Built-to-Specifications. While offering a wide range of options in each of the major sub-categories in a desktop, Howard Technology Solutions will also work with a customer who might require a particular brand or even a specific model of component. We are committed to providing desktop systems which meet or exceed customer requirements and expectations.

Mainstream Systems

Howard Technology Solutions offers affordable technology solutions for standalone or basic network environments. This series is perfect for word processing, internet activity, software applications, and much more.

Models:

H610MKB
H610LPKB

Small Form Factor Systems

Utilizing the latest Intel processors, we offer the optimal blend of performance and space saving designs to efficiently meet your organization’s technology needs.

Models:

IQ-K
IQ-R
IQ-N1
Howard-DR

Executive Systems

Built on Enterprise Intel chipsets and processors, our premier models comprise these corporate stable and feature-rich systems.

Models:

Q670MKB
Q670LPKB

Esports/Gaming Systems

Designed for maximizing performance, we offer fully customizable gaming systems for Esports or enthusiasts.

Models:

Mayhem Series

Nemesis Series

A specification sheet has been provided for reference where applicable. This includes type of processor with maximum speed, front side bus, type of memory, maximum amount of hard drive space, number of expansion slots, number of ports, type of video, type of audio, type of network adapter, and OS available. Please see tab labeled "Howard Specs" for full comparison materials.

Howard Technology Solutions also offers a variety of third-party desktops from the following manufacturers:

Acer: all models

Dell: all models

HP: all models

Lenovo: all models

**Breadth of Offering
Howard Technology Solutions
Computing Equipment**

Laptops

Portability, affordability, performance, and today's latest technology are all combined into a line of laptops that continue to meet the growing needs of all organizations. Laptops from Howard Technology Solutions offer everything from 11.6" convertible to the latest Intel Core Series offerings to an affordable rugged tablet.

Value Models:

NX4

Mainstream Models:

NX5

Performance Models:

NX5X

NX7X

A specification sheet has been included for reference where applicable. This includes type of processor with maximum speed, spindles, maximum amount of memory, and maximum amount of hard drive space, display size, optical devices offered, connectivity options, and OS available. Please see tab labeled "Howard Specs" for full comparison materials.

Howard Technology Solutions also offers a variety of third party laptops from the following manufacturers:

Acer: all models

Asus: all models

Dell: all models

Fujitsu: all models

HP: all models

Lenovo: all models

Samsung: all models

Toshiba: all models

**Breadth of Offering
Howard Technology Solutions
Computing Equipment**

Tablet PCs

Howard Technology Solutions has partnered with a wide range of manufacturers to offer a variety of tablet PCs for any budget and any organizational need. We offer third party tablet PCs from the following manufacturers:

Acer: all models

Asus: all models

Dell: all models

Fujitsu: all models

HP: all models

Lenovo: all models

Samsung: all models

Toshiba: all models

**Breadth of Offering
Howard Technology Solutions
Computing Equipment**

Servers

Howard Technology Solutions servers allow organizations the flexibility, scalability, and affordability needed by today's computing professionals. By combining great performance with a wide selection of options, Howard Technology Solutions can offer a server solution to fit any size workload, system, or budget. Complete customization (from entry level single processor tower to an enterprise dual processor rack-mount based on Intel Xeon processors) is available on all Howard servers. Howard Technology Solutions' servers are available in three basic categories: Entry, Mainstream, and Performance. Not all of these categories are within ACCS's requirements; however, in order to provide a full synopsis of our breadth of offering, we have included all categories of servers that Howard offers.

Models

Entry – EP3-1104 (rack), EP3-4104 (tower)

Mainstream – SP4-1104 (rack), SP4-1110 (rack)

Performance – SP4-2208 (rack), SP4-4208 (tower)

A specification sheet is being provided for reference where applicable. This includes type of processor, maximum amount of memory, RAID capabilities, maximum number of hard drives, as well as hot swap drive and power supply capabilities. Please see tab labeled "Howard Specs" for full comparison materials.

Howard Technology Solutions also offers servers from the following third-party manufacturers:

Dell: all models

Fujitsu: all models

HPE: all models

Lenovo: all models

HVE: all models

**Breadth of Offering
Howard Technology Solutions
Computing Equipment**

Printers

Howard Technology Solutions can provide access to hundreds of printers, both 2D and 3D. We have in place relations with top-level manufacturers and distributors that allow us to offer organizations a complete line of products it needs, even in today's changing market. These include high-speed printers, medium speed printers, desktop printers, multifunction high-speed printers, multifunction medium speed printers, and multifunction desktop printers. Please see below listing of all manufacturers in each category of printers that Howard Technology Solutions is able to provide.

3D Systems

Brother

Canon

Craftunique

Dell

Epson

HP

Konica

Lexmark

Makerbot

OKI

Xerox

**Breadth of Offering
Howard Technology Solutions**

Monitors

Howard Technology Solutions can give you access to hundreds of monitors. We have relationships in place with top-level manufacturers and distributors that allow it to offer organizations a complete line of products it needs.

Manufacturers:

LG: all models

NEC: all models

Panasonic: all models

Planar: all models

Samsung: all models

Sharp: all models

Sony: all models

ViewSonic: all models

**Breadth of Offering
Howard Technology Solutions
Computing Equipment**

Storage Solutions

Howard Technology Solutions has in place relationships with top-level manufacturers and distributors that allow it to offer organizations a full range of storage products to meet any network need. Please see below for list of manufacturers.

Buffalo: all models

Dell: all models

EMC: all models

HPE: all models

HVE: all models

Lenovo: all models

Overland: all models

Tandberg: all models

Synology: all models

**Breadth of Offering
Howard Technology Solutions**

Networking Equipment

Howard Technology Solutions offers a wide range of networking equipment from a variety of vendor partners. We are pleased to announce our partnership with Extreme Networks, a leading provider of end-to-end networking solution for enterprise, data center, and service provider customers. Providing a combined end-to-end solution from the IoT edge to the cloud, Extreme's solutions include wired and wireless network infrastructure equipment and an extensive portfolio of software applications that deliver AI-enhanced access control, network, and application analytics, as well as network management. All can be managed, assessed, and controlled from a single pane of glass on premises or from the cloud. Please see below list of models.

Extreme Universal Wireless

AP3000/X
AP4000
AP5010
AP5020 (Wifi7)
AP5050D/U
AP302W
AP305C/CX
AP410C
AP510C/CX
AP460C

Wireless Appliances

E1120
E2122
E3120
NX Series

Virtual Platforms

VE6120 (VMWare) / VE6120H (Hyper-V)
V36125 (VMWare)
VX9000

Wireless Security

Extreme AirDefense[®]

Extreme Universal Switching – Edge, Aggregation, Core and DC

7720 Series
7520 Series
5720 Series
5520 Series
5420 Series
5320 Series
4220 Series

4120 Series

Data Center Switches

8820

8720

8520

SLX 9850

SLX 9850

SLX 9740

SLX 9640

SLX 9540

SLX 9250

SLX 9150

Industrial Switches

ISW series

ExtremeApplicationsTM

Cloud Management – ExtremeCloud IQ

AI/ML - Extreme Cloud IQ Copilot

On-prem Mgmt - Extreme Cloud IQ – Site Engine

NAC - Extreme Control

Extreme Analytics

Universal ZTNA

SD-WAN

Extreme Fabric Connect

In addition, Extreme offers the following added value services – technical assistance options including online community interaction with The Hub, self-service access searchable in Extreme’s KnowledgeBase, and one-on-one interaction with GTAC assisted support, maintenance services such as hardware replacement services, onsite services, return and replacement services, software and GTAC services, software support services, premier services, managed services, ExtremeWorks Monitoring PLUS services, and ExtremeWorks Response PLUS services, professional services, and training services.

Howard Technology Solutions also offers a wide range of networking infrastructure solutions from today’s industry leaders. We offer backup and replication solutions, bandwidth management, content filtering solutions, continuity solutions, cooling, LAN, storage, and power protection products, disaster recovery solutions, email archiving solutions, hyperconverged solutions, network access control, network infrastructure, security solutions, VOIP solutions, and wireless solutions. Below are some of the brands we offer in regards to our networking infrastructure solutions.

All models:

Barracuda, CradlePoint, CommVault, Cybernetics, Exagrid, HPE, Quest, Rubrik, Spectra Logic, Unitrends, Veeam, VMware, Zerto, Allot, Radware, ContentKeeper, ESET, FamilyZone, iBoss, Lightspeed Systems, Palo Alto, Securly, Cisco, APC, Cyberpower, Eaton, Orion, Schneider Electric, SurgeX, Tripp Lite, Dell EMC, Arcmail, HVE, NetApp,

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HOWARD™

TECHNOLOGY SOLUTIONS

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www.Howard.com

A Division of Howard Industries, Inc.

Nutanix, Aruba, Extreme, Fortinet, Impulse, Broadcom, Ruckus, BitDefender, Juniper, McAfee, Panda Security, Sophos, Symantec, Digium, Mitel, Polycom, Vertical, Zultys, Cradlepoint, HP, Meraki, NetGear, and Ubiquiti

**Breadth of Offering
Howard Technology Solutions**

Video Conferencing

Howard Technology Solutions is pleased to offer video conferencing systems from industry-leading partners. We offer a complete line to meet all of your video conferencing needs in this changing market.

AMX: all models

Cisco: all models

Crestron: all models

Extron: all models

Lifesize: all models

Logitech: all models

MashMe: all models

Mersive: all models

Polycom: all models

QSYS: all models

Screenbeam: all models

Vaddio: all models

Vivi: all models

Zoom: all models

**Breadth of Offering
Howard Technology Solutions**

Multimedia Instructional Packages

Howard Technology Solutions is pleased to offer our customers Multimedia Instructional Packages (bundles) through the ACCS contract. We have a wide variety of manufacturers that we can provide in customized bundles to meet each customer's unique needs. Please find our Multimedia Instruction Packages offerings below.

Workstation and Projectors

Howard Technology Solutions can provide our customers with workstation and projector bundles to meet their needs. Our top-of-the-line desktops can be bundled with one of our many projector lines offered such as: BenQ, Boxlight, Casio, Christie, Epson, Hitachi, Infocus, NEC, Panasonic, Sony, and ViewSonic.

Laptop, Projector, and Whiteboard Package

Howard Technology Solutions can provide our customers with laptop, projector, and whiteboard packages to meet their needs. Our top-of-the-line Howard laptop line as well as other leading brands such as Dell, Lenovo, and Dell can be bundled with our extensive projector offerings and interactive whiteboard offerings to create a custom bundle for our customers.

Please find the manufacturers for these bundled solutions listed below:

Projectors: BenQ, Boxlight, Casio, Christie, Epson, Hitachi, Infocus, NEC, Panasonic, Sony, ViewSonic

Whiteboard: Mimio, Newline, ClearTouch

Howard Technology Solutions also offers 21st Century Classroom Solutions for our customers who are made up of the most advanced technology on the market today. The technology in these classrooms allows teachers and students to achieve the maximum learning experience. These classrooms are made up of products from the following manufacturers: Howard, Mimio, Elmo, HP (or printer of customer's choice), and FrontRow. These solutions can also be tailored to meet each individual customer's needs.

**Breadth of Offering
Howard Technology Solutions**

Local Area Network

Howard Technology Solutions offers a wide breadth of LAN equipment and services. Howard Technology Solutions provides network consulting, design, engineering, implementation, maintenance and support. Howard Technology Solutions has experience with all types of network infrastructures — Cat5e, Cat6, Fiber, and Wireless.

Below is a summarized list of proposed LAN equipment and software:

Bridges, Routers, Hubs, Switches, Access Points, Wireless Access Points and more.

Manufacturers: (All Models)

ADC, Adtran, Alcatel, Allied Telesis, Alvarion, ABL, APC, Asus, Belkin, Brocade, Cisco, 3Com, CNet, Dlink, Digiconnect, Enterasys, Hawking, HP, EMC, Extreme, Kentrox, Kramer, Linksys, Lantronix, NComputing, Netgear, Netopia, Nortel, Mobile Edge, Panasonic, QLogic, SMC, Startech, MiLAN, TrendNet, USRobotics, Xerox, Xirrus, Zoom, and ZyXEL, Aerohive, Ruckus, Aruba, HPE, Tripplite.

Other:

Cat5e and Cat6 cabling, Fiber — SM and MM, Wireless NICs, NICs, and Firewalls

**Breadth of Offering
Howard Technology Solutions**

Digital Projectors

Howard Technology Solutions is pleased to offer digital projectors from many different manufacturers. We have the capabilities to provide organizations with the type of projection device it may need.

Manufacturer (all models):

BenQ: all models

Boxlight: all models

Casio: all models

Christie: all models

Epson: all models

Hitachi: all models

Infocus: all models

NEC: all models

Panasonic: all models

Sony: all models

ViewSonic: all models

**Breadth of Offering
Howard Technology Solutions**

Peripherals

Howard Technology Solutions can give ACCS members access to nearly 90,000 kinds of peripherals, accessories, and software products including, but not limited to, keyboards, memory, mice, cameras, docking stations, UPS, power supplies, cables, and much more. Howard Technology Solutions has in place relationship with top-level manufacturers and distributors which allows us to offer organizations a complete line of products it needs.

Please see full listing in the ESS.

**Breadth of Offering
Howard Technology Solutions**

Video Surveillance Solutions

Howard Technology Solutions is pleased to offer video surveillance solutions from industry-leading partners. We offer a complete line to meet all of your video surveillance needs in this changing market.

Audio Enhancement

Avigilon

Axis

I-Pro

Milestone

OmniAlert

Panasonic

Rhombus

Verkada

**Breadth of Offering
Howard Technology Solutions**

Access Control Solutions

Howard Technology Solutions is pleased to offer access control solutions from industry-leading partners. We offer a complete line to meet all of your access control needs in this changing market.

3xLogic
ANVIZ
BFT Americas Inc,
IDIS Global
IRISID
Kantech
OpenPath
Panasonic
Paxton
Proxess
Proxy
SafePass
Salto
TagMaster

Vendors must provide, at a minimum, a licensed operating system with each type of processor, where applicable. Vendors must provide a list of the operating systems for each of the following categories of processors:

- Client Computers (Workstations, Desktops, Terminals, Laptops, Tablet, Notebook, Handheld Devices).
- Servers
- Networking Equipment
- Audio and Video Conferencing Equipment
- VOIP/Unified Communications Solutions
- Key and Access Control Equipment
- Other

The narrative that is submitted in support of the list should provide the Evaluation Committee with a clear indication of the number and type of operating systems that are proposed.

**Breadth of Offering
Howard Technology Solutions**

Operating Systems

The following list of operating systems may be applied to our desktops, laptops, servers, and tablet lines.

Client:

Windows 11 Professional

Windows 11 Professional for Workstations (qualifying hardware)

Windows 10 IoT Enterprise (qualifying hardware and application)

Windows Server 2022 (servers)

Other operating systems can be applied via customer provided images.

Vendors may propose and provide a wide range of the general-purpose software products. Vendors may provide a summarized list of the general-purpose software that is proposed for each of the following categories of processors:

- Client Computers (Workstations, Desktops, Terminals, Laptops, Tablet, Notebook, Handheld Devices).
- Servers
- Networking Equipment
- Audio and Video Conferencing Equipment
- VOIP/Unified Communications Solutions
- Video Surveillance solutions
- Key and Access Control Equipment
- Other

The narrative that is submitted in support of the list should provide the Evaluation Committee with a clear indication of the number and type of general-purpose software products that are proposed.

**Breadth of Offering
Howard Technology Solutions**

Software

Howard Technology Solutions offers a wide range of software packages. Everything from operating systems to video editing; Howard Technology Solutions has the right package for all of its customers. Please see the listing below for a sample of software packages by category that Howard can provide to its customers.

Networking Software: Absolute, CheckPoint, Cisco, Diskeeper, Ericom, Falconstor, HP, SonicWall, Symantec, VMware

Security Software: McAfee, Symantec, Softwin, Palo Alto, 2FA, 911 Enable, Absolute Software, GoGuardian, RSA Security.

Graphic and Design Software: Adobe, Autodesk, Corel, Microsoft, Nova Development, Pinnacle Systems, Quark, Cyberlink, Extensis, FoxIT, Markzware

Business Software: FileMaker, Microsoft, Intuit, Sage

Office Productivity Software: Adobe, Cardscan, Corel, FileMaker, Microsoft, Nuance Communications

Programming and Development Software: Adobe, Microsoft, Allround Automation, Component One, Genesis One, Just Systems, Payoda, Perpetuum, Sapien Technologies

Utilities Software: Corel, Diskeeper, HP, Nuance Communications, Parallels, Symnatec, VWware

Internet and Communications Software: Cisco

Online and Appliance Based Services: Absolute, Microsoft

Other Software: Adobe, Intuit, Leapfrog, Microsoft, Nova Development

Vendors may propose and provide a wide range of the technical services including installation, training and technical support:

- Client Computers (Workstations, Desktops, Terminals, Laptops, Tablet, Notebook, Handheld Devices)
- Servers Printers Monitors Storage
- Networking Equipment
- Audio and Video Conferencing Equipment
- Multimedia Hardware
- VOIP/Unified Communications Solutions
- Video Surveillance solutions
- Key and Access Control Equipment
- Other

The narrative that is submitted in support of the list should provide the Evaluation Committee with a clear indication of the number and type of technical support services that are proposed.

**Breadth of Offering
Howard Technology Solutions**

Services

The below information was provided in a previous section of this proposal but is being restated for ease of evaluation by The System.

As stated earlier, Howard Technology Solutions' Value Added Services offerings are broken down into three distinct categories:

1. **Network Consulting & Integration Services** consist of services that revolve around Network infrastructure development and implementation and are typically project driven.
2. **Technical Management Services** consist of support services that revolve around ongoing day to day support of technology and typically have a contracted time frame.
3. **Product Procurement Services** consist of the procurement, configuration and delivery of computer equipment.

Please see below for a detailed listing of products and services provided as value added services by Howard Technology Solutions.

- **Systems Integration and Consulting Services**
- **Network Design, Implementation, Management and Support o LAN and WAN**
- **Network and Data Security Review**
- **Network Assessment**
- **Wireless Network Solutions**
- **Structured Cabling**
- **Customized Training Programs**
- **Application Development**
- **Internet/Intranet Development**
- **Web Site Hosting and Management**
- **Hardware Sales, Service and Support**
- **Software Sales, Service and Support**
- **Service Level Agreements — Contract for Services**
 - **Regularly Scheduled Preventative Maintenance**
 - **Full-time, On-site Technicians and/or Engineers**
 - **Part-time, On-site Technicians and/or Engineers**
 - **As-needed, On-site Technicians and/or Engineers**

Howard Technology Solutions has the ability to provide all of these services anywhere in the State of Alabama. We have inserted a map for reference behind the tab labeled "Sales, Service, and Distribution Map".



Breadth of Offering
Howard Technology Solutions

Other: A/V Products and Accessories

Howard Technology Solutions offers a full line of A/V products and accessories. Please find a sample list of manufacturers that fall into this category below:

A/V Manufacturers (all models): FrontRow, Nady, Boxlight, HoverCam, Lumens, Middle Atlantic, Aver, Qomo, Atlas, Newline, Valcom, Elmo, Extron, Chief, Crestron, AverMedia, TOA, Mimio, Panasonic, SP Controls, Da-Lite, VBrick, Intel, Shoretel, Lightspeed, Harman, AMX, Kramar

3.26 Primary Account Representative

Vendors must identify by name and location both the proposed primary account representative and the marketing supervisor who will be responsible for the performance of the agreement. Any changes to this information must be immediately sent to the Joint Purchase Agreement Administrator.

Howard Technology Solutions' primary account representatives for ACCS will be our AL Outside Sales Representative for Higher Education, .In addition, other key Howard personnel that will be involved in the performance of this agreement are listed in the chart below.

Name	Title	Phone	Fax	Email
Bennett Witcher	AL Outside Sales Representative	601.577.1069	601.399.5077	bwitcher@howard.com
Kelly Turner	AL Inside Sales Representative	601.399.5047	601.399.5077	kturner@howard.com
Rusty Thoms	Territory Manager	601.573.6732	601.399.5077	thoms@howard.com
Brandey Boyd	Bids & Contracts Manager	601.399.5831	601.399.5077	bboyd@howard.com
Josh Jefcoat	VP EDU Sales	601.399.5846	601.399.5077	jjefcoat@howard.com
Chris Lyman	Sales Manager, Higher Education	601.399.5812	601.399.5077	clyman@howard.com
Jennifer Dreager	Operations Manager, Higher Education	601.399.5638	601.399.5077	jdreager@howard.com

3.27 References

Vendors must submit three (3) references of entities of like size and complexity, and/or entities that have or are currently receiving similar products and services to those proposed by the vendor for this procurement. Each reference must include the name of the contact person, address, telephone number and description of products and services provided.

Howard Technology Solutions acknowledges and complies. Please see below references.

Reference #1

Calhoun Community College
6250 US Hwy 31 N
Tanner, AL 35671
Nathan Tyler

Nathan.tyler@calhoun.edu

256.306.2817

Howard has provided Calhoun CC with classroom technology along with AV equipment and services.

Reference #2

Enterprise State Community College
600 Plaza Drive
Enterprise, AL 36330
Jason Trull

jtrull@escs.edu

334.347.2623 EXT 2288

Howard has provided ESCC with AV equipment and services, networking products, and software.

Reference #3

Wallace State Community College
801 Main Street NW
Hanceville, AL 35077
Matthew McFall

Matthew.mcfall@wallacestate.edu

256.352.7435

Howard has provided Wallace State CC with AV equipment and services, networking products, and software.

3.29 Oral Presentation and Demonstration

If selected as a finalist, vendors agree to provide the Evaluation Committee the opportunity to meet with and question the proposed primary account representative at the oral presentation (if deemed necessary by the Evaluation Committee). The proposed primary account manager is expected to conduct the presentation. Vendors will be required to demonstrate their Internet based reporting and electronic commerce capabilities to the Evaluation Committee.

Howard Technology Solutions acknowledges and agrees to the above oral presentation and demonstration if deemed necessary.

3.30 Equipment and Services Schedule

Vendors must submit with their responses a complete Equipment and Services Schedule including all the products and services offered, at the initial pricing level stated in response to section 3.25.

The ESS may be submitted in a single file, PDF format on a compact disc, USB drive, or made available via a website.

Howard Technology Solutions acknowledges and complies. Please find the ESS included on the USB drive accompanying this bid response.

3.31 Scope of Work

The vendor shall deliver computing system products and services to procuring entities in accordance with the terms of this agreement. Accordingly, the vendor shall provide products or services only upon the issuance and acceptance by vendor of valid "purchase orders". Purchase orders will be issued to purchase the license for software or to purchase or lease products listed on the ESS. A procuring entity may purchase any quantity of product or service listed in the ESS at the prices stated therein. For large orders, the procuring entity may negotiate quantity price discounts below the ESS price(s) for a given purchase order. Vendor may offer authorized educational institutions educational price discounts that result in prices below the ESS listed prices.

Howard Technology Solutions acknowledges and complies.

3.32 Title Passage

Title to equipment shall pass to the procuring entity upon acceptance of equipment.

Howard Technology Solutions acknowledges and complies.

3.33 Quantity Guarantee

This agreement is not an exclusive agreement. Procuring entities may obtain computing system products and services from other contract awarded vendors during the agreement term.

Howard Technology Solutions acknowledges and complies.

3.34 Order of Precedence

Each purchase order that is accepted by the vendor will become a part of the agreement as to the products and services listed on the purchase order only; no additional terms or conditions will be added to this agreement as the result of acceptance of a purchase order. In the event of any conflict among these documents, the following order of precedence shall apply:

- A. the terms and conditions of this RFB
- B. exhibits to this agreement
- C. the list of products and services contained in the purchase order
- D. vendor's response

Howard Technology Solutions acknowledges and complies.

3.35 Payment Provisions

All payments under this agreement are subject to the following provisions:

A. Acceptance

The procuring entity shall determine whether all products delivered to it meet the vendor's published specifications. No payment shall be made for any products until the products have been accepted by the procuring entity.

Unless otherwise agreed upon between the procuring entity and the vendor, within thirty (30) days from the date the procuring entity receives written notice from the vendor that payment is requested for services or within thirty (30) days from the receipt of products, the procuring entity shall accept or reject the products or services.

B. Payment of Invoice

Payments shall be submitted to the vendor at the address shown on the invoice. Payment shall be tendered to the vendor within thirty (30) days from acceptance.

In the event an order is shipped incomplete (partial), the procuring entity must pay for each shipment as invoiced by the vendor unless the procuring entity has clearly specified "No Partial Shipments" on each purchase order.

C. Invoices

Invoices shall be submitted to the procuring entity.

Howard Technology Solutions acknowledges and complies. Please see attachment labeled "Payment Terms" for full Howard Technology Solutions payment agreement.

3.36 Shipment and Risk of Loss

Vendor must ship all products F.O.B. destination regardless of price discounts. Risk of loss or damage to the products shall pass to the procuring entity upon delivery to the procuring entity. Vendor agrees to assist the procuring entity with the processing of claims for such loss or damage and to expedite the processing of claims for such loss or damage and to expedite replacement of lost or damaged products. Destination charges shall be included in the product price on the ESS.

All license agreements or sales order contracts, which must be signed prior to delivery of proposed items, must be included with the bid for review by the System. Documents not submitted with the response will not be considered at a later date. In all cases, should there be a conflict of terms and conditions, those terms and conditions in this REQUEST and any resulting System purchase order will prevail.

Whenever a procuring entity does not accept any product and returns it to the vendor, all related documentation furnished by the vendor shall be returned also. The vendor shall bear all risk of loss or damage with respect to returned products except for loss or damage directly attributable to the negligence of the procuring entity.

Unless otherwise agreed upon by the procuring entity, the vendor is responsible for the pick-up of returned equipment. Software and documentation will be returned via U.S. Mail at the expense of the procuring entity.

Unless otherwise arranged between the procuring entity and vendor, all shipments of products shall be by vendor truck, UPS, or Federal Express Second Day (or other way, specify).

Howard Technology Solutions acknowledges and complies.

3.37 Warranties

At a minimum, the products shall be covered under the manufacturer's warranties in effect at the time the products are delivered or the warranties in effect at the time of contract award, whichever is most beneficial to the procuring entity.

Howard Technology Solutions acknowledges and complies.

Howard Technology Solutions has several warranty options from which its customers may choose. With the exception of portable systems (i.e Notebooks, Tablet PCs, etc.) and third-party products, all Howard Technology Solutions branded products come standard with a three-year limited, one-year next business day on-site warranty. This includes one year of next business day on-site service and two years of next business day parts delivery service. Please see tab labeled "Warranty Information" for more information on Howard's warranties for Howard-manufactured systems.

All Howard Technology Solutions systems can be upgraded from the standard limited warranty. Depending on the extended warranty option of your choice, you are completely covered for parts, labor and onsite service for the number of years included with your selected option.

Howard's toll-free technical support is available 7-dys a week, 24-hours a day. This is good for the life of the system.

Howard Technology Solutions recognizes the need to provide our partners and customers with access to the very latest in peripherals and other technology products, has established agreements and partnerships with many of the leading distributors and manufacturers. Over 10,000 products such as printers, scanners, digital cameras, network equipment (routers, switches, etc.) and software are available online directly from our website. Any items purchased from the online catalog separate from the Howard Technology Solutions base system will be covered by the manufacturer's warranty. Items purchased as part of a Howard Technology Solutions base system are covered by Howard Technology Solutions' Limited Warranty Agreement.

For all non-Howard manufactured equipment, Howard will work with ACCS members and the manufacturer of said products to fulfill any warranty claim that may arise.

3.38 Price Guarantees

The procuring entity shall pay the lower of the prices contained in the ESS or an announced promotion price, educational discount price, general price reduction or large order negotiated price. Only general price reduction decreases will apply to all subsequent orders accepted by vendor after the date of the issuance of the revised prices. Vendor agrees to maintain ESS product prices in accordance with the volume price discount guarantees filed. Prices set forth in the ESS are subject to decrease without prior notice. Special pricing discounts offered by successful bidders after the award of bids shall remain in effect for a minimum of 30 days.

Howard Technology Solutions acknowledges and complies.

Note: Special "promotional" pricing will be available to ACCS members. The promotional price is the end price to the customer. No additional discounts apply to those purchases.

3.39 Technical Support

The vendor agrees to maintain a toll-free technical support telephone line. The line shall be accessible to procuring entity personnel who wish to obtain competent technical assistance regarding the installation or operation of products supplied by the vendor.

Howard Technology Solutions acknowledges and complies.

Howard Technology Solutions' technical support personnel are available 7x24x365 via our toll-free number 888.323.3151

3.40 Product Delivery

Vendor agrees to deliver products to procuring entities within 30 days after receipt of a valid purchase order unless otherwise negotiated with procuring entity.

Howard Technology Solutions acknowledges and complies.

3.41 Impracticality of Performance

A party shall be excused from performance under this agreement for any period that the party is prevented from performing as a result of an act of God, strike, war, civil disturbance, epidemic, or court order, provided that the party has prudently and promptly acted to take any and all steps that are within the party's control to ensure performance. Subject to this provision, such non-performance shall not be deemed a default or a ground for termination.

Howard Technology Solutions acknowledges and complies.

3.42 Records and Audit

Vendor agrees to maintain detailed records pertaining to the price of services rendered and products delivered for a period of three years from the date of acceptance of each purchase order. These records shall be subject to inspection by the procuring entity and appropriate governmental authorities with the state of Alabama. The procuring agency shall have the right to audit billings either before or after payment. Payment under this agreement shall not foreclose the right of the procuring entity to recover excessive or illegal payments.

Howard Technology Solutions acknowledges and complies.

3.43 Use of Subcontractors

The vendor may subcontract installation, training, warranty or maintenance services. However, the vendor shall remain solely responsible for the performance of this agreement. All procuring entity payments for products or services shall be made directly to the vendor. If subcontractors are to be used, the name of the authorized subcontractor(s) shall be identified in the applicable participating addendum(s).

Howard Technology Solutions acknowledges and complies.

3.44 Indemnification

The vendor shall indemnify and hold harmless the System from any loss, cost or expense suffered or incurred in connection with any claim, suit or proceeding brought against the System so far as it is based on defects in products provided to the System.

The vendor hereby covenants and agrees, at its sole cost and expense during the term of this agreement, to indemnify and hold harmless the System and its officers, agents and employees against and from any and all claims or demands by or on behalf of any person, firm, corporation or governmental authority, arising out of, attributable to or in connection with the use, occupation, possession, conduct or management of the vendor concerning the equipment or services performed and rendered hereunder, including, but without limitation, any and all claims for injury or death to persons or damage to property or any and all claims for Patent, Trademark, Copyright, Intellectual Property, or Trade Secret Infringement. The vendor also covenants and agrees, at its sole cost and expense, to hold the System and its officers, agents, and employees from and against all judgments, costs, counsel fees, expense and liabilities incurred in connection with any such claim and any action or proceeding brought thereon, and in case any action is brought against the System or against any of its officers, agents, or employees, by reason of any such claim, the vendor upon notice from the System will resist and defend such action or proceeding by qualified counsel. However, the provisions of this Section shall not apply to any claims arising from the negligent or willfully wrongful acts or omissions of the System, or its officers, agents, or employees.

For the purposes of paragraph 3.44, the term, the System, shall include all entities listed in Appendix A or any subsequent revision thereof and their respective officers, directors, employees, agents and assigns.

Howard Technology Solutions acknowledges and complies.

3.45 Website Maintenance

Vendor agrees to maintain and support an Internet website for access to the ESS, configuration assistance, product descriptions, product specifications and other aids in accordance with instructions provided by the contract. In addition, vendor may provide electronic commerce assistance for the electronic submission of purchase orders, purchase order tracking and reporting.

Howard Technology Solutions acknowledges and complies.

3.46 Ethics

The vendor warrants that it presently has no interest and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of services required under this agreement.

If any owner, officer, partner, board or director member, employee, or holder of more than 5% of the fair market value of your firm or any member of their households is a public official or public employee (including the System) as defined by the Code of Alabama Section 36-25-1, this information must be included in your response. Failure to disclose this information in your response will result in the elimination of your response from evaluation. If your firm is awarded any contract as a result of this request, the System reserves the right to furnish a copy of any resulting contract to the State of Alabama Ethics Commission as directed in the Code of Alabama, Section 36-25-11, within ten (10) days of award.

System employees are not allowed to accept personal gifts or gratuities.

Howard Technology Solutions acknowledges and complies.

3.47 Replacement Parts

Replacement parts may be refurbished with agreement of procuring entity.

Howard Technology Solutions acknowledges and complies.

3.48 FCC Certification

The vendor agrees that hardware supplied by the vendor meets all applicable FCC Certifications. Improper, falsely claimed or expired FCC certifications are grounds for contract termination.

Howard Technology Solutions acknowledges and complies.

3.49 Site Preparation

A procuring entity shall prepare and maintain its site in accordance with written instructions furnished by the vendor prior to the scheduled delivery date of any equipment or service and shall bear the costs associated with the site preparation.

Howard Technology Solutions acknowledges and complies.

3.50 Assignment

The vendor shall not assign nor transfer any interest in this agreement or assign any claims for money due or to become due under this agreement without prior written approval from procuring entity.

Howard Technology Solutions acknowledges and complies.

3.51 Survival

Certain paragraphs of this agreement including but not limited to Patent, Copyright, Trademark, and Trade Secret Indemnification; Indemnification; and Limit of Liability shall survive the expiration of this agreement. Software licensees, lease, warranty and service agreements that were entered into under the terms and conditions of this agreement shall survive this agreement.

Howard Technology Solutions acknowledges and complies.

3.52 Lease Agreements

Vendor may lease equipment to procuring entities in accordance with terms and conditions approved by the appropriate governing authority for the procuring entity.

Howard Technology Solutions acknowledges and complies. Howard Technology Solutions is happy to offer leasing to any interested ACCS members.

3.53 Vendor Disclosure Statement

Act 2001-955 requires the disclosure statement to be completed and filed with all proposals, bids, contracts, or grant proposals to the State of Alabama in excess of \$5,000. In circumstances where a contract is awarded by competitive bid, the disclosure statement shall be required only from the person receiving the contract and shall be submitted within ten (10) days of the award.

Upon being awarded the contract, Alabama State Law requires that the vendor must complete a Vendor Disclosure Statement. The 2-page form and the instructions are available online as noted per Appendix D. The form is required by the vendor and covers the duration of the bid.

Vendor agrees, for the duration of the agreement, that they will not violate federal immigration law or knowingly employ, hire for employment, or continue to employ an unauthorized alien within the State of Alabama in compliance with the Beason-Hammon Alabama Taxpayer & Citizen Protection Act (Act 2011535). Upon being awarded the contract, Alabama State Law requires that the vendor

must complete the Business Entity Employer Contractor Compliance form as proof that the vendor has enrolled in the E-Verify program as required by state law. The form and the instructions are available online as noted per Appendix D. E-Verify documentation, which is unavailable due to the Federal Government shutdown, will be deferred until such documentation may be obtained from any federal agency.

It is furthered agreed that the terms and commitments contained herein shall not constitute a debt of the State of Alabama in violation of Section 213 of the Constitution of Alabama of 1901, as amended by Amendment Number 26. If any provision of the agreement shall contravene any statute or constitutional provision, either now in effect or which may be enacted during the term of this agreement, then the conflicting provision of this agreement shall be deemed null and void. Vendor understands, acknowledges, and agrees that its sole and exclusive remedy for any claim which may arise for or relate to this agreement is to file a claim with the Board of Adjustment of the State of Alabama.

In compliance with Act 2016-312, the vendor hereby certifies it is not currently engaged in, and will not engage in, the boycott of a person or an entity based in or doing business with a jurisdiction with which this state can enjoy open trade.

Howard Technology Solutions acknowledges and complies.

36 Howard Drive • Ellisville, MS 39437
P.O. Box 1590 • Laurel, MS 39441

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888.912.3151 general • 601.399.5077 fax
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ISO Certification

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Sample Reports

Quarterly Utilization Report

State	Bill To Name	CustomerPO Number	Ship Date	Invoice Number	Product Description	Unit Price	QTY	Total Price
AL	ATHENS STATE UNIVERSITY	PO# P2400658	12/06/2023	0000188758	Howard Q670MKB Desktop	1,142.00 \$	1	1,142.00 \$
AL	ALABAMA TECHNOLOGY NETWORK	PO# PO15329	12/28/2023	0000491216	UBIQITI Industrial-grade 3.5" 1TB HDD	59.00 \$	1	59.00 \$
AL	ALABAMA TECHNOLOGY NETWORK	PO# PO15329	12/28/2023	0000491216	UBIQITI U6 Professional	181.00 \$	3	543.00 \$
AL	Bevill State Community College	PO# P0009658	12/29/2023	0000491281	EXTRON TLP Pro 1025T Black 10" Tablettop TouchLink Pro Touchpanel	1,881.00 \$	1	1,881.00 \$
AL	Bevill State Community College	PO# P0009658	12/29/2023	0000491281	JBL Control 2P C2PM - Monitor speaker - 35 Watt - black	171.00 \$	1	171.00 \$
AL	Bevill State Community College	PO# P0009658	12/29/2023	0000491281	Shure Microflex Gooseneck MX412D/C - Microphone	277.00 \$	1	277.00 \$
AL	Bevill State Community College	PO# P0009705	12/29/2023	0000491338	JPK-1300-UA Jetpack 3x1 Switching, Transport, and Control Solution	1,013.00 \$	1	1,013.00 \$
AL	Bevill State Community College	PO# P0009705	12/29/2023	0000491338	Plenum Cat6 550 Mhz RJ-45 Plug to Plug Cable 25ft Blue	29.00 \$	1	29.00 \$
AL	Bevill State Community College	PO# P0009705	12/29/2023	0000491338	Comprehensive MHD48G-25PROBLKA	89.00 \$	2	178.00 \$
AL	Bevill State Community College	PO# P0009705	12/29/2023	0000491338	Comprehensive MHD48G-3PROBLK	20.00 \$	1	20.00 \$
AL	Bevill State Community College	PO# P0009705	12/29/2023	0000491338	Comprehensive MHD48G-9PROBLK	31.00 \$	2	62.00 \$

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Baseline Pricing Chart*

*The following pricing chart is a general representation of the brands and products/services Howard Technology Solutions offers and is not meant to be an all-inclusive list. All products, brands, and services offered by Howard Technology Solutions are included and offered in our proposal to this RFP.



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Howard-branded products are designed, assembled, and quality tested in the USA. Each one includes a top-rated warranty and free customer support for as long as you own it.

- Desktops • eSPORTS • Kiosks • Lighting
- Notebooks • Servers • Tablets • Workstations



A | COMPUTING SOLUTIONS

1. **ACCESSORIES:** Belkin, C2G, CaseLogic, Kensington & Targus
2. **ANTIVIRUS:** AVG, BitDefender, Cylance, GoGuardian, Kaspersky Lab, MalwareBytes, McAfee, Palo Alto, Panda Security, Sophos, Symantec, Total Defense & Trend Micro
3. **ASSET MANAGEMENT:** Absolute, Asset Panda, Hayes & Symantec
4. **DESKTOPS:** **HOWARD**, Acer, Dell, HP & Lenovo
5. **MOBILE DEVICE MANAGEMENT:** Airwatch, Filewave, GoGuardian, Lightspeed Systems & Securly
6. **MOBILE PRESENTATION & CHARGING STATIONS:** Anywhere Cart, Aver, Blackbox, Bretford, Copernicus, Datamation, Earthwalk, Ergotron, Kwikboost, LocknCharge, Luxor, MooreCo, PowerGistics & Spectrum
7. **NOTEBOOKS & TABLETS:** **HOWARD**, Acer, Asus, Dell, Fujitsu, HP, Lenovo, Microsoft, Samsung & Toshiba
8. **PRINTERS (2D & 3D):** 3D Systems, Brother, Craftunique, HP, Kyocera, Lexmark, Makerbot, OKI & Xerox
9. **REFURBS:** Charge Carts, Computers, Document Cameras, Monitors, Notebooks, Servers, Storage & Tablets
10. **VR:** Epson, HP, HTC Vive, Lenovo, Oculus Rift & Samsung

B | AUDIOVISUAL + INSTRUCTIONAL SOLUTIONS

1. **AUDIO SOLUTIONS:** AMX, Audio Enhancement, Crestron, Elmo, Extron, Lightspeed & Shure
2. **BROADCASTING:** Panasonic, Sony & TriCaster
3. **CABLES:** C2G, Comprehensive, Crestron, Liberty Cable, MonoPrice & West Penn
4. **CONTROL SYSTEMS:** AMX, Atlona, Crestron, Extron, FrontRow, Kramer & SP Controls
5. **DOCUMENT CAMERAS:** Aver, Boxlight, Elmo, Epson, HoverCam, & Lumens
6. **FURNITURE:** CEF, Middle Atlantic, MooreCo, Spectrum, VFI & Worthington
7. **INTERACTIVE CLASSROOM SOLUTIONS:** BenQ, Boxlight, Epson, Interactive Projectors, NEC, Qomo, Samsung & SMART
8. **INTERACTIVE DISPLAYS:** Aver, BenQ, Boxlight, Cleartouch, HoverCam, Newline, Promethean, Qomo, Ricoh, Sharp, Viewsonic & Wacom
9. **INTERCOMS, BELLS & PAGING SYSTEMS:** Atlas, Audio Enhancement, Extron, Harman & Valcom
10. **LECTURE CAPTURE:** Audio Enhancement, Crestron, Discover Video, Extron, Lumens & VBrick
11. **MIXERS & MICROPHONES:** AKG, Allen & Heath, Shure & Soundcraft
12. **MONITORS & DISPLAYS:** LG, NEC, Panasonic, Planar, Samsung, Sharp, Sony & Viewsonic
13. **MOUNTS:** Chief, Peerless & Premier Mounts
14. **PROJECTORS:** BenQ, Boxlight, Casio, Christie, Epson, Hitachi, Infocus, NEC, Panasonic, Sony & Viewsonic
15. **PROJECTOR SCREENS:** Da-Lite & Draper
16. **SPEAKERS & AMPS:** Audio Enhancement, Crestron, Crown, Danley, Extron, JBL, Lab Gruppen, Renkus-Heinz & Tannoy
17. **VIDEO CAMERAS:** Audio Enhancement, Aver, Axis, Hitachi, Panasonic, Sony & Vaddio
18. **VIDEO CONFERENCING:** Cisco, Crestron, Lifesize, MashMe, Polycom & Zoom
19. **WEBCASTING:** Vivi
20. **WIRELESS INTERACTIVE PADS:** Elmo & Qomo

C | NETWORKING INFRASTRUCTURE SOLUTIONS

1. **BACKUP & REPLICATION:** Barracuda, CoinmVault, Cybernetics, Exagrid, HPE, Quest, Rubrik, Spectra Logic, Unitrends, Veeam, VMware & Zerto
2. **BANDWIDTH MANAGEMENT SOLUTIONS:** Allot & Radware
3. **CONTENT FILTERING:** Barracuda, ContentKeeper, ESET, FamilyZone, Fortinet, iBoss, Lightspeed Systems, Palo Alto & Securly
4. **CONTINUITY SOLUTIONS:** Cisco
5. **COOLING, LAN STORAGE & POWER PROTECTION PRODUCTS:** APC, Cyberpower, Eaton, Orion, Schneider Electric, SurgeX & Tripp Lite
6. **DISASTER RECOVERY PRODUCTS:** **HOWARD**, Dell EMC, Veeam & VMware
7. **EMAIL ARCHIVING SOLUTIONS:** Arcmail & Barracuda
8. **HYPERCONVERGED:** Dell EMC, HPE, HVE, NetApp & Nutanix
9. **NETWORK ACCESS CONTROL:** Aruba, Extreme, Fortinet & Impulse
10. **NETWORK INFRASTRUCTURE:** Aruba, Broadcom, Cisco, Extreme, HPE & Ruckus
11. **SECURITY SOLUTIONS:** Aruba, Barracuda, BitDefender, Fortinet, Juniper, McAfee, Panda Security, Radware, Sophos & Symantec
12. **SERVERS:** **HOWARD**, Dell, Fujitsu, HPE, HVE, IBM & Lenovo
13. **STORAGE:** Buffalo, Dell EMC, HVE, Overland Tandberg & Western Digital
14. **VOIP:** Cisco, Digium, Fortinet, Mitel, Polycom, Vertical & Zultys
15. **WIRELESS:** Arista Networks, Aruba, Cisco, Cradlepoint, Extreme, Fortinet, HP, Meraki, NetGear, Riverbed, Ruckus & Ubiquiti

D | VIRTUALIZATION

1. **BACKUP & DATA RECOVERY:** Barracuda, Nakivo, Unitrends, Veeam & Zerto
2. **CLOUD:** AWS, Greencloud & Microsoft
3. **DESKTOP VIRTUALIZATION:** Citrix, HVE, NComputing & VMware
4. **SERVER VIRTUALIZATION:** Citrix, HVE, Microsoft, Overland Tandberg & VMware
5. **SERVERS:** **HOWARD**, Dell, HPE, HVE, Lenovo & Nutanix
6. **SOFTWARE-DEFINED STORAGE:** DataCore & VMware
7. **STORAGE:** Dell EMC, HPE, HVE, Lenovo, Overland Tandberg, QNAP & Synology
8. **VDI:** Citrix, Dell, HVE, Inuvika, LG, NComputing & VMware

E | PHYSICAL SECURITY

1. **ACCESS CONTROL:** 3xLogic, ANVIZ, BFT Americas Inc., IDIS Global, IRISID, Kantech, OpenPath, Panasonic, Paxton, Proxess, Proxy, SafePass, Salto & TagMaster
2. **ACTIVE SHOOTER:** A.S.R.S., AMBERBOX, Athena Security, Crotega, Noice Industries & ZeroEyes
3. **BEHAVIOR MANAGEMENT:** IPVideo Corp.
4. **BODY PROTECTION:** Bulletsafe
5. **CLOUD:** Brivo, OpenPath & ProdataKey
6. **DISPLAYS:** Avue Technologies, Bosch, LG, NEC, Panasonic, Planar, Samsung, Sharp, Sony & ViewSonic
7. **EMERGENCY ALERT NOTIFICATION:** Audio Enhancement, Lynx, SafeKard & Singlewire
8. **ENCODERS:** Axis & Panasonic
9. **GUARD SERVICES EQUIPMENT:** MRKT-IT
10. **INTERCOMS:** 2N, Aiphone & Comelit
11. **LIGHTING:** **HOWARD**
12. **MOBILE SECURITY:** MRKT-IT



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E | PHYSICAL SECURITY (cont'd)

- 13. **MOUNTING & ACCESSORIES:** Altronix, Axis, C2G, Moog & Panasonic
- 14. **PERIMETER SECURITY:** Boon Edam, Garrett & Nightlock Lockdown
- 15. **STORAGE:** Avue Technologies, Axis, Cisco, CP Technologies, Exacq, IPConfigure, Lexmark, Milestone, Panasonic, PivoL-3, Plusstek, Q-See, Seneca, SoleraTec, TRENDnet, Ubiquiti, ViewZ & Vivotek
- 16. **SUPPORTING INFRASTRUCTURE:** Altronix, Audio Enhancement, FluidMesh Networks & Ubiquiti
- 17. **VIDEO MANAGEMENT SOFTWARE:** Axis, Exacq, Milestone & Panasonic
- 18. **VIDEO SURVEILLANCE:** Audio Enhancement, Axis, Milestone, Panasonic & Verkada
- 19. **VISITOR MANAGEMENT:** AxxonSoft, IDSCAN, iLobby, SilverShield & Traction Guest

F | KIOSKS + DIGITAL SIGNAGE

- 1. **CONTENT MANAGEMENT SOFTWARE:** Discover Video, Hiperwall, Hypersign, RevelTV, Signage Live & Visix
- 2. **DIGITAL OUTDOOR SIGNS & SCOREBOARDS:** Daktronics & Optec
- 3. **INDOOR KIOSKS:** **HOWARD**
- 4. **LARGE FORMAT DISPLAYS:** LG, Panasonic, Planar, Samsung, Sharp, Sony & Viewsonic
- 5. **MEDIA PLAYERS:** BrightSign, Discover Video, Viewsonic & Vivitek
- 6. **MOUNTS & MOUNTING BRACKETS:** Chief, Peerless & Premier Mounts
- 7. **OUTDOOR KIOSKS:** **HOWARD**
- 8. **THROUGH-THE-WALL KIOSKS:** **HOWARD**
- 9. **TABLETOP KIOSKS:** **HOWARD**
- 10. **TELEMEDICINE KIOSKS:** **HOWARD**
- 11. **WAYFINDING KIOSKS:** **HOWARD**, 22Miles & Visix

G | SOFTWARE SOLUTIONS

- 1. **FEATURED SOFTWARE:** Hapara & Viper
- 2. **ANTIVIRUS:** AVG, BitDefender, Cylance, GoGuardian, Kaspersky Lab, MalwareBytes, McAfee, Palo Alto, Panda Security, Sophos, Symantec, Total Defense & Trend Micro
- 3. **BACKUP, RECOVERY & UTILITY:** Nakivo & Symantec
- 4. **CHROMEBOOK-ENABLING SOFTWARE:** Neverware
- 5. **CONTENT CREATION:** Avid
- 6. **CREATIVITY, DESIGN & PAGE LAYOUT:** Adobe
- 7. **IT & NETWORK MANAGEMENT:** Hayes Software & Velocloud
- 8. **NETWORK SECURITY:** Absolute Software, Bitdefender, Check Point, GoGuardian & Sonicwall
- 9. **PRINT MANAGEMENT:** PaperCut
- 10. **PROGRAMMING & WEB DEVELOPMENT:** Microsoft & Rubrik
- 11. **VIRTUALIZATION & STORAGE:** Citrix, DataCore, Veeam & VMware

H | PROFESSIONAL SERVICES

- 1. **CONSULTING:** Network Assessments, Outsourced Labor & Wireless Surveys
- 2. **INSTALLATION & DESIGN SERVICES:** Audiovisual & Computing, Cabling, Distance Learning & Video Conferencing, Network and Data Centers & Wireless Access
- 3. **MANAGED SERVICES:** E-Rate Eligibility, IT Outsourcing, Network Consulting & Onsite Technicians
- 4. **PHYSICAL SECURITY & VIDEO SURVEILLANCE SERVICES:** Aver, Axis, Cisco, Lumens, Milestone, Panasonic & Salto
- 5. **PROFESSIONAL DEVELOPMENT/TRAINING:** Curriculum Training, Instructional Technologies & 21st Century Classrooms- MobileMind
- 6. **PROGRAMMING SERVICES:** Control Systems & Video Conferencing
- 7. **SUPPORT SERVICES:** Asset Tagging, Custom Imaging, Etching, HTTP, OnCall, Technology Management & White Glove Services

I | EVERYDAY ACCESSORIES

- 1. **BAGS & CASES:** Belkin, Brenthaven, CaseLogic, Greensmart, Gundrop, Higher Ground, Incase, MaxCases, Mobile Edge & Tucano
- 2. **HARDWARE:** Cameras & Camcorders, Ink, Keyboards, Mice & Pointing Devices, Monitors, Power Devices, Printers, Projectors, Scanners, Toner & Other Accessories
- 3. **NETWORKING:** Adapters, Bridges, Cables, Cards, Hubs, IP Telephony, Modems, Routers, Security Devices, Switches, Video Conferencing Products, WAPs & Other Accessories
- 4. **PRINTING CONSUMABLES:** Brother, Canon, HP, Lexmark & PCI

J | PRO DEVELOPMENT | TEACHING + LEARNING

- 1. **FUSION:** FUSION is HOWARDedu's Professional Learning Model that takes teaching, standards, content and pedagogy, and fuses it with technology to create new learning environments where students are engaged in daily instruction.
- 2. **AUDIO ENHANCEMENT:** Educators need tools they can use everyday to improve teaching and learning in the classroom. Our professional development will show teachers how to use Audio Enhancement tools to reach all students in the classroom.
- 3. **CODING:** Discover how to incorporate computer science into the core curriculum and teach the computational skills needed to engage students with coding, robots and STEM tools.
- 4. **MOBILEMIND:** MobileMind's differentiated and time-conscious virtual training builds capacity and helps drive adoption of technology usage.
- 5. **STEMFUSE:** Discover the best STEM-based Curriculum software.

K | eSPORTS SOLUTIONS

- 1. **GAMING DESKTOPS:** **HAVOC^{PC}**, Acer, Asus, Dell, HP & Lenovo
- 2. **GAMING FURNITURE:** Spectrum
- 3. **GAMING HEADSETS:** Corsair
- 4. **GAMING KEYBOARDS:** Corsair
- 5. **GAMING LAPTOPS:** **HAVOC^{PC}**, Acer, Asus, Dell, HP & Lenovo
- 6. **GAMING MICE:** Corsair
- 7. **GAMING MONITORS:** Asus, HP, Lenovo & Viewsonic
- 8. **GRAPHICS CARDS:** Acer & Asus

L | E-COMMERCE (www.howardedu.com)

- 1. **PREMIERE WEBSITE CUSTOMIZATION**
- 2. **SHOP BY APPROVED PRODUCTS PAGE (APP)**
- 3. **SHOP BY CONTRACT:** BuyBoard, NASPO ValuePoint, NCPA & TIPS/TAPS
- 4. **SHOP BY ROOM**

OUTSIDE REP

EMAIL

PHONE

INSIDE REP

EMAIL

PHONE

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Howard HTTP Program

HTPP

Howard Technical Partnership Program

Fast, Flexible, and Free

Howard Technology Solutions realizes that many organizations handle basic hardware service and support in one of two ways: they either make a significant investment in establishing and maintaining a group of local service providers, or they use their own internal support staff. For this reason, we have developed the Howard Technical Partnership Program (HTPP) so we can satisfy either option by facilitating timely, cost-effective, quality service in conjunction with our high standards for customer satisfaction.

Managed by our 100% US-based support engineers and technicians, HTPP is an integral part of our strategy to establish direct, personal relationships with our customers to ensure we meet all of their organizations' needs. Participation is easy; simply complete an HTPP application online at www.howardcomputers.com/support.

"Howard's Technical Partnership Program is an integral part of our strategy to establish direct, personal relationships with our customers to ensure we meet all of their organizations' needs."



Program Highlights

- No subscription fee or certification requirements
- Labor reimbursement for authorized repairs
- Expedited service and/or replacement part ordering
- Free consultation to determine your optimal parts inventory with on-site parts inventory available to qualifying organizations
- You NEVER pay for defective parts and shipping is FREE as long as the warranty claim is valid!

Howard System and Technology Advancement Updates

Receive frequent updates highlighting our new technologies; system improvements; and information on the latest Howard desktops, notebooks, servers, and much more.

Program Details

By participating in HTPP, you will enjoy the benefits listed below:

- **No annual subscription fee.** We do not charge any fee for participating in HTPP.
- **No certification requirements.** We do not require you to have or maintain any type of professional certifications such as COMPTIA A+, COMPTIA Network, or Microsoft® certifications. However, we do encourage you to obtain certifications as appropriate and do weight these certifications when reviewing your application.
- **Labor reimbursement.** Receive labor reimbursement for qualified repairs performed on Howard branded systems during the on-site warranty maintenance period. The labor reimbursement is for touch-labor on a per incident basis regardless of the number of components or subassemblies replaced. The reimbursement amount is dependent upon geographic location and negotiated prior to execution of the Howard Technology Solutions Warranty Service Agreement.
- **Expedited spare parts ordering.** You may order spare parts via email or the web directly from the factory without any requirement to call us. As an HTPP member, we are assured your organization has the skilled, technical staff to properly troubleshoot and diagnose system problems and issues. Your technical staff is only required to provide exact error message and accurate diagnostic steps in determining the actual problem of the faulty hardware.
- **Recommended spare parts list.** We will provide a recommended spare parts list to assist your organization in maintaining the correct number and types of spare parts. This will help you keep spare parts costs to an absolute minimum. And because we maintain an exhaustive history of all ordered parts, we can provide you with a very precise spare parts inventory recommendation.



- **On-site consignment spare parts inventory.** For qualifying organizations, we will enable you to maintain a spare and a replacement part(s) inventory on-site so that you can re-stock your inventory with the replacement part(s).
- **Centralized inventory of spare parts.** Howard Technology Solutions maintains an abundant inventory of spare and replacement parts at our manufacturing facility to ensure that when you need a spare part, it is readily available.
- You must contact us to obtain a Return Material Authorization (RMA) number whenever you encounter a defective part.
- We will send you the replacement part. With Howard Technology Solutions, you NEVER pay for defective parts as long as the warranty claim is valid.
- A shipping label(s) is included with the replacement part to return the defective part.
- You return the defective part using the shipping label(s) so that you avoid additional costs.

For additional information please contact our Technical Support Department at 888.323.3151 or 601.399.5774 (fax).

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TECHNOLOGY SOLUTIONS

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www.Howard.com

A Division of Howard Industries, Inc.

Warranty Information

Howard Branded Product Warranty

Every time you purchase a Howard Technology Solutions branded product in the U.S., you receive a Limited Warranty which provides you with a comprehensive service and support program for the term of the warranty. To determine the warranty type and duration that is included with your purchase, see your packing slip or order confirmation. Alternately, you may email your questions or description of the problem to Technical Support Center at: tech@howardcomputers.com

Note: Warranty service may be fulfilled by shipping user replaceable parts, such as keyboard, mouse, cables, monitors, speakers, or similar devices directly to you.

The product you have purchased is warranted by Howard Technology Solutions to be free of defects in materials and workmanship under normal use for the duration of the terms as stated in the Limited Warranty. The warranty begins the day we ship your Howard Technology Solutions branded product. As an added convenience, Howard Technology Solutions keeps track of this date for you. Your product's Limited Warranty is non-transferable and will not be honored if the ownership of the product changes. For the duration of the Limited Warranty, Howard Technology Solutions will repair or replace defective parts with new or serviceable parts, which meet or exceed the performance of new parts.

What is not covered under the Limited Warranty?

1. Products located and/or operated outside the 50 states
2. Products purchased from anyone other than Howard Technology Solutions or an authorized reseller/agent
3. Expendable parts (Note: batteries provided for your notebook are covered for [1] year from the date we ship your system)
4. Accessories or peripherals not sold as part of a Howard branded system. The only accessories and peripherals covered that are sold as part of a Howard branded system are the monitor, mouse, and keyboard.
5. Software products
6. Routine cleaning, cosmetic, and mechanical wear
7. On-site support for monitor, keyboard, mouse, and speakers
8. Damage from the following:
 - a. Misuse, abuse, neglect, acts of God, fire, vandalism, civil disturbances, or war
 - b. Use outside of the product's design usage or parameters
 - c. Use of non-Howard Technology Solutions manufactured or sold parts
 - d. Installation of parts not approved by Howard Technology Solutions
 - e. Repair or replacement of non-Howard Technology Solutions authorized service partner

How do you get warranty service and support for your Howard branded product?

Depending on the terms of your agreement, you will receive a combination of one or more of the following: telephone support, parts-only replacement, carry-in service, or on-site service.

How do you get technical support?

With Howard Technology Solutions, you receive FREE telephone technical support 24/7, 365 days a year for as long as you own your Howard branded product. Our friendly, US-based team of experts will answer your questions about the product, hardware setup, or installation, all with telephone hold times typically less than one [1] minute. To expedite our service to you, please gather the following information before calling our Technical Support Center at (888) 323-3151

1. Product serial number(s) – located on the side or bottom of machine
2. Add-on boards of hardware installed on the product
3. Third-party software installed on the product
4. Operating system type and revision level
5. Content of any error message
6. Explanation of the problem and/or detailed, specific questions

Howard Industries, Inc. Technology Division Limited Warranty

1. Limited Warranty and/or Next Business Day (NBD) On-site Response

Howard Industries, Inc. (hereinafter "Howard") warrants that the Howard branded product(s) purchased by you will be free from defects in materials and/or workmanship under normal use for the purchased warranty period starting from the date of product shipment with the following EXCEPTIONS:

- a. Defective CDs, DVDs, diskettes or other software media that are delivered with your product will be replaced by Howard or its suppliers for twenty-one [21] days from the date you receive your product.
- b. Howard DOES NOT WARRANTY ANY SOFTWARE PRODUCTS, INCLUDING THE OPERATING SYSTEMS PREINSTALLED BY HOWARD TECHNOLOGY SOLUTIONS.
- c. Defective accessories or peripherals bundled with your Howard branded product (limited to the monitor, mouse, and keyboard) are subject to the terms of the warranty duration and type purchased from Howard Technology Solutions. All other defective accessories or peripherals, other than software, that are delivered with your product will be replaced by Howard or its suppliers for twenty-one [21] days.
- d. If purchased, next business day on-site warranty service is provided for the time period listed on the packing slip or invoice and begins the date of product shipment for the Howard Technology Solutions' products. The hours of next business day on-site warranty services will be provided Monday – Friday from 8:00AM to 5PM local time excluding Howard Technology Solutions' holidays as published on the Howard Technology Solutions' website at www.Howard.com. Second business day response times may be required in case of delays beyond Howard Technology Solutions' control (such as acts of God or calls reported to Technical Support after 3pm Central Standard Time). A Howard authorized third party

vendor may provide on-site service. Note: Some repairs may require the unit to be returned to Howard for depot service at an authorized service center.

- e. On-site warranty service is not available for Field Replaceable Units (FRU) such as monitors, keyboards, modular hard drives, mice, or similar external components of the product.

To obtain service under this limited warranty, you must contact Howard Technical Support within the warranty period. Technical Support personnel will work to resolve issues professionally and quickly, however, you must provide reasonable assistance in order to facilitate and/or receive support services. If Howard Technology Solutions is unable to correct the problem, they may authorize a replacement part or parts, on-site service, or a product replacement. ON-SITE SERVICE AND PRODUCT REPLACEMENTS ARE CONSIDERED OPTIONS OF LAST RESORT. All replaced parts must be returned to Howard. You will be invoiced for defective replacement parts not returned to Howard within two [2] weeks of receipt of the replacement parts.

Howard does not warranty damages or defects to the Howard product under the following conditions: misuse, abuse, neglect, acts of God, fire, vandalism, civil disturbances, or war, unauthorized service repair of the Howard product, damage from electrical power problems, usage of parts or components not supplied by Howard, shipping damage (other than during original shipment from Howard), failure to perform preventative maintenance, or damage caused by peripherals or software or from other external causes.

Howard will, under the warranty period, repair or replace defective parts with new or serviceable used parts. This determination will be at the sole discretion of Howard. Howard owns all removed and repaired parts from the Howard product. The repair or replacement of a Howard product does not extend the warranty of said computer product. Spare parts are warranted to be free from defects in material or workmanship for twenty-one [21] days or the remainder of the Limited Warranty Period (whichever is long) of the Howard product in which they are installed.

This limited warranty is extended only to the original purchaser and is non-transferable. In addition, this warranty is only valid within the United States of America. For this warranty to be valid, the product must have been purchased directly from Howard or from an authorized representative of Howard.

The warranties set forth herein are in lieu of any and all other warranties expressed or implied, including the warranties of merchantability and fitness for a particular use. Howard disclaims all other warranties, expressed or implied, including without limitation implied warranties of merchantability and fitness for a particular use. Except for the obligations set forth in this warranty statement, Howard shall not be liable for any defect, direct, special, incidental, or consequential damages including without limitation any liability for losses in profits, losses in revenue, losses in savings, losses of data, downtime, costs of capital, cost of replacement equipment (temporary or per permanent), costs of time, thirty parties' claims, or injuries to property.

The limited of the liability of Howard to repair its computer product after a reasonable amount of time and a reasonable number of attempts shall be the replacement of the Howard product or a refund of the original purchase of the computer product. The decision regarding replacement versus refund shall be at the sole discretion of Howard. The above options are the only remedies for any perceived breach of warranty by Howard.

In states that do not allow limitations on implied warranties or on the length of implied warranties, the above limitations may not apply to you. In states that do not allow for the exclusion or limitations and exclusions may not apply to you. This warranty gives you specific legal rights. To determine other rights you may have, review your applicable state laws.

2. Warranty Extensions and Upgrades

Howard Technology Solutions currently offers various options to extend or upgrade the Limited Warranty of the Howard branded product. This extension is only available for purchase during the first year warranty coverage period from Howard Technology Solutions. Call 1.888.912.3151 for pricing and availability.

3. Post-Warranty Parts Availability

Howard is available to assist with parts acquisition after the warranty period. Call 1.888.912.3151 for post-warranty assistance.

36 Howard Drive • Ellisville, MS 39437
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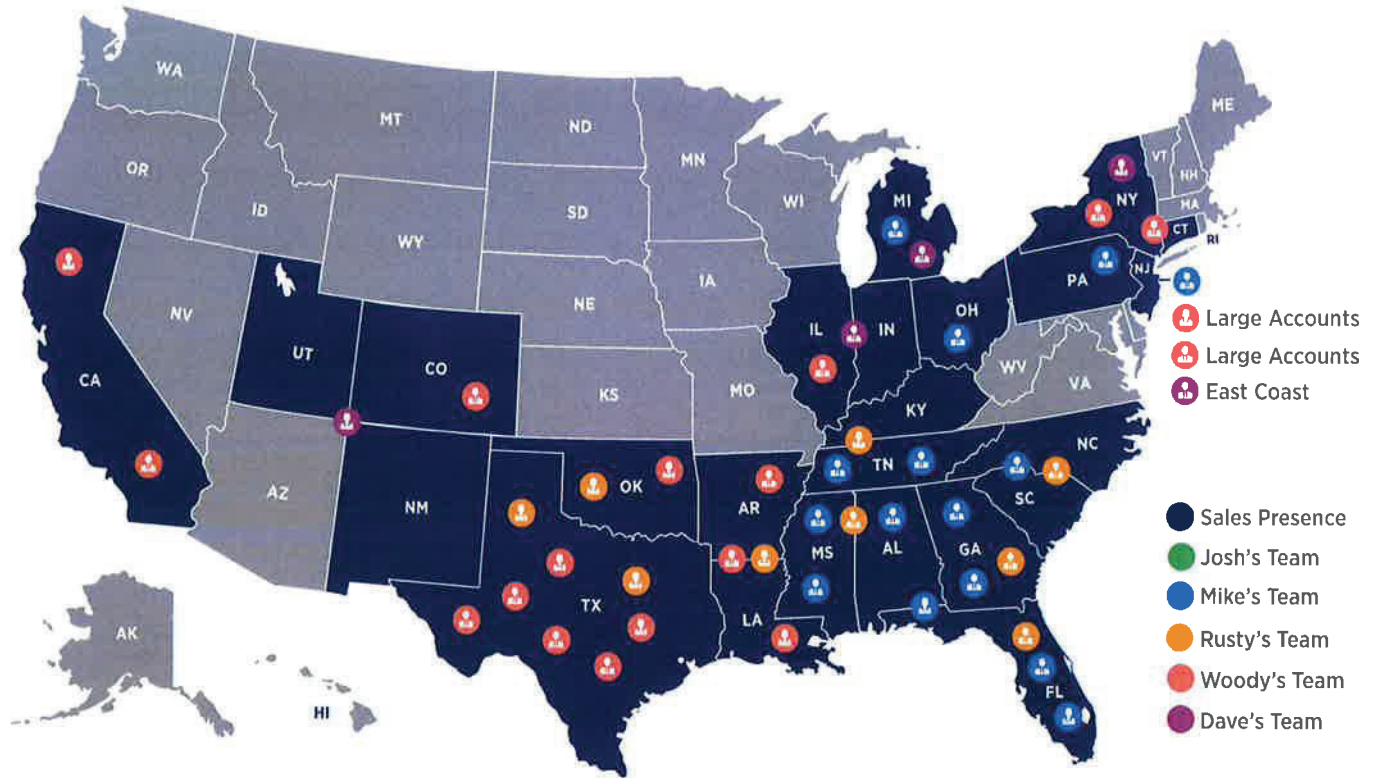
HOWARD[™]
TECHNOLOGY SOLUTIONS

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A Division of Howard Industries, Inc.

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- Southeast
- Midwest
- West

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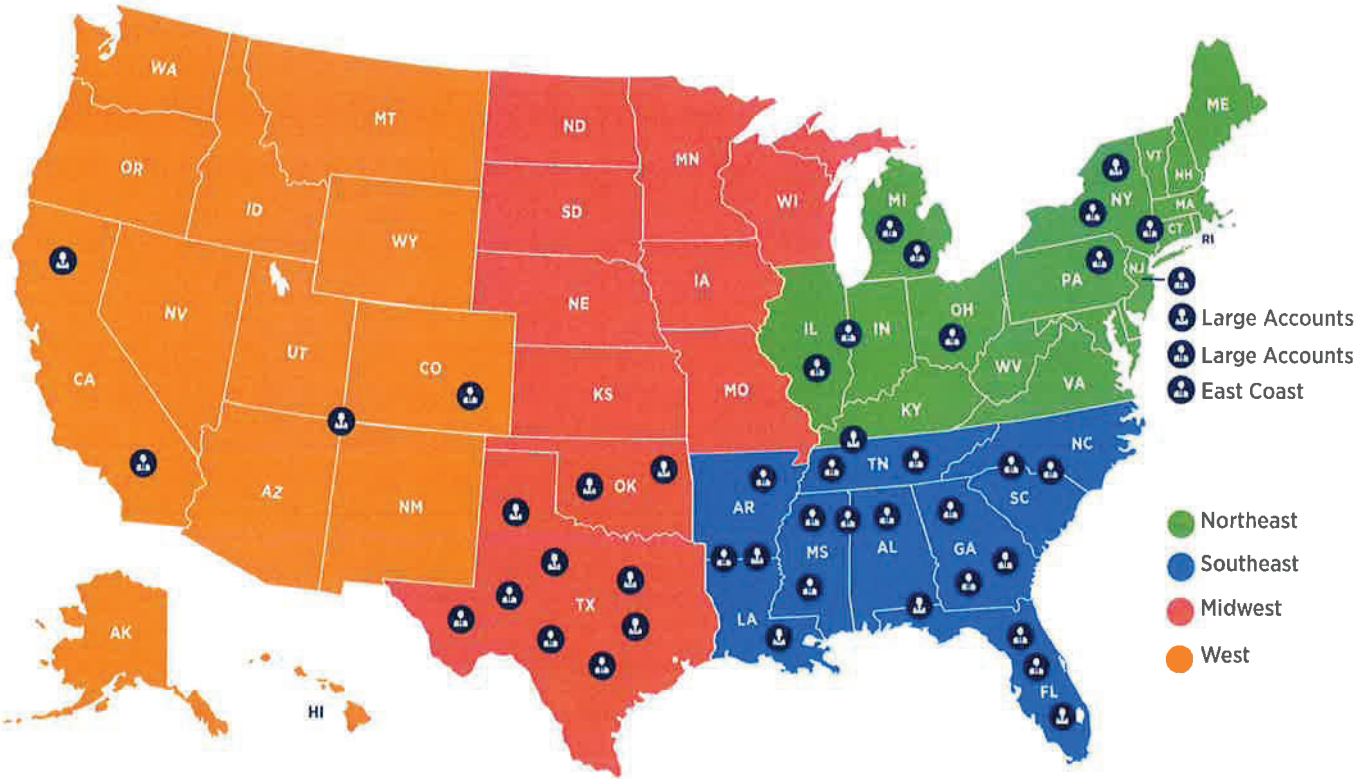
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K12 | N. Carolina (West), S. Carolina

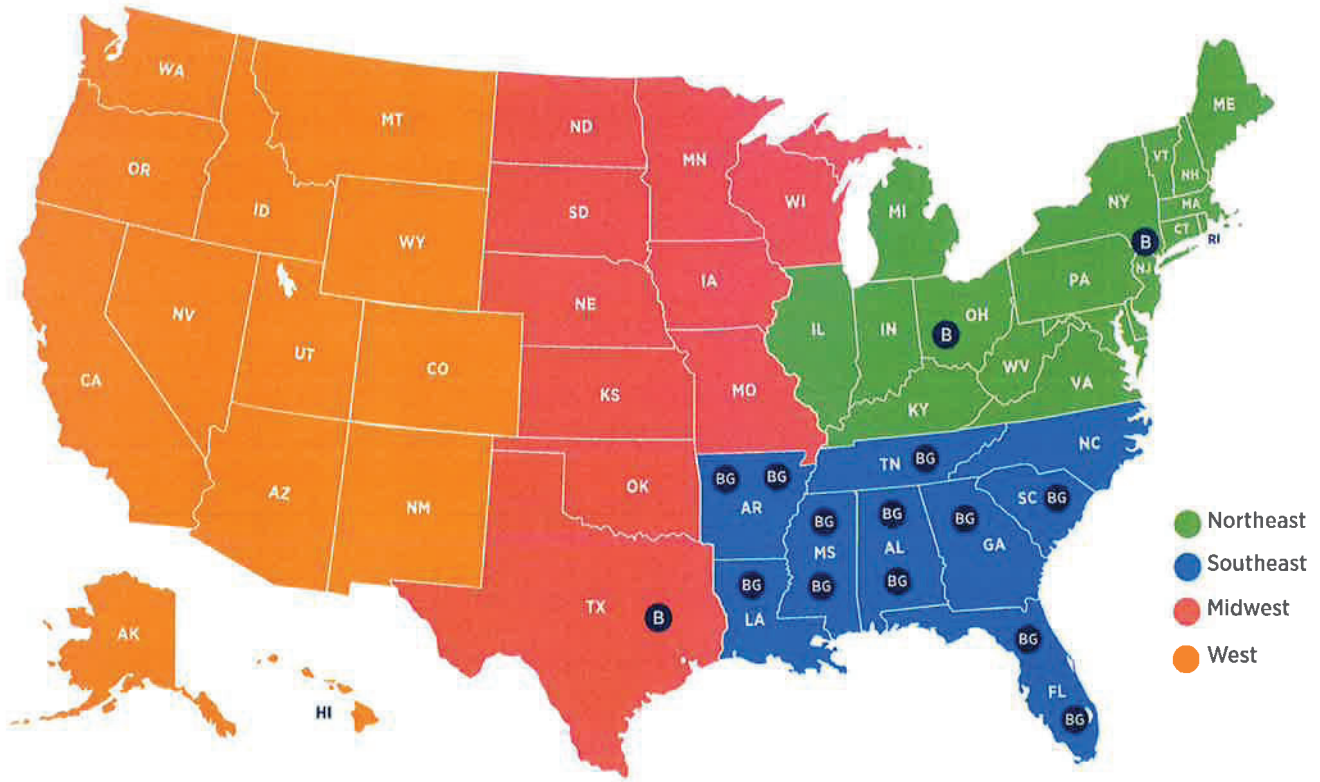
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-  Southeast
-  Midwest
-  West

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BIZ/GOV | Alabama, Mississippi, South Carolina
Rep Name: Jeffrey Blue

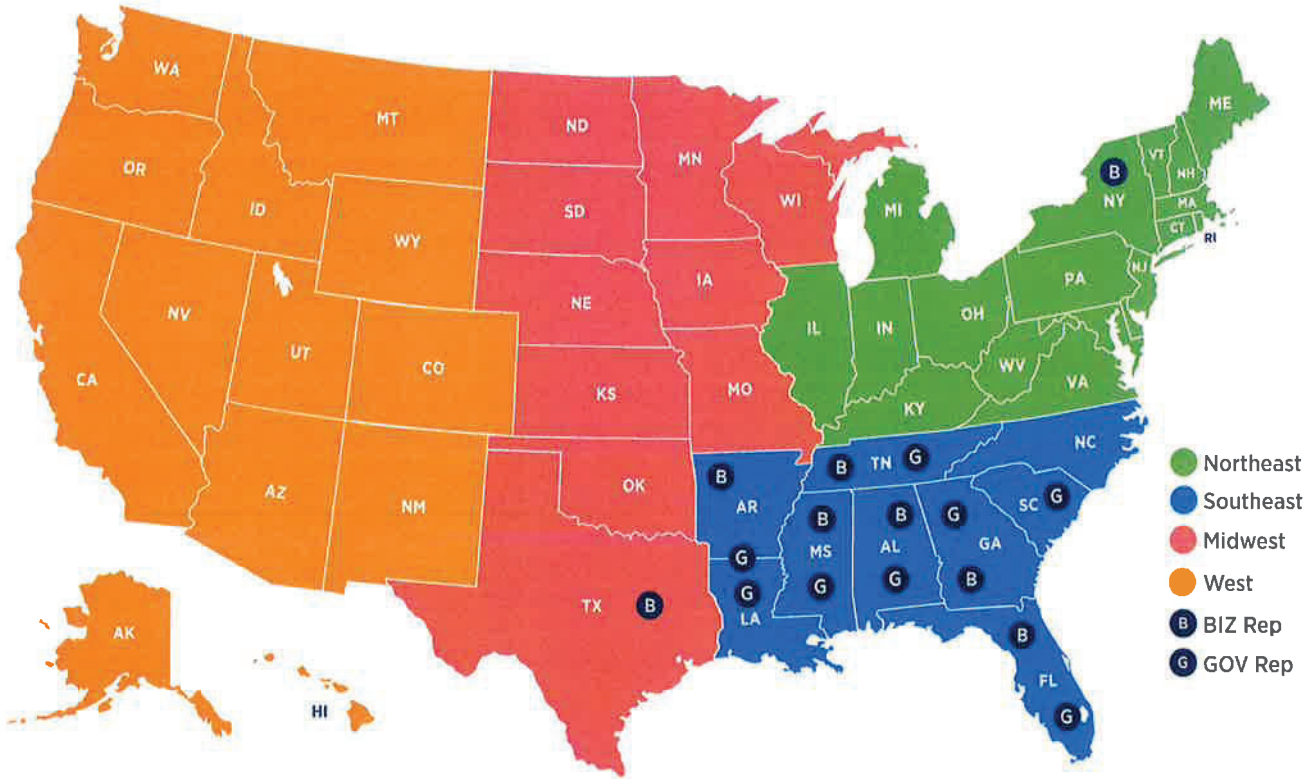
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GOV | Louisiana

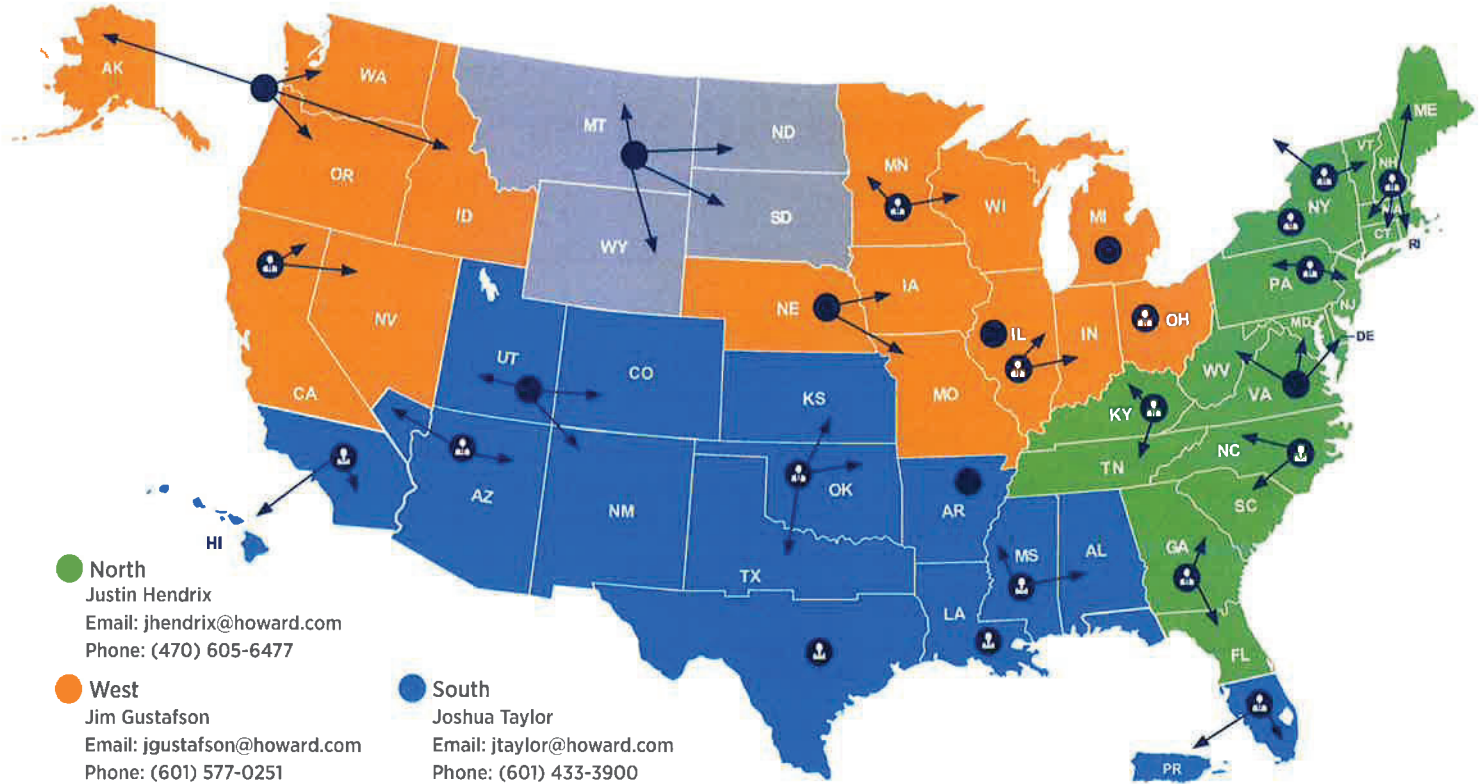
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South Carolina & North Carolina
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Email:
Phone:

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Phone: (337) 595-3124

Texas
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Phone: (601) 658-7435

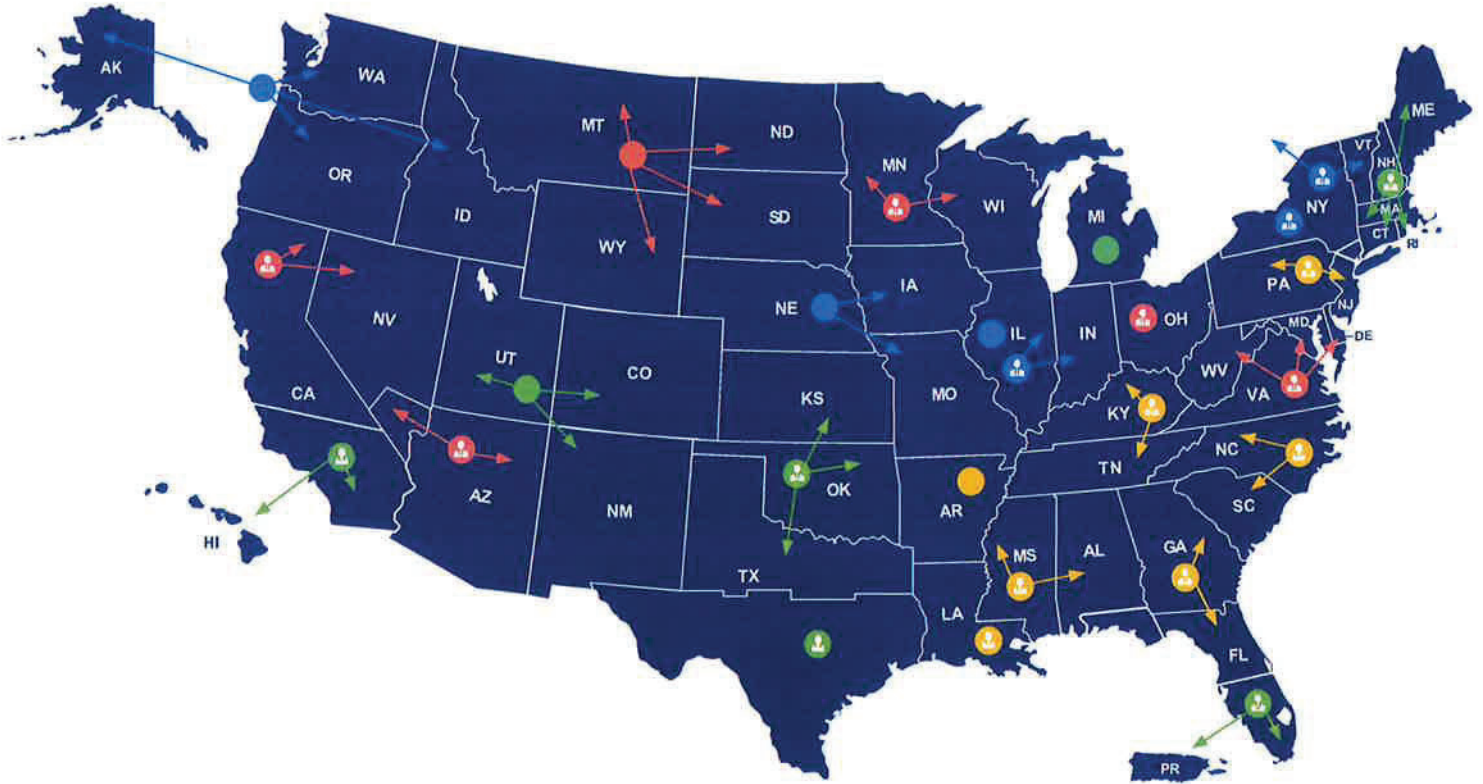
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Email:
Phone:

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Rep Name:
Email:
Phone:



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Strategic Alliance Manager

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Medical Graphic Design Specialist

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Phone: (601) 399-5838

- Northeast #1 (NY - Boroughs, Long Island) - Jim Reilly
- Northeast #3 (NY, VT, Canada) - David Bubar
- Ill/IND - Steve Oesch
- Chicago - OPEN
- Pacific North (WA, OR, ID, AK) - OPEN
- **NE/IA/MO - OPEN -Covering for now

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- MS/AL - Anna Kate Howard
- PA/NJ - Neil Malobicky
- Southeast (GA, FL) - Bryce Horron
- Kentucky/Tennessee - Trey Caloy
- TN

- LA - Allyson Howard - Covering for now
- Mid-Atlantic South (NC, SC) - Amber Brown - Covering for now
- AR - OPEN - Covering for now

Rep Name: Michelle Strong

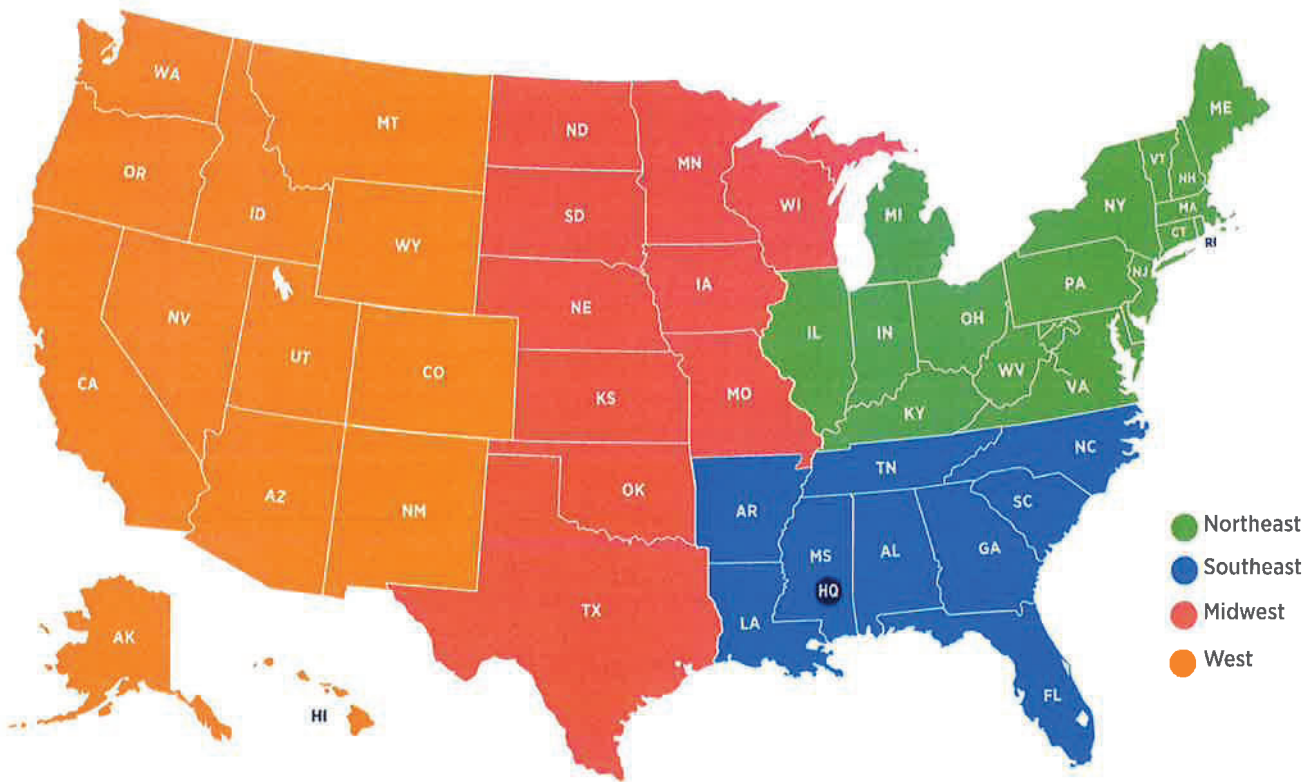
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- Pacific Central (N.CA, N.NV) - Stephen White
- Pacific South (AZ, NV) - Sam Stanford
- MN/WI - Justin Paulson
- MT/ND/SD Northern Plains - OPEN
- **Ohio - Ed Thompson - Covering for now

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- TX- Kailey Cooper
- TX, OK, KS - Matt Gandy
- Northeast #2 (ME, NH, MA, RI, CT) - Paul Silk
- So Florida - Mark Ruotolo
- So Cal (CA, HI) - Kim Sehon
- CO/NM/UT Rockies - OPEN
- **Michigan - OPEN - Covering for now



- Northeast
- Southeast
- Midwest
- West

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Support | Operation Support, Project Support

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Support | Operation Support, Project Tracking

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Support | Sales Support, RMAs

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Phone: (601) 399-5687

Support | Order Entry/Revisions

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Support | Quote Tech, Sales Support

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Support | Quotes, Bids, Support

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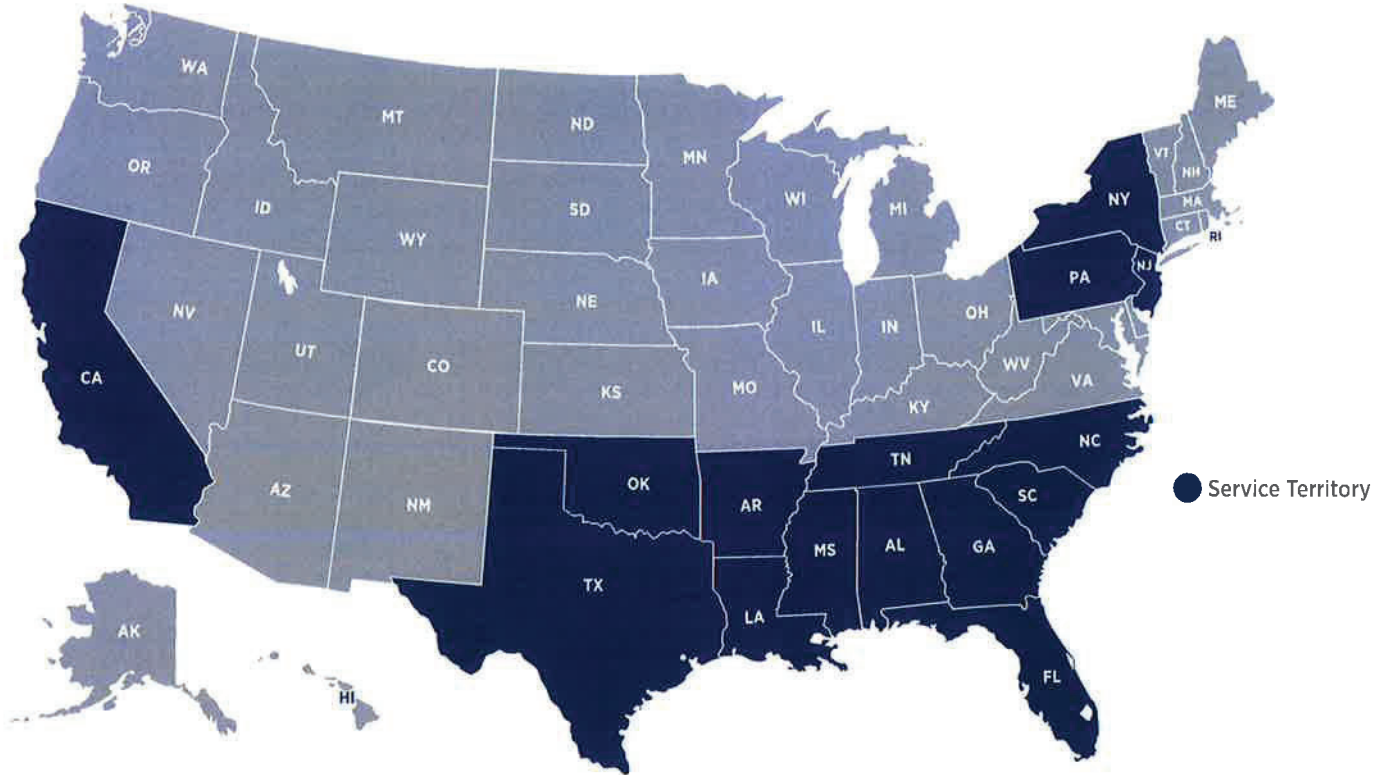
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Howard Technology Solutions Branded Products
Breadth of Offering
Computing Equipment Spec Sheets
Workstations

WX790

POWERED BY HOWARD INNOVATION



*Case shown and dimensions may vary based on options selected.

Extreme Reliability & Expandability

Compete with confidence; maximize productivity; ensure data integrity and expandability. You can do it all with the WX790 workstation from Howard. The WX790 is a Gold Shield system, which means it's built for extreme reliability—every part is tested to withstand up to five years of continual use. Powerful Intel® 13th Generation Core™ processors deliver the power, flexibility, and high-speed performance you need, so you can have more apps open simultaneously and background tasks won't slow you down. The WX790 also features SnowFall combination cooling to maintain an ideal working temperature, even under the most intense loads. For professionals using design software for content creation, CAD, VR rendering, and engineering or serious gamers competing in esports, Howard's WX790 is a solid choice.

WX790 Workstation

Specifications

Chipset
Intel® Z790

Operating System
Microsoft Windows® 11 (all versions)

Processors
Up to Intel® Core i9, 13th Gen

System Memory
Up to 128 GBs of DDR5 (4 Slots, DIMM)

Network
Realtek® 2.5Gb Ethernet

External Ports
(1) USB 3.2 Gen 2x2 port (1 x USB Type-C®)
(1) USB 3.2 Gen 2 port (1 x Type-A)
(2) USB 3.2 Gen 1 ports (2 x Type-A)
(4) USB 2.0 ports (4 x Type-A)
(1) DisplayPort
(1) HDMI® port
(1) Wi-Fi Module
(1) Realtek 2.5Gb Ethernet port
(3) Audio jacks
(1) PS/2 Keyboard/Mouse combo port

Chassis Technical Specifications*
Dimensions 24"(L) x 9.5"(W) x 11"(H) (inches)
*Case shown and dimensions may vary based on options selected.

PSU: Dependent on configuration



Top View



Front View

Warranty & Support

- Howard Technology Solutions' standard warranties apply.
- FREE customer and technical support to purchaser via telephone or web for the life of the system.
- Expedite your troubleshooting process by participating in our Howard Technical Partnership Program (HTPP) which certifies your staff to perform basic hardware service and support. Contact us today for more information.



Back Ports

Contact Howard Technology Solutions for world-class service and support:

Online: www.howardcomputers.com/support Phone: 1,888,323,3151

Email at tech@howardcomputers.com, or

Conventional mail:

Howard Technology, 36 Howard Drive, Ellisville, Mississippi 39437

SW3-4204

POWERED BY HOWARD INNOVATION

Blast your way through data-intensive work processes with Howard's SW3-4204 workstation. It's the professional way to handle advances in design complexity and increased workloads.

Powered by dual Xeon® 3rd Generation processors, this energy-efficient system provides the extreme processing and high performance capabilities necessary for specialized applications, such as 3D CAD-CAM, medical imaging, and multimedia or digital content creation.

It features a mid-tower chassis with a 1200W power supply, 2TB memory, and multiple NVMe drives for the highest throughput and fastest response times for all types of enterprise workloads. Super speed, high-performance, and solid reliability make Howard's SW3-4204 workstation a true essential for professional projects of any kind.



SW3-4204 Workstation

Specifications

Chipset

Intel® C621A

Operating System

Microsoft Windows® 10 and Windows Server® 2019 and Windows Server® 2022

Processors

Intel® Xeon 3rd Generation Scalable Family

System Memory

Up to 2TB of DDR4 (16 Slots, DIMMs)

Video

Support for two double width active GPUs

Audio: ALC 1220 7.1 HD Audio

Storage

- (4) NVMe 2.5" Internal drive bays;
- (2) 5.25" External drive bays;
- (2) NVMe M.2 slots;
- (4) 3.5" Drive bays; optional DVD-ROM

Network: Dual 1GB Ethernet (RJ45)

Internal Ports

- (5) PCI Express 4.0 X 16 slots
(Full height; full length)
- (1) PCI Express 4.0 X8 slots
(Full height; half length)
- Only 3 PCI-E 4.0 x16
(Full Height; full Length)
available on one processor

External Ports

- (1) Video VGA port
- (2) USB 3.2 Gen 2
- (6) USB 3.2 Gen 1
(4) port (rear)
(2) port (front)
- (1) 7.1 HD Audio port

Chassis Technical Specifications

Dimensions

20.68"D x 7.6"W x 16.7"H

Weight: 30lbs

Drive Bays

- (4) 2.5" drive bays
- (4) 3.5" drive bays

PSU: 1200W Power supply

*Product and availability subject to change

Warranty & Support

- Howard Technology Solutions' standard warranties apply.
- **FREE** customer and technical support to purchaser via telephone or web for the life of the system.
- Expedite your troubleshooting process by participating in our Howard Technical Partnership Program (HTPP) which certifies your staff to perform basic hardware service and support. Contact us today for more information.

Contact Howard Technology Solutions for world-class service and support.

Online: www.howardcomputers.com/support

Phone: 1.888.323.3151

Email at tech@howardcomputers.com, or

Conventional mail at:

Howard Technology Solutions
36 Howard Drive
Ellisville, Mississippi 39437



SW3-4108

POWERED BY HOWARD INNOVATION



Enterprise-grade Security and Solid Reliability

Built for advanced workstation professionals, Howard's SW3-4108 workstation offers uncompromised performance and enterprise-grade security and reliability. Powerful Intel Xeon® W-3300 processors, with up to 2TB of DDR4-3200 8-channel memory, are designed to have the memory span and speed for data science, deep learning, and machine learning workloads. The SW3-4108 is the ideal partner for working through demanding applications, such as 8K video editing, simulations, and advanced CAD, CAE, and MCAD. It features a mid-tower chassis with a 1200W power supply and multiple NVMe drives for the highest throughput and fastest response times for all types of enterprise workloads. Super-speed, advanced security, high-performance, and solid reliability make Howard's SW3-4108 workstation a true essential for professional projects of any kind.

SW3-4108 Workstation

Specifications

Chipset
Intel® C621A

Operating System
Microsoft Windows® 10 and
Windows 2019

Processors
Intel® Xeon W-3300
Up to 38 cores (270W TDP)

System Memory
Up to 4TB of DDR4 (16 X DIMM DDR4 3200)

Video
Supports Multiple Nvidia GPUs (4 MAX)

Audio: 7.1 HD Audio by Realtek ALC888S

Storage
(8) 3.5" hot-swap SATA drive bays
(4) M.2 Socket type 2280, 22110
(PCIe 4.0 X4)
(3) 5.25" drive bays

Network:
(1) 1GB based on Intel I210-AT
(1) 10GB based on Marvell AQC113
(1) Dedicated IPMI with Realtek RTL8211F PHY

Internal Ports
(4) PCI Express 4.0 X 16 slots
(3) PCI Express 4.0 X 8 (in X 16 slots)

External Ports
(1) RJ45 1GB port, (1) RJ45 10GB,
(1) RJ45 – 1GB console port (Rear Panel)
(6) USB 3.1 Gen 1 ports (2 Front, 4 Rear)
(2) USB 3.1 Gen 2 ports
(1 rear Type A + 1 rear Type C)
(1) USB 3.2 Gen 2x2 ports (1 rear)
(1) 7.1 HD Audio Jack (rear)
(1) VGA (onboard video)
(1) 1 Serial port

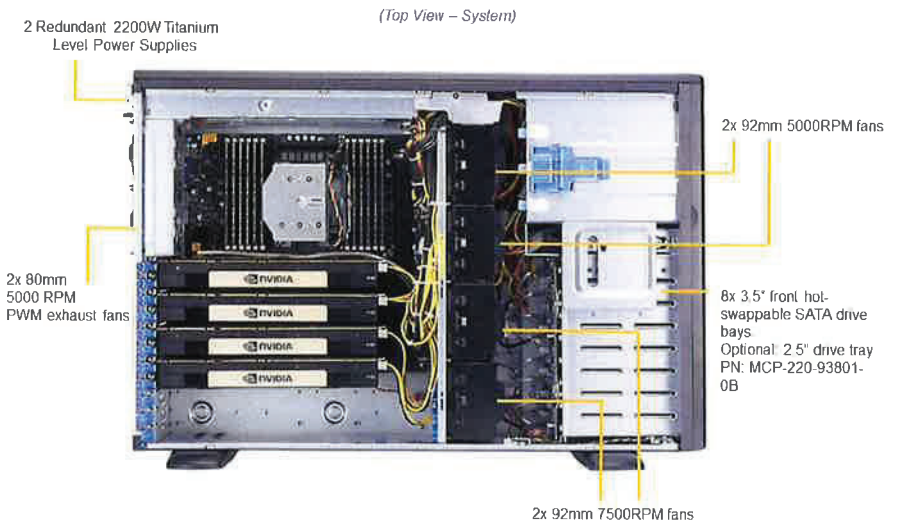
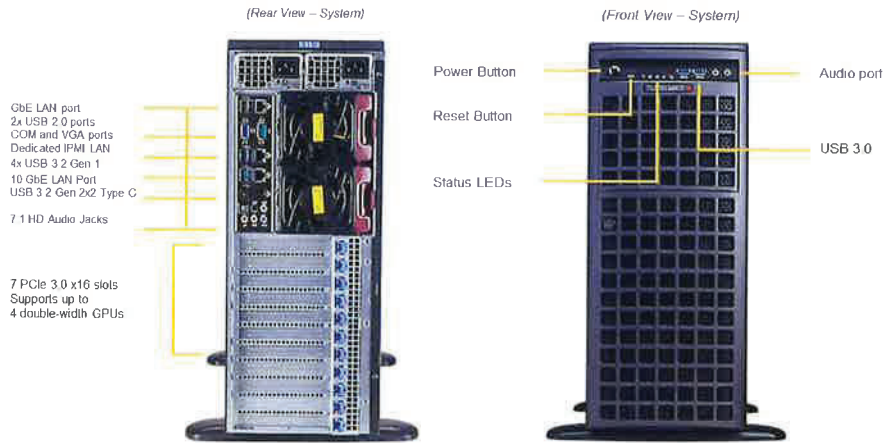
Chassis Technical Specifications
Dimensions

26,5"D x 7,0"W x 18,1"H

Weight: 57lbs

Drive Bays
(3) 5.25" External drive bays
(8) 3.5" Internal drive bays

PSU: 2200W Redundant power supplies
*Product and availability subject to change



Warranty & Support

- Howard Technology Solutions' standard warranties apply.
- FREE** customer and technical support to purchaser via telephone or web for the life of the system.
- Expedite your troubleshooting process by participating in our Howard Technical Partnership Program (HTPP) which certifies your staff to perform basic hardware service and support. Contact us today for more information.

Contact Howard Technology Solutions for world-class service and support.

Online: www.howardcomputers.com/support

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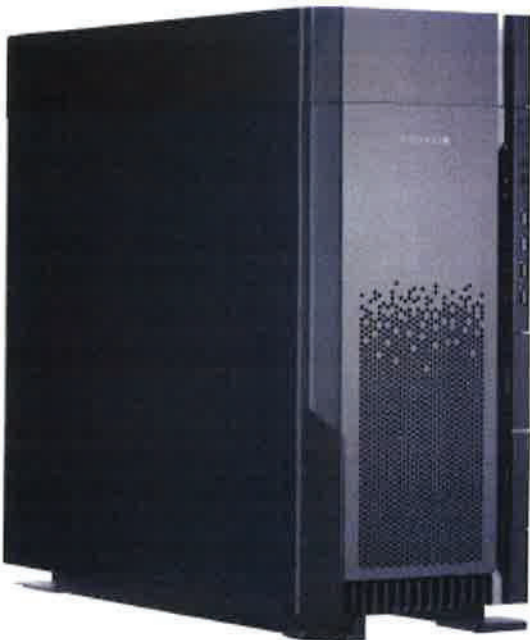
Howard Technology Solutions
36 Howard Drive
Ellisville, Mississippi 39437

AW3-4108

POWERED BY HOWARD INNOVATION

ULTRA-FAST. VERSATILE. IMPRESSIVE.

A Workstation Designed and Built for Creative Professionals



Versatile. Reliable. Impressive. Howard's AW3-4108 tower workstation is all of that and more. Whether it's graphic design, film editing, 3D rendering, transactional analysis, or advanced CAD applications, the AW3-4108 provides the perfect platform for creative professionals.

Powered by the latest AMD® Ryzen® Threadripper™ Pro series processors, the AW3-4108 supports up to 64 cores, up to 2TB of memory, and multiple Nvidia graphic cards. It features AMD's WRX80 chipset, which enables a wide variety of advanced configurations and includes the only professional solution to support PCIe® 4.0 for advanced GPUs.

The AW3-4108 offers enterprise class security features and unrivaled expandability. When you need to get the job done and moving the deadline is not an option, choose a workstation that delivers exceptional performance on every level, the AW3-4108 from Howard.

AW3-4108 Workstation Specifications

Chipset

AMD WRX80

Operating System

Microsoft Windows® 11 & 10

Processors

AMD Threadripper Pro
5000WX/3000WX Series

System Memory

Up to 2TB of DDR4 8 X DIMM DDR4 3200

Audio

7.1 HD Audio by Realtek
LC4050H+ALC1220

Video

Supports Multiple Nvidia GPUs (4 MAX)

Network

- (1) 1GB based on Intel I210-AT (shared with IPMI)
- (1) 10GB based on Marvell AQC113C

Internal Ports

(6) PCIe 4.0 X16

External Ports

- (1) RJ45 1GB ports, 1 X RJ45 10GB port,
- (2) USB 3.2 Gen 2x2 ports (2 Front)
- (6) USB 3.2 Gen 2x1 ports (2 Front, 4 Rear)
- (3) USB 3.1 Gen 1 ports (3 rear)
- (1) 7.1 HD Audio Jacks (rear)
- (1) VGA (onboard video)
- (1) Serial port

Chassis Technical Specifications

Dimensions:

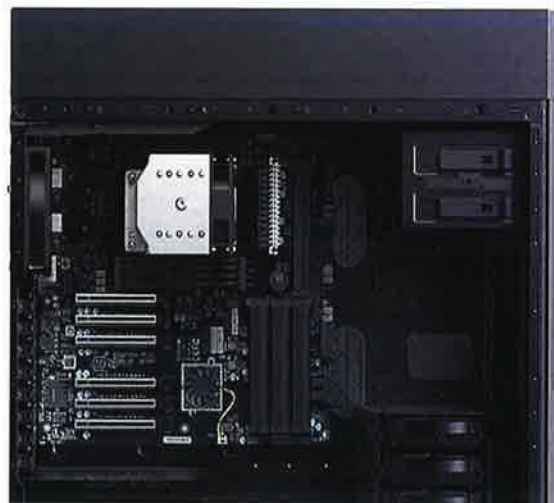
22.56"(D) x 8.74"(W) x 21.06"(H) (inches)

Drive Bays

- (2) Internal 2.5"
- (4) Internal 3.5"
- (2) External 5.25" Drive Bay: 2

Weight ~44LBS

PSU 2000W Power supply



Warranty & Support

- Howard Technology Solutions' standard warranties apply.
- FREE customer and technical support to purchaser via telephone or web for the life of the system.
- Expedite your troubleshooting process by participating in our Howard Technical Partnership Program (HTPP) which certifies your staff to perform basic hardware service and support. Contact us today for more information.

Contact Howard Technology Solutions for world-class service and support:

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888.323.3151 technical support

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Howard Technology Solutions Branded Products
Breadth of Offering
Computing Equipment Spec Sheets
Desktops

H610 MKB

POWERED BY HOWARD INNOVATION



Perfect Blend of Performance and Economy

From taking care of business to watching movies and playing games online, Howard's H610MKB desktop computer is this year's choice for just the right mix of high performance and real economy—powerful enough to handle basic, everyday computing tasks and priced low enough to fit almost any budget. The H610MKB is powered by your choice of the latest Intel® processors to deliver strong, reliable performance with the lowest power consumption possible. It offers high-speed connectivity and features high-definition audio for a totally immersive experience; up to 64GB of DDR4, comprehensive cooling controls, and plenty of ports for connecting peripherals. The H610MKB combines cutting-edge technology with proven durability—full power in a three-quarter tower, so it takes up less room than its full-size counterparts. For work, home, or play, Howard's H610MKB desktop computer does what you need it to do—without breaking the bank.

Features and Specifications

Chipset Intel® H610

Operating System

Microsoft Windows® 10 & 11, All versions

Processors

Intel® Celeron to intel Core Series i3, i5,i7, and i9 12th gen

System Memory

Up to 64 GB of DDR4 (2 DIMM slots)

Display

- Supports HDMI 2.0b with HDR port, supports a maximum resolution of 4K 60Hz
- Supports DisplayPort 1.4 port, supports a maximum resolution of 5120x3200 60Hz
- Supports VGA port maximum resolution of 2048x1536 60Hz, 1920x1200 60Hz

Audio

Realtek® ALC 897 7.1-Channel High Definition Audio CODEC

Network

(1) Intel® I219V 1Gbps LAN controller

Internal Ports

- (1) 24-pin ATX main power connector
- (1) 8-pin ATX 12V power connector
- (4) SATA 6Gb/s connectors
- (1) USB 3.2 Gen 1 5Gbps connector -supports additional 2 USB 3.2 Gen 1 5Gbps ports
- (1) USB 2.0 connector (supports additional 2 USB 2.0 ports)
- (1) 4-pin CPU fan connector
- (1) 4-pin system fan connector
- (1) Front panel audio connector
- (2) System panel connectors
- (1) Serial port connector
- (1) Chassis Intrusion connector
- (1) Clear CMOS jumper
- (1) TPM module connector

External Ports

- (1) LAN (Gigabit Ethernet)
- (2) USB 3.1 Gen 2
- (2) USB 2.0
- (1) PS/2 keyboard/mouse combo port(s)
- (3) Audio jack(s)
- (1) Displayport 1.4
- (1) HDMI 2.0b
- (1) D-Sub

Chassis Technical Specifications*

Dimensions

11.5(L) x 6.7(W) x 14.25(H) (inches)

Weight: 14lbs fully configured

PSU: **Dependent on** configuration

* (Cases are **subject to change** due to configuration and/or availability)

Warranty & Support

- Howard Technology Solutions' standard warranties apply.
- FREE customer and technical support to purchaser via telephone or web for the life of the system.
- Expedite your troubleshooting process by participating in our Howard Technical Partnership Program (HTPP) which certifies your staff to perform basic hardware service and support.

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Email at tech@howardcomputers.com,

Conventional mail at:

Howard Technology Solutions

36 Howard Drive

Ellisville, Mississippi 39440



H610LPKB

POWERED BY HOWARD INNOVATION



*(Cases are subject to change due to configuration and/or availability)

Full Power in a space-saving chassis

From taking care of business to watching movies and playing games online, Howard's H610LPKB desktop computer is this year's choice for just the right mix of high performance and real economy—powerful enough to handle basic, everyday computing tasks and priced low enough to fit almost any budget. This low-profile system is powered by your choice of the latest Intel® processors to deliver strong, reliable performance with the lowest power consumption possible. The H610LPKB offers high-speed connectivity and features high-definition audio for a totally immersive experience; up to 64GB of DDR4, comprehensive cooling controls, and plenty of ports for connecting peripherals. It combines cutting-edge technology with proven durability—full power in a small, space-saving chassis, so it takes up less room than its full-size counterparts. For work, home, or play, Howard's H610LPKB desktop computer does what you need it to do—without breaking the bank.

H610 LPKB

Features and Specifications

Chipset Intel® H610

Operating System

Windows® 10 Home, Pro, Windows 11 Pro® 64-bit

Processors

Intel® Socket LGA1700 for 13th Gen Intel Core™ Processors & 12th Gen Intel

System Memory

Up to 64GB of DDR4 3200/3000/2933/2800/2666/2400/2133 Non-ECC (2 Slots, DIMM)

Video

(1) Display port**

(1) D-Sub port

(1) HDMI® port***

* Graphics specifications may vary between CPU types.

Please refer to www.intel.com for any updates.

** Supports max. 4K@60Hz as specified in DisplayPort 1.4

*** Supports 4K@60Hz as specified in HDMI 2.1

Audio

Realtek® 7.1 Surround Sound High Definition

Network

(1) Realtek 1Gb Ethernet

Internal Ports

(1) 4-pin CPU Fan header

(2) 4-pin Chassis Fan headers

(1) 24-pin Main Power connector

(1) 8-pin +12V Power connector

(2) M.2 slots (Key M)

(4) SATA 6Gb/s ports

(1) USB 3.2 Gen 1 header supports

additional 2 USB 3.2 Gen 1 ports

(2) USB 2.0 headers support additional 4 USB 2.0 ports

(1) RGB header

(1) Clear CMOS header

(1) Front Panel Audio header (AAFP)

(1) COM Port header

(1) S/PDIF Out header

(1) Speaker header

(1) SPI TPM header (14-1pin)

(1) 10-1 pin System Panel header

External Ports

(2) USB 3.2 Gen 1 ports (2 x Type-A)

(2) USB 2.0 ports (2 x Type-A)

(1) Displayport

(1) D-Sub port

(1) HDMI® port

(1) Realtek 1Gb Ethernet port

(1) Audio jacks

(1) PS/2 Keyboard (purple) port

(1) PS/2 Mouse (green) port

Chassis Technical Specifications*

Dimensions

(L) 3.8 x (W) 13.1 x (H) 14.6 inches

Weight: 12lbs fully configured

PSU: Dependent on configuration

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Conventional mail at:

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36 Howard Drive

Ellisville, Mississippi 39440

Small. Stable. Affordable.

Small can do it all—if—it's Howard's new IQ-K mini desktop computer. From focusing on work to playing games and streaming movies, the IQ-K is customizable and powerful enough to handle all your computing needs with ease, yet small enough to fit in the palm of your hand. It's powered by the latest dual-core 7th Generation Intel[®] Core[™] i3 processor; has a solid-state hard drive, dual-array front microphones, DDR4 memory, and support for 4K at 60 Hz via an HDMI 2.0 port. What that means for you is this: Howard's IQ-K is super-fast and produces incredible visuals that breathe life into every single image. For personal use or business needs, the IQ-K provides you with all the full-functioning, high performance necessary to do what you want to do—set up video surveillance, advertise and inform with digital signage, or create a complete home entertainment system. It's all up to you.

The new IQ-K



only
4-inches wide

Howard Technology Solutions recommends genuine Microsoft[®] Windows[®] 10 Professional.

The Howard Advantage!

With every Howard product purchase, you receive the following for **FREE!**

- ✓ Phone and web tech support for the LIFE of your system
- ✓ 100% US-based, English-speaking customer support 24/7/365
- ✓ Phone hold times < 1 minute



Intel, Intel Core[™] i3, i5, i7, and Intel Inside are trademarks or registered trademarks of Intel Corporation in the U.S. and other countries.

Feature	Benefits
Processor	Dual-core 7 th Generation Intel [®] processor lets you start faster and work longer, and it supports higher-resolution graphics—great for gaming!
Storage	M.2 22x42/80 (key M) slot for SATA3 or PCIe X4 Gen3 NVMe or AHCI SSD SSDs make virtually no noise at all; they allow PCs to boot and launches apps faster and increase overall performance.
Memory	Up to 32GB of DDR4-2133 Increased data transfer speed for peak performance and lower power consumption than DDR3
Audio	Up to 7.1 surround audio via mini HDMI and mini display port
Graphics	Intel [®] Kaby Lake HD 620 integrated graphics

Desktop - Howard IQK

Feature	Specification
Chipset	Intel® SOC chipset
Supported Operating Systems	Microsoft® Windows® 10, 8.1, 8, and 7 86 x 64
Supported Processor Families	Intel® Intel Celeron J3455, Intel Core i3-7100U, Intel Core i5-7260U, and Intel Core i7-7567U
System Memory	Up to 32GB of DDR4-2133 (2 Slots, SODIMM)
Video	Intel® HD Graphics 620
Audio	Up to 7.1 surround audio via mini HDMI and mini display port
Network	Intel® I219V, 1 x Gigabit LAN controller Intel wireless-AC 8265 soldered-down, IEEE 802.11ac 2x2 + Bluetooth
Internal Ports	M.2 22x42/80 (key M) slot for SATA3 or PCIe X4 Gen3 NVMe or AHCI SSD Micro SDXC slot with UHS-I support 2x internal USB 2.0 via header Front Consumer Infrared port 2x front USB 3.0 ports (one charging)
External Ports	2x rear USB 3.0 1x HDMI; 2.0 port with 4K at 60Hz 1x USB 3.1 Gen 2 (10 Gbps) and mini display port 1.2 via USB-C
Chassis Technical Specifications	
Dimensions	4.53 x 1.38 x 4.37 (inches)
Weight	2.5 lbs
PSU	19V, 65W power brick

Q: Is an M.2 SSD the same as an mSATA SSD?

A: No, they are different; M.2 supports both SATA and PCIe storage interface options, while mSATA is SATA only. Physically, they look different and cannot be plugged into the same system connectors. The picture below shows an M.2 SSD and an mSATA SSD (Both connectors and card sizes are different):



Q: Why are there different lengths for M.2 SSDs?

A: Two reasons: 1. The different lengths enable different SSD drive capacities; the longer the drive, the more NAND Flash chips can be mounted on it, in addition to a controller and possibly a DRAM memory chip. The 2230 & 2242 lengths support 1-3 NAND Flash chips while the 2280 & 22110 support up to 8, which can enable a 1TB SSD in the largest M.2 form factors. 2. Socket space in the system board can limit the M.2 size: Some notebooks can support an M.2 for caching purposes, but have a small space that will accommodate only a 2242 M.2 SSD.

Q: Whom should I contact for support?

A: Call Howard Technology Solutions for world-class support and service, if there are any questions about this desktop. Customer support is available—online at <http://www.howardcomputers.com/support>, via email at tech@howardcomputers.com, by phone at 1.888.323.3151, or conventional mail at Howard Technology Solutions, 36 Howard Drive, Ellisville, Mississippi, 39437.



Back Ports
Core i3

Experience the Howard advantage.

Product Upgrades

Enhance your purchase with any or all of the following products or services. And feel free to contact us toll free at 888-912-3151 to discuss any questions or your specific needs!

- On-site service
- Wireless keyboard and/or mouse
- External hard drive
- External multi-card reader

Warranty & Support

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HOWARD

888.912.3151

www.howardcomputers.com



IQN1

POWERED BY HOWARD INNOVATION



Value-Priced AIO with Easy-Swap System

Get more than you bargained for and a bargain to boot with Howard's IQN1 computer! The IQN1 all-in-one provides a value-priced, space-saving alternative to traditional desktops. It delivers optimal performance at the lowest power, which translates into reduced energy costs for you, with cool-running, near-silent performance that adds to its appeal. It features powerful Intel® Core processors, up to 16GB of memory, 1920x1080 full HD, and Dolby speakers. But that's not all. The IQN1's Easy Swap system allows you to upgrade your PC any time you feel the need. Simply remove the four screws on the back panel; swap out the compute element, and voila! It's a new computer. Howard's IQN1 has an ultra-small footprint that makes it an easy fit anywhere space is at a premium; it's reliable and affordable, and has a solid warranty. The IQN1 is a real bargain!

IQN1

FEATURES AND SPECIFICATIONS

Chipset

Intel® SOC chipset

Operating System

Microsoft Windows® 10, all versions

Processors

Up to Intel® Core i7

System Memory

Up to 16GB of memory

Display

1920x1080 High-Definition

Audio

(2) 2W Dolby speakers

Network

(Optional) Intel® dual-band wireless-AC 9560 2x2+ Bluetooth 5.0

External Ports

(5) USB 3.0 USB TYPE A
(1) HDMI (output)
(1) HDMI (input)
(1) Intel 1219V Gigabit LAN Controller

N1 Chassis

Dimensions with base

17"(H) x 21.5"(W) x 10"(D) (inches)

Dimensions without base

12.6"(H) x 21.5"(W) x 1.5"(D) (inches)

Weight

15.2lbs Fully configured

Webcam: Retractable 2,0MP camera

Contact Howard for world-class service and support— Online at:

www.howardcomputers.com/support

Phone: 1,888,323,3151

Email at tech@howardcomputers.com,

or Conventional mail at:

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EASY SWAP SYSTEM

Want to upgrade? Simply remove four the screws on the back panel and swap out the compute element. Voila! It's a new computer.



HOWARD

Howard-DR Mini Desktop

Space-saving, energy-efficient, full-featured computer

Powerful 8th Generation Intel® processors

In the world of computers, minis are in! And just so you know, what makes a mini small doesn't make it less powerful. Consider Howard's new DR Mini. Powered by 8th Generation Intel® processors, this full-featured mini delivers the same reliability and high-speed performance as larger, more costly computers and manages demanding applications just as efficiently. It's compact, so placement is not a problem; in fact, it can easily be VESA-mounted to the back of a monitor, so it doesn't take up valuable work space, a feature that makes it perfect for use on medical carts. Additionally, the DR has lots of USB ports—nine to be exact—for connecting peripherals, such as digital scanners and specialty printers, which works especially well for medical applications where devices need to be portable and easily upgradable. Advanced hardware safeguards of 5X Protection II ensure long-term durability, so you can expect the max from this mini—the DR Mini from Howard.

Ideal for use on medical carts, in computer labs, home, and office—anywhere space is at a premium!

Thin Mini-ITX

Designed and engineered to support business environments where operational efficiency and effectiveness count—compact, capable, Thin Mini-ITX based all-in-one PC

LANGuard

Hardware-level networking protection for total reliability—greater tolerance to static electricity and improved protection against surges

5X Protection II

Advanced hardware safeguards for all-round protection—

- Precise power control and long-lasting stability
- Enhanced DRAM overcurrent protection
- Strong ESD protection for extended component lifespan
- High-quality solid-state capacitors for 2.5X longer lifespan
- 3X more durable corrosion-resistant coating

The Howard Advantage!

With every Howard product purchase, you receive the following for **FREE!**

- Phone and web tech support for the LIFE of your system
- 100% US-based, English-speaking customer support 24/7/365
- Phone hold times < 1 minute



*Intel® Core™ i3, i5, i7, and Intel® Inside™ are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.



7.5 inches



HOWARD

Howard-DR Mini Desktop Specifications

Chipset

Intel® H310

Operating System

Microsoft Windows® 10 Pro 64-bit

Supported Processor Families

Intel® 8th and 9th generation core i7, i5, i3/Pentium Core™ i7, Core i5, Core i3/Pentium®/Celeron®

System Memory

Up to 32GB of DDR4 (2 Slots, DIMM)

Audio

Realtek® ALC887 7.1-channel high definition audio CODEC

Network

Realtek® RTL8111H, (1) Gigabit LAN
Intel® I219V, 1 x Gigabit LAN

Wireless

Intel Wireless-AC 9260/9560

Internal Ports

- (1) M.2 Socket M Key, type 2260/2280 Sata/PCIE
- (1) Sata 6Gb/s port

External Ports

- (1) Display port
- (1) HDMI
- (1) Lan (RJ45) port
- (7) Rear USB 2.0
- (2) Rear USB 3.0 (blue)
- (1) DC power Connector

Chassis Technical Specifications

Dimensions: 7.4"(H) x 7.5"(W) x 2"(D)

Weight

Approximately 5lbs

Power Supply

90W External power adapter

Warranty & Support

- Howard Technology Solutions' standard warranties apply.
- FREE** customer and technical support to purchaser via telephone or web for the life of the system.
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Ellisville, Mississippi, 39437

FAQs:

Q: What is the benefit of ASUS EZ Flash?

A: ASUS EZ Flash 3 allows you to download and update to the latest BIOS through the Internet without having to use a bootable floppy disk or an OS-based utility.

Q: What are the benefits of LANGuard?

A: LANGuard is hardware-level networking protection that employs signal-coupling technology and premium anti-EMI surface-mounted capacitors, ensuring a more reliable connection and better throughput, plus electrostatically-guarded and surge-protected components for greater tolerance to static electricity and improved protection against surges.

Back Ports



Q670MKB

POWERED BY HOWARD INNOVATION



Customizable, low cost computing

Take the high cost out of customized computing with the Q670MKB desktop from Howard. It gives you all the essential components for mainstream computing, such as Intel® core processors, up to 128GB of DDR5 memory, HDMI, high-speed network connectivity, and integrated Intel graphics, but lets you decide which features you need to satisfy your IT objectives, so you don't pay for things you won't use. In addition to being fully customizable, this energy-efficient system delivers the level of speed and responsiveness necessary to ensure a reliable connection even in environments with many connected devices. Keep productivity up and costs down with Howard's Q670MKB desktop computer.

Q670MKB

FEATURES AND SPECIFICATIONS

Chipset

Intel® 670 with vPro

Operating System

Microsoft Windows® 10 Home, Pro 64-bit,
Windows 11 Pro 64-bit

Processors

Intel® Socket LGA1700, 12th Gen processors

System Memory

Up to 128 GB of DDR5 (4 slots, DIMMs)

Audio

Realtek® 7.1 Surround Sound High Def

Video

Integrated, varies with processor
(e.g. UHD 770)

Network

(1) Intel® 1Gb Ethernet

Internal Ports

(1) PCIe 4.0/3.0 x16 slot
(2) PCIe 3.0 x 1 slots
M.2_1 slot (Key M), M.2_2 slot (Key M)
(6) SATA 6Gb/s ports

External Ports

Rear:

(4) USB 3.2 Gen 2 ports
(2) USB 2.0 ports
(2) DisplayPort
(1) HDMI port
(1) Intel 1Gb Ethernet
(3) Audio jacks
(1) PS/2 Keyboard (purple)
(1) PS/2 mouse (green)

Chassis Technical Specifications*

Dimensions

11.5(L) x 6.7(W) x 14.25(H) (inches)

Weight: 14lbs fully configured

PSU: 300W (110 to 240V AC)

* (Cases are subject to change due to configuration
and/or availability)



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configuration and/or availability)



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P.O. Box 1590 • Laurel, MS 39441



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MAYHEM Gaming System

HAVOC^{PC}



Mayhem is Havoc's powerful new gaming system that is as good for conquering virtual worlds as it is for video editing and a myriad of other graphic and data-intensive processes.

Powered by Intel® Core processors, Havoc's Mayhem features Intel's Z390 chipset, 13 USB ports, 64GB of DDR4 and dual-band wireless networks for maximum gaming potential. And, Mayhem *is totally cool*, both aesthetically and thermally, from bright, RGB LED lighting that can be set to dazzle a 100 different ways to liquid cooling and Blizzard Series intake fans that ensure it stays as cool as it looks.

Mayhem delivers all the speed and responsiveness you need for competitive gaming, now, and in future. How, you ask? Well, *you* are the key. Mayhem is designed so that you can upgrade easily. We mean: *You can do it!* And we're here to help for the life of your unit.

From esports to workloads or vice versa—Mayhem is the system that does double duty! So, rack up some raids and deal a little damage with the Mayhem gaming system from Havoc.

Mayhem means—Game Won!

9th and 8th Generation High-Performance



Intel, the Intel logo, Intel Inside, Core i7, i5 & i3 are trademarks of Intel Corporation in the US and other countries.

The **Mayhem** Gaming System

Specifications

Chipset

Intel® Z390

Operating System

Microsoft Windows® 10, all versions

Processors

Intel® Celeron® to Intel Core processors i3, i5, i7 and i9

System Memory

Up to 64GB of DDR4 (2 Slots, So-DIMMs)

Display

Whatever you want it to be!

Network

Intel dual-band Wireless-AC 9560 2x2 + Bluetooth 5.0

Internal Ports

- (1) USB-C Gen2 - header
- (2) USB 3.1 Gen 1 - header
- (2) USB 2.0 - header
- (4) DIMM 288-pin
- (2) PCIe 3.0 x16
- (1) PCIe 3.0 x4
- (2) PCIe 3.0 x1
- (1) M.2 socket (Key E)

External Ports

- (1) LAN (Gigabit Ethernet)
- (4) USB 3.1 Gen 2
- (2) USB 2.0
- (2) USB 3.1 Gen 1
- (1) TOSLINK
- (1) Microphone - mini-jack
- (1) Audio line-out - mini-jack
- (1) Audio line-in - mini-jack
- (1) Audio line-out (center/subwoofer)-mini-jack
- (1) Audio line-out (side surround) - mini-jack
- (1) PS/2 keyboard / mouse

Chassis Technical Specifications

Dimensions: 9,2 x 17,3 x 16 inches

Weight

20lbs Fully configured

PSU

Dependent on configuration

*Product and availability subject to change

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By
HAVOC PC



HOWARD

888.912.3151 | www.Howardcomputers.com

The HAVOC Nemesis Gaming System



Dominate your game like never before, with Havoc's *Nemesis* gaming station. Powered by Intel® Core processors, Nemesis delivers the speed and responsiveness you need for all sorts of esports and competitive gaming—more actions per minute, so you can settle a skirmish in a split second or nullify a Nexus in no time at all! Yes, the Nemesis is totally cool, both aesthetically and thermally.

Nemesis has bright, RGB LED lighting that can be customized to reflect your personality or feature your school colors. And, it combines liquid cooling and Blizzard Series intake fans to ensure that it stays as cool as it looks. Havoc's Nemesis features Intel's Z390 chipset, 8 USB ports, 64GB of DDR4 and dual-band wireless networks for maximum gaming potential.

Discover your Nemesis, and conquer with confidence!

• Powerful • Responsive • Fast



Intel, the Intel logo, Intel inside, Core i7, i5 & i3 are trademarks of Intel Corporation in the US and other countries.

The Havoc GX390 Gaming System

Specifications

Chipset

Intel® Z390

Operating System

Microsoft Windows® 10, All versions

Processors

Intel® Celeron to Intel core i3, i5, i7, i9

System Memory

Up to 64 GBs of DDR4 (2 slots SO-DIMMs)

Display

Whatever you want it to be

Graphics

Supports full size, dual-slot PCIe x16 graphics; Default - NVIDIA Quadro NVS dual display port

Network

Intel® dual-band wireless - AC 9560 2x2 + Bluetooth 5.0

Internal Ports

1 x USB-C Gen2 - header
2 x USB 3.1 Gen 1 - header
2 x USB 2.0 - header
4 x DIMM 288-pin
2 x PCIe 3.0 x16
1 x PCIe 3.0 x4
2 x PCIe 3.0 x1
1 x M.2 socket (Key E)

Back IO ports (Rear Panel)

1 x LAN (Gigabit Ethernet)
4 x USB 3.1 Gen 2
2 x USB 2.0
2 x USB 3.1 Gen 1
1 x TOSLINK
1 x microphone - mini-jack
1 x audio line-out - mini-jack
1 x audio line-in - mini-jack
1 x audio line-out (center/subwoofer) mini-jack
1 x audio line-out (side surround) - mini-jack
1 x PS/2 keyboard / mouse

Chassis Technical Specifications

Dimensions:

9.2" x 19.8" x 20"

Weight: 35lbs

Full HD webcam

PSU: Dependent on configuration

Warranty & Support

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The Havoc Advantage!

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- Phone and web tech support for the LIFE of your system
- 100% US-based, English-speaking customer support 24/7/365
- Phone hold times < 1 minute



Front View



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P.O. Box 1590 • Laurel, MS 39441



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Computing Equipment Spec Sheets
Laptops



NX5

POWERED BY HOWARD INNOVATION



Triple Your Work/Screen Area

Why settle for one screen when you can have three? That's what you can do with the NX5 laptop computer from Howard. With Intel® Iris® Xe integrated graphics and support for up to 3 simultaneous 4K HDR displays, the NX5 lets you multi-task like a pro! It makes it easier to organize, allows you to work with a larger screen size, or work with more open windows at the same time and split them more efficiently. In short, it takes less time to do more! In addition to increased HD video capabilities, 12th Generation Intel Core-i7 processors deliver the high-speed performance necessary for CPU-intensive tasks. Important security features include a built-in fingerprint reader and TPM 2.0 to safeguard against firmware attacks. Get more and do more with Howard's NX5 laptop computer.

NX5 Laptop

FEATURES & SPECIFICATIONS

Operating System

Windows® 11

Processors

12th Gen Intel® Core i5-1240P Processor
(1.7GHz, up to 4.4GHz Turbo Boost),
4 P-cores & 8 E-cores/16 thread, 12MB Cache

12th Gen Intel® Core i7-1260P Processor
(2.1GHz, up to 4.7GHz Turbo Boost),
4 P-cores & 8 E-cores/16 thread, 18MB Cache

System Memory

Up to 64GB of DDR4 (2 Slots, SO-DIMMs)

Video

Intel® Iris Xe Graphics
(Integrated 12th Gen Intel Core i5/i7 Processor)
15.6" Display
Integrated HD Webcam
Microsoft® DirectX™ 12 Compatible
HDR Support
Rec. 2020 (Wide Color Gamut)

Audio

High Definition Audio
Noise canceling microphone
Stereo speakers
Nahimic Audio

Network

Built-in Gigabit Ethernet LAN
Intel Dual Band Wireless-Wi-Fi 6 AX201 plus
Bluetooth, M.2 interface

External Ports

- (1) HDMI output Port (with HDCP)
- (1) Thunderbolt 4 combo port with power delivery DC in (Type C)
- (1) USB 3.2 Gen 2 Port (Type C)
- (1) USB 3.2 Gen 2 Port (Type-A)
- (1) USB 2.0 Port (Type-A)
- (1) 2-in-1 Audio Jack (Headphone/Mic)
- (1) RJ-45 LAN (10/100/1000Mbps)

Slots

- (1) MicroSD Card Reader
- (3) M.2 card slots:
- (1) WLAN Combo M.2 2230 Card w/PCIe and USB interface
- (1) SSD M.2 2280 card w/ PCIe Gen4x4 interface
- (1) SSD M.2 2280 card w/ SATA/PCIe Gen3x4 interface

Dimensions 14,06" (w) x 8,68" (d) x 0,78" (h)

Weight 3.84 lbs including barebone & battery

Power 73Wh Battery and 90W Charger

Warranty & Support

- Howard Technology Solutions' standard warranties apply.
- FREE customer and technical support to purchaser via telephone or web for the life of the system.
- Expedite your troubleshooting process by participating in our Howard Technical Partnership Program (HTPP) which certifies your staff to perform basic hardware service and support. Contact us today for more information.

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Phone: 1.888.323.3151

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Conventional mail at:

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36 Howard Drive
Ellisville, Mississippi 39437



Keyboard

Back-lit keyboard with number pad



NX5X

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Your Gaming Journey Begins Here

From casual gaming at home to collegiate esports competitions, winning IS everything! Begin your gaming journey with the right laptop. Howard's NX5X delivers the high-intensity computing power you need to defeat your opponents—acquire targets faster, react quicker, and increase aiming precision. It's all inside! Powered by 13th Generation Intel[®] Core™ i9 processors, and packed with amazing features for incredibly fast performance, the NX5X is this year's must-have on the gaming circuit. Nvidia[®] GeForce RTX™ graphics, along with plenty of VRAM, ensure the highest level of realism, lowest latency, and best responsiveness. Get Howard's NX5X gaming laptop and get used to hearing "Well Played."

NX5X Laptop

FEATURES & SPECIFICATIONS

Operating System

Windows® 11

Processors

13th Gen Intel® Core i9-13900H (20 threads, up to 5.40GHz), 6 P-cores & 8 E-cores / 20 thread, 24MB Smart Cache

System Memory

Up to 64GB of DDR4 (2 Slots, SO-DIMMs)

Video

NVIDIA® GeForce RTX® 3050, 4GB GDDR6
NVIDIA® GeForce RTX™ 3060, 6GB GDDR6

Webcam Built-in 1.0M HD video camera

Audio High-definition audio interface

Built-in Array mic; 2 Built-in speakers

Sound Blaster Studio

Network

Built-in Gigabit Ethernet LAN

Intel dual band wireless-Wi-Fi 6 AX

Bluetooth®, M.2 interface

Internal Ports

(3) M.2 Card Slots,

- 1st for WLAN Combo M.2 2230 Card with PCIe / USB interface

- 2nd for SSD M.2 2280 Card with PCIe Gen 3 x4 interface

- 3rd for SSD M.2 2280 Card with PCIe Gen 4 x4 interface

(1) Micro SD card reader

External

(1) HDMI output Port (with HDCP)

(1) Mini DisplayPort 1.4

(1) USB 2.0 Port (Type A)

(1) USB 3.2 Gen 1 Port (Type A)

(2) USB 3.2 Gen 2 Port (Type C)

(1) 2-in-1 Audio Jack (Headphone / Microphone)

(1) Microphone Jack

(1) RJ-45 LAN (10/100/1000Mbps)

Dimensions 14.15" (w) x 9.37" (d) x 0.89" (h)

Weight

4.39 lbs including barebones and 54WH Battery pack

Power

Built-in 4-cell polymer battery pack 54WH

Full-range 150W AC Adapter, AC-in 100-240V,

50-60Hz, DC output 20V, 7.5A



Left Side Ports

15.6" Full HD 144Hz
Wide View Angle Display



Right Side Ports



RGB Back-lit keyboard with Number Pad



Back Ports

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Servers

EP3-1104 Server

POWERED BY HOWARD INNOVATION



Expandable Server Solutions

When it comes to business, one size does not fit all. Howard knows that, so we build our servers accordingly. Howard's Esteem EP3-1104 is designed with small business in mind, with Intel® Xeon® E-2300 series processors that can handle current needs and, yet, are powerful enough to manage expansion as your business grows. The Esteem EP3-1104 provides a platform that delivers complete reliability and performance for small business workloads. And when you own your own server, you're in control, you don't pay someone else for the privilege of accessing your data. Your business data is located on-premises, enabling day-to-day data exchange, without requiring email or Internet, making it quicker and more secure. With Howard's Esteem EP3-1104 server, your business is just that—your business. Utilizing Intel's E-2300 processor family increases performance per rack-unit and reduces Total Cost of Ownership, making Howard's Esteem EP3-1104 an exceptional value.

Howard Server Solutions Are Good for Business!



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HOWARD

EP3-1104 Server

Specifications

Chipset

Intel® 256

Operating System

Microsoft Windows® 2019

Processors

Single Intel Xeon E-2300 Series

System Memory

Up to 128GB DDR4 ECC UDIMM memory

Video: VGA

Storage

- (4) SATA/SAS 3.5" hot-swap drive bays;
- (4) Port RAID controller with 1GB cache (RAID 0,1,5,10)

Network

Dual 1GB Ethernet (RJ45)

Internal Ports

- (2) PCI Express 4.0 X 8 slots (Full height; Full length)

External Ports

- (1) VGA port (Video port)
- (2) USB 3.2 Gen 1 ports
- (2) USB 2.0 ports
- (1) RJ45 Dedicated IPMI LAN port

Chassis Technical Specifications

Dimensions:

17.2"W x 1.7"H x 19.98"D (inches)

Drive Bays

- (4) 3.5" Hot-swap drive bays

Form Factor: 1U Rackmount

Weight 30.4 lbs

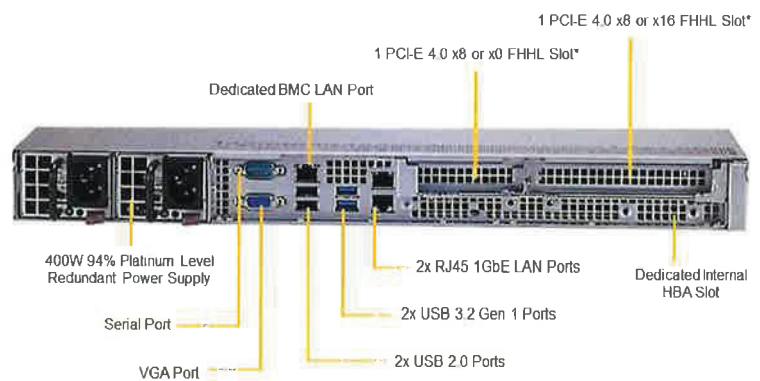
PSU 400W Redundant power supplies

Front View



Drive Bay	Description
0 - 3	4x 3.5" Hot-swap SAS3/SATA3 Drive Bays

Back View



Warranty & Support

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EP3-4104

POWERED BY HOWARD INNOVATION



- Email
- Archiving
- Web-Hosting



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Server Power in a Tower

Every business today—no matter the size—requires a solid IT infrastructure, one that enables it to meet increasing data demands head-on. Howard's EP3-4104 tower server can do just that, and we've designed it with small business in mind. Powered by reliable Intel® Xeon® E-2300 series processors, it offers the speed and flexibility you need to cope with general business demands—everything from web hosting and email services to archiving and network security. It features up to 128GB Error Checking and Correction (ECC) memory, 4 hot-swap drive bays, and built-in power capabilities to ensure highly stable operation and increased energy efficiency. Howard's EP3-4104 is the near-silent business partner that keeps working long after your day is done.

Howard servers are good for business!

EP3-4104

FEATURES AND SPECIFICATIONS

Chipset

Intel® C256

Supported Operating Systems

Microsoft Windows Server® 2019 & 2022

Supported Processor Families

Intel® Xeon E-2300 series

System Memory

Up to 128GB of DDR4 (4 Slots, DIMMs)

Video

VGA

Storage

(4) SATA/SAS 3.5" hot-swap drive bays;
4 port RAID controller with 1GB cache
(RAID 0,1,5,10)

Network

Dual 1GB Ethernet (RJ45)

Internal Ports

(1) PCI Express 4.0 x 16
(1) PCI Express 4.0 x 4 in x8 slot

External Ports

(1) VGA
(1) RJ45 Dedicated IPMI LAN port
(2) USB 3.2 (rear)
(2) USB 2.0 (rear)

Chassis Technical Specifications

Dimensions

18.3(H) x 7.8(W) x 16.7(L) (inches)

Weight

Approximately 25lbs

Drive Bays

(4) 3.5" Hot-swap drive bays

Form Factor Tower

PSU 650W

Warranty & Support

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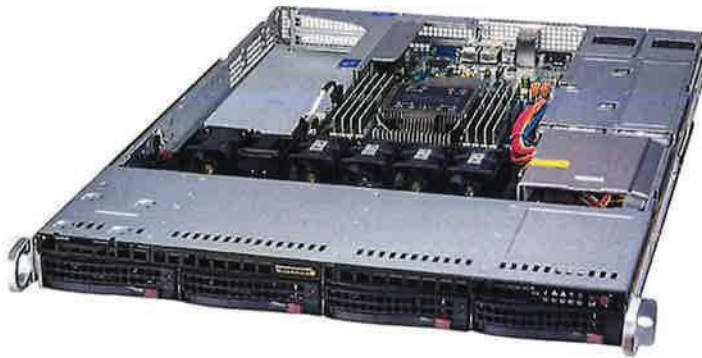
Email at tech@howardcomputers.com, or

Conventional mail: Howard Technology, 36 Howard Drive, Ellisville, Mississippi 39437



SP4-1104 Server

POWERED BY HOWARD INNOVATION



Consistent High-Speed Performance

Howard server solutions are known to deliver consistent high-speed performance; they offer superior data protection, and fast-track expansion capabilities, and the SP4-1104 is no exception. This 1U rack server is powered by Xeon™ 4th Generation processors with built-in accelerators that improve performance efficiency for emerging workloads, especially those powered by AI. It provides a single socket that can support up to 52 cores and features 2TB of memory, up to four 3.5" SATA/SAS, and power redundancy. Uniquely designed for any workload—Virtualization, Cloud Computing, Enterprise, or Data Center applications—the SP4-1104 server makes a solid foundation for your IT infrastructure.



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Howard Server Solutions Are Good for Business!

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SP4-1104 Server Specifications

Chipset
Intel® 741

Operating System
Microsoft Windows® 2022,
VMWare 7.0 Update 3

Processors
Intel® Xeon 4th Generation Scalable
(LGA4677)

System Memory
Up to 2TB of DDR5 (8 Slots, DIMMs)

Video: VGA

Storage
(4) SATA/SAS 3.5" hot-swap drive bays;
JBOD or RAID (0,1,5,10); Optional
controller required for SAS drives

Network
Dual 1GB Ethernet (Default - RJ45)
Other networking options are available

Internal Ports
(2) PCI Express 5.0 X 16 slots
(Full height; Full length)
(1) PCI Express 5.0 X 8 slots
(Standard low profile)

External Ports
(1) VGA port (Video port)
(2) USB 3.2 Gen 1 ports
(2) USB 2.0 ports
(1) RJ45 Dedicated IPMI LAN port

Chassis Technical Specifications

Dimensions:
17.2"W x 1.7"H x 25.6"D (inches)

Drive Bays
(4) 3.5" Hot-swap drive bays

Form Factor: 1U Rackmount

Weight 46.1 lbs

PSU 860W Redundant power supplies



Front View



Rear View

Warranty & Support

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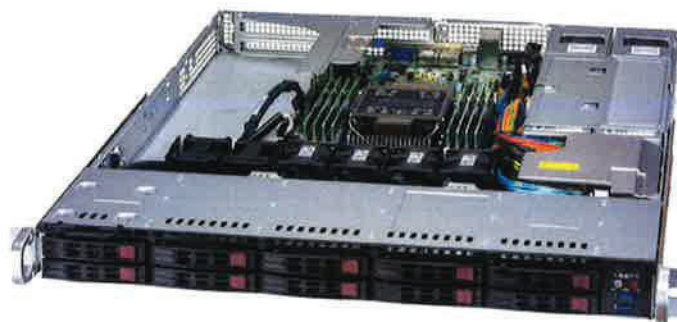
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SP4-1110 Server

POWERED BY HOWARD INNOVATION



Fast Track Expansion Capabilities

Fast-track IT expansion capabilities without taking up additional workspace. Howard's space-saving rack-mount server, the SP4-1110, is designed to keep up with your business as it changes and grows. Powered by Intel® Xeon™ 4th Generation processors, the SP4-1110 delivers secure, high-speed performance that will support you well into the future. This 1U system provides a single socket that can support up to 52 cores, enabling you to run multiple processes simultaneously with greater ease, increasing your performance when multitasking or under the demands of powerful programs. The SP4-1110 also features 2TB of memory, up to ten (10) 2.5" SATA/SAS, and power redundancy. For virtualization, cloud computing, enterprise, or data center applications—Future-proof your business with Howard's SP4-1110 server solution.

Howard Server Solutions Are Good for Business!

HOWARD

SP4-1110 Server Specifications

Chipset

Intel® 741

Operating System

Microsoft Windows® 2022,
VMWare 7.0 Update 3

Processors

Intel® Xeon 4th Generation Scalable
(LGA4677)

System Memory

Up to 2TB of DDR5 (8 Slots, DIMMs)

Video: VGA

Storage

(10) SATA/SAS 2.5" hot-swap drive bays; JBOD or RAID (0,1,5,10); Optional controller required for SAS drives

Network

Dual 1GB Ethernet (Default - RJ45)
Other networking options are available

Internal Ports

- (2) PCI Express 5.0 X 16 slots
(Full height; Full length)
- (1) PCI Express 5.0 X 8 slots
(Standard low profile)

External Ports

- (1) VGA port (Video port)
- (4) USB 3.2 Gen 1 ports
- (2) USB 2.0 ports
- (1) RJ45 Dedicated IPMI LAN port

Chassis Technical Specifications

Dimensions:
17.2"W x 1.7"H x 23.5"D (inches)

Drive Bays

(10) 3.5" Hot-swap drive bays

Form Factor: 1U Rackmount

Weight 38 lbs

PSU 860W Redundant power supplies



Front View



Rear View

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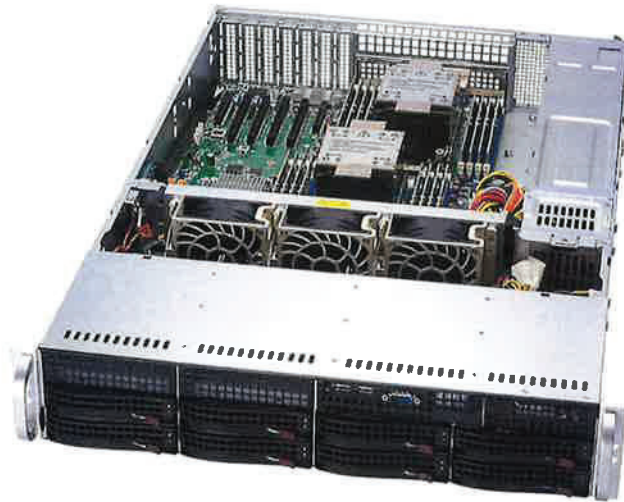
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SP4-2208 Server

POWERED BY HOWARD INNOVATION



Advanced Security & Built-in Accelerators

Step up to a superior server solution with the SP4-2208 from Howard. Using the power of Windows 2022 Server®, this 8-drive system has the capacity of two Xeon® Scalable 4th Generation Family processors. That means more cores, more DDR5 (4TB) memory, RAID functionality, and advanced security technologies to ensure your data is well protected 24/7. The SP4-2208's processing power gives you the advantage of built-in accelerators to improve performance across the fastest-growing workloads in AI, analytics, networking, storage, and high-performance computing. Additionally, this 2U rack mount system provides a level of utilization and power efficiency that can help businesses achieve important sustainability goals.

Howard Server Solutions Are Good For Business!

HOWARD

SP4-2208 Server

Specifications

Chipset
Intel® 741

Operating System
Microsoft Windows® 2022,

Processors
Intel Xeon® 4th Generation Scalable

System Memory
Up to 4TB of DDR5 (16 Slots, DIMMs)

Video: VGA

Storage
(8) SATA/SAS 3.5" hot-swap drive bays;
JBOD or RAID (0,1,5,10);
*12GB SATA/SAS optional for storage controller; 2 PCIe 4.0 x2 M.2 slots

Network
Dual 10GB Ethernet (RJ45)

Internal Ports
(4) PCI Express 5.0 X 16 slots
(Standard Low Profile)
(2) PCI Express 5.0 X 8
(Standard Low Profile)

External Ports
(1) VGA port (Video port)
(4) USB 3.0 (rear)
(2) USB 2.0 (front)
(1) RJ45 Dedicated IPMI LAN port

Chassis Technical Specifications

Dimensions:
17.2"W x 3.5"H x 25.5"D (inches)

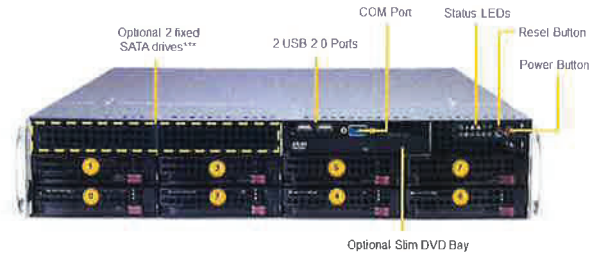
Drive Bays
(8) 3.5" Hot-swap drive bays

Form Factor: 2U Rackmount

Weight 69 lbs

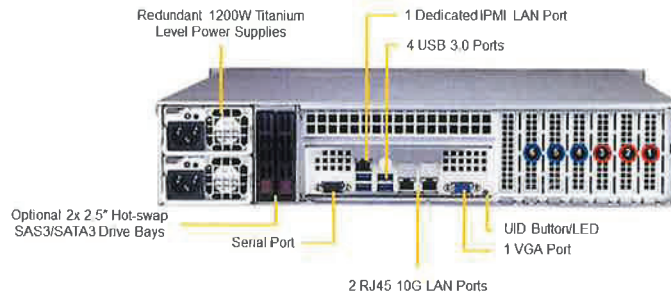
PSU 1200W Redundant power supplies

Front View



Drive Bay	Description
1-3	3.5" Hot-swap NVMe*/SAS*/SATA3 Drive Bays
4-8	3.5" Hot-swap SAS*/SATA3 Drive Bays

Rear View



Slot Name	Slot Description
Slot 1	PCI-E 5.0 x8 LP
Slot 2	PCI-E 5.0 x16 LP
Slot 3	PCI-E 5.0 x16 LP
Slot 4	PCI-E 5.0 x16 LP
Slot 5	PCI-E 5.0 x16 LP *
Slot 6	PCI-E 5.0 x8 LP

CP11 CP12

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SP4-4208 Server

POWERED BY HOWARD INNOVATION



Reliable High-speed Backbone

Create a reliable high-speed backbone for your business network—one that will serve you well for years to come. You can do it with Howard's SP4-4208 server solution. This 8-drive tower system has the capacity of two Intel Xeon® 4th Generation scalable processors for the high-speed performance necessary to keep pace with business needs. It's designed with built-in tools to secure data and ensure confidentiality. Using the power of Windows 2022 Server, Howard's SP4-4208 4U tower server is ideal for computing challenges related to AI, analytics, virtualization, networking, security, storage, and high-performance computing (HPC). Powerful, secure, and expandable as needs dictate, Howard's SP4-4208 can provide your business or organization with secure, reliable service for years to come.

Howard Server Solutions Are Good for Business!

HOWARD

SP4-4208 Server Specifications

Chipset
intel® 7401

Operating System
Microsoft Windows® 2022,

Processors
Intel® Xeon 4th Generation Scalable

System Memory
Up to 4TB of DDR5 (16 Slots, DIMMs)

Video: VGA

Storage
(8) SATA/SAS 3.5" hot-swap drive bays;
12GB SATA/SAS optional for storage controller
(2) PCIe 4.0 x2 M.2 slots

Network
Dual 10GB Ethernet (RJ45)

Internal Ports
(4) PCI Express 5.0 x16 slots
(Standard Low Profile)
(2) PCI Express 5.0 x8 slots
(Standard Low Profile)
*Only 2 PCI-E 5.0 x16 (Standard Low Profile) and 1 PCI-E 5.0 X8 (Standard Low Profile) available on 1 Processor

External Ports
(1) VGA port (Video port)
(4) USB 3.0 Gen 1 ports
(2) USB 2.0 Gen 1 ports
(1) RJ45 Dedicated IPMI LAN port

Chassis Technical Specifications
Dimensions:
7"W x 17.8"H x 25.5"D (inches)

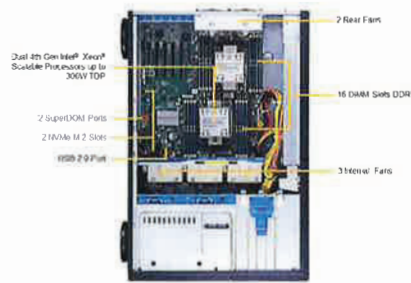
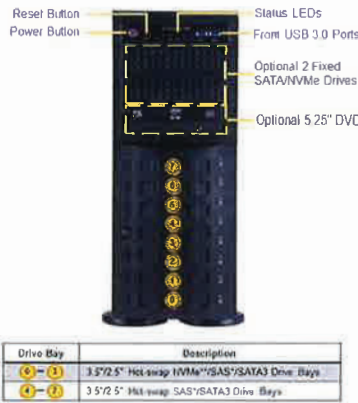
Drive Bays
(8) 3.5" Hot-swap drive bays

Form Factor: 4U Rackmount

Weight 73 lbs

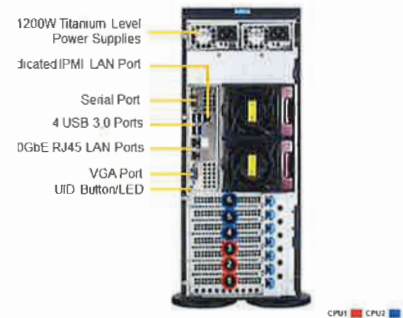
PSU 1200W Redundant power supplies

Front View



Top Inside View

Rear View



Slot Name	Slot Description
1	Slot 1 PCIe 5.0 x8 (FH, 6.6")
2	Slot 2 PCIe 5.0 x16 (FH, 10.5")
3	Slot 3 PCIe 5.0 x16 (FH, 10.5")
4	Slot 4 PCIe 5.0 x16 (FH, 10.5")
5	Slot 5 PCIe 5.0 x16 (FH, 10.5")
6	Slot 6 PCIe 5.0 x8 (FH, 6.6")

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