



Company Introduction and Main Products

ALLWIN21 CORP.

Allwin21 Overview

Allwin21 Corp. is the exclusive licensed manufacturer of **AG Associates Heatpulse 610** Rapid Thermal Process tool. We are manufacturing the new AccuThermo AW Series Atmospheric and Vacuum Rapid Thermal Processors. Compared with traditional RTP systems, Allwin21's AccuThermo AW RTPs have innovative software and more advanced real time temperature control technologies to achieve the BEST rapid thermal processing performance (repeatability, uniformity, and stability) with decades of research directly applicable to ours.

We focus on extending product lifecycle, providing solutions, and engineering enhancements to many production proven semiconductor process equipment most directly related to III-V processing. These semiconductor equipment have been used in production and R&D since the 1990's. They have proven processes and research. Allwin21 Corp. can customize these systems with Allwin21's comparable integrated process control system with PC, solid robotic wafer transfer system, and new critical components. This is to achieve the goal of giving our customers a production edge, with right cost, and without having to worry about obsolete parts.

Allwin21 Corp. was formed in 2000 with a focus on professionally providing **Rapid Thermal Process, Plasma Asher Strip / Descum, Plasma Etch/RIE, Sputter Deposition** and **Metal Film Metrology** high-tech semiconductor equipment, services and technical support in Semiconductor III-V, MEMS, Biomedical, Nanotechnology, Solar, Battery & LED industries. We endeavor to be a leader in our product lines. To achieve this, we have been providing unique innovative and cost-effective technical solutions, high quality equipment, and on time spare parts delivery worldwide. We have maintained a global presence that has grown and expanded into the major high-tech manufacturing areas of the world. We pride ourselves on developing and continuing lasting customer relationships.

We understand that a timely responsive support and service are critical elements in semiconductor industries. Allwin21's experienced engineer team is the best guarantee for high quality service and support. We provide on-site installation, training, maintenance, system optimization, retrofits, and/or customized upgrades

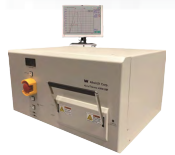
What sets us apart from the competition...

- 1) Exclusive licensed manufacturer of Heatpulse 610 of AG Associates.
- 2) Advanced Allwin21 Real Time PC Control Technology.
- 3) Focus on Production-Proven process technology.
- 4) Integrated 3-axis solid robotic wafer transfer technology.
- 5) Experienced local engineer support.
- 6) Products made in U.S.A



1) Rapid Thermal Process

- **AccuThermo AW 610M**
- AccuThermo AW 820M
- AccuThermo AW 820V
- **AccuThermo AW820R**



2) Sputter Deposition

- **AccuSputter AW 4450**



3) Plasma Asher Descum

- **AW-105R**
- AW-1008
- AW-B3000



4) Plasma Etch/RIE

- AW-901eR
- AW-903eR
- AW-2001R

5) Upgraded Kit for:

- Heatpulse® 210,310,410,610
- Matrix® X0X
- Tegal® 90Xe
- Gasonics® Aura 1000/2000LL/3000/3010
- Gasonics® AE 2001/2000LL
- Gasonics® L3510/L3500
- Perkin-Elmer 24XX,4XXX Sputter
- MRC 6XX, 9XX Sputter
- TES 6XX,9XX Sputter
- Branson/IPC® 3000/2000/4000
- Lam AutoEtch® 490/590/69
- Lam Rainbow® 4XXX Series



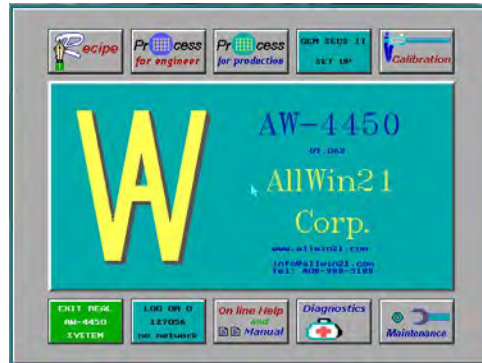
6) Sheet Resistance Measurement

- AWgage-150
- AWgage-200



W Sputter Deposition System ALLWIN21 CORP.

Upgrade Your Perkin-Elmer 2400,44XX Series Sputter Deposition Systems



- ✓ Increase Uptime
- ✓ Decrease Maintenance

- ✓ Lowest Cost Upgrade Solution
- ✓ No More Obsolete Controller Parts

RFQ Form-Fast Free Quote

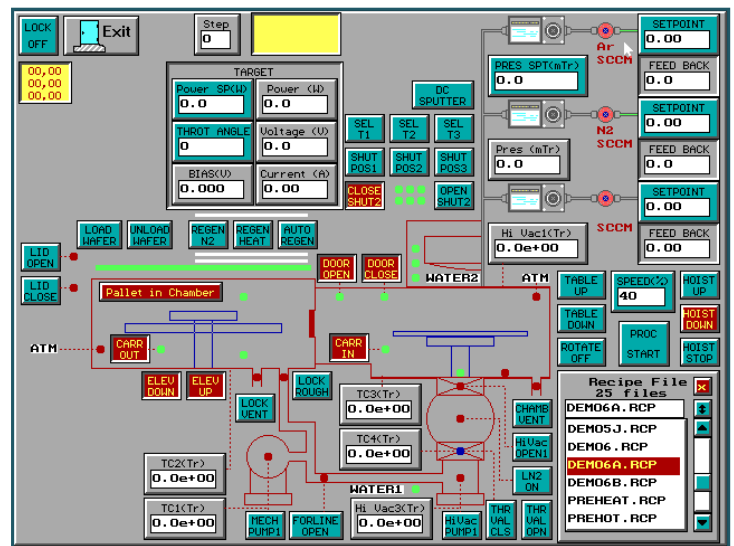
The AW-4450 Sputter System Upgrade Kit includes an advanced control system with touch screen operator interface and Allwin21 computer software. The kit is easy to incorporate (plug-and-play) into the original PE sputter system. No need to move the to be upgraded system from its present location. All utility connections stay in place. The new control system will enhance the entire system operation. It makes the upgraded sputter system much more reliable, since many of the old controllers are eliminated.

AW-4450 System Control

- ✓ Maintenance, Manual, Semi Automatic and Full Automatic operation modes
- ✓ Automated calibration of all subsystems
- ✓ Trouble shooting to sub-assembly levels
- ✓ Programmed comprehensive calibration and diagnostic functions
- ✓ Recipe creation for full automatic wafer processing
- ✓ Automatic decline of improper recipes and process data
- ✓ Multi level password protections
- ✓ Storage of multiple recipes and system functions
- ✓ Real-Time process data acquisition,display ,analysis
- ✓ Real-Time graphics user display (GUI)
- ✓ Process Data and Recipe storage on a hard drive
- ✓ Easy TC vacuum gauge calibration
- ✓ Positioning Deposition(optional)
- ✓ GEM/SEC II functions (optional)

Fast On-site Upgrading

- ✓ Customized survey and upgrading plan
- ✓ Same input/output connectors
- ✓ Same definition of each connector
- ✓ Plug-and-Play



Replaced Obsolete Controls If Necessary

- ✗ Auto Pump Down Controller
- ✗ Load Lock Controller
- ✗ Digital Clock Timer
- ✗ Table Raise / Lower Control
- ✗ Throttle Valve Control System
- ✗ Pressure Control System
- ✗ Sputter Head Controls (optional)

Perkin-Elmer 44XX Series Sputter Systems : ▶ PE 2400 ▶ PE 4400 ▶ PE 4410 ▶ PE 4415 ▶ PE 4430 ▶ PE 4450 ▶ PE 4480

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AW Sputter Deposition System

ALLWIN21 CORP.

Comparison between New AW 4450 AccuSputter and AW Refurbished / AW Upgraded / Original PE 44XX Series systems

| Comparing Item | AccuSputter AW 4450 | AW Refurbished&Upgraded PE 44XX | AW Upgraded PE 44XX | Original PE 44XX |
|---------------------------------|---|---|--|------------------------|
| Controller | Allwin21 Corp.'s AW-4450 System Control | | | Obsolete Control Parts |
| Monitor | Touch Screen | | | Discrete |
| User Interface | GUI (Graphical User Interface) | | | Discrete |
| Data Storage | Store in computer hard disk | | | None |
| Recipe Edit | Easy to edit with GUI page | | | None |
| Gas Calibration | Easy to do gas calibration with Software | | | None |
| A/D Precision | 14-16 bits | | | None |
| Diagnostic Function | More functions and I/O hardware "exposed" for easy maintenance and trouble shooting | | | Limited |
| Positioning Sputter | Yes | | | No |
| Power Distribution Box | New, AC380V/208V/3Phase/5Lines | | Used | |
| Shutter Sensors | New, Optoelectronic Sensors | | Used, Microswitches, mechanical | |
| Table Raiser/Lower/ Microswitch | New | | Used | |
| Hoist Microswitch | New | | Used | |
| Gauge Controller | AW-531 Gauge Controller , 3x Ion Gauge and 6x TC Gauge Capability , GUI/Touch Screen | | PE Ion Gauge Controller (DGC, WRG), 1x Ion Gauge and 2x TC Gauge/each | |
| Valves | New | | Used | |
| Gas Line | New | | Used | |
| Motors,Actuator,Relay,Solenoid | New, DC 24V | | Used, AC 115V | |
| RF Generator and RF Match | New, can be installed inside the chassis | | Used | |
| DC Power Supply | New, can be installed inside the chassis | Used,Fully tested, , can be installed inside the chassis | Used, individual chassis | |
| Reed Switch | New | Used,Fully tested | Used | |
| Light Tower | New | | Optional | None |
| Loadlock and Chamber | New | Fully refurbished, new if necessary | Used | |
| Other Parts | New | Fully refurbished, new if necessary | Used | |
| Overall Space | Main Console Only | | Main Console, DC/RF Power, Computer (Optional) | |



RFQ Form-Fast Free Quote

Upgrade Kits

Introduction

We have been doing upgrade for many production proven equipment, such as Perkin-Elmer 2400, Perkin-Elmer 4400, Perkin-Elmer 4410, Perkin-Elmer 4450, Perkin-Elmer 4480, Matrix 105 , Matrix 106, Matrix 303, Matrix 303, Matrix 403, Matrix 205, Matrix 101, Matrix 102, Matrix 103, Matrix 104, Tegal 901e, Tegal 903e, Lam Research LAM AutoEtch 490, Lam AutoEtch 590, Lam AutoEtch 690, Branson/IPC 2000, Branson IPC 3000, Branson/IPC 4000, Gasonics Aura 3000, Gasonics Aura 3010, Gasonics L3510, Gasonics Aura 1000, Gasonics AE 2001, AG Associates Heatpulse 610, AG Associates Heatpulse 410, AG Associates Minipulse 310, AG Associates Heatpulse 210. The Upgrade Kits include an advanced Allwin21 AW System Control with touch screen Graphic User Interface (GUI) and a new PC with Allwin21 real-time control Software. Most upgrade kits include new main control board, new wafer heating functions with Allwin21's Advanced RTP technology, fixed cassette station instead of the original elevator, and robust 3-Axis integrated robotic wafer handling (instead of the original). The kits are easy to incorporate (plug-and-play) into the original systems. Onsite installation available for most of kits as well (so all facilities connections can stay in place). Each upgrade kit will enhance the entire systems' operation and allow for far better Process Repeatability, Stability, and Uniformity.

Software Key Features

- Real time graphics display, process data acquisition, and analysis.
- Advanced Temperature Control for RTP and other "lamp-based" wafer heating systems.
- Precise parameters profiles tailored to suit specific process requirements.
- Consistent wafer-to-wafer process cycle repeatability.
- Programmable comprehensive calibration of all subsystems from within the software. This allows faster, easier calibration, leading to enhanced process results.
- Recipe creation. It features a recipe editor to create and edit recipes to fully automate the processing of wafers inside the process chamber.
- Validation of the recipe so improper control sequences will be revealed.
- Storage of multiple recipes, process data and calibration files so that process and calibration results can be maintained and compared over time.
- Passwords provide security for the system, recipe editing, diagnostics, calibration and setup functions
- Simple and easy to use menu screen which allow a process cycle to be easily defined and executed.
- Troubleshooting features which allows engineers and service personnel to activate individual subassemblies and functions. More I/O, AD/DA "exposure".
- The control board inside the machine that translates the computer commands to control the machine has a watchdog timer. If this board loses communication with the control software, it will shut down all processes and halt the system until communication is restored.
- Closed-loop process parameters control.
- GEM/SECS II function (Optional).
- Advanced Allwin21 EOP function (Optional)

Why Upgrade Used Process Equipment

- 1) Low cost solution of obsolete components and parts.
- 2) Increase stability of the original system.
- 3) Add network function (GEM/SECS II) for Fab/Lab integration
- 4) PC control for data storage.
- 5) Friendly GUI operation.
- 6) More precise control.
- 7) Better performance (Repeatability, Uniformity, Stability)
- 8) Easier maintenance, calibration and troubleshooting.



Main Upgrade Kits

| Equipment Model | Image | Upgrade Kits | |
|--|-------|------------------------------------|---|
| | | New PC Controller with AW Software | Integrated Solid Robotic Wafer transfer |
| Heatpulse® 210 | | Yes | N/A |
| Heatpulse® 410 | | At Allwin21 Facility only | |
| Heatpulse® 610 | | | |
| Perkin-Elmer® 4XXX | | Yes | N/A |
| Perkin-Elmer® 24XX MRC 6XX 9XX | | | |
| Matrix® 10X | | Yes | |
| Matrix® 20X | | | |
| Matrix® 30X | | | |
| Matrix® 40X | | | |
| Tegal® 901e | | Yes | |
| Tegal® 903e | | | |
| Gasonics® Aura 1000 | | Yes | At Allwin21 Facility only |
| Gasonics® AE 2001 | | | |
| Gasonics® Aura 3010 3000/2000LL/AE 2000LL | | Yes | Only for Gasonics 3010/3000 / L3510 / 3500 |
| Gasonics L3510 /L3500 | | | |
| Lam AutoEtch® X90 Lam Rainbow 44XX | | Yes | N/A |
| Branson/IPC 3000 2000 4000 | | Yes | N/A |