STEALTH SERIES™
SHAFT ALIGNMENT SYSTEMS
S-660 SERIES WIRELESS 3-AXIS

• High-End System Accuracy at Entry-Level Pricing
• Windows® Rugged Industrial Tablets
• 10” Touchscreen Displays
• Innovative Dual-Fan™ Technology
• Any Point Live Move Screen
• Embedded Bluetooth Class II
• IP67 Laser/Target Housings
• Upgradeable Advanced Features
What sets the S-660 platform apart from the competition?

The world's most advanced laser alignment technology

For nearly 50 years, we have been providing highly accurate alignment systems to many different industries and applications. We started in the machine tool industry where tolerances are high and applications are difficult, and then 20 years ago we developed the world's first 4-axis shaft alignment system. All of that experience and knowledge has gone into the design of the S-660 platform Wireless 3-axis shaft alignment system resulting in the most accurate and yet easy-to-use tool in its class. You will find no better or faster system in the entry-level segment of the market to quickly and accurately align your rotating equipment.

Dual-Fan™ technology for really fast alignments

This innovative technology utilizes uni-directional laser beams (2 lasers, 1 direction) that solves the move-screen sensitivity problem of “over-under” lasers (2 lasers, 2 directions) and makes aligning machines amazingly fast and easy, especially on long-distance applications. Dual-fan™ technology also provides a very generous +/- 2 degrees of angular range plus an angular resolution that is the same at 2 inches (50 mm) or 15 feet (2.5m) and is 4 times higher than the highest angular tolerance. The result? More jobs done in less time. (And happier managers!)

Waterproof Bluetooth® wireless with the industry’s longest battery life

With no cables to trip on or wrap around shafts, the S-660 platform makes for a safer work area, while giving you the freedom to go wherever you need to be, for 14 hours before recharging the battery. Our standard, Class 2 Bluetooth wireless technology offers up to 33 feet of communication range, and for wet work sites, the IP67-rated t-1280 target can be dunked in water up to 3 feet and still transmit data!

20x1 mm PSD detector - 1.0 Micron resolution

One of the laser industry's highest-resolution single-axis PSD sensor, providing 1.0 micron resolution and a measuring area of 20x1 mm, among the best in its class.

Why you need Stealth™ technology for long-distance applications

Alignments over long distances are particularly challenging when working with a 2-laser/2-detector shaft system because it’s very sensitive to small angular moves in the motor. For example, a tiny angular movement of just 0.005”/in at 10 feet will cause the laser beam to move in offset by 0.060”! This makes aligning the motor's offset value very difficult to do, especially for the horizontal axis. With our Dual-fan™ uni-directional laser technology, however, angular moves to motor do not move the laser beam at all and therefore do not affect the offset values! This means aligning the motor is amazingly easy, especially over long distances.

Duo-Plane™ live move screen for faster, easier alignments

The Duo-Plane™ live move screen and t-1280 3-axis target allow you to view a live alignment screen for both the vertical and horizontal planes (4 axes) on the same screen. To switch between the vertical and horizontal axes, just rotate the shafts to a clock position and Couple6 automatically switches the H or V live axis without any buttons to push or screens to change, and the non-live axis is grayed out so there is no confusion!

2x Faster Alignments - Shim Once, Move Once

High-resolution PSD technology, 60-point linearization and the latest electronic design reduce the target error rate to <0.75%, which is up to 5 times higher than our competitors' entry-level lasers and gives you the confidence that when the displays turn green, the motor is aligned as accurately as possible. Higher accuracy also means better repeatability and more accurate shim calculations so you don’t have to keep doing the alignment over and over again. Shim Once, Move Once!

Off-the-shelf software display, so replacement is never a problem

The S-660 platform uses familiar mS Windows OS iP65 tablets that are available from most computer stores. So there are no expensive, proprietary display devices to replace if broken.

Easy-Guide™ software navigation makes everyone a genius

Our Couple6 software is every bit as brilliant as our hardware, featuring our easy-guide™ navigation with its easy-to-follow, high-quality color screens - leading even the novice user through each stage of the alignment. and if you forget how to do something, the manual is built right into the software - compare that to our competitors' multi-page cheat sheet! With software this easy to use, training is only required for the more complicated applications.

Research shows 50% of all machine downtime is the result of poor alignments.
**Software Configurations**

- **Couple6 - Starter License**
  - Auto Clock™
  - Flip It™
  - Orbital Plot-Data Quality Analyzer
  - Recommended Tolerances
  - Signature Capture (reporting)
  - Soft Foot Check & Shim
  - Templates
  - User Definable Alignment Tolerances
  - Vertical Machine Alignment
  - Virtually Unlimited File Storage

- **Couple6 - Entry-Level License**
  Includes all of the above plus...
  - Spacer Shaft - 7 Data Formats
  - Thermal Growth Targets (coupling)

**Optional Software Features**

(Starter Version may upgrade to any Entry-Level features plus these)

- Auto Sweep™
- Bolt Bound™
- Machine Image Capture (reporting)
- Machine Train - 3 Machines
- Point Mode
- Repeatability/History
- Thermal Growth Foot-Value Converter
- Vertical Machines - Live Move

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**S-660 Couple6 software for tablets and PCs**

In any alignment system, the hardware is only part the story. The other, more important part is the software. So when we designed the Stealth™ Couple6 software, we had the novice user in mind and created our Easy Guide™ approach to navigation that is so simple to use, it requires little to no training. Easy-to-follow, high quality, color screens lead you through each stage of the alignment, so you don’t need to constantly refer to “cheat sheets” just to remember how to use it!

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**Project Menu**

Start new projects, manage old alignment projects, review saved files and create project templates. Creates a unique machine folder that stores all the alignments in one place for easy historical analysis.

**Step 1 - Machine type, Dimensions & Tolerances**

Select machine and coupling type, enter dimensions and select tolerances. Can also enter user-defined tolerances.

**Step 2 - Laser Setup Screen**

Provides live, 2-axis, raw alignment data to initialize the system and maximize measurement range. On-screen graphics show you which direction to move the laser and target during the setup. Can also be used for Rough Alignment.

**Step 3 - Soft Foot Check**

On-screen, easy-to-follow procedure for checking Soft Foot, a common problem that can cause many alignment problems. Automatically selects the “problem” foot and calculates the shim to fix it.

**Step 4 - Measure Misalignment - Auto Clock™ Mode**

A standard feature, making coupled alignment amazingly easy. Built-in accelerometer detects shaft rotation and automatically selects the clock location to record up to 8 data points. More data points mean better accuracy and quicker alignments.

**Step 5 - any Point live Move Screen: Motor View**

Featuring our Duo-Plane™ display that shows both the vertical and horizontal alignment planes (4 axes) on the same screen. After taking data, leave the target within +/- 30° of 12:00 or 6:00 to view the V axis data. After shimming, rotate the target to within +/- 30° of 3:00 or 9:00 to view the H axis data.

**Alignment Report**

**Free Updates**

We constantly improve our software and provide free updates. Just click on “Check for Updates” and Couple6 will display the correct page of the software manual is built right into our software, so you don’t have to thumb through many pages to answer a question. Simply click “Help” from the menu, and the software will display the correct page of the manual for that screen.

**Couple6 Interactive Tour**

Scan here to take an interactive tour of Couple6 on our new website: www.stealthalignment.com

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**Did you know that nearly 50% of the price of our competitor’s lasers comes from the display box?**
**Advanced Couple6 features**

### Display Options

**Stealth Series™** offers familiar Windows® OS display boxes: a rugged industrial IP65 10” tablet that runs Couple6 and other HLI software.

#### Flip it™ Feature
Couple6 allows the user to flip the motor graphics to match the pump/motor orientation without having to turn the display upside down!

#### Bolt Bound™
Enter dimension of the pump, and then lock different combinations of the motor and pump feet to see how it affects the alignment. The graphics and shim values automatically update with each click.

#### Vertical Motor Program
The industry’s only vertical alignment display with live graphical displays of the motor’s alignment along with shim values for all bolt-hole locations.

#### Spacer Shafts
Select Spacer Shafts, enter the spacer length and Couple6 will convert the alignment results to 7 different spacer-shaft formats.

### More advanced features

**Auto Sweep™** simply the best data-taking method. Period. Start rotating the shafts and the built-in accelerometer detects the movement, automatically collecting hundreds of data points. Stop rotating the shafts and Couple6 starts calculating the misalignment. More data means more accurate alignment data and less rework.

#### 3 data-taking modes
Included in the Couple6 entry-level license is auto-Clock™ data-taking mode. Optional data-taking features include: autoSweep™ and Point mode for those hard-to-measure applications.

**It’s the little things that make software great**
Couple6 offers lots of extra features that make your life easier: popup keypad with extra-large keys, target and tablet battery indicator, Bluetooth® signal strength indicator, popup warning for low battery and lost data connection, ambient-light detector bar, no-button auto-start data taking, screen capture feature, and a comprehensive preferences screen to customize the displays. It also automatically detects the language setting on the tablet and then displays the matching language.

**Measurement Noise Filter**
Variable data averaging allows the user to choose the amount of data filtering to reduce the effects of poor measuring environments.

**Database management**
When you create a new machine in Couple6 software, it automatically creates a folder on your tablet and then saves each new alignment file for that machine in the folder. This allows you to keep a history of alignment for each machine so you can go back and easily collect historical data for trending purposes. Each file is time and date stamped so you can save multiple copies on the same date if needed.

**Geometry Add-Ons**
The R-1342St tablet can be used to run all of hamar’s geometry laser software programs for many different applications, such as flatness and straightness measurements, bore alignment, machine tool alignment, spindle alignment and many more!

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“We have used the system and it really is good. It got us through the massive soft foot issues reasonably quickly, and the alignment was a breeze. The controls were simple and intuitive, and the touch screen made data entry very quick. I was able to pick it up, and align a motor accurately the first time, with very little training and no previous alignment experience. Thank you for making such an easy-to-use and accurate system.”

Jeff F.
Engineer Roanoke Cement Company

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**Options**

**Bracket & Chain Sets**
- A-970A Chain Bracket Upgrade
- A-970OF Offset Brackets
- A-970C-1 Extra Chain Set 1” to 12” (25 to 305 mm) Diam
- A-982 magnetic Brackets (set of 2)
- T-1280B Outdoor Light Filter

**Geo Software and Accessories**
- A-1519-2.4ZB Single-Axis Wireless Scan Target
- L-730 Auto-Rotating Laser with P-R base
- S-1388 Plane5 Software
Specifications

Laser/Target Unit Size 4.2” x 3.3” x 1.94” (107 mm x 84 mm x 49 mm)

Housing Material Impact resistant plastic

Detector Type & Size 1-axis PSD 20x1 mm (h) provides 2 continuously updating alignment axes (1 alignment plane).

Ambient Light Protection Yes via blinking-laser algorithm embedded in all Stealth targets

Target Measurement Resolution Offset: 1.0 micron (.00004")
Angular: 0.025 mm/m (.0003”/ft.)

Target Measurement Error Offset: <0.75%
Angular: <1.5%

Angular Sensor Range +/- 2” (+/- .034”/inch or 3.4 mm/100 mm)

Laser Type 650 nm dual-fan laser with 0.5° fan <0.9mW

Communication between Target & Data Analyzer Wireless Bluetooth® Class 2 - 2.4 ghz

Wireless Range Up to 33 feet (10 M)

Ruggedized Display Platform Industrial tablet with 10” touchscreen. MILSPEC 810G/IP65

Rotation Sensor (3rd axis) Accelerometer Resolution: 0.1°
Accuracy: +/-1°. Measurement accuracy not affected by rotation sensor accuracy.

Environmental IP67 (laser & target). IP65 (R-1342T3-2A or R-1342T-301T).

Bracket Set Covers 1” (25.4 mm) to 6” (152.4 mm) diameter shafts.
Comes with 6” (152.4 mm) posts

Application Range 15’ (4.5 m) between laser and target

Operating/Storage Temperature Laser/Target: 5°F to 140°F (-15°C to 60°C) for laser, target.
32°F to 120°F (0°C to 49°C) for R-1342CRT
-4°F to 140°F (-20°C to 60°C) for R-1342T

Battery Life Target 15 hours continuous use with Bluetooth® — 16 hours with backup cable. Target can be plugged into power source during use Battery status indicator for both T-1280 Target and tablet.

Battery Life Laser 150+ hours continuous use. Blinking LED indicates low battery status

Battery Life Tablet Up to 5 hours for R-1342T3-2A or 8 hours for R-1342T-301T.
Normal Use

AC Battery Charger (Laser and Target) 110V to 220V with U.S. and international adapters. Cable also works as a backup cable

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NO WORRIES 5-YEAR MANUFACTURER’S WARRANTY

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