# Quick Setup Guide G2-8 System-Pac/S25 Server

For help with this G2-8 System-Pac, utilizing the S25 Server, call Dave at 765-427-2753 or Steve at 765-427-4699. Also, detailed instructions on the use of the S25 Server can be found in the "Admin Guide S25 Server System". **Charge Your Batteries Now**

Target Frame

You'll need to have a suitable target frame for mounting the G2 system. It can be a manually operated "pit" system, or a fixed frame. A solid frame is the key to repeatable accuracy. You can mount the target equipment on an existing frame, or build a new frame.

1. Your frame should be solid, and not move excessively with wind or bullet impacts. It should be mounted securely, or have a rigid stand if it's portable.
2. It should be large enough so sensors don't get shot and you can easily mount your largest targets. The G2 and the lower sensor elements should be mounted below grade, out of the line of fire.
3. Cardboard or corrugated plastic (more weather resistant) work well for a backer board. Coroplast is available at most home improvement stores.
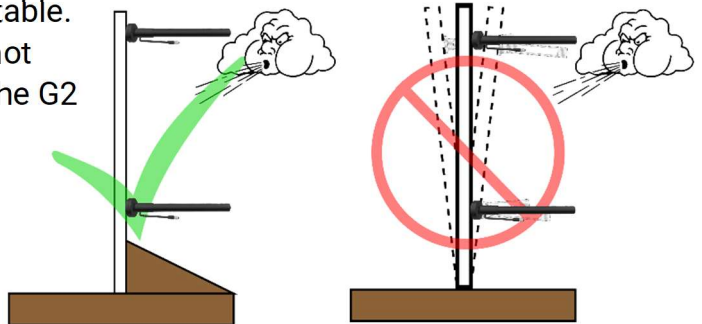
The microphone sensor elements are mounted in the four corners of your target frame, and the G2 (yellow housing) is mounted near the bottom of your frame, out of the line of fire. The G2's panel antenna communicates to the line, and needs to be mounted about 1/3 or 1/2 way up the left side of the frame, with clear line of sight to the firing line. The lower sensor elements should ideally also be below the line of fire.

Sensor Mounting Plates

Good, accurate sensor mounting is the key to an accurate system. There are four round black mounting plates with springs in center that get mounted to the four corners of the target frame. The carbon fiber dual-mic sensor elements then connect to these mounting plates with a quarter-turn.

Mic Base Assembly   Lower Base   Sensor element connection

1. The first step in mounting the bases to your target is to disassemble the base. This base assembly incorporates a unique swivel feature that allows sensor alignment in case your frame is not perfectly square to the firing line. Remove the 4 silver screws in the first picture. In the second picture, you'll see the lower base that gets screwed to your target frame.
2. Mount these 4 lower bases to your target using 2 screws per base, and do not over tighten. You **MUST** install the bases at 90 degrees to each other, so they should be in a rectangle or square.
3. Next, reassemble the swivel ball and the upper base with the 4 silver screws only lightly tightened.
4. Attach the carbon fiber microphone sensor assemblies to the bases. If the swivel base rotates, tighten the 4 silver screws a bit. The sensors are marked for specific locations on the target like Bottom-Left (BL), etc. The sensor assemblies get pushed on starting with the cable out the left side, then rotate ¼ turn counter clockwise, so the cable ends up coming out the bottom on each sensor. They should be mounted in the same plane as each other and the target face, and point at the firing line, being parallel to each other. Once the sensors are mounted, slightly loosen the 4 silver screws and align each sensor to be 90 degrees to the target face, then tighten the 4 silver screws. Sensors MUST have their openings facing in towards the center of the target.
5. Once mounted, record the horizontal spacing between the left edges of upper bases & the vertical spacing between the tops of the left bases
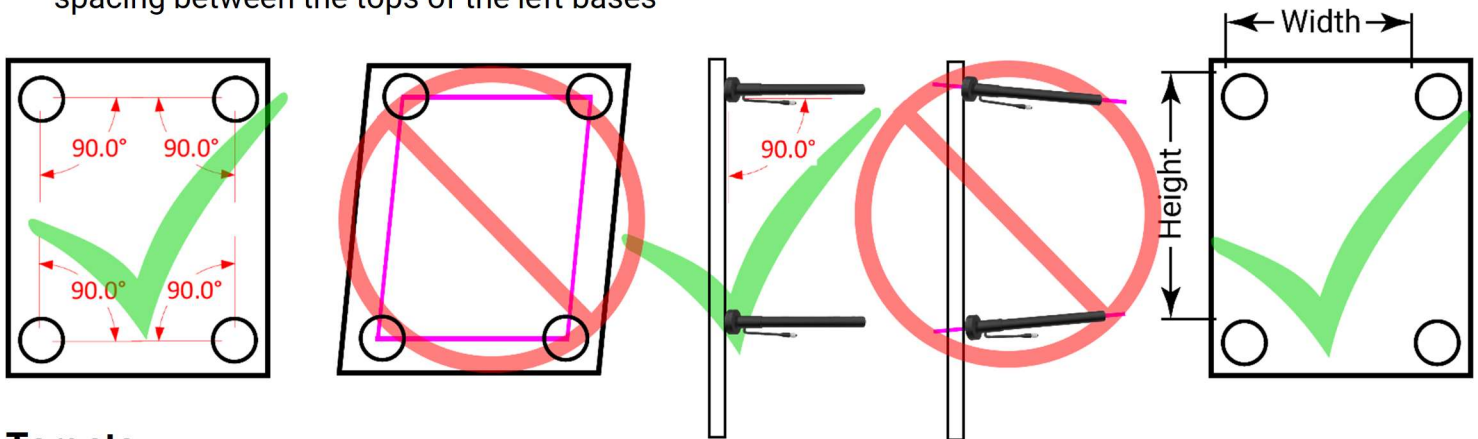
Targets

Fasten a target face to the frame, roughly near the center of the bases

Wiring Harness

The wiring harness connects to the G2 and to all 4 of the sensor elements. You'll notice the upper sensors are connected via separate cables called "drop cables". These provide for a less expensive replacement cost than the entire cable assembly, in case they get shot. They are exposed to incoming rounds.

Connect the harness to each of the 4 sensor assemblies, then to the G2, making sure the multi-pin connector is seated well. Next connect the antenna cable to the antenna connection on the G2 and the panel antenna. Hang the panel antenna on the left side of the target frame, about 1/3 or 1/2 way up the left side. Keep it as far left as possible to reduce the chance of bullet impacts.

Insert a freshly charged battery into the G2. The battery positive terminal goes in first. Power on the G2. It needs about 1-2 minutes to fully come online.

Firing Line

Go to the firing line and make sure your S25 Server is on. Face the large panel antenna toward the targets, and ensure it has clear line of sight to each target's antenna.

Connecting Your Display Device

Almost any display device with WIFI capability and a modern browser (laptop, tablet, smartphone, etc.), may be used to connect to the target system.

1. First, connect to the WIFI Network. Choose "Settings", then "WIFI" or "Connections", and look for a WIFI network named **SilverMountainTargets**, and click "connect".
2. Open a browser such as Safari, Chrome, or Firefox & in the Address bar, type in the IP address of the S25 Server, 192.168.0.47. The TargetViewer should now load. Note that older outdated browsers may not work correctly, so make sure yours is updated.

Initial Setup of the System

A software "TargetFrame" corresponds to a physical target frame with attached sensors, and carries the associated data needed for the server to gather shot data on that frame. A "TargetFrame" is created by making a copy of an existing frame.

This is needed on initial system installation, or when adding a new target frame. From the Admin menu, click on the Gear icon, then the Frame & Wrench icon

1. Select any existing target frame by clicking on the target across the bottom of the screen
2. Select the "Copy" button
   - A TargetFrame named "new" will be created and selected
   - Status = yellow (offline; not connected to a sensing unit)
3. Select the "Rename" button to name the new frame such as "T01" etc. TargetFrames are sorted alphabetically
4. Choose the applicable wiring harness type (G2-5, G2-8, PnP, etc.), and the correct Mic mapping and Spacing will automatically be set
   - G2-5mic is for a G2 Controller with 5 mics
   - G2-8mic is for a G2 Controller with 8 mics
   - PnP is for a Plug-n-Play System with 8 mics
5. For example, "PnP" has been selected here, which automatically fills in the parameters needed for a "Plug-n-Play" sensing unit.
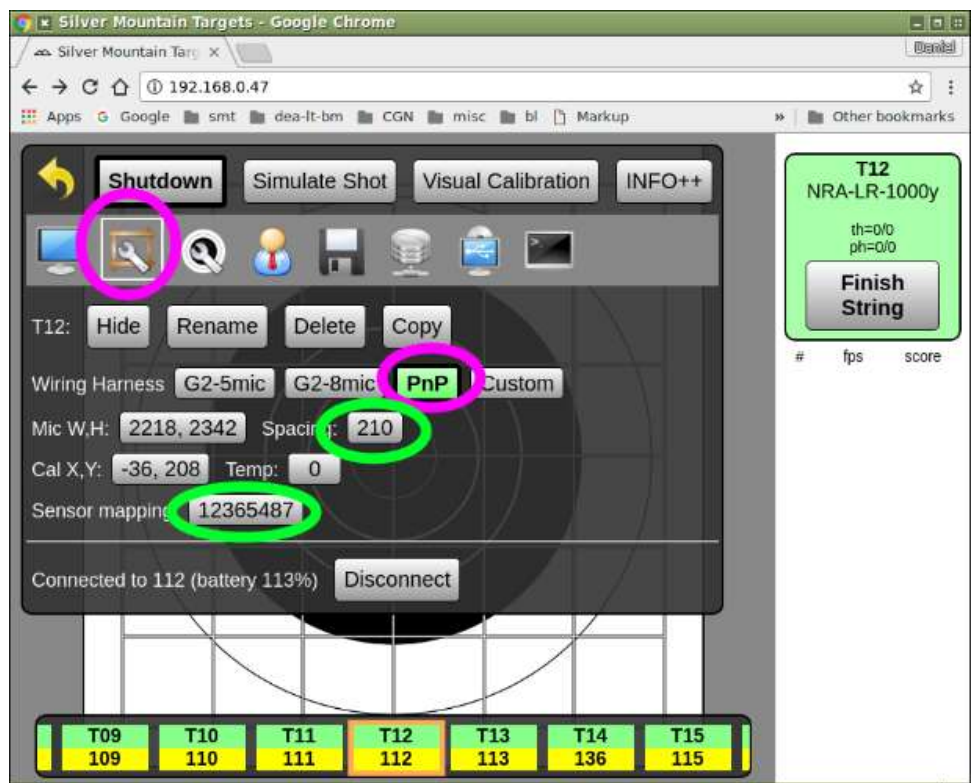
6. Enter Microphone Width and Height values. This is the distance measured between the left side of the upper or lower mics, and distance measured between the tops of the left or right mics. It provides the system with measurements needed to calculate shot hole coordinates.
   - Measurements need to be entered in mm (25.4 x inches, or 10 x cm)
   - No decimals or commas, and a space between the two numbers, i.e., "1330 1635"
7. The "Connect to:" button allows the target selected at the bottom of the screen to be connected to a particular G2 or PnP target sensing unit. Enter the IP address of the sensing unit
   - Status should change to GREEN
   - "Other G2" may be used if sensing unit is not currently online

Calibration

Use these procedures to align the e-target's coordinate system with the physical center of the installed target face. This should only be required on the first installation of sensor mounts, or if the physical target center has moved.

1. Set up the physical target frame for shooting, using a new target face, or paste all holes
2. Fire one shot within 10" of the center.
3. Go to the physical target and find the bullet hole in paper
4. From the Admin menu, select the Frame & Wrench icon
5. In the ShotsList Column, select the shot that was fired.
   a. Measure the location of the bullet hole center, on the physical target. As an option, you may draw vertical and horizontal reference lines to assist in measuring
   b. Record the bullet position as two numbers, X and Y coordinates.
      i. The X coordinate is how many millimeters the bullet is to the RIGHT of the vertical centerline. If the bullet is LEFT of the vertical centerline, your X coordinate will be a negative number
      ii. The Y coordinate is how many millimeters the bullet is ABOVE the horizontal centerline. If the bullet is BELOW the horizontal centerline, your Y will be a negative number
   c. Click the "Measure" button in the ShotsList column for the calibration shot. Enter your X and Y values, separated by a space. As an example "154 73"
   d. CONFIRM that the calibration shot is now shown in the correct position. If not, cancel the shot from the calibration and repeat the calibration by selecting the "measure" button again.
6. Note, shot(s) used for a calibration offset calculation are highlighted in yellow, in both the ShotsList and screen display
7. The CANCEL button can remove a shot from calibration calculation

For more information, please contact Dave or Steve at Silver Mountain Targets USA, or log onto the SMT corporate site www.SilverMountainTargets.com