Appendix

I. Inspection Checklist

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Total		

STEP 1	Send and verify all signals			
STEP 2	Customer Training (Install/Service Standards)			
STEP 3	Rediscovered Network - regardless if changes were made to the devices.			

II. Quality Installation Standards for Inspection

1. Panel & Siren
   1.1. Panel and Installation & Mounting
   - The control panel is centrally located inside the house where the 2-way will have maximum audible range, and is central to the sensors and devices.
   - Appropriate height for the panel should be according to the customer's discretion, but at least chest high for most panels. **Panels are never to be located less than 36' or more than 72' from the floor.**
   - Every panel must be level.
   - The panel should have anchors installed when only supported on drywall. No anchors are necessary if screwed into wood studs behind drywall or wood.
   - Minimum of 4 screws must be used to securely mount the control panel

1.2. Siren

- Sirens must be tested audibly on every inspection.
- Any additional sirens (besides the panel) must be mounted with at least four drywall screws, or with anchors.

1.3 Updated Firmware

- Panel firmware is updated to current version

2. Wire

2.1. Clean & Hidden Wire Runs

- All wire runs must be hidden behind sheet rock, in plenums, attics, closets or similar locations. Never use air ducts.
- No bare wire can be exposed. Individual wires and bare wires must be located only inside panels, sensors or behind the transformer (individual wires cannot be pinched between outlet cover plate and wall).
- Wire must be ran behind the walls at all times. The exception to that rule is if there is no open cavity within the walls (ex. brick, stone, etc.)
- Exposed wire less than 7ft in height should be located inside a wire molding or conduit. (Code per state)
- Exterior Wire runs must be secured at least every 12 inches, and any holes must be covered with silicone. (Wiring conditions shall be judged acceptable at discretion of inspector)
- All exposed copper wire not being used must be covered with a wire nut, bean, etc.
- Wires can't share pre-dilled holes for high-voltage electrical wire

3. Transformers

3.1. Installation & Mounting

- Transformers should be secured to an outlet. A screw should be used. (This section will fail if other means are not used if/when using a screw is not possible (double sided tape, zip tie).
- Ensure that the polarity is correct on DC transformers.
- Transformer CANNOT be plugged into a GFCI outlet, if other non-GFCI outlets are available.
- Transformer may not be on a switched outlet, or a lamp socket outlet (plugged into the side of a light bulb).
- Ensure that the wire is connected without any copper wire showing, other than in the transformer terminals.
- Ensure that all connections are clean and secured so that there is no danger of it shorting out.

4. Cellular Units

4.1. Installation & Registration

- Cell unit is registered to the correct account, and reporting to the monitoring station.
- Must be mounted correctly according to manufacturer specs.
- Minimum of 2 bars of signal strength
- Antenna is vertically mounted within the wall, away from electrical wiring and outlets. CANNOT be in the panel.

4.2. Cellular Testing

- Signals from the original install must be actual signals (no tamper signals, except for CO detector) and sent from all zones.
- Cell test must go through

5. Two Way Voice

5.1. Tested & Verified

- Tested and comes through loud and clear without any interference.
- The confirmation code comes through clearly.

6. Programming

6.1. Duress Code (Silent Emergency) and Emergency Panics

- Panel has duress code programmed into the system.
- Duress Code is tested and sends appropriate signal.
- All panics are tested with monitoring company to ensure they are sending the appropriate signals.
- *****Some cities or states cannot have panics programmed due to guard dispatch or codes. Ensure codes and local protocol is followed.**
- **If installed commercially, fire emergency panics must be disabled on the panel.**

6.2. Sensor Programming

- All zones in programming should match information in Orion.
- All sensors are programmed according to the "Programming Sensors" pages in the SkyTech Handbook
- Sensors that are supposed to be reporting to monitoring are set to 'Report'.
- All sensors must be set to 'Supervised'
- Zone types are programmed correctly. (Door sensors are 1, 2, 3; motions are 4, 10; smokes are 9; glass breaks are 3, etc.)
- Sensors have been tested and are working as they should.

- Zone descriptors are programmed for the appropriate locations. (NOT just 'Window', 'Door', etc.)
- Sensor Loops are programmed correctly and verified.
- Dialer Delay is disabled, unless required by that state.

6.3. Z-wave Programming and Functionality

- All Z-wave devices are connected to Z-wave network and responding to commands

6.4. Local Wi-Fi Connection

- Panel is connected to Local Wi-Fi, by means of Skyline's Router or customer's router if the customer has internet.
- Broadband test is successful.

7. Z-wave Devices

7.1. Door Locks installation and mounting

- Lock is level with the door.
- Lock is tight and secured to the door.
- Lock is connected to the network.
- Lock can be remotely locked/unlocked.
- Deadbolt: Lock mechanism can be manually locked/unlocked smoothly and easily.
- Deadbolt: Lock mechanism will remotely lock/unlock smoothly and with ease.
- Deadbolt: Full extension of the bolt is achieved.
- Deadbolt: Bolt slides into the strike plate without any obstruction or friction.
- Deadbolt: Wiring harness is ran under the bolt to the back plate.
- Lever Lock: Handles are installed on their proper side and secured tight.
- Lever Lock: Lever opens with a smooth motion, doesn't catch or grab when turned.
- Lever Lock: Bolt latches properly when door is shut.

7.2. Thermostat installation and mounting

- Thermostat cannot be installed above or below the control panel.
- Thermostat needs to be at least 2 ft away from the panel.
- Thermostat switches must be set to the proper HVAC system and Heat type.
- The thermostat is wired up properly to match the home HVAC system.
- If a powered C wire exists, it needs to be properly wired into the thermostat, and the thermostat needs to be acting as a repeater for the Z-wave network.
- All unused wires are beaned off (or copper trimmed off) and put in the wall.
- If dealing with a multi-stage HVAC system, the Econ Recovery function must be selected, exception would be if the customer's preference is to have the Fast Recovery function selected.
- The thermostat's HVAC Setup (Programming) matches the HVAC wiring setup.

7.3. Lamp Module installation and mounting
- Responds to remote commands
- Connected to the Z-wave network.

7.4. Garage Door Controller installation and mounting.
- Device opens and closes the garage door.
- Wires are hooked up to the garage door opener motor properly.

8. Cameras

8.1. Skybell
- At least 2 Mbps of upload speed is being dedicated to the camera.
- Camera is mounted securely to the exterior of the home.
- Camera shows live feed on the panel and mobile app
- Chime sounds from panel and chime box when DBC button is pressed
- Live video from the DBC shows on the panel screen when the DBC button is pressed.
- Motion capture feature responds properly

8.2. Outdoor Camera
- At least 1.5 Mbps of upload speed is being dedicated to each camera.
- Camera is mounted securely to the exterior of the home.
- Camera shows live feed on the panel and mobile app
- Motion Detection feature functions properly

8.3. Fixed Camera
- At least 1.5 Mbps of upload speed is being dedicated to each camera.
- 2-way voice is functional (if applicable)
- Camera shows live feed on panel and mobile app
- Motion Detection feature functions properly

Standards for all Sensors
- Must not be installed in non-temperature controlled areas. (Operating temperature between 32 degrees to 110 degrees F)
- Must not be installed in high humidity areas
- Approval for Detached garages and sheds:
    - within 50ft from the PANEL (not the house),
    - NO metal enclosed buildings
    - DW10/20, Tilt, RE219or Glass Break ONLY
    - Customer's home cannot be brick, concrete or stone.

- Must be placed within an average of 100 feet from panel, if there is not repeater (depends on construction materials in the home or business).

9. DW10

9.1. Installation & Mounting

- Screws must be used when mounted on a wood surface.
- 3M tape must be used when mounted on a vinyl or metal surface.
- Cannot be installed within 3 feet from panel.
- Magnet needs to be within a ¼ " from the 3 lined indicator for a loop 2.
- Magnet needs to be within a ¼ " from the wired contact on a loop 1.
- A magnet may never be used for any installation method other than for its intended purpose.
- The sensor must never be on the moving part of the door, even on sliding glass doors.
- The sensor should never be placed in any hardwire housing. (Vista Can)- A maximum of 3ft. of wiring when using a lead for a loop 1 is to be used.
- A single DW10 cannot be used as both a loop 1 and loop 2 to cover multiple windows.

10. DW20

10.1. Installation & Mounting

- The battery and transmitting portion of the DW 20 must be in the door frame.
- The DW20 needs to be installed with a 5/8" drill bit for the best fit.

10.2. Metal Doors

- Have ¾" insulated magnet installed.
- DW20s are NOT to be installed in metal door frames. However, wooden door frames that have metal doors ARE approved for DW20 installation.
- A magnet may never be used for any installation method other than for its intended purpose. E.g. A recessed 3/8 magnet may not be surface mounted!

11. Motion Detector

11.1. Installation & Mounting

- Must be installed 7.5 feet from the ground.
- Proper screws should be used to mount the motion detector.
- Must not be mounted in direct view of a heat source (i.e. large sunny windows, heat vents, etc.).
- Must be secured in a way that ensures that the housing is not twisted or bent which causes the tamper button to react.
- Must be mounted in an area of high traffic and cannot be obstructed in any way.
- If pets are present the motion detector is installed in a way that they won't be detected.
    - Not facing objects that pets can climb on (stairs, sofas, etc.)

    - For 2Gig – dip switch is set to appropriate “weight”
- PIR Motion Detectors must be located in temperature controlled environments to ensure operation. Effective temp range is 32°F to <100°F
- Cannot be installed in garages, attics, and any exterior locations, particularly areas that experience high ambient temperatures
- When installed in a hallway, it MUST be installed in a corner.

12. Glass Break Sensors

12.1. Installation & Mounting

- Must be installed between 7-9 feet from the floor.
- Must be installed within 15 feet of window(s) being protected.
- Must be installed with a minimum of 2 screws.
- Cannot be mounted on the same wall as the window it is protecting.
- Never install the sensor in a hallway to cover “multiple rooms”. (Inspection will fail)
- The sensor must have an unobstructed line of sight to the windows being protected.
- Always install the sensor away from any doors, cabinets, doorbells, or anything that can cause a sudden noise/vibration.
- (Qolsys) Sensitivity dipswitches set to appropriate settings, based on distance of windows

13. Carbon Monoxide Detectors

13.1. Installation & Mounting

- The back plate is secured to the ceiling (or wall) with two screws.
- Ensure that the Detector is securely installed onto the back plate. (not causing tampers)
- Cannot be mounted directly above a sink, cooker, stove, furnace or oven.
- Cannot be installed where dirt or dust could collect and block the sensor.
- Cannot be installed next to a door or window that could be affected by drafts.
- Wall mount
    - Mounted at least as high as a light switch.
    - Mounted at least 6” below the ceiling
- Ceiling mount
    - Must be at least 12” from any wall

14. Smoke Detectors ***codes vary per state and city***

14.1. Installation & Mounting

- Must be in a location where the normal temperature is between 40 and 100 degrees F.
- Smoke detectors cannot be installed in: kitchens, attics, garages, bathrooms, barns, sheds or exterior to a home or in a non-temperature-controlled environment.
- Installed with 2 screws and with anchors.
- Must be located a minimum of 5ft from major kitchen appliances (ex. stoves, ovens, etc.).

- Must not be located less than 3 ft from bathrooms, HVAC returns, ceiling fans.
- Must be at least 12" from any wall (ceiling mount) and 6" from the ceiling (wall mount).
- Smoke detector must be seated securely in its mounting bracket.
- If only 1 Smoke detector is installed, it is installed near the sleeping quarters.
- The Heat Detection feature MUST be programmed into the panel.

- **Skyline monitored smoke detectors <u>do not individually fulfill or replace</u> existing or intended fire detection for any home. And in most states, we are not required to completely "bring a house up to code" due to the fact that we are not a "fire company".**

14.2. Not Primary Detection

- **The smoke detector CANNOT be the primary form of fire protection in the home. There must be at least one other functioning smoke detector in the home that is not installed by Skyline.**

14.3. Existing Heat Must be programmed

- The Heat Detection feature MUST be programmed into the panel.

15. 2 GIG-Take-345 (Super Switch)

15.1. Installation & Mounting

- The module is installed in or next to the existing control box where the hardwired zones can be connected.
- Super Switch is mounted with proper screws and is secure to its base.
- Power Supply is mounted to the existing Can using the black sticky pads and supplying proper voltage (16.5VAC <u>from</u> transformer and 12VDC <u>to</u> take-345)
- The existing transformer has been replaced with a new one and is supplying proper voltage (16.5V)
- The existing backup battery has been replaced with a new one and is supplying 12VDC
- Take-345 cover must be placed back on after its wired.

15.2. Wiring & Programming

- Must be wired correctly to a power supply and backup battery.
- All zones must be wired correctly and functioning.
- All zones wired to the module must be programmed properly.
- The zone list must match with what Orion shows on the backend.
- There must be 3 points of ground on the Take-345 system: Zones, Super Switch, and Power Supply.
- **No fire detection devices can be wired to the Super Switch: Smoke Detectors, Heat Detectors, fire panic.**
- All wires are run cleanly with no exposed copper showing

- No more than two modules may be installed per one backup battery.

16. Image Sensor

16.1. Installation & Mounting
- Installed in climate-controlled room (60-80 degrees F ambient temp)
- Installed between 6-8’ high
- Installed with bracket and set at appropriate angle
- Signal strength is greater than 40%

16.2. Programming and Rules
- Enrolled properly on alarm.com
- Rules set and functioning properly

17. Keyfobs/Pendants/Secondary Keypads

17.1. Keyfobs
- Should arm/disarm the system.
- Panic button needs to be programed as an Audible Alarm (07)
- Panic button needs to report to the central station.

17.2. Panic Pendant
- Panic pendant must be programmed as an Auxiliary Alarm (08) and ensure that it is reporting to monitoring station.

17.3. Pad 1
- Can arm/disarm the alarm system.
- All Panics need to be programmed into the Pad 1 and reporting to monitoring.

17.4. Secondary Keypads

TS-1
- Programmed correctly and functioning with Go Control and sensors.
- Wire run clean and hidden
- All panics enabled