

Situation:

- Our Baldwin D431 Organ (D431) is wearing down. Long term maintenance and parts no longer available. Sound quality is also deteriorating with each repair. Please see illustration 1 and 2 for details.
- Worship need for the organ exists.
- Equivalent cost between \$80,000 and \$120,000 based on preliminary research.

Solution proposition:

- Investing \$3,500 – \$8,500 in improving organ sound quality.
- The investment will be spent in two phases. First phase focuses on mitigating degraded sound quality issue while second phase focuses on replacing damaged and/or aging audio equipment using by the organ.
 - Phase 1: Applying organ sound enhancement through PC software to improve sound quality. Estimated cost at \$1,800 – \$2,500 range. Please see illustration 3 for details.
 - Phase 2: Upgrade amplifiers, audio effect processor, power distribution, and audio cables. Estimated cost at \$1,700 – \$6,000 range. Please see illustration 4 for details.
- All investment made will work with existing organ and its replacement.

Opportunity:

- Immediate mitigation against deteriorating sound quality.
- Enriched sound to support worship needs.
- Avoid costly organ replacement in the short term.
- More time to determine D431 replacement direction.
- Gaining expertise on D431 maintenance.
- Gaining expertise on D431 modification as an organ replacement option.

Limitations:

- Doesn't address aging D431 console hardware situation.
- Doesn't remove the need of minor D431 console repairs in the long term.
- Only delay D431 organ replacement.

Other options considered:

- Initiate organ replacement fund raising campaign.
- Locate spare parts from another used Baldwin D431 organ. Cost about \$10000 and required local expertise to swap and repair. No long term maintenance guarantee.

Cost:

Phase 1: Applying organ sound enhancement through PC software to improve sound quality.

- PC computer, touch screens, and accessories: \$1,800 – \$2,500
- Sound enhancement software: \$0 (Custom developed free open source software)
- Labors: 20 – 100 volunteering hours

Phase 2: Upgrade amplifiers, audio effect processor, power distribution, and audio cables.

- 16 channels power amplifier, 16+ channel PC audio interface, filtered power distribution, and cabling kits: \$1,700 - \$6,000
- Wiring and device configuration: 20 – 100 volunteering hours

Risks:

- Unforeseen technical complexity to be addressed during implementation. This can increase implementation labor, duration, and cost.
- The long term impact of mitigation made to the Baldwin D431 is unknown.

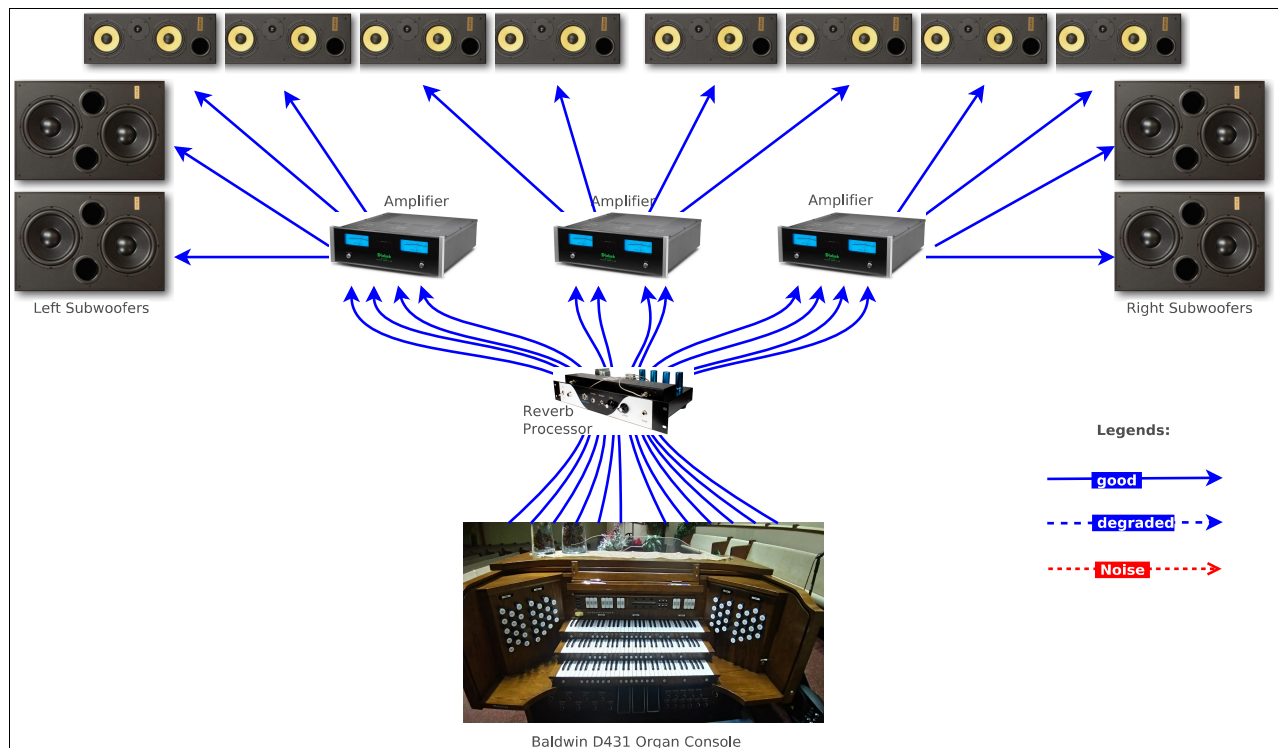


Illustration 1: Ideal Condition

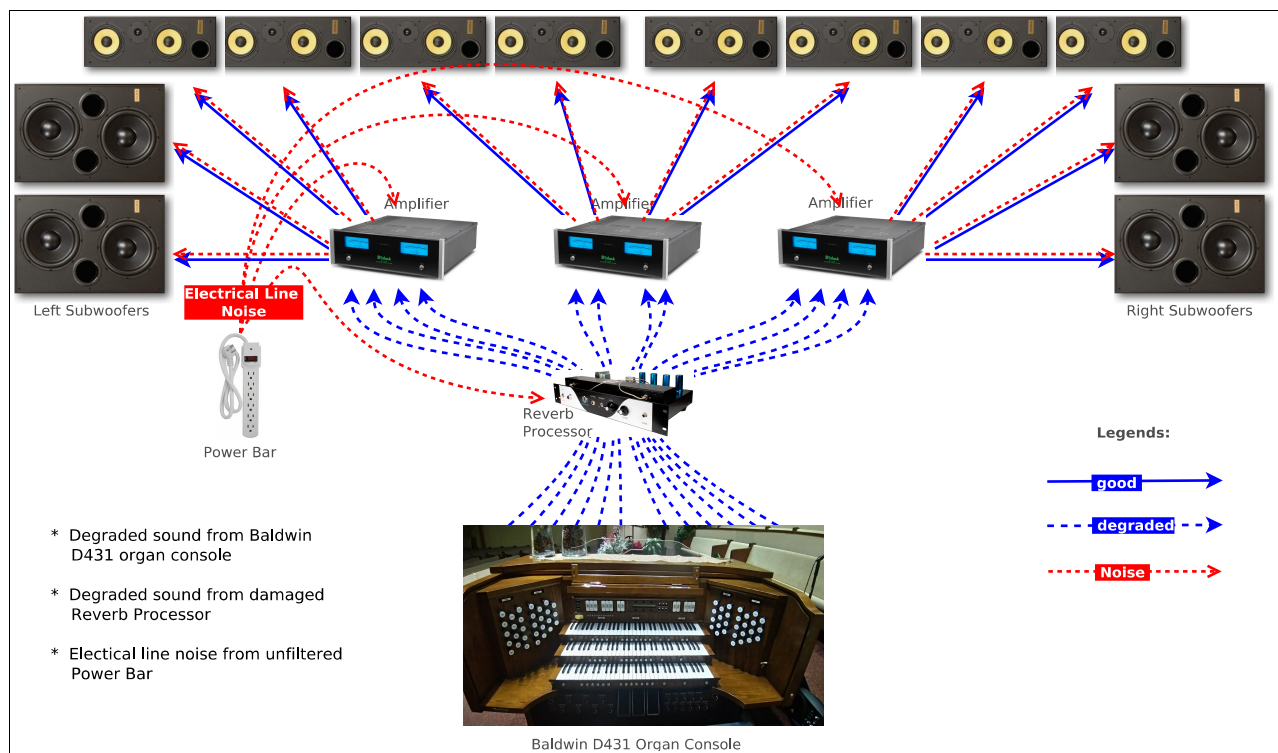


Illustration 2: Current Condition

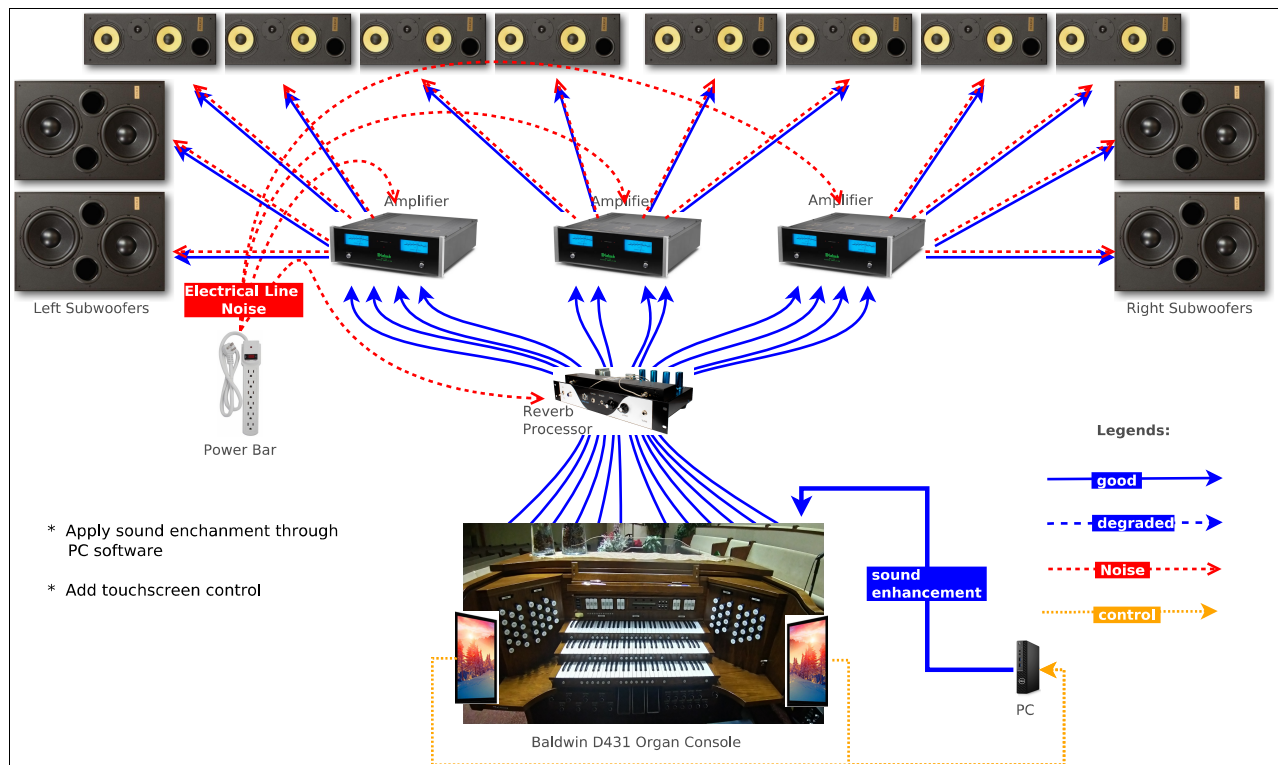


Illustration 3: Phase 1 Mitigation

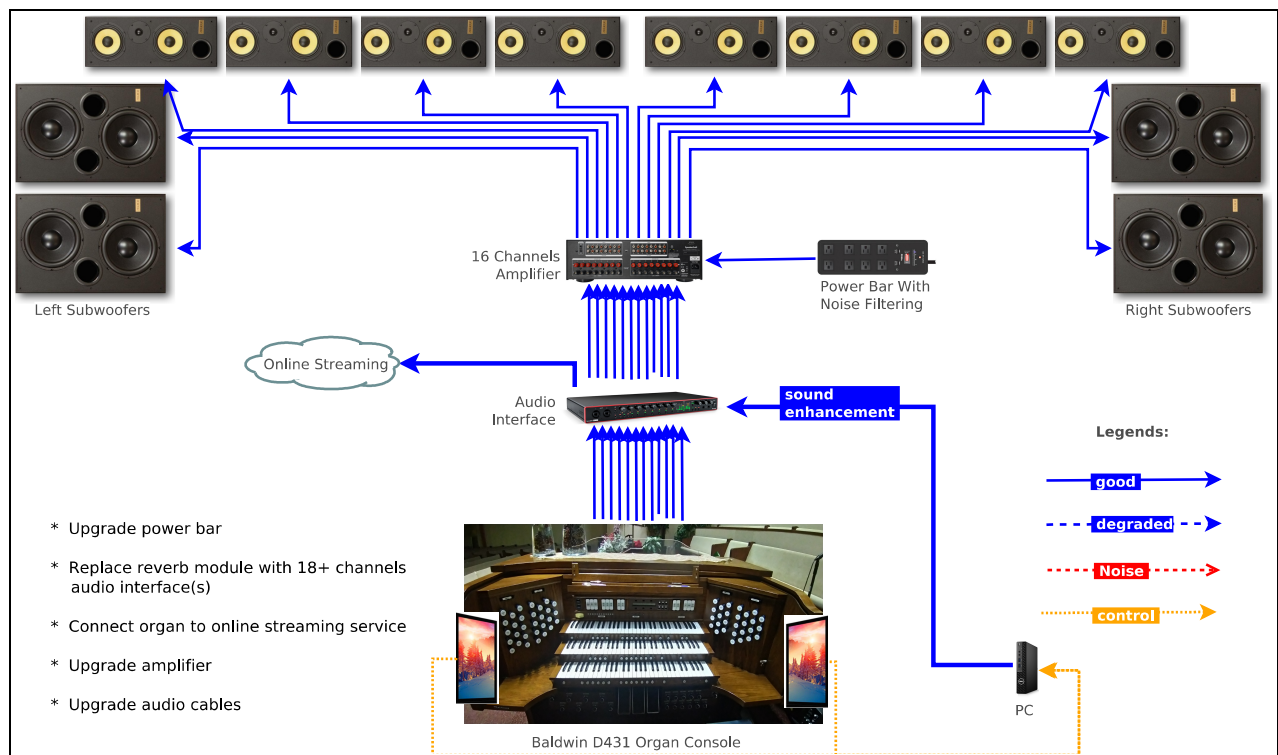


Illustration 4: Phase 2 Upgrade

