How Can I Justify Quality Assurance in AV Technology?  
(For the Technology Manager)

One would think that common sense would dictate that it makes sense to spend money to avoid mistakes rather than to correct them. Nevertheless, Quality Assurance most often costs more than anticipated. Yet it is too often less than it should cost to get the job done correctly and without headaches and damaged reputations.

When adequate quality assurance is applied, the project will be completed at its realistic completion date, and be within budget. It is essential to good project management on any construction job.

Philip Crosby defined the Cost of Quality as:

\[ C_{\text{Cost of Quality}} = C_{\text{Cost of Quality Appraisal}} + C_{\text{Cost of Correcting Poor Quality}} \]

Let’s consider the second term on the right with regard to:

1. Short term returns
   a. We get to use the facility quicker.
   b. Less change orders (payments plus additional administrative costs).
   c. We get to use the facility without frequently shutting it down for “maintenance” (translation, “punch list corrections”).
   d. Omissions found at the last minute adding costs, then requiring expedited shipping costs to ship the right product to the field at the last minute.
   e. Some functions, such as video conferencing, require staff to be at both endpoints, draining hours from staff personnel.
   f. We have fewer revisions on the as-built drawings, saving confusion and errors.
   g. Shorter, more effective operator training with a completely working system with no “revised training” sessions.
   h. We spend less time on the phone or in front of a client dressing-down a vendor for failures to perform.
   i. Less costs for building security while vendor addresses punch list after hours.
   j. Vendor knows our operation better, and can therefore work with us more closely.

2. Long-term returns
   a. Typical “catch me if you can” approach used by vendors inevitably leaves problems with less frequently used functions undiscovered for months after the installation was presumably completed, causing more periods in which the space cannot be used.
   b. Frustration with functions that perform intermittently or never.

3. What is the risk that the vendor will not deliver? Higher than ever these days, considering the following:
   a. Technology is changing so fast, that my personnel are never fully trained.
   b. AV is oftentimes the last trade into a space, leaving no room for error. Installations need to be done right the first time or the space cannot be used when planned.
   c. Manufacturers’ products are not fully tested for my applications, draining resources in the shop and in the field.
   d. Manufacturers’ products are often delayed, and delivery is out of the control of the integrator.
   e. Our needs keep changing.
f. There is always miscommunications, as in the “telephone game”, when the needs are passed from designer, to salesman, to an engineering and drafting department, to a shop supervisor, to an operations team, to a lead field technician, to service personnel, etc.

g. When the quality of our work is also heavily dependent on so many other organizations properly doing their work (architect, construction manager, electrical contractor, millworker, etc.)

4. What is everyone else doing? Isn’t it far better to ask, “What are the successful companies doing?”

a. QA, and specifically the checklists employed in AV9000 have been used by many companies and have proven to shrink punch lists and improve the speed and quality of installations since 2004. They are being accepted more and more.

b. Companies that focus on quality assurance in order to please the customer and provide for continual improvement will be more successful. There is overwhelming evidence that the rewards are spectacular when companies have a total commitment to achieving superior quality and customer satisfaction across all company functions and processes.

5. How can I put this in terms of dollars and sense? The Cost of Poor Quality may be often hidden, but not invisible. To get a feel for it, choose an event that cost the company more than it should in wasted time. Then:

i. Track the hours in question, and who expended the hours (employee, executive, etc.)

ii. Take the total compensation for the employee or executive, salary and benefits, or in other words the entire annual cost for the individual. Divide this by 2,000 (the average hours worked per year not including vacations or holidays). This is the cost per hour the organization pays for this individual.

iii. Multiply the two together. This is the total cost impact for the event.