



Making Smart Purchasing Decisions

Spider Ranch maximizes product output. *Story and photos by Shannon Dunn*

»»» SUCCESS CAN SOMETIMES create its own challenges. For a regional sound company it can often mean buying more equipment to handle the needs of additional, bigger and more demanding clients. As in any growing business with significant hardware costs, equipment purchases can really affect cash flow and strain the budget. The challenge is to make smart choices and stay within a set budget without compromising quality. Alex Moran – founder of Spider Ranch Productions – is facing this very problem and meeting the challenge head on.

With an office/warehouse in South San Francisco and another warehouse at the original Spider Ranch in Pescadero, CA, Moran has taken this once small regional sound company to the next step by servicing more corporate, installation and live concert accounts.

Spider Ranch has partnered with other production companies in Northern California to produce larger arena events and street fairs (see Live Sound International – May, 2007). While still planning to continue these strategic partnerships, the objective was to prepare the company to do larger shows independently. To do so, more horsepower was needed.

Moran figured that his existing main concert rig gave Spider Ranch Productions the capacity to produce live events in a range of 8,000-10,000 people. The goal for acquiring new gear was to increase that capacity to 20,000.

In order to take the business to the next level a sensible plan was needed before money was spent. First was the task of defining all equipment requirements, second a budget was put together for each of the major components in the signal line.

Loudspeakers would be a huge investment, but luckily Moran had a solid relationship with McCauley Sound who was already committed to helping Spider Ranch

The standalone Dolby Lake processor allow Spider Ranch to control their new digital controlled Lab.gruppen PLM series amps as well as their Lab.gruppen FP series analog amplifiers. Copper lines connect the FP amplifiers to the Lake processor while the PLM amps are connected to the Dante enabled network via Ethernet cable.

Productions grow. The main PA expansion was covered with the addition of 16 McCauley MLA6 cabinets and 8 MS6 subs. However another large expenditure would be needed for acquiring new amplifiers to power the bigger system.

Choosing the amplifiers was more than just selecting a model. Not only did he need to consider the cost of new amps, there was the expense of new copper snakes, input/output panels, and all the other gear needed to connect the amps to the system. This ancillary gear could easily add \$7,000 to \$10,000 to an already tight budget.

To compound the issue, Spider Ranch has been moving towards using more digital equipment. Ideally the new amps would have digital control and loudspeaker management features. But they needed to work seamlessly with the analog components in the existing system. The only viable budgetary option was to somehow integrate new digital-management amps with the current analog amp inventory.

Moran had a head start to the integration solution. A couple years prior, he had purchased a Dolby Lake Processor. "It was the best processor on the market at that time – it did what I needed and more." An added bonus to the Dolby Lake Processor was that it came with Dante – Audinate's digital audio networking technology. "At first I had very little knowledge of what Dante technology was, or even understand how much it could do. So I pestered the Dolby live sound guys, and then the Lab.gruppen guys, and by reading all the available technical data I was finally able to get my arms around the networking technology." Moran soon got up to speed on Dante's

capabilities and how it could be used to get greater control of a system. He didn't know it yet, but already there was a solution to the amplifier integration puzzle.

What Moran realized is that Dante could control the analog amps and the preferred new digital-management amps. "I didn't realize how easy and inexpensive interfacing the amps was going to be until it was all put together."

Since Spider Ranch had already been using Lab.gruppen FP series analog amps, the decision was that the new amps would also be Lab.gruppen. Moran is an admitted fan of the brand, "Lab.gruppen models are totally reliable and superior in sound to any other amp I've ever used in my 32 years of audio experience." It also helped that Lab.gruppen recently purchased the Lake Technology brand from Dolby Laboratories, and that the newest line of digital-management amplifiers, the PLM series (Powered Loudspeaker Management), features Dante enabled Lake Technology. As an aside, Lab.gruppen is releasing a standalone version of the Lake processor similar to the now discontinued Dolby Lake Processor.

New PLM 10000Qs and were acquired to meet Spider Ranch Production's needs. The original stand-alone Dolby Lake Processor runs the analog and digital-management amps together and hassle-free. From the Dolby Lake Processor the analog snakes (already in inventory) connect to the FP amps. As soon as the amps are plugged in, Dante recognizes them immediately and they show up as icons in the program window on a computer.

All the digital components of this system are on an Ethernet network. From the Lake Processor, CAT5 – or Ethernet cable – runs to a conventional networking 10/100-gigabit switch that can easily be found for less than \$80. After that, just about any other digital component or networking device can be plugged into the



Above: "Literally plug it in and boom, the amps show up in software window!" Spider Ranch's Alex Moran shows us how easy it was to set up his new Lab.gruppen PLM amps. An Ethernet cable connects the switch at the top of this amplifier stack to another switch at Front of House. Smaller Ethernet cables connect each amp to the switch seen here.

Right: No need for expensive copper snakes here. Alex shows us the replacements – Ethernet cable from the switches to the amps and to connect the amps to FOH, a 200-foot solid core Duracat cable from Rapco Horizon.

switch. Again, anything that gets connected into the system is recognized immediately by Dante and can be controlled in a single program window on a computer.

In this system a stack of PLM amps is typically set up for the left channel and another stack for the right channel. At the top of each stack, there is a 10/100-gigabit switch. Since Lab.gruppen included the Lake Processor technology and it's Dante enabled, these amps can be connected to the switch at the top of the stack with just Ethernet and then connected to the Front of House switch. In the program window, each amp can be controlled individually or grouped together and controlled as a unit.



Moran has noticed an audio quality difference, "By staying at the native sampling frequency of 96 kHz in both the Dolby Lake Processor and Lab.gruppen PLM amps, you benefit from minimum A/D and D/A conversion latency, get great sound quality all the way to the loudspeakers and can take advantage of the Lake 32 kHz + EQ without adding any artifacts." This results in a very low THD of 0.00063% typical, 20 Hz to 20 kHz, unweighted with 113 dB of dynamic range after the combined A/D and D/A conversion.

"With the added advantage of true

:: Business Savvy ::



Spider Ranch Productions is in the process of adding amplifiers to increase their live event capacity. All their new amps are Lab Gruppen PLM series amps like the ones seen above. The PLM series amplifiers are digitally controlled and come with Lake processing and Dante audio networking built in.

voltage peak limiting in both the Dolby Lake Processor and PLM amps we are able to take maximum advantage of the high efficiency/high power characteristics of the McCauley loudspeakers. What's more is that I can run other things across the network at the same time. Dante just doesn't care whether it's sound or even the Internet. To Dante, it's all data." Because

Dante works on Ethernet, the same networking protocol is used for LAN's and the Internet, so any data can be run on the network simultaneously. The same laptop used to run the sound system is connected to the Internet to run daily business, and communicate with clients and vendors, while working at a show.

The savings on the new setup has been a

real relief for the tight budget. Considerable money – about \$10,000 – was eliminated for items that would usually be allocated to connect analog amps to the system. Instead of buying costly copper snakes and input output panels, Ethernet cable and common networking devices were found at a local big box electronics store. If any of the networking devices ever fail, a replacement can easily be found. Savings will keep on coming; storage space, transportation, and setup time are all reduced and less time will be spent maintaining the connectors on copper conductors.

Lately Moran, a true audio geek, has been eager to talk about \$100 wireless routers, inexpensive Ethernet cable and "off-the-shelf" switches bought for a pittance. He's pretty happy with the new PLM amplifiers, too. With the larger new main PA system in place Spider Ranch is ready to take on more challenging shows and make the leap to the next level.

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