The key considerations in choosing an amplifier for a custom audio system are reviewed in this document. Many installers and consumers don’t realize that some HiFi amplifiers may not be suitable for distributed audio applications. In addition, experienced installers are not always aware that they need not sacrifice HiFi qualities like good sound and pleasing cosmetics when choosing a distribution amp. Sonance, through experience and talented engineering, has developed a line of amplifiers that deliver both superior sound quality and full custom audio functionality without compromise.

What to look for – An amplifier for distributed, multi-room sound should have the following attributes:

- Outstanding sound quality
- The ability to safely drive low impedance loads
- The correct feature set for the application
- The right amount of power for the application
- Reliability
- Value

Sound Quality
Sound quality is an area where many distributed audio amplifiers fail to deliver. When some manufacturers began offering distribution amps for home systems they adopted circuitry from public address amps. This approach sacrifices good sound in exchange for a low price and stability with the result that too many multi-room music systems have all the listenability of a bad airport PA. Sonance engineers come from a completely different background. They are music lovers (and musicians) with experience in designing home audio electronics for high end companies. They are also uniquely experienced in solving the problems presented by multi-room audio. The results are solid, high value amplifiers with full functionality and great musicality.

The Sonamp Story – Back in the 1980’s the custom installers who founded Sonance observed that most of the systems being sold included one of two popular stereo amps that were respected by audiophiles for their high value and excellent sound. Unfortunately, neither of these amps had all the features they needed to be fully suitable for multi-room systems and one of the two had a spotty record for reliability. When the Sonance engineers began their project to provide the world with a truly outstanding custom install amp, they pinned up a picture of the best sounding (Stereophile rated) competitor with a target drawn over it. They didn’t release the first Sonamp 260 until they hit the bull’s eye. During the process they polled their customers (most of the outstanding installers in the US) to determine which features were most needed. The results were two amplifiers, the Sonamp 260 and 260x3. This came about because one group of dealers preferred to design systems with a minimal number of user controls and asked for a basic, two channel, high fidelity amp. The other group wanted a two channel amp with user accessible front panel switching and rear panel outputs for at least three sets of speakers. Thus the two amps were born.
Features
For basic sound systems, the Sonamp 260 MKII pictured above offers the ability to drive multiple sets of loudspeakers from two channels either directly or through external switch boxes. The 260 has always featured a power LED (so the customer and installer knows the amp is getting power) and an active LED to indicate on/off status. Level controls for each channel are provided on the front panel for system adjustments but they are accessible only through small screwdriver holes to discourage customer “fiddling”. The back panel of both Sonamp 260s feature sturdy, audiophile grade, 5-way binding posts for speakers and dual sets of inputs for looping the signal through to another amp. Both Sonamp 260 MKII models feature automatic signal sensing (defeatable) so they wake up only when music is present, defaulting back to standby when there is no signal. Like all Sonamps, the 260’s are high current designs with the ability to drive a surprising number of speakers (see Reliability, below). Other features include a rack mount face plate option, a ground lift switch and 230V versions for export markets.

The Sonamp 2120T – This is a special version of the basic 260 with double the output (120 watts/channel vs. 60) for applications that need extra power. Although Ohms Law shows that the theoretical increase is just 3 dB, in practice, the 2120T delivers a lot more thanks to a design that allows for plenty of clipping headroom. In fact, on dynamic peaks, the 2120T will deliver a whopping 242 undistorted watts into 4 ohm loads! The 2120T retains all the user/installer friendly features of the 260 MKII including a 230V version.

Sonamp SAT275 Smart Amps – Although Sonamps incorporate a large number of custom features (most of them pioneered by Sonance) in the complex world of system design it is impossible to build all the desirable features into a single amplifier. So Sonance engineers developed the SAT275 Smart Amp. The SAT275 features a port on the back panel that accepts a variety of SAT™ (Smart Amp Technology) modules. These modules include circuitry for Automatic Line Level switching (AL1) which converts the amp to a zone/local unit in response to input signals, and a Balanced Line Receiver (LR1) which converts the amp to fully balanced mode for long distributed line level cable runs. Other useful modules are in the works and the installer can customize the amplifier right on the job site by removing two screws on the back panel and plugging in the module. The SAT275 has all the usual Sonamp features plus a few new ones like a high pass filter to protect in-wall volume controls and bridge/mono switch that converts the SAT275 from a 75 watt x 2 stereo amp into a 300 watt mono block. The SAT275 is available with rack mount and in 230 volts. As an evolutionary amplifier in the Sonance tradition, SAT275 is claimed by some to be the best sounding Sonance yet.

Sonamp 1230 – Sonance spent a lot of time and effort in developing their first multi-channel amp. A survey of the competition showed that too many distribution amps trade off good sound for cheapness (again) by using low end chips in place of discrete transistors. The 1230 is a true Sonamp with fully discrete complementary output devices for great sound and so many useful features it deserves a Tech Note all to itself. This very solid amp offers twelve channels of power at a robust 30 watts (45 into 4 ohms) with all channels driven. For higher power applications, channels can be bridged to yield a very healthy 100 watts x 6 into 8 ohms (6 x 60
watts with over 4 dB of headroom). Distortion is very low and all inputs and outputs are premium grade. Although all this may sound pricey, Sonance has been able to offer this amp at very competitive price. With a detachable IEC power cord, 230 volt version and optional rack mount, the **Sonamp 1230** has become an international best seller.

Although we have limited our review to amplifiers that are specifically designed for distributed audio and available in 230 volt versions, we should also touch on Sonance’s flagship home theater amplifier.

**The Sonamp Cinema 5150 Theater Amplifier** is a THX Ultra-Certified five channel amplifier that outputs a full 200 watts per channel with all five channels driven into 4 ohm loads. With 2.5dB dynamic headroom, this behemoth is unlikely to run out of clean power. Although it is not available in a 230 volt version at this time, it is suitable for North and South America.

**Power**

As outlined above, Sonance has taken real world applications to heart when building each Sonamp. The **Sonamp 260 MKII** and **SAT275** are stereo amps for medium sized distributed sound systems. With a minimum of 60 to 75 watts of clean power available at all times and plenty of dynamic headroom for peaks, these amps are more than a match for the kind of efficient in-wall/in-ceiling speakers offered by Sonance and others. For higher powered needs like very large spaces and home theaters, the **Sonamp 2120T** packs a lot of extra power. With most speakers being capable of playing quite loudly with only a couple of watts fed to them, the 30 watts/channel of the **Sonamp 1230** has shown itself to be the perfect solution for up to twelve rooms of music. If no more than six rooms are needed, the 1230 becomes the equivalent of three Sonamp 260s on one chassis.

**Reliability**

There is nothing more costly for an installer than a service call to replace a broken amplifier. The hours involved in dismantling and re-installing a carefully set up system can often erase a large chunk of the profit from an install. For this reason, Sonance has always worked hard at both quality assurance and at engineering reliability into every amplifier they design. As an example, it is never recommended that any amplifier be used to drive more speakers than it can handle. If the amp is stable down to 4 ohms then this means that two or three pair of 8 ohm speakers is maximum. In the real world, these limits are often exceeded. Installers who have attended in-house trainings at Sonance have often been startled to see the trainer add eight or ten sets of speakers to the output of a Sonamp 260 with no apparent ill effects. The trainer then shorts out one of the speaker terminals and invites everyone out for an hour lunch break. When they return, the amp is still valiantly trying to drive this dead short and the music is still popping through between relay breaks. Again, this torture test is NOT recommended but it illustrates the absolute necessity for a distribution amp to be able to safely drive very low impedance loads. It is also an eye opening demo of the kind of bullet proof reliability designed into these amplifiers.

**Value**

The invention of the in-wall loudspeaker (credited to Sonance co-founder Scott Struthers by the CEDIA Life Time Achievement Award Committee) kicked off twenty years of tremendous growth in the custom installation industry. Although magazines like to focus on high end installations, the reality is that distributed sound systems are popular because the average person can afford them. Sonance has built its business by selling products to real people investing in affordable systems. A comparison of the export pricing for your area vs. other products (most of which lack the innovation, quality and performance of Sonamps) will bear out the high value content of these outstanding amplifiers. Give them a listen.

For additional information about Sonamps or for technical help contact:

[bill@customsolutionsintl.com](mailto:bill@customsolutionsintl.com), 760.295.7465.

Custom Solutions International (Home Office) is at 253.857.8237