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## **Sonance Navigator® Harbor Improvements Bulletin**

- **Improved IR input circuit**
- **Improved internal IR power supply**
- **Upgraded common emitter amplifier**
- **More stable and reliable IR linking circuit**
- **New buffered audio looping outputs**
- **Updated + 12 VDC bridge rectifier and voltage regulator**

The Navigator Harbor has been a very successful product for Sonance and the custom installation industry. The Harbor provides exemplary audio and video performance that easily surpasses the competition. We have learned that in some installations with higher ambient temperatures, a few of the Harbor's subsystems may function intermittently under certain conditions. Our experience has been that any issues a particular Harbor may have will manifest themselves during the initial stages of the installation. If they did not appear when the Harbor was installed and became fully functional, the Harbor will provide the homeowner with years of trouble-free, quality sound and video distribution. To increase the predictability of your installations and the Harbor's consistency of operation, we have improved the design of several key circuits.

First, some background information is in order. The Navigator Harbor was developed during the era of the original Navigator Master Keypad in the year 2000. The Navigator Master Keypad draws 50mA of current. When the six-zone Harbor is controlled by six Navigator Master Keypads, the maximum current draw is only 300mA. The Harbor's IR power supply is capable of 1000mA and regulated at 12 VDC. As a result, the Harbor's power supply is only used at a fraction of its capability. Even with two Nav Master Keypads on each zone, the total current draw on the Harbor is only 600mA.

Enter the Sonance Navigator K2 Keypad in January 2003. The Navigator K2 Keypad has proven to be very reliable, easy to program and very consistent and predictable in operation. However, being an LCD touch screen keypad back-lighted by powerful LEDs', the Navigator K2 can draw as much as 5 times more current than the original Navigator Master Keypad. As a result, the Harbor can only support three K2's with its internal power supply. The Harbor may develop problems as a result of having its

power supply overloaded if more than three K2's are installed in the system unless additional power supplies are added.

When looking into the power supply issue, Jerry Curtis, Sonance Chief Electronics Engineer, also made improvements in several other areas especially from a standpoint of operational consistency. The +12VDC power supply, zone input circuit, common emitter amplifier and IR Linking system have all been improved to provide increased long-term reliability and consistency of operation over a wide range of operating conditions. Additionally, the audio looping outputs are now buffered. This allows the source components to be shared with an A/V receiver without any signal loss or distortion when the A/V receiver is turned off.

Its' important to note, the maximum current output of the +12 volt power supply remains at 1000mA. It was simply not feasible to increase the size of the internal power supply to support six K2 Keypads. The updated Harbor's +12 VDC bridge rectifier and voltage regulator have been increased in capacity and heat dissipation capabilities to provide for longer-term reliability under adverse conditions.

**However, please note: If you are using more than three K2 keypads in an installation with a Harbor, you WILL need to use an outboard PS-2 power supply for every three additional K2 keypads installed in the system.**

The next generation Harbor, with all its' design updates, will allow up to three Harbors to be linked together for an 18-zone system that functions effortlessly and consistently.

To insure that all of your installations are trouble free, we are placing the Navigator Harbor on backorder until the newer, updated version becomes available. Our goal is to have the new version available by end of July 2004. We thank you for your patience and understanding during the transition period from the first to the second generation of the Harbor.