INSTALLATION INSTRUCTIONS

SONANCE NAVIGATOR™ HARBOR INSTALLER'S MANUAL

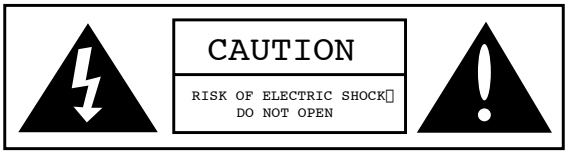
MULTI-ZONE PRE-AMPLIFIER

PN.33-2112 2.03

IMPORTANT SAFETY INSTRUCTIONS

When using your Sonance Navigator Harbor, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and injury to persons, including the following:

1. Read instructions – All the safety and operating instructions should be read before the appliance is operated.
2. Retain instructions – The safety and operating instructions should be retained for future reference.
3. Heed warnings – adhere to all warnings and precautions listed on the appliance and in the operating instructions.
4. Follow instructions – Follow all operating instructions.
5. Water and moisture – The appliance should never be used next to water; for example, near a bathtub, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.
6. Carts and stands – The appliance should be used only with a cart or stand that is recommended by the manufacturer.
7. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.
8. Caution: To prevent electric shock, do not use the Sonamp (polarized) plug with an extension cord, receptacle, or other outlets unless the blades can be fully inserted to prevent blade exposure.
9. Ventilation – The appliance should be situated so that its location does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, register, or similar surface that may impede the flow of air through the ventilation openings.
10. Heat – The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
11. Power sources – The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
12. Grounding or polarization – Grounding or polarization are the precautions that should be taken so that these attributes of an appliance are not defeated.
13. Power-Cord Protection - Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
14. Cleaning - The appliance should be cleaned only as recommended by the manufacturer.
15. Non-Use Periods- The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
16. Object and Liquid Entry - Care should be taken so that objects do not fall and liquids are not spilled through the opening of the enclosure.
17. Damage Requiring Service - The appliance should be serviced by a qualified service personnel when:
    A. The power-supply cord or the plug has been damaged
    B. Objects have fallen, or liquid has been spilled into the appliance
    C. The appliance has been exposed to rain
    D. The appliance does not appear to operate normally or exhibits a marked change in performance
    E. The appliance has been dropped, or the enclosure damaged
18. Servicing - The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.
19. Lifting – Do not attempt to lift the Sonance Navigator Harbor without assistance. Improper lifting of this 20 lb. unit can cause personal injury.
20. Power requirement – Do not connect the Sonance Navigator Harbor to the accessory outlet of another component.
21. Storms – To prevent damage to components, unplug all electronic equipment during thunderstorms.



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED
SERVICE PERSONNEL.

The lighting flash with arrowhead symbol, within a equilateral triangle, is intended to alert the use presence of uninsulated dangerous voltage within t product's enclosure that may be of sufficient magn to constitute a risk of electric shock to persons.

The exclamation point within an equilateral trianc intended to alert the user to the presence of impo operating and maintenance (servicing) instructions literature accompanying the appliance.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. THE APPARATUS SHALL NOT BE EXPOSED TO DRIPPING OR SPLASHING. NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.

WARNING
MOVE WITH CARE

INTRODUCTION

Thank you for purchasing the Sonance Navigator Harbor. The Harbor has audiophile quality not often found in A/V control products and has easy install features for the custom installer. When combined with six IR based keypads, like the Sonance Navigator™ Master or K2 keypad, the Sonance Navigator Harbor becomes a six-zone, six-source audio/video system controller and distribution device.

- ***This product was designed with both the end user and the installer in mind***
- ***High grade audio and video discrete circuitry***
- ***Two types of connectors are provided for control hookups***
- ***Removable keypad connectors offer easy moving of zone connections***
- ***A control voltage/keypad voltage fuse is accessible on the rear panel***
- ***Simple but useful notation space is provided under all audio/video inputs and outputs.***

The first section of this manual provides brief descriptions of available functions. The second section gives more detailed information about each function. The final section contains potential application diagrams.

INTRODUCTION OF FUNCTIONS

The following is a brief overview of Sonance Navigator Harbor features: (See Function Details for further information)

Front Panel (fig. A)

1. Display: The display window shows current activity for each zone utilizing "SOURCE" and "MUTE" LED's. A direct IR receiver, hidden in the display window, controls any combination of the six zone cards via the included remote control. The zones controlled are selected by the DIP switch located inside the Harbor on the PC board behind the IR receiver. Factory preset is Zone 1 only.

   CAUTION: To prevent serious injury, disconnect AC voltage before removing the top cover and do not reconnect AC voltage until the top cover has been replaced and secured. Sonance strongly suggests that only qualified technicians perform this procedure. Make sure any system power amplifiers are unplugged from AC voltage.
2. Status LED's: – "AC ON" and "ACTIVE" LED's match the look and function of the Sonamp family of amplifier products.
3. Rack Mount: The rack mountable version (3U) conforms to the E.I.A. 310-D rack mount standard. Sonance always recommends that only rack systems with "full-hole" spacing be used.

Rear Panel (fig. B)

4. I/O Jacks: Buffered video output jacks, looping audio output jacks. All jacks are gold plated for better connections and excellent signal transfer.
5. Labeling Space: White space is provided under each source input and zone output for labeling and notes.
6. Zone Outputs: Each zone output provides buffered audio and buffered composite video outputs as well as a removable keypad connector, a paging Do Not Disturb (DND) switch and local IR output for zone specific source components.
7. IR I/O Jacks: There are five Common Emitter flasher outputs to drive system wide source components, six zone IR outputs and an IR Linking input jack allows connectivity to other systems.
8. Paging: The signal input for paging is through a screw terminal or 3.5mm mini-phone plug. Global paging volume is adjusted using the level control. In each zone not blocked with the DND feature, the mute input mutes the local audio signal during a page. Paging won't occur in a zone that is off.
9. Control Output: A control voltage is provided through a screw terminal or 3.5mm mini-phone plug to control other equipment.
10. Power Linking: A voltage input known as Power Linking is used to connect systems together. Any voltage from 5V to 24V either AC or DC will activate this feature through screw terminals or 3.5mm mini-phone plug.
11. All Off: Allows connecting of the All Off buss between multiple Nav Harbors. This transmits the All Off command between units. Use the included All Off harness kit.
12. Fused +12VDC: The control voltage and the keypad supply voltage are protected with a fuse conveniently located on the rear panel.
13. Switched AC Outlet: A switched AC outlet is provided to control source components.
14. AC Inlet: A standard IEC inlet allows the use of removable AC power cords.

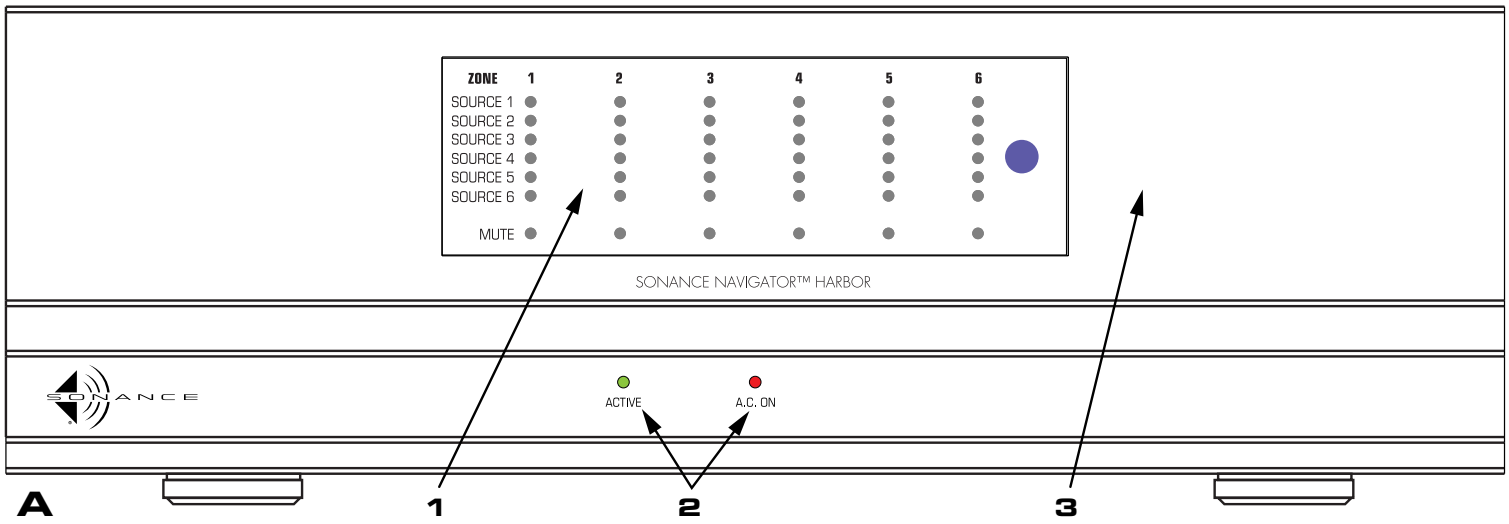
Remote Control (fig. C)

The included remote control provides user functions like Power On, Zone Off, All Zones Off, Source Select, Volume and Mute. These commands can be learned into the Sonance Navigator Master keypad, K2 keypad or any other IR learning device. These commands will be available in the Sonance WCPT 1.0 programming software, available separately. You can also use a Nav-Back file that was previously saved with the Sonance Nav-Back software.

Zone Card (fig. D)

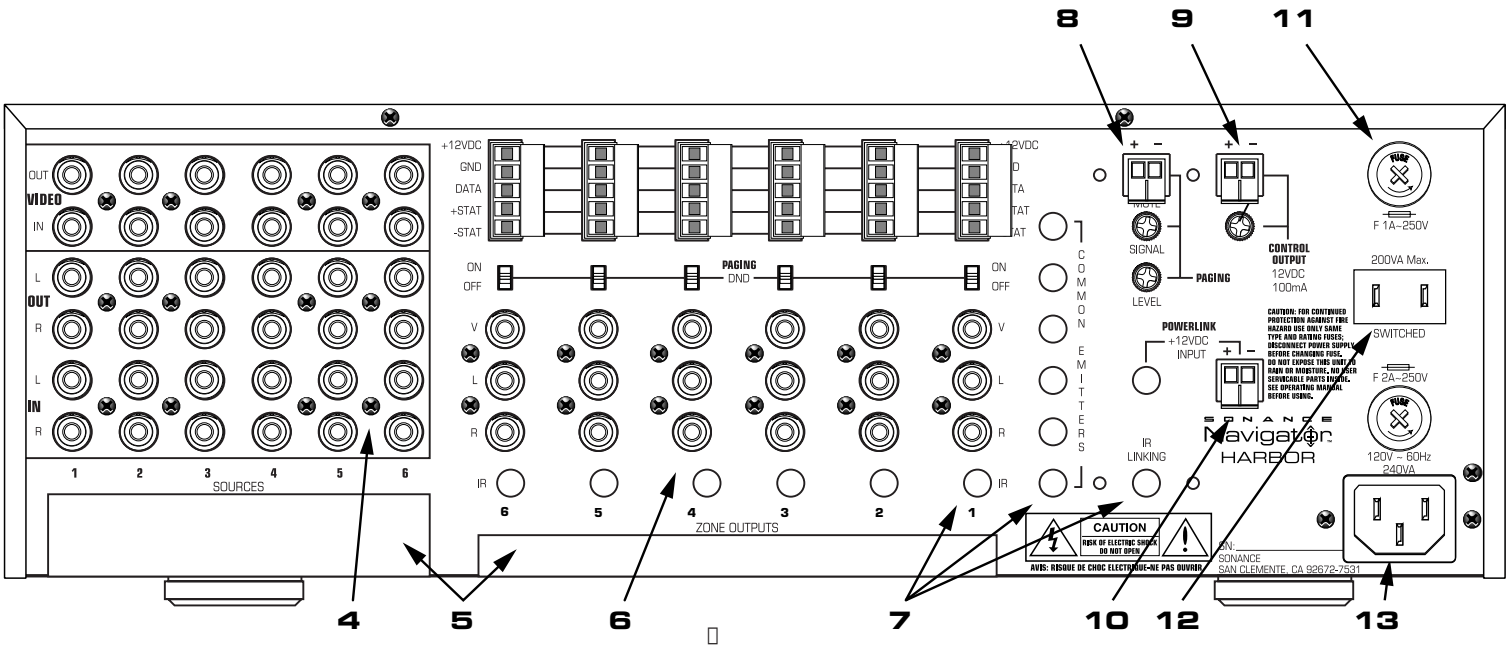
Each removable zone card is controlled by it's own microprocessor so if one zone fails, the rest will continue to function. In the case of a zone failure, no longer is it necessary to return the entire unit. Swap out the bad card and return it to Sonance for repair. See the Switcher Card Installation/Removal section for details.

15. Volume Control Jumpers: Each Zone Card inside the Sonance Navigator Harbor has two volume control bypass jumpers, which can create a fixed volume level output. IR codes are now available to perform this function.
16. Video Gain Jumper: Each Zone Card inside the Sonance Navigator Harbor has a video gain jumper, which provides versatility for short or long cable runs.
17. IR Receiver Header: This header is where the front panel receiver routing PC board is connected. Dip switches on the receiver routing PC board send the IR information to the selected zones via this header. This way, all IR commands received by the front panel IR receiver can control any combination of zone cards including all of them, creating a "party" mode where all zones track together. Factory preset is Zone 1 only.



A. FRONT PANEL

1. DISPLAY
2. STATUS L.E.D.s
3. FACE PLATE



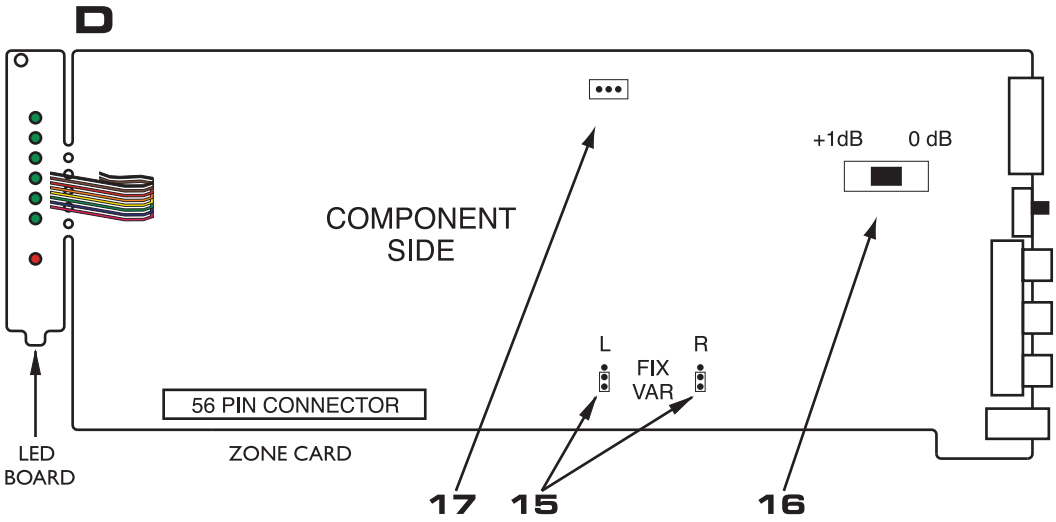
B

B. REAR PANEL

4. I/O JACKS
5. LABELING SPACE
6. ZONE OUTPUTS
7. IR I/O JACKS
8. PAGING
9. CONTROL OUTPUT
10. POWER LINKING
11. FUSED +12VDC
12. SWITCHED AC OUTLET
13. AC INLET

C

C. REMOTE CONTROL



D. ZONE CARD

15. VOLUME CONTROL JUMPERS
16. VIDEO GAIN JUMPER
17. IR RECEIVER HEADER

FUNCTION DETAILS

To better understand some of the functions listed above, more detailed discussions of each feature are contained in this section.

Front Panel Function Details

The front of the Sonance Navigator Harbor is simple and elegant but it provides all necessary system information. The data available on the front panel is as follows:

A.C. ON LED; The red A.C. On LED, indicates that AC is present on the line cord and the rear panel AC fuse is intact. As with the Sonance Sonamp® family of amplifiers, this light provides an easy way to check for blown AC fuses in a large system.

Active LED: When a zone of the system is active or the Powerlink input is active, this green LED will be on. This L.E.D. also indicates when the control output and the switched AC outlet are active. After all zones are turned off, the Active LED will go out.

IR Input: The IR receiver eye on the far right of the front display window is for use with the remote control provided with the Sonance Navigator Harbor. This IR receiver only accepts IR commands with a carrier frequency. An IR emitter, such as the Sonance VE1, can be utilized to connect from one of the Common Emitter jacks on the rear panel to the front panel IR receiver, to pass individual keypad "party" information to the IR receiver routing PC board. Commands without a carrier frequency will be ignored by the front panel IR receiver, this "local" zone commands don't have a carrier. The zones controlled from the front panel IR receiver are selectable via the DIP switch on the IR receiver routing PCB inside the Harbor. The factory preset of the IR routing board is the zone 1 only. To change the zones controlled, remove the top cover and move the switch corresponding to the desired zone to the "ON" position to be controlled. To defeat the front panel IR receiver completely, simply set all six switches to the "OFF' position.

CAUTION: To Prevent serious injury, disconnect AC voltage before removing the top cover and do not reconnect AC voltage until the top cover has been replaced and secured. Sonance strongly suggests that only qualified technicians perform this procedure.

Global "Party" Commands: Use the Navigator Harbor Global IR commands from the K2 IR commands library, in a system similar to that described in figure 6, to issue commands to all active zones of a Navigator Harbor. These "Party" commands use codes with the carrier frequency set to 38kHz. In this type of a system, Navigator Harbor commands that are NOT intended to be "Party" commands must come from the Navigator Harbor "Local" IR commands in the K2 IR library. These "Local" commands use codes that DO NOT have a carrier. These commands can be used in the K2 keypad or the Navigator Master keypad and will only be accepted into the five pin zone header on the rear panel of the Harbor.

Zone Mute: There is an amber Mute indicator for each zone. A Mute indicator lights when that zone is in mute. Use the Mute key on the Sonance Navigator Harbor remote control or the mute key (press the center of the +/- key) on the K2 keypad or Master keypad (IR address 806) to mute a zone. Note: The Sonance Navigator Master and K2 keypads have the ability to mute a room using the optional speaker relay, in which case the "Off" button on the keypad turns red. Under this condition, a keypad option, the front panel Mute light will not be activated.

Zone Source Select: Each zone has six green source lights, which indicate which source is active in that zone.

Rear Panel Function Details

To give the installer more options for overall control, the Sonance Navigator Harbor has the following array of control ports:

Common Emitter's: These outputs drive IR flashers to transmit IR signals to common source components. The IR information is available from all zones, as well as other Sonance Navigator Harbors linked through the IR

Linking input. Use standard flashers with 3.5mm mini-phone plugs like the Sonance OptiLinQ VE1 or VE2. The tip of the connector is positive. Internal blocking diodes prevent back feeding of these IR outputs.

Control Output: A control voltage is provided through screw terminals or 3.5mm mini-phone plug. Anytime a zone is active or the Powerlink input is active, there will be +12VDC (100mA) to activate other devices. As a safety precaution, if the 100mA rating is exceeded, the one amp fuse on the rear panel will blow. An internal blocking diode prevents back feeding of this output. When using this output to control an amplifier, it may only be necessary to connect the positive wire. The ground will be connected through the RCA interconnects. This will help prevent hum from ground loops.

IR Linking: This input is used to link the IR signals from additional units to the main Navigator Harbor, that controls all the common source equipment. Feed the IR signal from a Common Emitter output of a Harbor to the IR Linking input of the main Harbor. This input is ground isolated to prevent ground loops between systems.

Paging Input: Connect the audio portion of a paging signal to this input using a standard mono 3.5mm mini-phone plug. All zones will receive the page unless they are defeated with the Do Not Disturb (DND) feature. Zones that are "OFF" won't receive a page. This feature is designed to bolster a page from a home phone network.

Paging Mute: This input is for the mute control voltage from a paging system, which mutes audio signals in all active zones unless defeated by the Do Not Disturb (DND) feature. The audio program currently playing in each active zone will be muted as long as this input is active, thus allowing a page to be clearly heard. Use the screw terminals for connection. This input expects to see +12VDC when paging insert is desired. If the microphone switch is a contact closure, this must be translated to +12VDC using some sort of external power supply and relay combination (not included). This input is ground isolated to prevent ground loops between systems. Most phone systems have a control output for paging, which allows the phone handset to be used as the paging microphone.

Paging Level: A global paging level can be set with this volume control. Full clockwise is maximum volume. Full anti-clockwise is off.

Power Linking: This input is used to connect multiple Sonance Navigator Harbor systems together for remote turn on. Any voltage from 5V to 24V either AC or DC will activate this feature through screw terminals or 3.5mm mini-phone plug. This input is ground isolated to prevent ground loops between systems.

All Off: This connector allows the All Off buss from multiple Navigator Harbors to be linked together. If you have two Navigator Harbors, simply use a mini-phone plug cable attached to both units. For more than two units, utilize the mini-phone plug to bare wire cable included. Attach the plug to the All Off jack and then, using a wire nut or other crimp terminal, attach the white striped (TIP) wires from all of the cables together. Do not attach the black (shield) wires together to avoid ground loop hum problems.

Switched AC Outlet: The switched outlet can be used to control source components. This 120V AC outlet is rated at 200VA maximum. Do not use this switched outlet for a power amplifier or other devices with high power requirements.

AC inlet: the AC Inlet accepts standard IEC style power Cords (not less than 18 gauge). Turn off any connected amplifiers before connecting AC to this unit.

Zone Card Function Details

The Sonance Navigator Harbor has the following zone audio/video and IR outputs and keypad connections:

DND Switch: The Do Not Disturb feature locks out the paging signal from a zone. Set the DND slide switch to "On" and that zone will not be interrupted when a page occurs. This feature is ideal for the baby's room and other rooms where disturbances are not desired. Set the DND switch to "Off" and that zone will receive a page.

Keypad Connector: This removable five-pin connector is used to connect an IR based keypad like the Sonance Navigator Master keypad. A standard three-wire IR receiver, like the Sonance OptiLinQ MR1, SMR1 or WMR1, can be attached to the +12VDC, GND and DATA pins of this connector for use with the Sonance Navigator Harbor remote control and other IR remote controls.

Zone Audio Output: The audio outputs (L/R) provide buffered audio outputs for each zone, which can be fed to amplifiers. At turn on, each zones audio level begins at -40dB and can be adjusted by the volume +/– controls on the IR remote. From –79dB to –26dB, the volume steps are 2dB. From –25 to 0dB, the volume steps are 1dB. In addition, there are IR codes available, for keypad programming only, that will set the output level directly to any of the six other levels. These levels are: -80dB (lowest level before mute), -52dB, -34dB, -28dB, -22dB and unity. The unity setting will give the same output level as setting the zone volume control jumpers (figure 4, item 14) to fixed.

CAUTION: To prevent serious injury, disconnect AC voltage before removing the top cover and do not reconnect AC voltage until the top cover has been replaced and secured. Sonance strongly suggests that only qualified technicians perform this procedure. Make sure any system power amplifiers are unplugged from AC voltage.

The factory default setting for these two jumpers is in the variable location, which allows the volume output to be controlled with IR codes. If you set these jumpers to the fixed mode, the buffered audio outputs are set to a fixed volume level like a tape output.

Zone IR: If a source component is dedicated to a zone, use that zone's IR output for exclusive control of this component. The Common Emitter's reproduce IR signals from all zones but the zone IR output will only reproduce the IR signals from its zone. Use standard flashers with 3.5mm mini-phone plugs like the Sonance OptiLinQ VE1 or VE2. The tip of the connector is positive.

Zone Video Output: This buffered composite video output will drive long distance runs of video cable to the TV or video monitor for its zone. For cable runs longer than 100 feet, there may be a loss in picture contrast. To boost the video signal, move the video output switch on the zone card inside the unit to the +1dB setting (figure 4, item 15).

CAUTION: To Prevent serious injury, disconnect AC voltage before removing the top cover and do not reconnect AC voltage until the top cover has been replaced and secured. Sonance strongly suggests that only qualified technicians perform this procedure.

Use high quality 75Ω video cable like Belden cable #9221 with a stranded copper center conductor and a copper braid. For superior signal transfer, use Belden 8281F High Flex Precision Video cable. RCA connectors should be soldered to the cable for better connection. Lower resistance equals deeper blacks in the video picture. Never use coax cable like RG6 or RG65. Coax cable has an aluminum braid and can't be soldered, thus making for a poor connection. Loss of true black in the video picture will be noticed. Use a re-modulator device to transmit the signal on coax cable.

Remote Control Function Details

Sonance Navigator Harbor remote control commands can be learned into any IR keypad or learning remote. The remote control can be used to control the Sonance Navigator Harbor through the IR window on the front panel or through an IR receiver connected to the five pin input terminal on each zone card. All these codes can be made into "Party" commands by using the system setup described in figure 6.

The following is the Sonance Navigator Harbor remote control's commands, the IR address in the Sonance Navigator Master keypad where the command is usually stored (in parentheses) and a description of the command:

ON (801): Turns on a single zone.

OFF (800 or 806): Turns off a single zone. This command is not normally used if the K2 keypad or Navigator Master keypad keypad's external speaker relay is being used.

ALL OFF (800): Turns off all six zones in the Harbor.

VOLUME UP (804): Increases the audio output level by one step. (At lower volumes, the steps are 2dB and at higher volumes the steps are 1dB.) The initial volume setting at turn on is –40dB. Other command(s) can be placed in the K2 keypad or Navigator Master keypad's power on macro (H01) to establish a higher or lower initial volume level at turn on.

VOLUME DOWN (805): Decreases the audio output level by one step. The initial volume setting at turn on is –40dB. Other command(s) can be placed in the K2 keypad or Master keypad's power on macro (H01) to establish a higher or lower initial volume level at turn on.

MUTE (806): Mutes the audio output. A mute condition is represented on the front panel by a yellow LED. When a volume command or a mute command is issued, the mute is canceled and audio is restored.

TUNER (101): Selects Source 1 and activates a green LED.

DVD (201): Selects Source 2 and activates a green LED.

CD (301): Selects Source 3 and activates a green LED.

VCR (401): Selects Source 4 and activates a green LED.

TAPE (501): Selects Source 5 and activates a green LED.

TV/SAT (601): Selects Source 6 and activates a green LED.

Secret Commands: Secret commands are accessible in programming software for the K2 keypad or the Navigator Master keypad but are not on the Navigator Harbor hand held remote control. These commands provide improved flexibility to the system programmer.

MUTE ON: Sets volume mute to "ON" no matter if mute was engaged or not.

MUTE OFF: Sets volume mute to "OFF" no matter if mute was engaged or not.

UNITY GAIN: Sets volume level to unity. This is the same as setting the internal volume jumpers to the "Fixed" output setting. Sets volume to a tape output type level.

-22dB GAIN: Sets volume level to –22dB. This command simulates the turn on volume level of the original Navigator Harbor.

-28dB GAIN: Sets volume level to –28dB.

-34dB GAIN: Sets volume level to –34dB.

-52dB GAIN: Sets volume level to –52dB.

-80dB GAIN: Sets volume level to the minimum volume setting. Use VOLUME UP commands to raise the volume level from the minimum setting.

Zone Card Installation/Removal

Each zone card has a dedicated microprocessor so if one zone fails, the other five should continue to function. In the case of a zone failure, it is not necessary to return the entire unit. Simply swap out the bad zone card and return it to Sonance for repair.

Note: it is not necessary for all cards to be in place to operate the unit.

If a zone card must be removed, follow these steps:

URGENT: To prevent damage to the zone card you MUST perform step 1 before opening the Navigator Harbor. Sonance strongly suggests that only a qualified technician do this procedure.

1. With the Sonance Navigator Harbor sitting on a stable work surface, with the top cover in place and while still plugged into a grounded AC outlet, touch one of the top cover mounting screws with a bare finger. This will drain the static electricity from your body. Static electricity can easily damage the sensitive electronics on the zone card. Once the static is drained, you can unplug the power cord from the AC outlet.
2. Unplug the power cord from the AC outlet.

   CAUTION: To Prevent serious injury, disconnect AC voltage before removing the top cover and do not reconnect AC voltage until the top cover has been replaced and secured. Sonance strongly suggests that only qualified technicians perform this procedure.
3. Remove and save the four large Phillips screws from the sides of the top cover. Remove and save the two small Phillips screws from the rear of the top cover.
4. Remove the top cover.
5. Remove and save the Phillips screw holding the small LED display board to the front sub-panel.
6. Lift the small LED board vertically about a half an

inch to free it from its lower mounting flange. It will remain connected by ribbon cable to the switcher card; so let it dangle next to the switcher card.

7. Remove and save the two Phillips screws holding the RCA connector to the rear panel.
8. Gently lift the ribbon cable end of the zone card up to disconnect the 56-pin header from the motherboard.
9. Lift the zone card and LED board vertically out of the unit.
10. Always store and ship the zone card in an anti-static plastic bag. These bags are usually pink in color. Static electricity can easily damage sensitive electronics.

Zone Card Installation

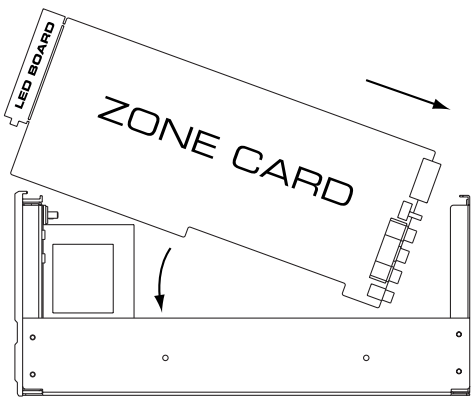
To install a zone card, follow these steps:

URGENT: To prevent damage to the zone card you MUST perform step 1 before opening the Navigator Harbor. Sonance strongly suggests that only a qualified technician do this procedure.

1. With the Sonance Navigator Harbor sitting on a stable work surface, with the top cover in place and while still plugged into a grounded AC outlet, touch one of the top cover mounting screws with a bare finger. This will drain the static electricity from your body. Static electricity can easily damage the sensitive electronics on the zone card. Once the static is drained you can unplug the power cord from the AC outlet.
2. Unplug the power cord from the AC outlet.

CAUTION: To Prevent serious injury, disconnect AC voltage before removing the top cover and do not reconnect AC voltage until the top cover has been replaced and secured. Sonance strongly suggests that only qualified technicians perform this procedure.

3. Remove and save the four large Phillips screws from the sides of the top cover. Remove and save the two small Phillips screws from the rear of the top cover.
4. Remove the top cover.
5. Remove the zone card from the anti-static bag. Save the anti-static bag. Match the jumper and switch settings from the old card to the new card so that the unit performs as expected.
6. Inspect the LED board to insure that the foam LED gasket is in place surrounding the LED's to prevent light leakage.
7. Gently snap off the LED board from the zone card along the perforation line joining the two boards. The LED board will remain connected by its ribbon cable to the switcher card.
8. Lower the zone card and LED board vertically into the unit.

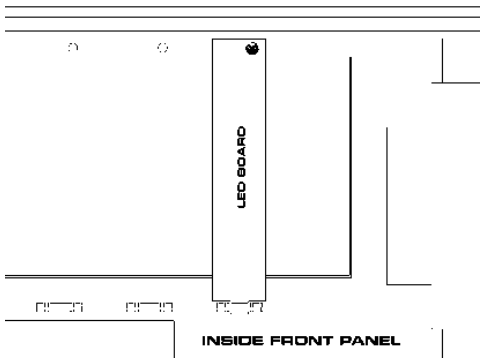


SIDE VIEW

9. Fit the switch and the connectors located at the rear of the zone card through the holes in the rear panel. Do not force this procedure if there is a clearance fault.
10. Align the right angle 56 pin header with the connector on the motherboard. Gently but forcefully press this header down into the connector. Examine this connection visually to make sure no pins are left hanging out.

URGENT: Serious damage to the zone card can occur if the 56 pin header of the zone card is miss-aligned. Please double check this before continuing to the next step.

11. Install the two black Phillips screws that secure the RCA connector to the rear panel.
12. Insert the tab at the bottom of the small LED board vertically into the lower mounting flange on the front sub-panel below the display cutout.



13. Install the Phillips screw to secure the small LED board to the front sub-panel.
14. Examine all the connections visually.
15. Replace the top cover.
16. Install the four large Phillips screws for the sides of the top cover. Install the two small Phillips screws for the rear of the top cover.
17. The Sonance Navigator Harbor is ready to install. Verify operation in the system.

INSTALLATION DIAGRAMS

The following is a sampling of possible applications for the Sonance Navigator Harbor. This is by no means a complete list of possible uses. With a little imagination and some experience, countless other configurations will be discovered. When designing complex systems, remember that Technical Support is available through Sonance Representatives or from Sonance directly to assist you. We encourage you to push the limits of multi-zone audio and share your installation stories with us.

A Basic Six Zone System (fig. 1)

- 6 Rooms
- 3 Music Sources
- 3 Video Sources
- Video Sources routed to 3 Zones
- Sonance Navigator Master or K2 keypads at each Zone

This diagram depicts a basic six zone install featuring a Sonance Navigator Harbor with three audio and three video inputs feeding a Sonamp 1230 amplifier with voltage turn on, as well as feeding video to three TV's located in zones one, two, and five. Each of the six zones is controlled by a Sonance Navigator Master or K2 keypads.

Multiple Sonance Navigator Harbors (fig. 2)

• 18 Rooms (3 Sonance Navigator Harbors)
• 3 Music Sources and 3 Video Sources
• Video Sources routed to 5 zones
• Control Voltages, IR Linking and ALL OFF joined
• Sonance Navigator Master or K2 keypads at each Zone

There is virtually no limit to the number of Harbors that can be used together. This diagram shows three Harbors connected together. The audio and buffered video outputs pass the source signals from Harbor 1 to Harbor 2 and from Harbor 2 to Harbor 3. The +12VDC outputs, ALL OFF and Power Linking inputs pass control voltages the other direction. IR outputs and IR Linking inputs pass IR signals down the stack in the same fashion.

Single Zone Source Control (fig. 3)

• 6 Rooms
• 6 Music Sources (2 Local Tuner's)
• Local IR Control for Tuner's
• Sonance Navigator Master or K2 keypads at each zone

Sources can be controlled globally by all zones or by only a single zone. This diagram makes use of a Sonance Navigator Harbor with zone IR output controlling two tuner's. While other zones can select and listen to these tuner's, only zone five can control the first tuner and only zone six can control the second tuner.

Video Distribution Techniques (fig. 4)

6 Rooms
• 3 Music Sources and 3 Video Sources
• 3 Video Distribution Techniques
• Sonance Navigator Master or K2 keypads at each zone

This diagram shows three ways of sending video to a remote location. The first method is passing composite •video on flexible 75Ω video cable. Video cable has a copper braid and stranded copper center conductor, which allow connectors to be soldered to the cable. Use belden Cable # 9221 or 8281F. Note: CATV Coax should not be used for this application. CATV Coax has an aluminum braid, which can't be soldered and thus will not provide a good connection. A bad connection will cause poor reproduction of black in the picture. Only use coax for video modulated RF signals.

The second method is for video runs of less than 25 feet. A composite to S-video adapter can be used to distribute a video signal on S-video cable.

The third method is by using an adapter to RF modulate a composite signal for distribution on CATV coax cable.

Paging Input (fig. 5)

• 6 Rooms
• 3 Music Sources and 3 Video Sources
• Paging Preamp

Sonance Navigator Master keypads at each zone

This diagram shows the Sonance Navigator Harbor in a paging application. All selected zones will receive a page, while the program audio in those zones will be muted. When the microphone key is released, the program audio will resume. Use the paging Level Control •to adjust the desired page audio level.

6 Zone System with "Party" Capability(fig. 6)

• Harbor in Local and Party Mode
• 6 Rooms, 3 with video
• 6 Sources, 3 with video
• Sonance Navigator Master or K2 keypads at each Zone.
• Sonance VE1 IR emitter connected from a Common output to the front panel IR receiver.

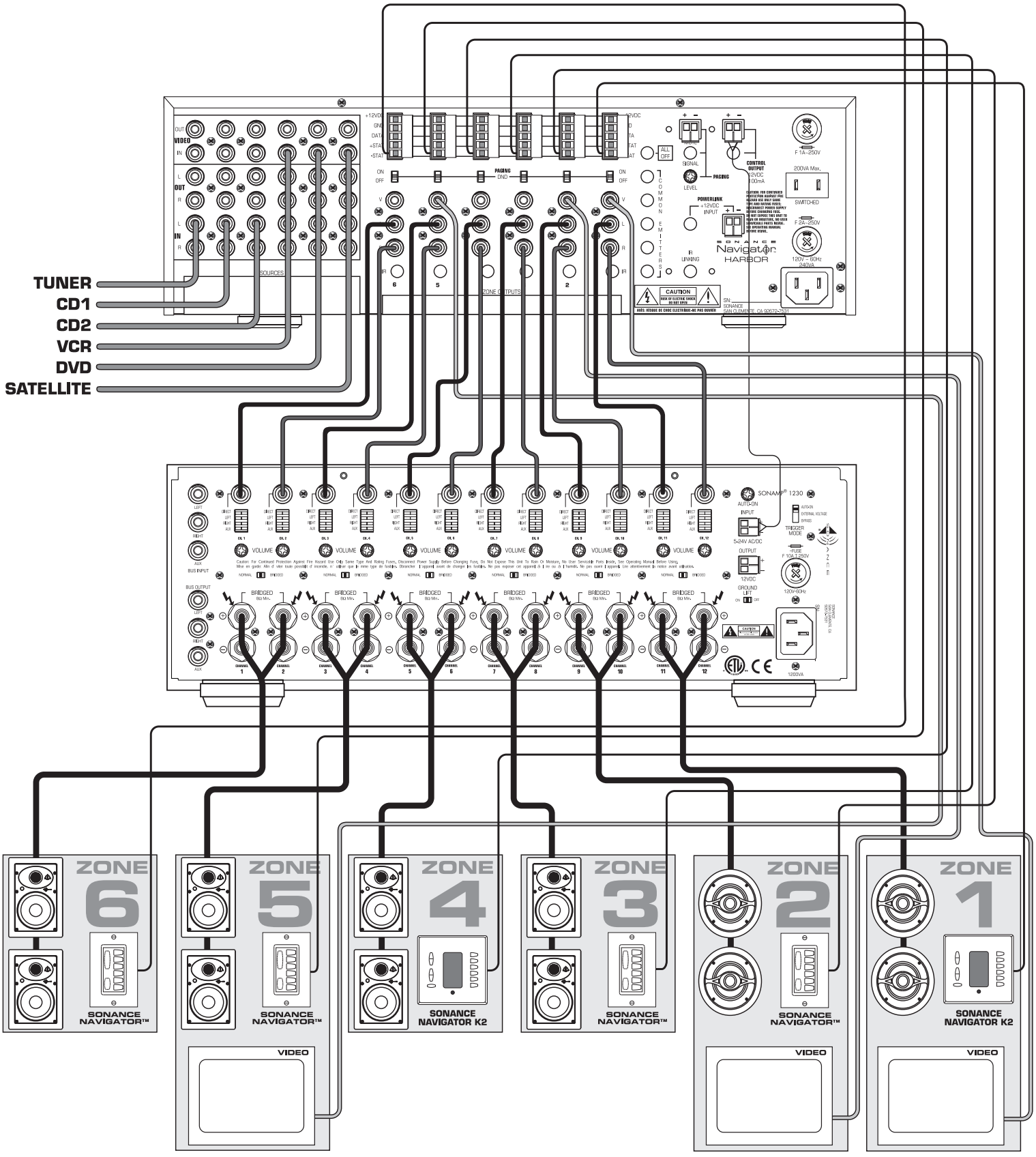
This setup will allow for keypads to activate the entire system with "Party" commands. Use the "Local" IR commands (no carrier) from the Navigator K2 keypad to make changes to the local zone. Use the "Party" IR commands (with carrier) to allow for the re-transmission of commands into the front panel IR receiver via an E1, E2, VE1 or VE2 emitter connected from a common output on the rear panel of the Harbor. These commands will then be distributed to any or all zones depending on the position of the DIP switches on the IR routing PCB. Note: The "Local" IR commands that don't have a carrier will be rejected by the front panel receiver and thus will not activate any global functions.

Other IR Input (fig. 7)

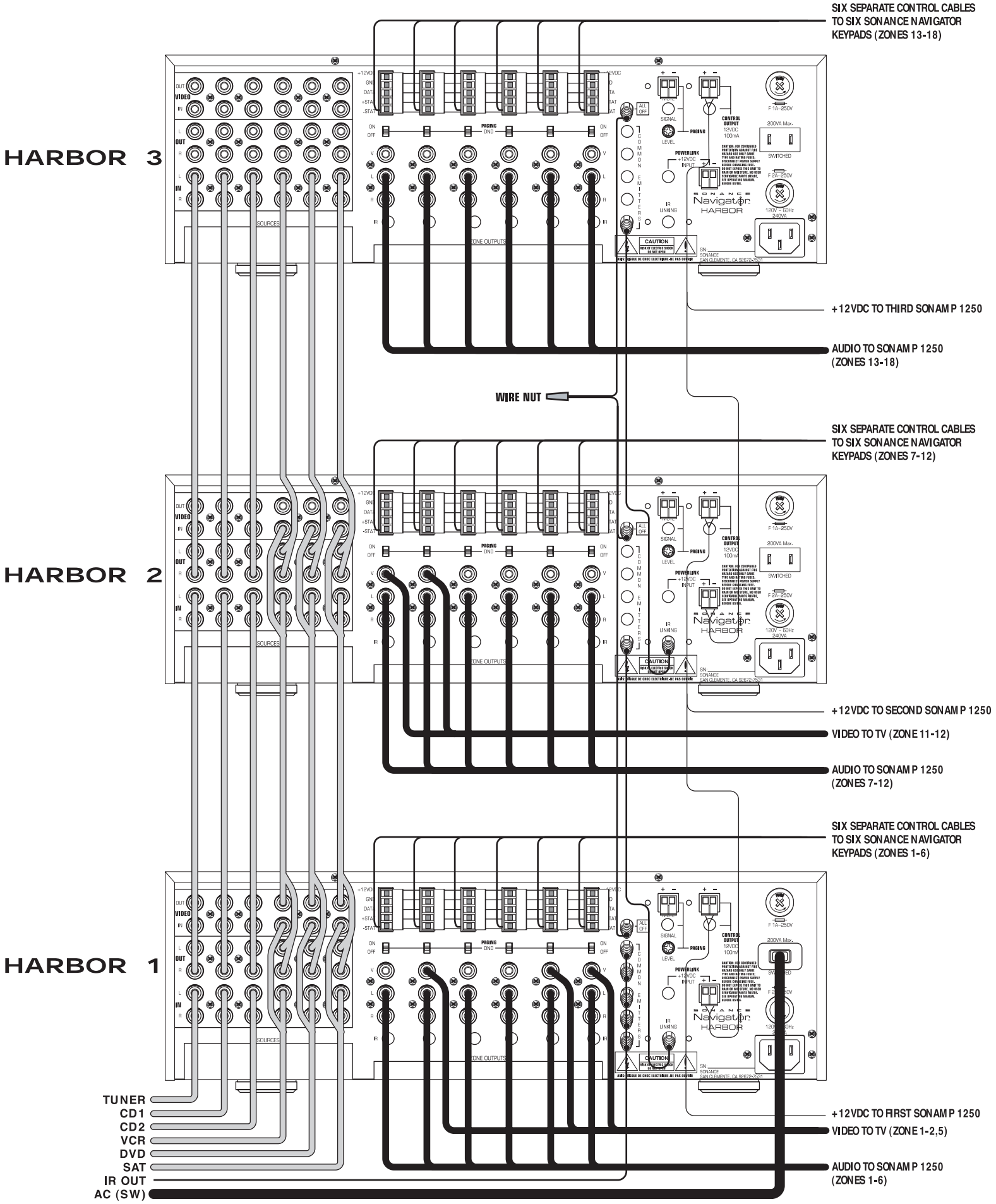
• Sonance Navigator Master Keypad
• Sonance OptiLinQ In-wall Receiver

When using the Sonance Navigator Master keypad to control source components with IR commands, it is also possible to add a standard IR receiver in parallel so that a hand held remote control can control the same components. This figure shows a Sonance OptiLinQ WRM1 in-wall receiver in parallel with the Sonance Navigator Master keypad. It is also possible to use the WRM1 in place of an IR keypad with the Sonance Navigator Harbor.

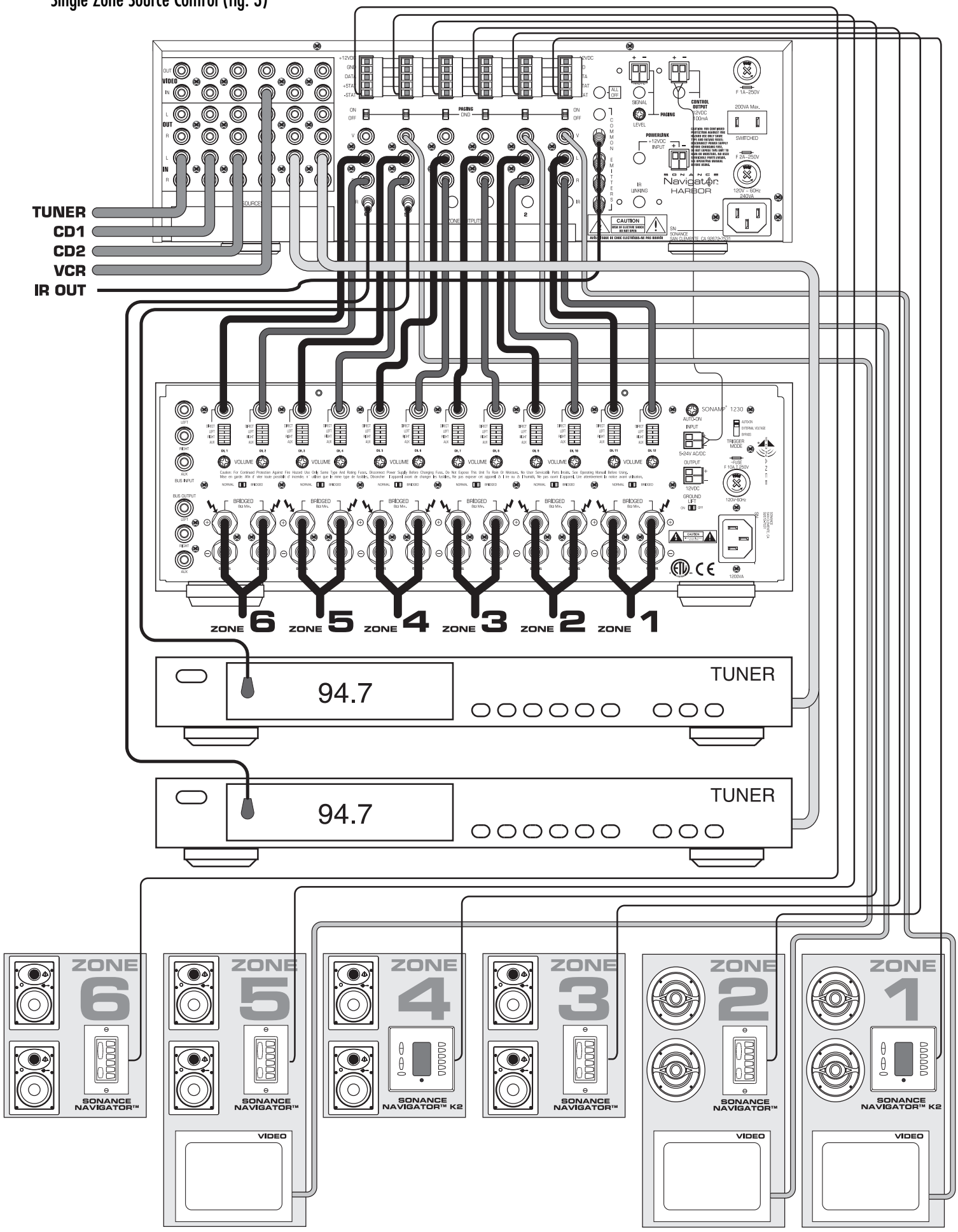
A Basic Six Zone System (fig. 1)



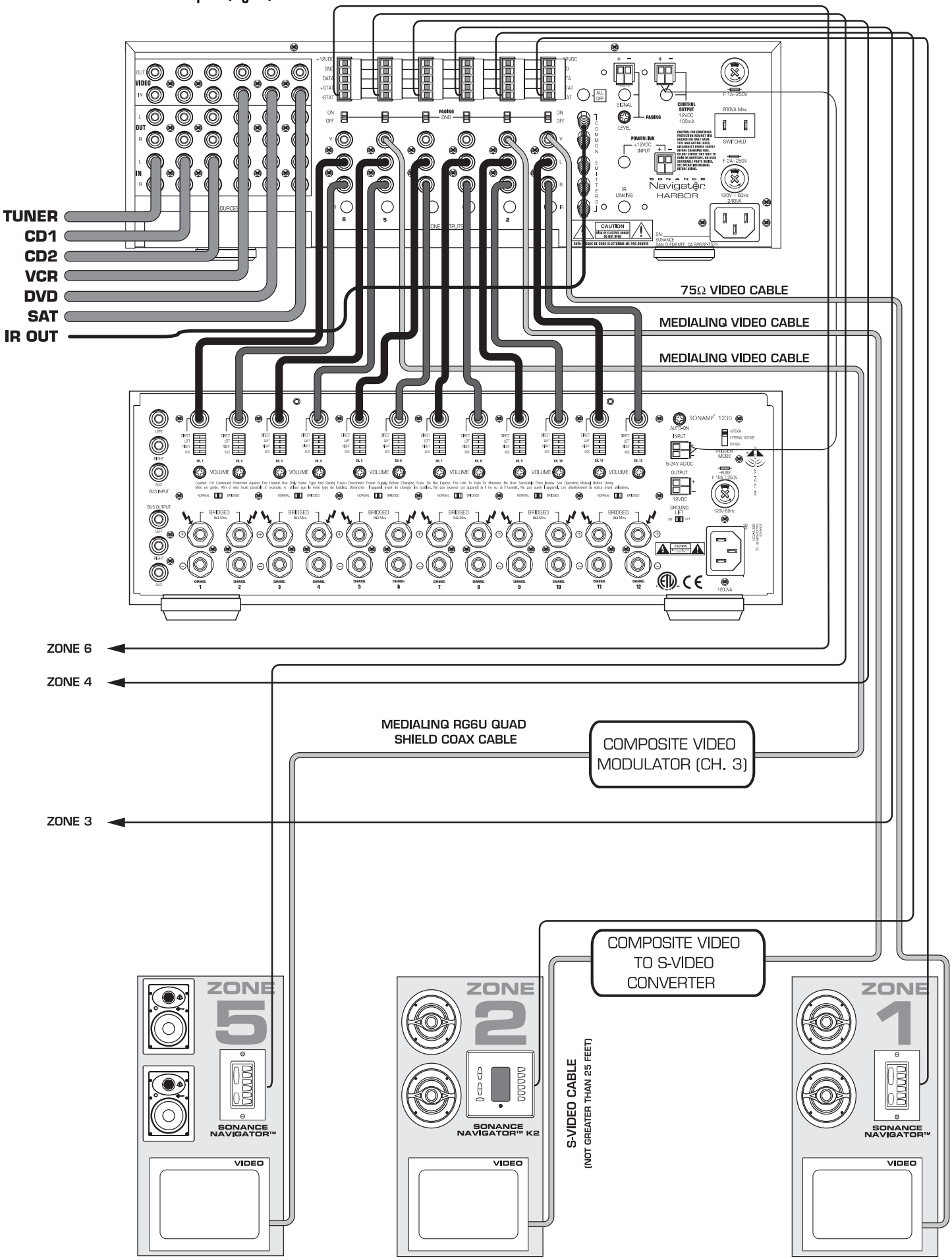
Multiple Sonance Navigator Harbors (fig. 2)



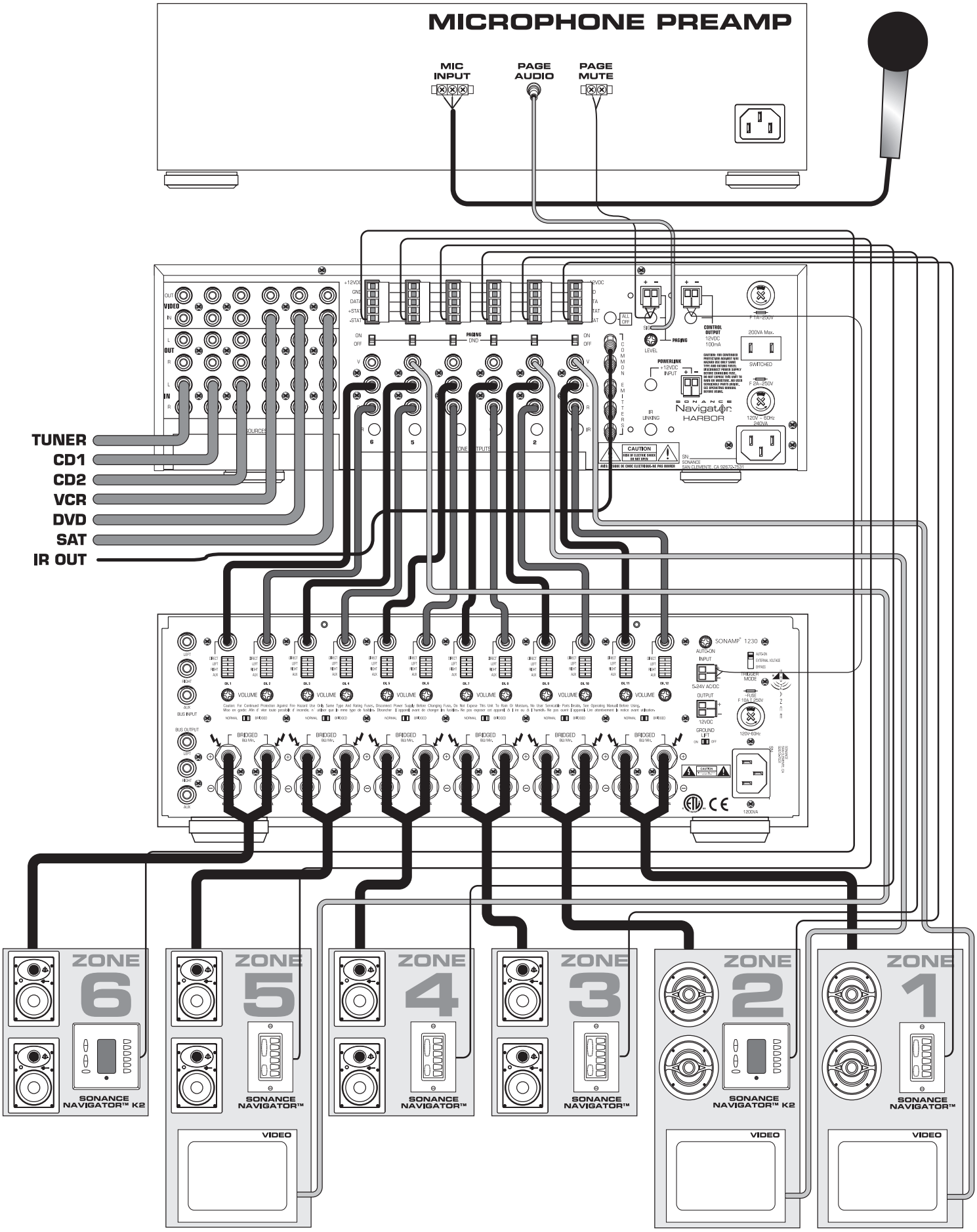
Single Zone Source Control (fig. 3)



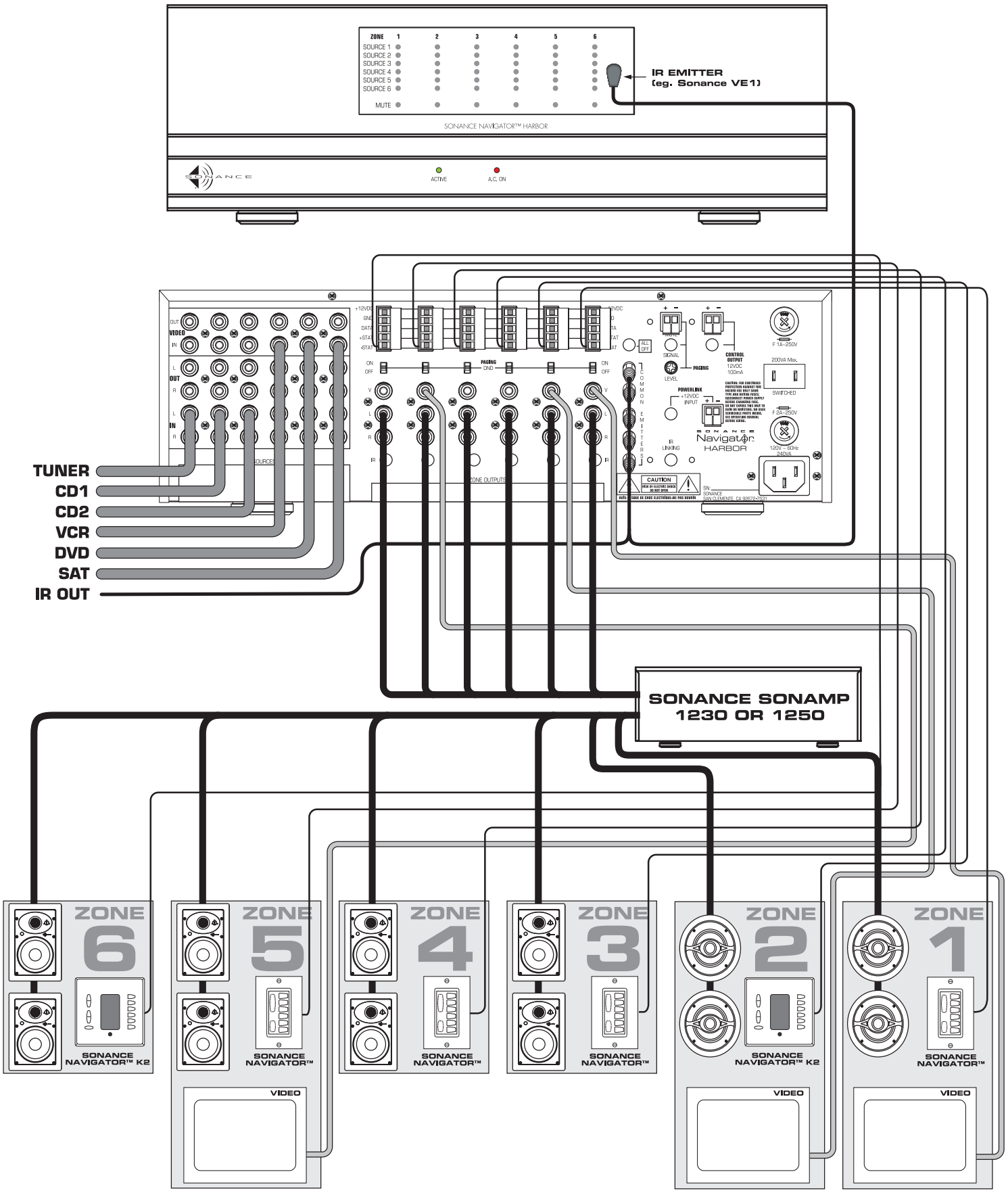
Video Distribution Techniques (fig. 4)



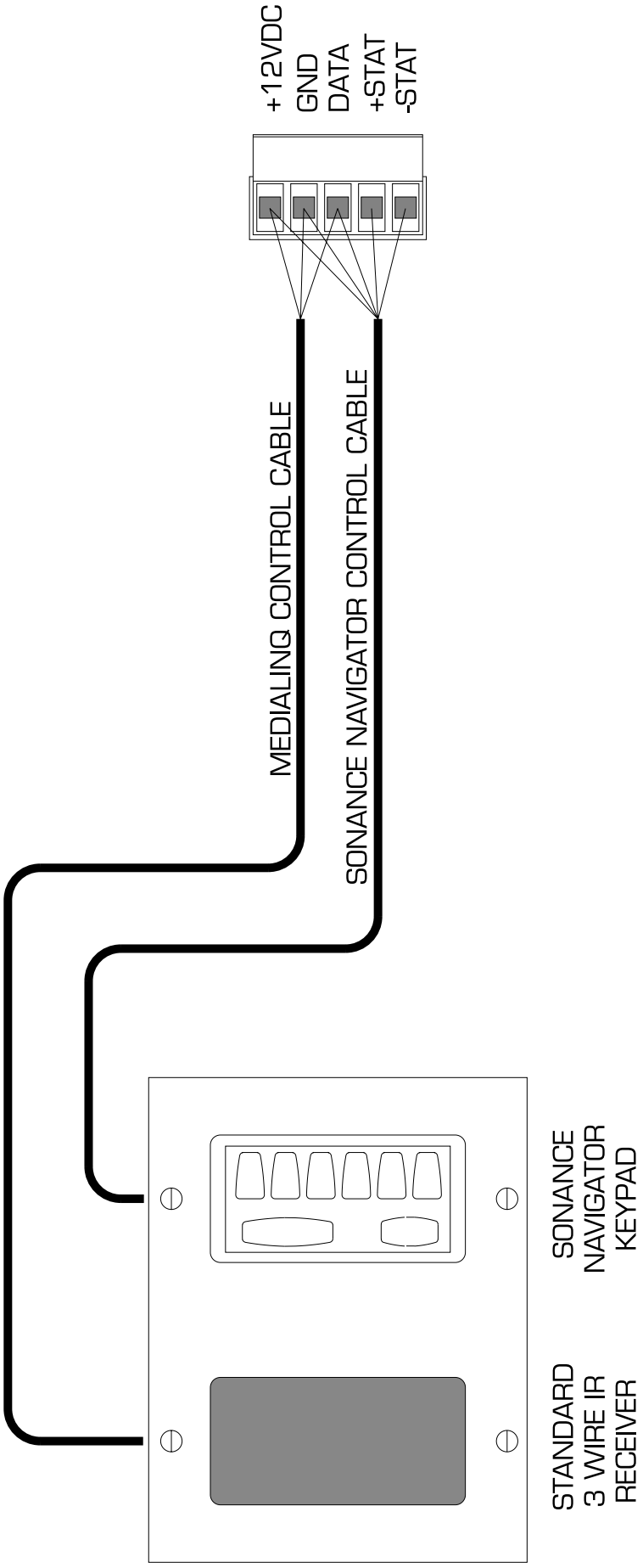
Paging Input (fig. 5)



Six Zone System with “Party” Capability (fig. 6)



Other IR Input (fig. 7)



SPECIFICATIONS

Frequency Response:	±0.5dB 20Hz-20kHz
Preamp Gain Variable:	+6dB@Maximum Volume Setting
Maximum input at Variable Gain:	8v
Preamp Gain Fixed:	0dB
Maximum Input at Fixed Gain:	4v
Ch. to Ch.Crosstalk@1kHz:	90dB
Signal to Noise Ratio:	-100dB below rated output (A-weighted)
Total Harmonic Distortion:	0.01% 20Hz-20kHz
Audio Input Impedance:	56kΩ
Video Input Impedance:	75Ω
Power Consumption:	240VA
Switched Outlet:	200 VA Maximum
12VDC Fuse	1A 3AG
AC Fuse	2A 3AG
Optional Items	3-space Rack Mount Faceplate
Dimensions:	16-3/4" x 5-5/8" x 12-1/4"
(W X H X D)	(425mm x 143mm x 311mm)
RMF (3U)	19" x 5-1/4" x 12-1/4" (483mm x 133mm x 311mm)
Weight:	16 lbs (35.2KG)
Shipping Weight	20 lbs (44KG)

TECHNICAL ASSISTANCE

If you have any questions about the operation or installation of your Sonance Navigator™ Harbor, please call our Technical Assistance Department on any business day at:

(800)582-0772 or (949)492-7777 from 8 am to 5 pm, PST

OBTAINING SERVICE

Should your product require repair or service, contact your authorized Sonance retailer for help, or use the following procedure:

1. Prior to calling, note the product model number, serial number, purchase date, and original retailer's name and address.
2. Contact our Technical Assistance Department at the number(s) above and describe the problem. If required, a Return Merchandise Authorization (RMA) number will be issued.

   IMPORTANT: Do not return the unit to Sonance without first obtaining an RMA number.
3. If you are directed to return the unit to Sonance for repair, pack the unit in its original shipping cartons (inner & outer). Replacement packaging can be obtained from Sonance for a small charge.
4. Contact United Parcel Service, Federal Express, or RPS to arrange prepaid (not collect) shipping. Do not use the United States Postal Service. IMPORTANT: Freight collect shipments will be refused.
5. Write the Return Merchandise Authorization number on the outside of the shipping carton.
6. For warranty work, please include a copy of the original bill of sale inside the package.

Ship the packaged unit to:

Technical Assistance Department
Sonance
212 Avenida Fabricante
San Clemente, CA 92672-7531

WARRANTY COVERAGE (USA ONLY)

If, within five (5) year from the date shown on the bill of sale, the unit fails due to a defect in workmanship or materials, Sonance will, at its option and at no charge to purchaser, repair or replace the components of such unit which proves to be defective.

For this warranty to be effective, the bill of sale must show that the unit was purchased from an authorized Sonance retailer. This warranty shall apply exclusively to the original purchaser and shall not apply to units purchased for industrial or commercial use.

Furthermore, this warranty shall not apply if:

1. Damage to the unit was caused by accident, abuse, or misuse;
2. The unit was modified, or repaired by unauthorized personnel; or
3. The unit was not used as outlined in the operating instructions.

Exclusions and Limitations

The warranty set forth above is in lieu of all other warranties, express or implied, of merchantability, fitness for a particular purpose, or otherwise. The warranty is limited to Sonance products registered herein and specifically excludes any damage to any associated equipment, which may result for any reason from use with this product. Sonance shall, in no event, be liable for incidental or consequential damages arising from any breach of this warranty or otherwise. This warranty gives you specific legal rights, and you may have other rights, which vary from state to state.