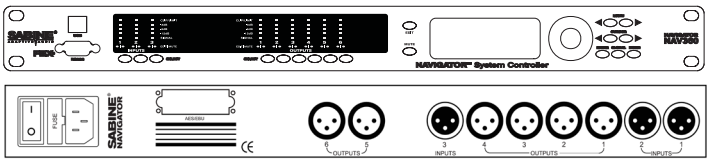
# NAV360

## Specifications



The Sabine Navigator NAV360 is a 3 x 6 input/output configuration system processor. The NAV360 is equally at home in both touring and installation applications, where it provides loudspeaker management, matrix mixing, and signal routing. State-of-the-art hardware and firmware guarantee superior sound quality and reliability. All firmware and software can be upgraded using Sabine's Upgrade Wizard software, included on your Navigator CD or, available at www.sabine.com. Aside from the powerful array of features packed into a single unit (multible crossovers, complete signal routing and mixing, FBX filters, parametric filters, high and low shelf filters, delay, compression, and limiting), the Navigator also offers a choice of user interfaces.

**Computer control:** When you install the included Navigator Remote Control Software you will see a very powerful yet simple user interface. All parameters and system status monitors are available without burying you in cryptic menus. From here you control all audio, security, linking, and file saving functions, and you can manage your entire network of Navigators.

**Front Panel Control:** The Navigator combines the best of both worlds. The front panel provides access to every audio and system function for each device. Gain control for each input and output is one touch away. LED signal meters for each input and output provide a clear picture of signal status, and editing is fast with the datawheel and cursor keys. Quickly control multiple channels simultaneously by pressing several channel buttons at the same time, which is very handy for those global changes.

**NAVRC-100 Wall-Mount Remote Panel:** The remote control panel allows for control of presets, gain, muting, and other basic functions. One NAVRC-100 can control up to 8 Navigators, and one Navigator can be controlled by up to 8 NAVRD-100 panels.

**Serial Remote Control Devices:** Navigators are compatible with all the major serial controllers, including Crestron, AMX, and Cue.

### Audio Performance

Freq Response:+/-0.1dB (20 to 20kHz)
Dynamic Range:115dB typ (unweighted)
CMMR:>60dB (50 to 10kHz)
Crosstalk:<-80dB
Distortion:0.002%(1kHz @+4dBu)

### Digital Audio Performance

Processor: 32-bit floating point
Sampling Rate: 48kHz
Analog Converters: High Performance 24-bit
Propagation Delay: 1.8 ms

### Front Panel Controls

Display: 2 x 26 Character Backlit LCD
Level Meters: 5 Segment LED
Buttons: Mute and Edit Function Controls
Select Controls, Menu Controls, Data-wheel Encoder

### Inputs and Outputs

Input Impedance:>10k Ohms
Output Impedance:50 Ohms
Maximum Level:+18dBu
Type: Electronically balanced

### Connectors

Audio: 3-pin XLR.
RS-232: Female DB-9
USB: Type B
Power: Standard IEC Socket

### General

Power:115 /230 VAC (50 /60Hz); 20 watts
Dimensions:19 "x1.75 "x 8 " (483 x 44 x 203mm)
Weight: 6.4 lbs /2.9 kg

### Audio Control Parameters

Gain:-40 to +15dB in 0.25dB steps
Polarity:+/-
Delay: 80 ms per I/0
Equalizers (8 per I/O) Type: Parametric, Hi-shelf, Lo-shelf
EQ Gain: -30 to +15 dB in 0.25 steps
Crossover Filters (2 Filters per Output)
Filter Types: Butterworth, Bessel, Linkwitz Riley
Slopes: 6 to 48dB/oct

### FBX Feedback Exterminator®

8 independent digital FBX filters per input channel, controlled automatically from 20 Hz to 20 KHz
Filter depth: 3 dB steps from 0 dB to -84 dB
Maximum depth adjustable from -4 to -84 dB
Filter width: user-controllable from 1.00 to .01 octave
Resolution: 1 Hz from 20 Hz to 20 KHz
Time required to find and eliminate feedback: typically 0.3 seconds @ 1 KHz

### Compressor/Limiter

Threshold: +20 dBu to -20 dBu
Ratio: 1:1 through infinity
Attack: 0.3 to 100ms
Release:2 to 32X the attack time

### Microphone Preamp

Gain: 30dB, fixed
Phantom Power: +48V, either on or off for all inputs
Differential Input Impedance: 2Kohm

### AutoMix/Ducker

Up to 8 priority levels
Max attenuation: 90 dB
Threshold: 0 to -90 dB
Attack time: 8ms to 504 mS
Release time: 8ms to 504 mS
Trigger signal detection minimum dwell time: 0 to 1054 mS
Pre-release delay: 0 to 1054 mS

### Global Parameters

Number of Programs:30
Preset Configurations: Generic, 2, 3, 4-Way, plus others
Front Panel & Software Security Locks: Any individual menu, password protected

### Upgrades

Operating system firmware stored in Flash RAM. All future upgrades for firmware and software downloadable from www.sabine.com using Upgrade Wizard.

### Notes:

Below approximately 200 Hz the feedback filters become slightly wider to increase the feedback and rumble capture speed at these low frequencies. Tests performed using an Audio Precision System One model 322 or equal.

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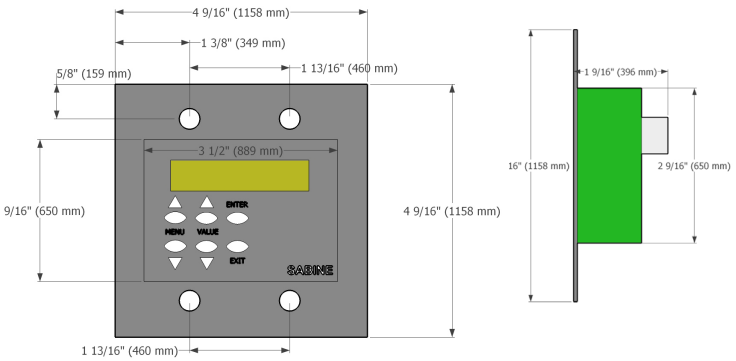
# NAV360

## Specifications continued

### NAVRC-100 Wall-Mounted Remote Control PanelNAVRC-100




**Dimensions:** 4.58” wide x 4.58” high x 1.36” deep
**Minimum hole for mounting:** 3.5” wide x 2.6” high
Fits in standard 2-gang wall box
Power is supplied by the connected Navigator

**Included in the box:**
Complete controller mounted on cover plate, ready to install
Programming port and ribbon cable

**Not included but required for installation:**
CAT5 Ethernet cable - run from Navigator to NAVRC-100
Standard 9-pin RS232 serial cable (for setup only)
Standard 2-gang wall box and mounting screws
PC computer with Navigator Wall Panel Setup software installed and RS232 serial connection (for setup only)

**Connections: NAVRC-100**
To Navigator: 2 RJ-45 connectors for CAT5 cable
To Programming Port: Ribbon Connector

**Connections: Programming Port**
To PC: DB9 RS232 connector
To NAVRC-100: Ribbon Connector

**Maximum number of Wall Panels per Navigator:** 32
**Maximum number of Navigators per Wall Panel:** 2
**Maximum CAT5 cable length per Wall Panel/Navigator setup:** 200 feet

**Available Control Parameters, selectable for input or output:**
Signal Mute
Signal Level
Signal Polarity
Signal Delay
EQ Frequency
EQ Level
Mixer
Program Recall (global)

**Front Panel Controls:** Menu, Value, Enter, Exit

**Back Panel Controls:**
Dipswitches, for identifying each Wall Panel

**Options:**
NAV360-ER: Ethernet, Remote Control Ready
NAV360-MER: Includes Mic Preamp, Ethernet and Remote Control Ready

### Architect’s and Engineer’s Specifications:

The loudspeaker controller/matrix mixer/parametric equalizer/automatic feedback controller/compressor/limiter/ delay/crossover/signal router shall be a three input / six output digital signal processor, programmable from the front panel or with provided Windows software, Navigator Remote, including linkable functions and remote programming. The unit shall automatically sense feedback and determine its pitch, then assign a digital notch filter to the resonating frequency to automatically eliminate the feedback. It shall effectively distinguish between music and feedback and shall be operational during the program. The product shall use five types of user-selectable filters: parametric, high-shelf, low shelf, fixed FBX or dynamic FBX. The user controls the parametric and shelving filters; the fixed FBX filters, controlled automatically, remain set on the initial feedback frequencies, and the dynamic FBX filters shall be automatically reassigned new frequencies as feedback occurs during the program. The NAV360 shall also function as a eight-band parametric equalizer, full-featured compressor/limiter, multi-setting crossover, and digital delay for speaker alignment. The unit shall include the following front panel indicators (LED): Mute and Edit for each input/output, five signal level indicators for each input/output (Signal, -12, -6, and -3 dB, and Clip/Limit. There shall be an LCD display for all other status and editing, two Menu keys, two Cursor keys, one Global key, one Enter key, and one Exit key. There shall be a datawheel for changing parameter values. The unit shall also be provided with the following front panel connectors: USB and RS232. The back panel will have 3-pin XLR connectors for each input and output; power connector with bulti-in fuse holder. The following performance criteria shall be met: FBX/PARAMETRIC FILTERS — Eight independent digital notch filters controlled automatically or parametrically from 20 Hz to 20 kHz, each switchable between FBX fixed filters, FBX dynamic filters, shelving filters, and parametric filters. High and low shelf filters: user-controllable cutoff points between 20 Hz and 20 kHz, and 6 or 12 dB/octave rolloff. parametric filter depth: user-controllable in 3 dB steps from 0 dB to -84 dB (parametric mode), 3 dB steps from 0 dB to -40 dB (FBX mode), maximum automatic depth adjustable from -4 to -84 dB. Filter width: user-controllable from 1.00 octave to .01 octave (parametric), 1.0 to .02 oct. (FBX); constant Q (filter skirts do not widen as filters get deeper). Resolution: 1 Hz from 20 Hz to 20 kHz in FBX and parametric mode. Time required to find and eliminate feedback: user-controllable from 0.1 seconds to 5 seconds (typically 0.3 seconds). Total number of combined filters active: user selectable, 0-8 per output and 0-8 per input. Filters controllable via table or graphic interface. The unit shall be the Sabine NAV360 Navigator System Processor.

(SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE)

**Below approximately 200 Hz the feedback filters become slightly wider to increase the feedback and rumble capture speed at these low frequencies.*

***ND Series Receivers Only*

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