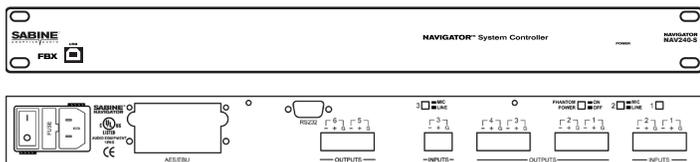# NAV360-S
Specifications

The Sabine Navigator NAV360-S is a 3 x 6 input/output configuration system processor. The NAV360-S 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.

Blank Front Panel: For maximum security. Navigator blank front panel versions include Sabine's new Automatic Mic Mixing function, with independent control of mic priority, attack, release, threshold, and gain on each channel. Combined with the FBX Feedback Exterminator the Navigator will provide more gain before feedback than conventional automatic mic mixers.

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 Blank
Blank front panel for maximum security

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

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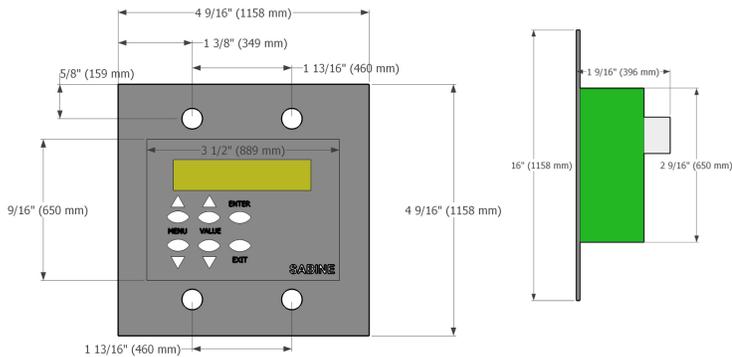
Notes:
Below approximately 200 Hz the feedback filters become slightly wider to increase the feedback and rumble capture speed at these low frequencies. Tests performed using an Audio Precision System One model 322 or equal.

NAV360-S
Specifications continued

NAVRC-100 Wall-Mounted Remote Control PanelNAVRC-100

4 9/16" (1158 mm)
1 3/8" (349 mm)
5/8" (159 mm)
1 13/16" (460 mm)
3 1/2" (889 mm)
ENTER
MENU VALUE
EXIT
SABINE
9/16" (650 mm)
4 9/16" (1158 mm)
1 13/16" (460 mm)
1 9/16" (396 mm)
16" (1158 mm)
2 9/16" (650 mm)

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-S-ER: Ethernet, Remote Control Ready
NAV360-S-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 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-S 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 a blank front panel for maximum security. The unit shall be provided with a front panel USB connector and a back panel RS232. The back panel will have Multi-Pin Phoenix 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-S 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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