

NAVIGATOR NAV240 System Processor

The loudspeaker controller/matrix mixer/parametric equalizer/automatic feedback controller/compressor/limiter/delay/crossover/signal router shall be a two input / four 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 NAV240 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 multi-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 filters⁴. High and low shelf filters: user-controllable cutoff points between 20 Hz and 20 kHz, and 6 or 12 dB/octave roll-off. parametric filter depth: user-controllable in 1 dB steps from +15 dB to -30 dB (parametric mode), 3 dB steps from 0 dB to -40 dB (FBX mode), maximum automatic depth adjustable from -6 to -40 dB. Filter width: user-controllable from 2.50 octave to .02 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.

CROSSOVER: Two filters per output; Bessel, Linkwitz-Reilly, or Butterworth filters; 12, 24, 36, 48 dB/octave slopes.

Multiple presets and graphic editing.

COMPRESSOR/LIMITER — Threshold: +20dBu to -20dBu in 0.5 dB steps (independently adjustable for compressor & limiter). Ratio: 1:1 through infinity. Knee: soft to hard, in 40 steps. Attack: 0.3 to 99 mSec in 1 mSec steps⁴. Release: .05 to 100 msec. in .05 sec steps. Peak limits: -20 dBu to 32 dBu in .05 dB steps.

DIGITAL DELAY — 1.47 mSec to 650 mSec in 20 microsecond steps. Edit in milliseconds, feet, or meters.

MIXER/ROUTER — All inputs patchable to all outputs; mixer with levels levels for all inputs/outputs

PASSWORD CONFIGURATION — 4 levels

SAVE & RECALL CONFIGURATIONS — 30 user defined, 1 factory default, 1 most recent front panel configuration (power down save).

INPUT/OUTPUT — Input impedance: balanced 10K Ohms, PIN 2 high. Output impedance: balanced 50 Ohms nominal, PIN 2 high. Input/output maximum signal levels: balanced +20 dBu peak. Output load: 600 Ohms balanced. Bypass: true power-off bypass.

PERFORMANCE — Frequency response: 20 Hz to 20 kHz, 0.1 dB @+20 dBu. Dynamic range: >115 dB. Digital resolution: 24-bit, 48 KHz.

POWER — 50/60 Hz; 120V or 230V; 18W.

DIMENSIONS — 1-U rack mount; 19" x 1.75" x 8" (483 x 44 x 203 mm); Weight: 13.2 lb. (6 kg).

The unit shall be the Sabine NAV240 Navigator System Processor.

Options: NAV240-R: Ready for connection via CAT-5 cable to NAVRC100 Wall-mounted Remote Control; NAV240-M: Includes Mic Preamp; NAV240-MR: Includes Mic Preamp and Remote Control Ready.