



SEVEN WOODS AUDIO, Inc.
Concepts, Products, and Circuits for Audio • Analog / Digital

**Ursa Major Space Station SST-206
 Algorithm Comparison, Revision 2 vs Revision 3
 Christopher Moore**

Introduction

This document describes additional features available in software revision 3. Revision 3 is just going into production units in late February.

Summary

In Software Revision 3, Seven Woods Audio has added new "+" (plus) versions of the original Space Station algorithms. These retain the intent and basic character of the original product, but improve upon them by taking advantage of a new algorithm invention and the full bandwidth and signal resolution inherent in the Motorola DSP chip.

The new "invention" is an algorithmic modification that at last gives Space Station users the ability to vary the level of the audition delay taps while retaining a constant mid to late reverberant tail. This answers the plaintive query of old, "Yes, but can't I have the reverberation without the reflections?" Now you can, and the difference is dramatic!

Details

Attribute	(SST-282) SST- reverb	SST+ reverb
Audition tap bandwidth	20-7kHz	20-22kHz
Modulation	62.5uS steps	20.8uS steps (reduced modulation noise))
Early reflection level control	None: early reflections are always present (audition delay taps)	Adjustable from fully off to fully on. When off, the sound field is more distant, less coherent.
Converter resolution	11 bit instantaneous floating point for 84dB dynamic range	24 bit linear PCM, for wide dynamic range.

Table 1 Comparison of original and plus versions of SST reverb mode

Attribute	(SST-282) SST- echo	SST+ echo
Echo bandwidth	20-7kHz	20-22kHz
Echo delay time (max)l	256ms	670ms
Decay time (max)	About 10s.	Indefinitely long
Converter resolution	11 bit instantaneous floating point for 84dB dynamic range	24 bit linear PCM, for wide dynamic range.

Table 2 Comparison of original and plus versions of SST echo mode

The two new programs can be accessed by turning the Program control clockwise until the LED beside the SST - reverb or the SST - echo text is flashing. In the SST + Reverb program, The Early Reflection level is controlled by the echo delay / predelay control, with ER's off at full CCW and on at full CW.

Revision history:

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Author's notes

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