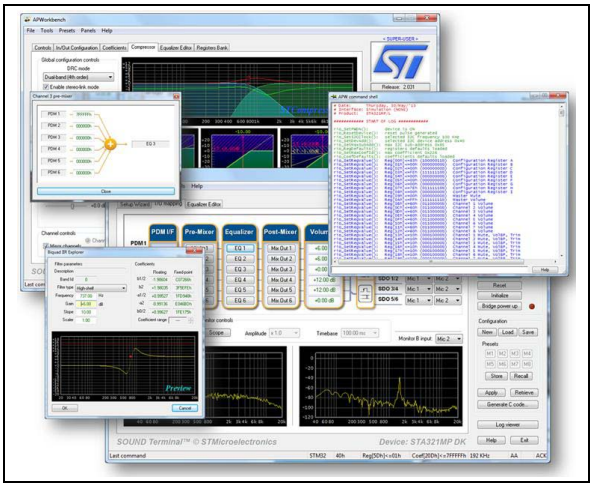
APWorkbench

Integrated development suite for Sound Terminal® amplifiers, digital audio processors and MEMS microphones

Data brief



Features

- Comprehensive audio development suite based on proprietary technology from STMicroelectronics
- Integrated Launch-Wizard with sub-family and product selector
- Intuitive and user-friendly multi-tab interface with grouped device controls
- Virtual scopes and FFT analyzer for real-time visualization of acquired signals (MEMS microphone kit required)
- Specialized graphical controls to intuitively configure complex audio IPs:
  - Crossover filtering computation
  - Multi-band DRC / Limiters
  - Automated speaker compensation
- Full access to the I^2C register map of the selected product
- Point-and-click programmable equalizer offering various types of filters:
  - Peak, low/high-pass, low/high-shelf, notch, all-pass, band-pass
- Convenient preset memories to quickly store/recall user configurations
- Logger window exposing all I/O transactions (I^2C operations) and RAM operations, for both registers and coefficients
- Scripting language to instruct configuration commands from either the integrated console or archived text files
- Seamless connection with the device under test (DUT) via proprietary USB interfaces:
  - APWLink (STEVAL-CCA035V1)
  - STAudioHub (STEVAL-MKI138V1)

Applications

- TVs
- Home entertainment systems
- Docking stations
- Smartphones
- Tablets
- Portable devices
- Audio accessories

Description

The APWorkbench software suite provides a comprehensive environment for the customer to explore, evaluate and configure devices within ST's product portfolio for audio applications, including stereo and multi-channel amplifiers, DSP and digital MEMS microphones. The tool represents a unique solution enabling the user to conveniently evaluate, configure and tune advanced audio IPs embedded in ST's Sound Terminal® products. Custom controls and a user-friendly graphical interface expose the complexity of today's audio devices in a simple and intuitive manner, guiding the novice through the basic configuration steps and providing acoustic expertise to tune the devices for optimal performance.

The Sound Terminal® demonstration boards can be thoroughly controlled by APWorkbench through a USB-connected interface (APWLink, STEVAL-CCA035V1).

Digital MEMS microphones can be evaluated using a specific demonstration kit, based on the STA321MP microphone processor (STSmartVoice demonstration board, STEVAL-MKI126V1 or STEVAL-MKI126V3), and connected to the PC via a USB interface (STAudioHub interface, STEVAL-MKI138V1). The STSmartVoice kit is digitally controlled by APWorkbench and the sound recorded from the microphones can be analyzed and visually represented by means of real-time virtual instrumentation (oscilloscopes, spectrum analyzers, etc.). Up to six digitally connected microphones can be processed. This comprehensive microphone kit, enhanced by the APWorkbench suite, represents a unique solution on the market and enables a digital MEMS microphone offering for the mass market.

Table 1. Ordering codes for demonstration kits

Product portfolio	Demonstration board	USB interface board
Sound Terminal® amplifiers	Product demonstration boards: Refer to www.st.com/soundterminal for more information	APWLink interface: STEVAL-CCA035V1
Digital MEMS microphones	STSmartVoice boards: STEVAL-MKI126V1 (based on the MP45DT02) STEVAL-MKI126V3 (based on the MP34DT01) Optional MEMS microphone coupon boards: STEVAL-MKI129V1 (based on the MP45DT02) STEVAL-MKI129V2 (based on the MP34DB01) STEVAL-MKI129V3 (based on the MP34DT01)	STAudioHub interface: STEVAL-MKI138V1

Note: Demonstration kits are also available through electronic components distributors.

1 Revision history

Table 2. Document revision history

Date	Revision	Changes
14-Jun-2013	1	Initial release.
27-Aug-2013	2	Modified note on page 2.