Bluetooth Duo
Bluetooth interface option for APx analyzers

FIRMWARE

- Bluetooth core v. 4.2
- A2DP Source/Sink v. 1.3
- AVRCP Target/Controller v. 1.4
- HFP Hands Free/Audio Gateway v. 1.7
- HSP Headset/Audio Gateway v. 1.2

AUDIO CODECS

- CVSD
- mSBC
- SBC
- Qualcomm aptX
- Qualcomm aptX Low Latency
- Qualcomm aptX HD
- AAC

APPLICATIONS

- Automotive
- Smart phones
- Headphone/headset
- Speakers

HIGHLIGHTS

- Fast connection time
- Expanded audio codec support
- Filtered discovery scanning
- Field-upgradeable firmware

The Audio Precision Bluetooth Duo option is a completely revised, upgraded *Bluetooth*™ hardware module, with dedicated source and sink radios, new Bluetooth chips and the latest firmware, higher RF power, and improved RF shielding. Supported by Audio Precision's APx500 measurement software (version 4.5 and later), Bluetooth Duo offers a range of new audio codecs, new operational features in the supported profiles, and faster connection times. The option can be installed into any APx modular analyzer manufactured later than mid-2012.

As an APx module, Bluetooth Duo is part of an all-in-one solution, integrated into the analyzer and leveraging the power and flexibility of the APx system. Bluetooth Duo can share the analog, digital, chip-level I²S and TDM protocols, PDM, or HDMI input/output capabilities installed in the analyzer. Intuitive and powerful, the APx500 software provides access to a long list of audio measurements and Bluetooth settings and parameters. APx creates logs of sent and received commands and interactions, and can easily automate Bluetooth I/O, connection, pairing, and settings commands in a stepped sequence for production work. When new Bluetooth features and improvements are made available, Bluetooth firmware upgrades can be distributed and installed in the field.
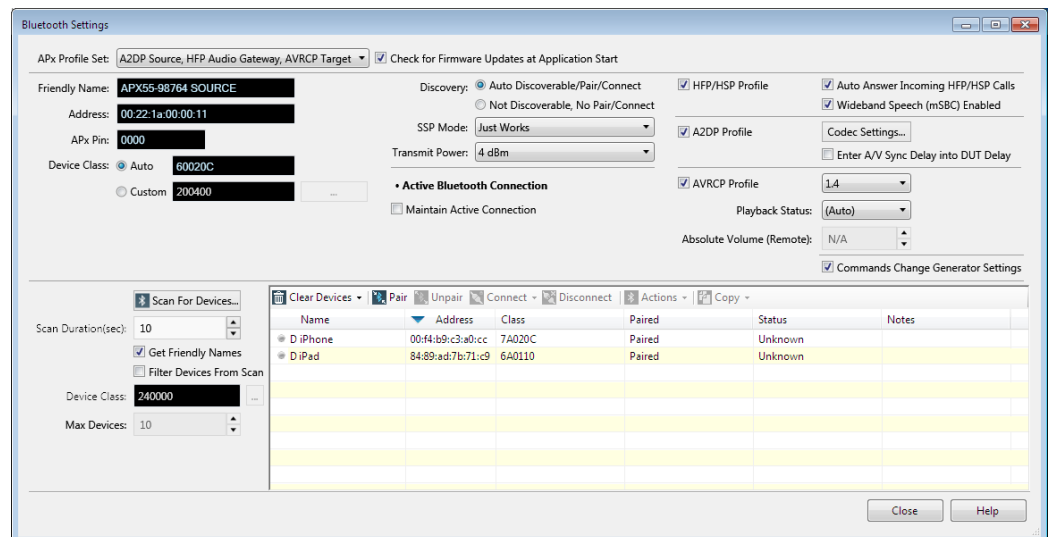
Typical APx500 Bluetooth Settings dialog

AUDIO PRECISION BLUETOOTH DUO OPTION
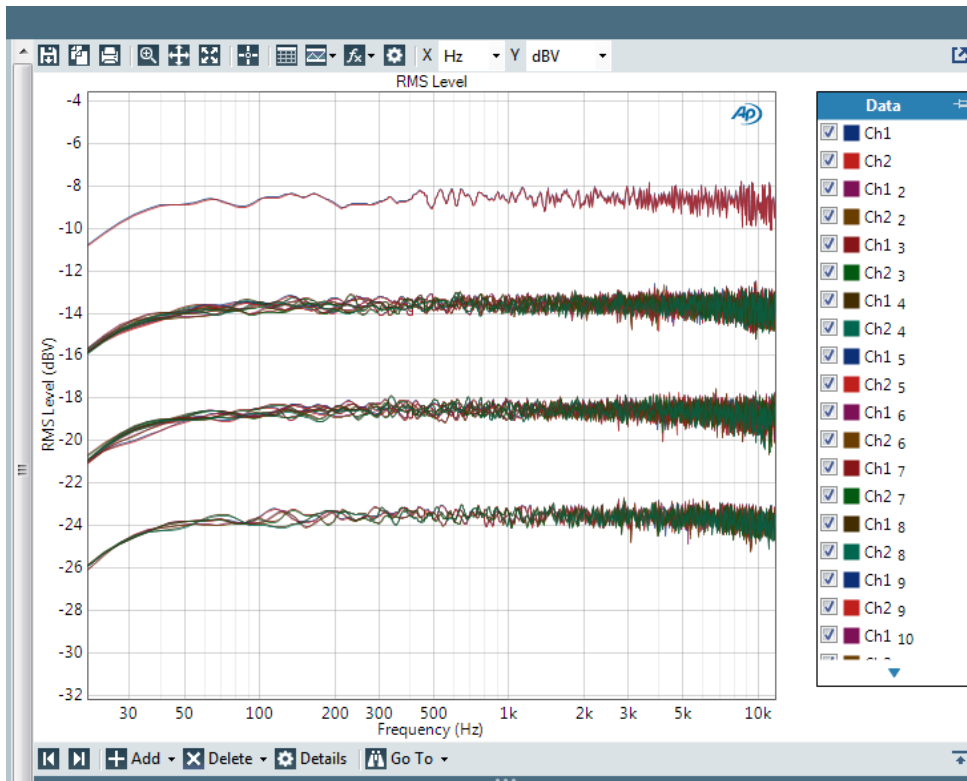
All appropriate APx audio measurements and techniques are available when using the Bluetooth option as an input or output. This graph shows a nested sweep, where multiple frequency sweeps have been made at four different Bluetooth AVRCP Absolute Volume settings.

The Bluetooth Monitor displays a number of status fields, and provides access to the AVRCP log and the AT command log.

WARRANTY

Audio Precision is proud to offer a limited three year warranty on its new products. Any instrument covered under a valid Audio Precision new product warranty—where the damage is not caused by owner misuse or abuse—is repaired free of charge. If the repair is made within a year of purchase, the unit will also receive an Accredited Calibration.

SUPPORTED PROFILES

- **HFP, Hands Free Profile** in source (Audio Gateway) or sink (Hands Free).
  Bi-directional audio using CVSD and mSBC (wideband speech) audio codecs.

- **HSP, Head Set Profile** in source (Audio Gateway) or sink (Headset).
  Bi-directional audio using CVSD and mSBC (wideband speech) audio codecs.

- **A2DP, Advanced Audio Distribution Profile** in source or sink.
  High-quality stereo audio using one of a selection of audio codecs.

- **AVRCP, Audio Video Remote Control Profile** in source (Target) or sink (Controller).
  AVRCP supports A2DP with transport controls, delay compensation and absolute volume settings.

SPECIFICATIONS

Bluetooth core version	v. 4.2
Profile versions	A2DP v. 1.3 AVRCP v. 1.4 HFP v. 1.7 HSP v. 1.2
A2DP audio codecs	SBC aptX aptX LL aptX HD AAC
HFP audio codecs	CVSD mSBC
RF connections	SMA (two)
RF input impedance	50 Ω
RF output impedance	50 Ω
RF power	Typical maximum +8 dBm
RF sensitivity	Typically ≤ −81 dBm

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If this data sheet is your first contact with us, please explore our website at ap.com. Audio Precision is the world leader in audio test, with over 30 years of providing scientists, engineers and manufacturers with the finest audio analysis instruments available. We make audio analyzers with unsurpassed analog performance and a wide array of connectivity, including AES3/SPDIF digital, chip-level I²S, TDM and other serial interfaces, a PDM interface, an HDMI interface, an ASIO interface, and of course, a Bluetooth interface. We also offer a number of solutions for acoustic test and measurement, including measurement microphones and accessories, and a headphone test fixture.