

# Release Note

## ABCL V01.13

<b>Firmware name:</b>	ABCL V01.13		
<b>Released:</b>	17th Oct 2013		
<b>Package name:</b>	abcl_kit_v0113_20131017		
<b>Version overview:</b>	<b>Type</b>	<b>File name</b>	<b>Version Date</b>
	Firmware	abclw.rom	V01.13_20131017
	WEB UI	abclapp.cob	V02.05_20130426
	FW Ext. 1	sg.bin	V10.01_20131008
	FW Ext. 2	fs.bin	V02.06_20110322
	FW Ext. 3	bclio.bin	V01.24_20130226
	Bootloader	unifull.spb	V99.26_20120223

## 1 Hardware Compatibility

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This firmware is intended to run on the following devices:

- Exstreamer 100, 105, 110, 120, 200, 205, 500, 1000, P5
- Annunicom 60, 100, 155, 200, 1000, PS1, PS16
- Instreamer 100
- IPAM 100, 101, 102, 200, 300

## 2 New Features

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The following new features have been introduced in ABCL V01.13 (since version 1.09):

- #47.60: added timestamp of the last audio write (audio status -21), to detect end of stream in LINK
- #48.32: added min and max packet jitter (audio status -22 and -23)
- #53.82: added MIC gain 12 to 21 dB into VLSI driver; use values -6 to -1 for mic gain
- #53.86: contact closures sent in RTP and handled by the firmware are now in sync with audio
- #61.54: implemented missing "line mono" option on VS1063 (IPAM102)
- WEB UI improved and updated to reflect new corporate identity
- enabled output mixer feature on IPAM 102 based devices in encoding and full-duplex

## 3 Bugs Fixed In This Version

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The following bugs have been fixed in ABCL V01.13 (since version 1.09):

- #47.94: fixed error interpreter loops for ever if codec bug happens
- #48.27: removed LASTLEN limitation of 16 bits signed for audio parameters -> expanded to 32 bits signed; issues with occasional negative buffer level resolved
- #48.33: resolved LINK issues if handles closed in "wrong" order
- #48.34: fixed error Ex110 HW 1.4 resets unexpectedly on boot-up
- #53.77: fixed error fast balance change mutes audio playback on IPAM102 in full-duplex
- #53.78: fixed broken G722 in decoding only mode
- #53.79: fixed broken G711 24kHz with AEC
- #53.80: fixed audio dropouts in G711 24kHz
- #53.81: "buffer underrun detection" for zero count on IPAM 102 reworked to be compatible with IPAM 100 in all possible corner cases
- #53.85: improved AEC attenuation to  $\geq 50$ dB
- #53.85: removed gain/volume impact on AEC performance
- #53.85: improved AEC convergence time

- #53.88, #66.24, #100.57: major improvement in recovery of lost packets in TCP streams
- #53.89: fixed broken G722 with AEC
- workaround for #53.91: audio sometimes muted on open
- #61.50: fixed 48k PCM stereo fdx audio corruption due to byte swap
- #66.18: DHCP not renewed after lease expired in certain environment (Cisco server) due to wrong DHCPREQUEST message
- #66.20: fixed error DHCP not renewing with certain routers due to wrong DHCPREQUEST message
- #66.25: fixed error DSCP field in IP header not set if LINK is used

## 4 Known Issues

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### 4.1 IPAM 101

- Sampling frequencies 44.1kHz, 22.05kHz and 11.025kHz not supported in encoding-only and full duplex modes
- Input peak level indication copies left → right if mono encoding is selected
- Mono line input settings (copy signal from left channel to the right channel) not supported in combination with stereo encoding
- Significantly higher minimum decoding latency

### 4.2 IPAM 102

- Sampling frequencies 44.1kHz, 22.05kHz and 11.025kHz supported in encoding only, but not in full duplex
- Input peak level indication copies left → right if mono encoding is selected
- MP3 encoder: CRC, copyright and original/copy setting not configurable
- encoding loopback (monitoring) volume not configurable
- encoding loopback 7dB weaker than IPAM 100
- 2dB output signal difference between IPAM 102 and IPAM 100 (IPAM102 weaker)

## 5 Major Modifications

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### 5.1 Complete New Look and feel to the WEB UI

To reflect the Barix new corporate identity a complete overhaul has been made of the ABCL WEB UI.

The frames and home page have a new structure. The WEB UI is split into the following tabs:

- **Home Page**  
Showing the runtime status of the application/device.
- **Configuration (Application page)**  
Allowing configuration of the currently running ABCL application.
- **Status**  
Showing the device status and the application status.
- **Defaults**  
Allowing to apply factory default configuration.
- **Update**  
Allowing to enter boot loader and update device firmware.
- **Reboot**  
Reboot the device with the option to select a different ABCL application.

The Annunicom Full-duplex application configuration has been simplified to the following options:

- **Basic Settings**  
Allowing the configuration of a simple use case, typically with two devices
- **Advanced Settings**  
Allowing the configuration of all the parameters except the routing tables

Within each of these 2 configuration groups, any parameters can be changed on multiple pages and applied once. This is an improvement over previous versions of the software which required parameters to be saved for every page.

## 5.2 New Documentation

The BCL Programmers Manual has been updated to reflect the new Barix corporate identity and the changes made for this release. [1]

## 5.3 New Audio Status Parameters

The audio interface (read audio status) returns 3 more parameters (in brackets indexes for read from audio handle):

- **Last packet timestamp (-21):** system time of the last data written into the audio handle. Can be used to detect stream time-out if LINK is used.
- **Minimum (-22) and maximum (-23) RTP jitter:** minimum and maximum jitter of the received audio stream aggregated over the last 4 seconds. The jitter is related to the absolute RTP stream clock.

See the BCL Programmers Manual [1] for more details.

## 5.4 New Range Of Mic Gain

On VLSI based hardware the Mic gain range was extended to more attenuation: the range 12 to 21 dB in 1.5dB steps has been added. The new gain values can be set by writing values -6 (12dB) to -1 (20.5dB) into the mic gain (audio parameter -1).

See the BCL Programmers Manual [1] for more details.

## 5.5 RTP Contact Closures In Sync With Audio

Contact closures received via RTP and decoded by the firmware (controlled via audio parameter **I/O receive mask**) are now synchronised with the audio stream.

## 5.6 Line Mono Selection on VS1063

The missing **analog input mode** “left channel only” setting on VS1063 based hardware (IPAM 102) has been implemented.

## 5.7 Mixer on VS1063

The audio mixer functionality on VS1063 based devices (IPAM 102, IPAM 302) has been extended to work also in encoding-only and full-duplex modes.

## 6 References

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	Document
[1]	BCL Programmers manual 1.18
[2]	ABCL Technical Documentation

## 7 Legal Information

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