



Technical Note

iSYSTEM BlueBox comparison

May 2023



This Technical Note compares iSYSTEM BlueBox hardware: [iC5700 vs iC5000 BlueBox](#) and [BlueBox vs Continuous Integration \(CI\) BlueBox](#).

Why Active Probes?

- ✓ Higher debug performance
- ✓ Higher trace performance
- ✓ Compact size allows connecting to a target ECU in a confined space
- ✓ Positioned as far as 10 m away from the BlueBox

If you are in need of an embedded software development platform that does much more, than just debugging, then our family of BlueBox Debug and Trace tools is the hardware you are looking for. Fully integrated into our winIDEA IDE, these hardware tools provide the link between your chosen microcontroller platform's on-chip debug implementation and your development PC.

iC5700 vs iC5000 BlueBox

Both devices support debug features that enable the programming of on and off-chip flash memories, execution of code and analysis of the status of variables, program state and RTOS tasks; advanced program and data trace features coupled with analog and digital signal capture.

	iC5700	iC5000
PC interface	USB 3.0 Ethernet	USB 2.0 Ethernet
Trace support	Nexus, ETM, HSSTP, AGBT, Aurora	Nexus, ETM
Trace buffer size	1 GB	256 MB
Trace bandwidth	up to 250 MHz in parallel mode up to 5 Gbps in serial mode*	up to 216 MHz in parallel mode
Debug frequency	up to 160 MHz*	up to 50 MHz
Active Probes	✓	✗
HIL extension modules	✓	✗
Network trace	✓	✗
Performance**	Read access to RAM (kB/s)	up to 2300* up to 130
	Write access to RAM (kB/s)	up to 2650* up to 110
	Steps / sec	up to 160* up to 80
Synchronous debug of multiple SoCs	✓	✗
Synchronous trace of multiple SoCs and analog/digital signals and networks	✓	✗
Networks/buses	SPI, CAN, CAN FD, LIN	✗
Control of analog/digital signals and networks	✓	✗
Galvanic isolation	✓	✗
DAP over CAN Physical Layer (DXCPL)	✓	✗
Supported processor architectures	Infineon AURIX NXP/ST Power Architecture Renesas RH850 ARM Cortex RISC-V others	Infineon AURIX NXP/ST Power Architecture Renesas RH850 ARM Cortex RISC-V others

* via Active Probe

** measured on Infineon TriBoard TC399 V2.0.

BlueBox CI vs BlueBox

iSYSTEM has a long-standing experience in implementing automated software testing and using [Continuous Integration \(CI\)](#) in their own labs. The BlueBoxes iC5000/iC5700 CI were designed to be implemented in CI test racks with multiple hardware setups and therefore became a natural part of the CI infrastructure.

The CI BlueBox functionalities are accessed over the open and public API [isystem.connect and its corresponding Software Development Kits \(SDK\)](#) and are licensed on a subscription basis.

Implementing BlueBoxes iC5000 CI / iC5700 CI gives globally distributed development and test teams shared access to hardware debugging capabilities within the CI setup. CI as a product is the combination of iSYSTEM BlueBox hardware, software and consulting services on how to set up the hardware and software of a CI infrastructure, unburdening the individual developer from complex hardware setups on their individual desk.

Comparison in addition to the table above:

	BlueBox CI	BlueBox
Business Model	Subscription	Perpetual or Subscription
System price	*	***
Debug & Test functionalities via winIDEA GUI	✗	✓
Debug & Test functionalities via SDK APIs	✓	✓



For more information refer to sales@isystem.com.