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### What is "[Embedded - Microcontrollers](#)"?

"[Embedded - Microcontrollers](#)" refer to small, integrated circuits designed to perform specific tasks within larger systems. These microcontrollers are essentially compact computers on a single chip, containing a processor core, memory, and programmable input/output peripherals. They are called "embedded" because they are embedded within electronic devices to control various functions, rather than serving as standalone computers. Microcontrollers are crucial in modern electronics, providing the intelligence and control needed for a wide range of applications.

### Applications of "[Embedded - Microcontrollers](#)"

#### Details

Product Status	Obsolete
Core Processor	ST7
Core Size	8-Bit
Speed	16MHz
Connectivity	SCI, SPI
Peripherals	LVD, POR, PWM, WDT
Number of I/O	32
Program Memory Size	16KB (16K x 8)
Program Memory Type	FLASH
EEPROM Size	256 x 8
RAM Size	512 x 8
Voltage - Supply (Vcc/Vdd)	3.2V ~ 5.5V
Data Converters	A/D 6x8b
Oscillator Type	Internal
Operating Temperature	-40°C ~ 85°C (TA)
Mounting Type	Through Hole
Package / Case	42-SDIP (0.600", 15.24mm)
Supplier Device Package	-
Purchase URL	<a href="https://www.e-xfl.com/product-detail/stmicroelectronics/st72c334j4b6">https://www.e-xfl.com/product-detail/stmicroelectronics/st72c334j4b6</a>



# INDART, STXF-INDART/USB ST7FLIT0-IND/USB, ST7C334-INDART

## In-circuit debugging and in-circuit programming tool for ST7

Data brief

### Features

- In-circuit debugging features:
  - Source level and symbolic debugging
  - Unlimited instruction breakpoints
  - Execution control including instruction stepping
  - Advanced breakpoints on data, access type, access range, stack...(depending on model)
  - Watch variables, registers and peripherals
- In-circuit programming features: Blank check/erase/read/verify for Flash EEPROM memory and option bytes

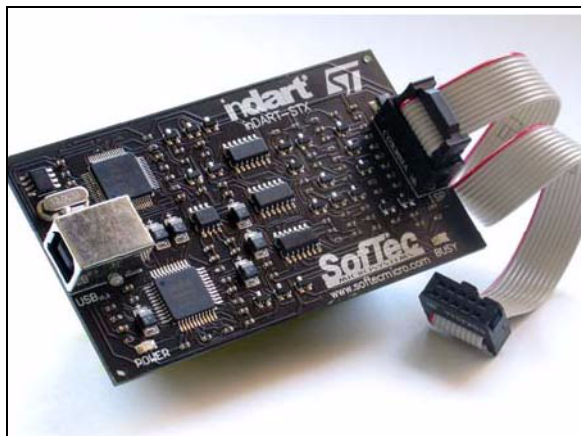
### Description

The inDART is a powerful, low-cost in-circuit debugging (ICD) and in-circuit programming (ICP) tool, developed for ST7 in partnership with Softec Microsystems™.

The inDART takes advantage of the ST7 Visual Develop (STVD7) integrated development environment and ST7 in-circuit communication (ICC) capability to deliver ICD and ICP for a wide range of ST7 Flash microcontrollers.

Hardware and software debugging features include real-time code execution, stepping and breakpoints.

The inDART offers parallel or USB connection to the host PC, depending on the model, and 10-pin ICC connection for connecting to evaluation or application board.



The inDART kit contains:

- inDART ICC interface board to connect the host PC to an evaluation or application board
- Evaluation board that includes an ST7 (except for the STXF-INDART)
- inDART edition of the STVD7 integrated development environment:

**Table 1. Device summary**

inDART order code	Microcontroller
STXF-INDART/USB	All ST7 Flash MCUs
ST7FLIT0-IND/USB	ST7FLITE0x
see <a href="http://www.smh-tech.com">www.smh-tech.com</a>	ST7FLITE2x
see <a href="http://www.smh-tech.com">www.smh-tech.com</a>	ST72F264
see <a href="http://www.smh-tech.com">www.smh-tech.com</a>	ST72F521
see <a href="http://www.smh-tech.com">www.smh-tech.com</a>	ST72C104 ST72C215 ST72C216 ST72C254
ST7C334-INDART	ST72C124 ST72C314 ST72C334
see <a href="http://www.smh-tech.com">www.smh-tech.com</a>	ST7FLITE0x
see <a href="http://www.smh-tech.com">www.smh-tech.com</a>	ST72F26x

## Ordering information

InDART starter kits can be ordered from Softec Microsystems™ or from your nearest ST distributor or sales office. Use the following table to determine which InDART MCU is best adapted to your requirements.

**Table 2. InDART details**

Microcontroller	Order code	Advanced breakpoints	Real time	Evaluation board (MCU)	Host PC connection
All ST7 Flash MCUs	STXF-INDART/USB	Yes <sup>(1)</sup>	Yes <sup>(2)</sup>		USB
ST7FLITE0x	ST7FLIT0-IND/USB	Yes <sup>(1)</sup>	Yes <sup>(2)</sup>	Yes (ST7FLite09 – DIP16)	USB
ST7FLITE2x	see <a href="http://www.smh-tech.com">www.smh-tech.com</a>	Yes <sup>(1)</sup>	Yes <sup>(2)</sup>	Yes (ST7FLite29 – DIP16)	USB
ST72F264	see <a href="http://www.smh-tech.com">www.smh-tech.com</a>	Yes <sup>(1)</sup>	Yes <sup>(2)</sup>	Yes (ST7F2649 – SDIP32)	USB
ST72F521	see <a href="http://www.smh-tech.com">www.smh-tech.com</a>	Yes <sup>(1)</sup>	Yes <sup>(2)</sup>	Yes (ST7F521 – TQFP64) <sup>(3)</sup>	USB
ST72C104 ST72C215 ST72C216 ST72C254	see <a href="http://www.smh-tech.com">www.smh-tech.com</a>		Yes	Yes (ST7C254 – SDIP32)	Parallel
ST72C124 ST72C314 ST72C334	ST7C334-INDART		Yes	Yes (ST7C334 – DIP56)	Parallel
ST7FLITE0x	see <a href="http://www.smh-tech.com">www.smh-tech.com</a>		Yes	Yes (ST7FLite09 – DIP16)	Parallel
ST72F26x	see <a href="http://www.smh-tech.com">www.smh-tech.com</a>		Yes	Yes (ST7F264 – SDIP32)	Parallel

1. Advanced breakpoints only for MCUs with on-chip debug module

2. Real time, with breakpoint limitation for MCUs without on chip debug modules

3. This evaluation board also supports ST72F32x

For more information and documentation, please refer to the Softec Microsystems™ web site or the STMicroelectronics microcontroller support site on [www.st.com](http://www.st.com).

## Revision history

**Table 3. Document revision history**

Date	Revision	Changes
01-Feb-2005	1	Initial release.
30-Mar-2009	2	Modified references to inDart-ST7 to InDART, in line with product family name.
30-May-2011	3	Modified <a href="#">Table 1: Device summary</a> and <a href="#">Table 2: InDART details</a> . Added INDART to root part number list.

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