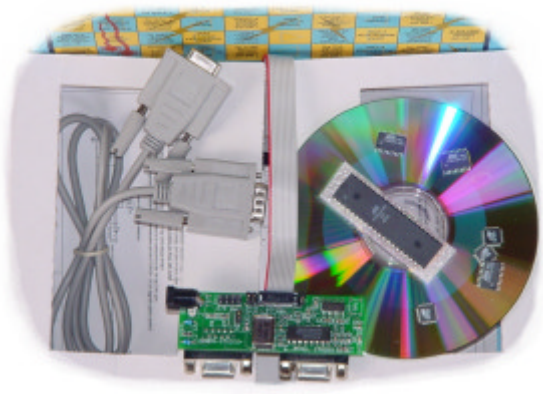
AVR UNI-ICE

Universal AVR ICE Programmer & Debugger

Overview of *AVR UNI-ICE*



The ***AVR UNI-ICE*** is the first Universal AVR JTAG ICE, In-System Programmer and In-System Debugger to be released to the market. Building on our rapid success in AVR tools, we now offer this unique product, which covers ALL AVR CPU's including those with JTAG On-Chip Debug. This product now incorporates the Flash JTAG ICE connection standard via a 10 way interface, as well as the established Flash STUDIO+ ISD debugging. STUDIO+ is the world's fastest windows based AVR Development Environment, 1000's of AVR users worldwide have chosen it for assembler or 'C' based project development. This product is universal; it works across all AVR CPU's. The low cost JTAG software upgrade option allows this product to be used with any AVR CPU containing JTAG On-Chip Debug, (ICE upgrade option must be enabled in Flash STUDIO+). Refer to the STUDIO+ datasheet for more details.

The ***AVR UNI-ICE*** features include:

- Supports RS232 ISP programming using ATMEL STUDIO
- Supports RS232 ISP programming using Imagecraft IDE or PONY PROG
- Supports RS232 ISD debugging using STUDIO+ supports ALL AVR CPU's
- Supports IEEE 1149.1 JTAG ICE debugging (requires JTAG ICE upgrade option) – supports all AVR CPU's with JTAG interface
- Simple Flash enhanced 10-way interface allows JTAG/ISP/ISD operation.
- Easy to upgrade via the same 10 way interface using any ISP programmer.
- True RS232 Max driver chip - ensures reliable operation at high Baud rates
- Auto Target Reset control for programming, debugging and JTAG ICE.
- Program and Debug ANY AVR CPU incl (L) versions
- Powered from your target (3.3-5v) or external DC connector 5v @ 100ma.
- Supplied complete: schematics, 10 way JTAG/ISP/ISD cable, PC RS232 cable, STUDIO+ (BASIC) licence and a FREE 30 day trial of STUDIO+ (Prof), assembler/'C' code examples, Free Flash Product Development Game.
- Best Value - Universal AVR Tool, up-gradable means it need never go out of date.

The Target Control Bar

If you are fed up having to buy a new ICE each time new AVR chips are released, this is the product you should buy. The simple 10 way JTAG/ISP/ISD interface (see next page) can be easily designed into your board giving you a low cost prototype and production programming/ICE debug capability.

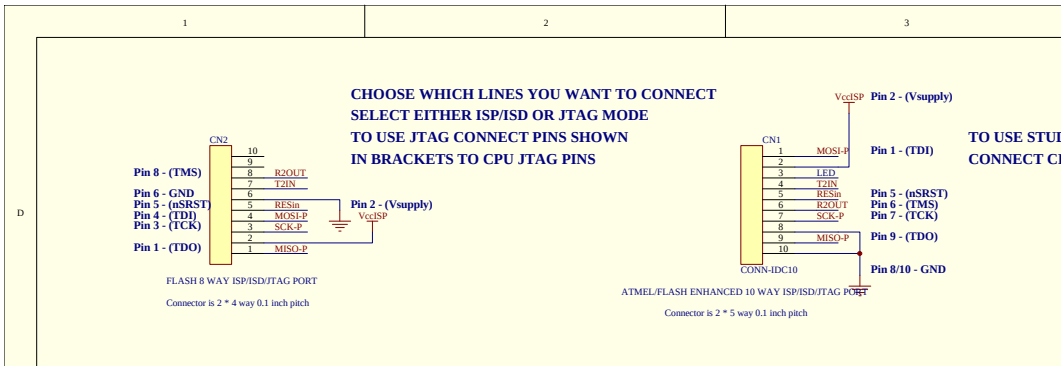
The low cost JTAG ICE upgrade option requires an ISP programmer or a second UNI-ICE to reprogram the UNI-ICE CPU with special JTAG ICE software; the upgrade includes emailing you a STUDIO+ "JTAG ICE" upgrade licence.

Order Code:

AVR UNI-ICE - Order from On-Line Catalog
JTAG-UPGR - JTAG/STUDIO+ Upgrade

You can place your order now via www.flash.co.uk on-line catalogue. Email us the red 14-digit code from your STUDIO+ licence box, we will email you back a licence release code.

Flash Enhanced 8/10 Way Connection Standard



Design-in the above connector into your board using a standard 0.1” pitch. To conserve board PCB area an 8 way connector can be used. If you wish to use the STUDIO+ ISD debugger, you have two options:

1. Use the CPU UART pins - CPU TX (to T2IN) and CPU RX (to R2OUT).
2. Use any two spare CPU pins and designate one as an output to (T2IN) and the other as an input to (R2OUT).

For ISP programming connect up the standard MOSI, MISO and SCK pins to the connector.

If you wish to use the JTAG On-Chip debugger then connect your AVR CPU JTAG pins to the pins shown in brackets. We suggest you design-in both JTAG and ISD (the ISD option requires only two CPU pins as opposed to 4 pins for JTAG). The T2IN pin is not used by JTAG, use a solder blob link for R2OUT/TMS.

If you wish to use all three modes; JTAG, ISP and ISD (recommended), then either design-in both the 8 way and 10 way connectors or use links on your board to switch between JTAG/ISD and ISP. Programming production boards using JTAG is not recommended.

UNI-ICE Specification

Power - 5v DC @ 150ma via DC connector or 3.3v – 5v DC @ 150ma via Target System

Ports - 8/10 way ISP/ISD & JTAG
2 * 9 way D Type RS232 Max Drivers

Baud - 115200

Upgrade - via ISP programmer or 2nd UNI-ICE connected to CN1 or CN2

JTAG - IEEE 1149.1 Compliant Interface