

iCRIS Imaging & Detection

iCRIS is an advanced image capture, feature detection and document validation system that interfaces directly with Contact Image Sensors (CIS).

iCRIS collects the images taken by the CIS (front and back where required) and analyses those images against the criteria and parameters defined in its configuration. Image analysis is carried out in 'real-time', with document transport speeds of over 5m per second being achieved with some models. Once the analysis is complete, iCRIS will then decide on the forwarding action e.g. passing unfit notes to a designated area for shredding, based on the configured instructions.

iCRIS can also provide system management and control functionality and interfaces with any existing host machine control systems as required.

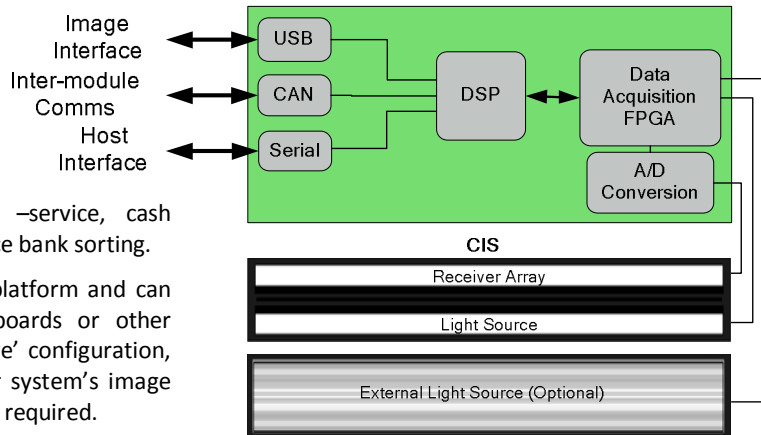
Already established as a reliable and mature banknote validator, this proven technology is ideal for use in a variety of document handling environments, including cash-in-transit, retail, teller-assist, self-service, cash processing centres, middle and back office bank sorting.

iCRIS provides a flexible and powerful platform and can easily be linked to additional iCRIS boards or other detectors on a CAN or 'Master and Slave' configuration, performing as much or as little of your system's image capture and data examination process as required.

The pre-set algorithms are fully customizable; allowing specific functionality to be achieved either using iCubed's consultancy and design services or alternatively, your own engineering staff can implement and manage their own configuration independently of iCubed through the unit's API.

The compact design of iCRIS (fits within the envelope of a 234mm CIS detector head) means easy physical installation, its fully componentized architecture makes changes easy to implement, with low risk to continuing operations.

The iCRIS system, ready to go with no costly in-house R&D required, can dramatically reduce your product's time to market or easily retro-fit into existing equipment to add industry leading functionality and increase processing speed, propelling your company's competitive advantage without the cap-ex investment of new equipment. The flexibility of the iCRIS system with its configurable algorithms and varied functionality means that its use is not restricted to a single task - its use is limited only by the client's requirements.



CASH PROCESSING MODEL FEATURES AND BENEFITS

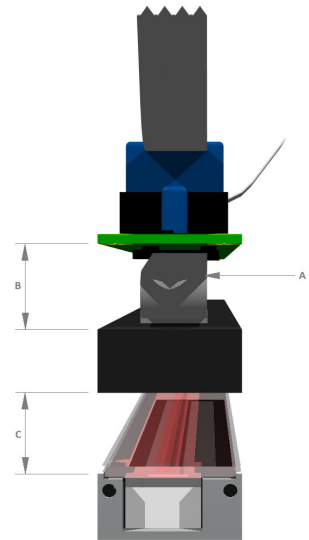
- Multiple Currency Support
- Currency and Cheque Support
- Full width scanning - front and rear (optional)
- Note currency, denomination and issue identification
- Skew and size measurement
- IR feature detection
- BRF compliant fitness measurement functionality
- (soil/hole/tear/missing corner)
- Is in deployment in ECB Fitness accredited equipment.
- Managed upgrades can be performed remotely
- Recommendations and advice on correct CIS Model are available

iCRIS can be configured to perform analysis on any currency that contains detectable features. Cheque reading is also possible.

TECHNICAL DATA

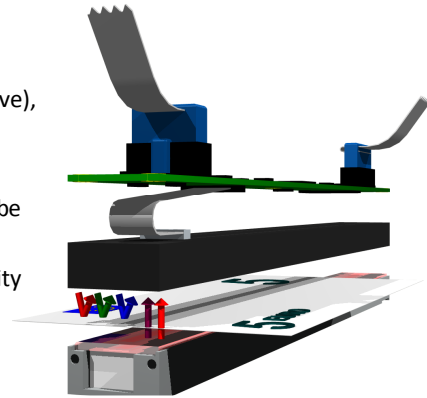
Weight:	Approx 200g
Document Size:	108mm x 234mm (either orientation)
Skew Tolerance:	Max \mp 20°
Power Supply:	12V +/- 2V. Power \leq 2.5W + (optional) external illumination
Dimensions:	Approx L 235mm x W 25mm x H 40mm including CIS

Diagram Key:
A = FFC Cable Length. Nominal 102mm. Maximum 152mm
B = Distance between iCRIS PCB and CIS. Nominal 6mm
C = Distance between CIS and Light Source (Document Path). Nominal 1mm. Maximum 2mm.

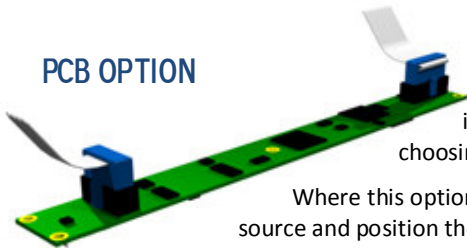


FUNCTIONALITY

- Up to 16 illumination drives (4 double reflective and 4 double transmissive), lighting single *or* a combination of LEDs to achieve different colours.
- Different resolutions configurable for each colour.
- Scanned images from CIS can be stored by iCRIS (memory upgrade may be required).
- Multiple iCRIS units may be used simultaneously to maximize functionality and processing speed.



PCB OPTION



iCRIS can be supplied as a PCB product, allowing you freedom in choosing where to position iCRIS in/on your equipment.

Where this option is chosen, you will also need to procure the appropriate CIS unit and light source and position these appropriately within your host machine, at suitable .

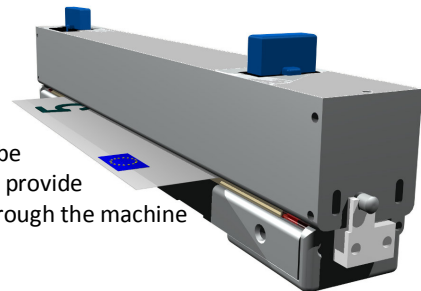
iCubed will provide advice on the most suitable location for mounting the iCRIS PCB and for the configuration of relevant areas of the host machine to ensure that iCRIS gives the best results possible.

OEM MODULE

The self-contained OEM module offers a complete detection system unit, including the additional equipment needed for the capture and analysis of images.

Comprising an iCRIS PCB, CIS and Light Source, the iCRIS OEM Module can be easily 'dropped' into the transport of your existing equipment. iCubed can provide advice on the use of guides, etc to ensure the smooth document transit through the machine and to gain the optimum performance of the iCRIS system.

Connectivity to the module is available via serial and USB ports.



FEATURE LIST AND DEVELOPMENT PATH

The iCRIS system is currently available in 2 models, their different functionality options (both current and planned) are as shown in the table below. Both models are available as PCB only or as an OEM module.

Feature	iCRIS 200 Series	iCRIS 500 Series
Document Identification	✓	✓
IR Feature Detection	✓	✓
Fitness Assessment	✓	✓
Image Streaming	✗	Roadmap
UV Pattern	Roadmap	Roadmap
Serial Number OCR	✗	Roadmap
Barcode Reading	Roadmap	Roadmap
OVI	✗	Roadmap
Check21 Capability	✗	Roadmap
Temperature Variation Image Correction	✗	✓
PCB Only Supply	✓	✓
OEM Module Supply	✓	✓
USB1 Data Link	✓	✓
USB2 Data Link	Roadmap	Roadmap
Serial Data Link	✓	✓
Camera Link Data Link	✗	Roadmap
Firewire Data Link	✗	Roadmap
Multiple Simultaneous Currency Processing	✓	✓
Network to other detectors	✓	✓
Long edge first (234mm)	✓	✓
Short edge first (108mm)	✓	✓
Transport Speed Short edge (108mm max) first	Max 3m/s	Max 6m/s
Transport Speed Long edge (234mm max) first	Max 2m/s	Max 4m/s

SOFTWARE LOADING AND UPDATES

iCubed has developed a hardware device – the iCRIS Programming Adaptor (iPA) to enable simple initial software loading to your iCRIS system and ongoing update or change installation.

An easy to use adaptor, the iPA enables you to transfer software from a local PC to iCRIS system (either PCB or module), with no requirement to remove iCRIS from its host machine, making both installation and updating a straightforward process.

The iPA is a pocket-sized device and is low cost, making it an ideal addition to a field service engineer's toolkit.

ARRANGE A DEMONSTRATION OF ICRIS

A full demonstration of iCRIS is available at our Fareham premises, please contact us on the details below to arrange one, or for any additional information.

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