



IQASI82
Dual ASI TS
monitor and switch





Ellawkeye IQASI82 Dual ASI Transport Stream monitor and switch





The Hawkeye IQASI82 has been designed for continuous monitoring and switching of two ASI transport streams in a broadcast environment. These can be completely separate streams, or related streams arranged in a main and redundant configuration. Each stream is independently monitored. Automatic operation is configurable by the user and switching between inputs is near-seamless.

Near-seamless switching

Near-seamless switching is a technique developed by dB Broadcast that minimises disruption to the output stream by maintaining TS synchronisation when switching between sources.

It quarantees

- True-seamless switching between co-timed identical streams.
- TS sync loss prevention when switching similar or radically different streams.
- TS sync loss prevention on cable-pull or other error with the main input, provided the reserve input is good.

When switching transport streams, the extent to which service disruption is reduced depends on the nature of the streams as well as the decoder employed. In general, the more closely related the input streams, the smoother is the switching operation.

Monitorina

Various critical levels within the Transport Stream are monitored and the user defines which of these affect alarms (available features depends upon module type).

The implemented measurements are fully compliant with the Digital Video Broadcasting (DVB) measurement guidelines ETSI TR 101 290. This standard is also commonly used when monitoring ATSC signals. The series supports 188 byte, 204 byte, packet, byte and hurst mode ASI

Local serial configuration

The IQASI82 series of modules is configured using the S080 Windows software for local 'standalone' setup, the RollCall Network Management System from SAM or the integral command-line interface. This includes selecting standard measurements, defining the external alarms, specifying elementary streams to be monitored and selecting the switching method.

- The S080 software or RollCall Network Management System provide a fully featured graphical interface.
- The command-line interface uses a straightforward protocol with full online help and provides an entry point for integration with existing software systems. The full protocol is available on request to enable speedy development of third-party drivers.

Connection is via standard RS232 through front and rear panel connectors, or via Ethernet.

2x2 switch modes

The input Transport Streams (1, 2) are routed to the main outputs (A, B) under the control of the integrated 2x2 TS switch. There are 4 switching modes, all configurable by the user.

- Main/Reserve In the event of an input failure, the good input is routed to both outputs.
- Preview Output B always takes the opposite input to A. Therefore in the event of an input failure, the inputs are routed so that the transmission output (A) will continue to receive a good signal, whilst the failed input is routed to output B. When both inputs are good, output B previews the standby input.
- Biased Switches the output away from a failed input to a good input, and back again when the preferred input comes good again. Various biasing options exist.
- Unbiased After a switch is made, the output stays on the new input indefinitely whilst it remains healthy. This minimises the number of switches.

The main outputs are designed to feed a broadcast chain. For this reason they are protected against power failure using a bypass relay. In the event of power failure, the module routes Input 1 to output A and input 2 to output B.

All variants also feature a pair of auxiliary ASI outputs to allow a decoder or secondary monitoring device to be attached. Such a device can be used to provide a visual confirmation of the input or output routing.

Control

There are several methods to control the integral 2x2 switch, including the front panel switches, the general purpose inputs/outputs (IO), one or both serial ports and

the integral controller. These modes have a fixed order of priority with 1 being the highest priority.

- Priority 1: local front panel switching.
- Priority 2: remote ext GPIO closing contacts.
- Priority 3: remote serial RollCall control or front/rear serial port switching. The front panel serial port is designed for on-site access, the rear port for fixed installations.
- Priority 4: auto The module's monitoring system. It can be enabled or disabled using the configuration commands.

RollCall control

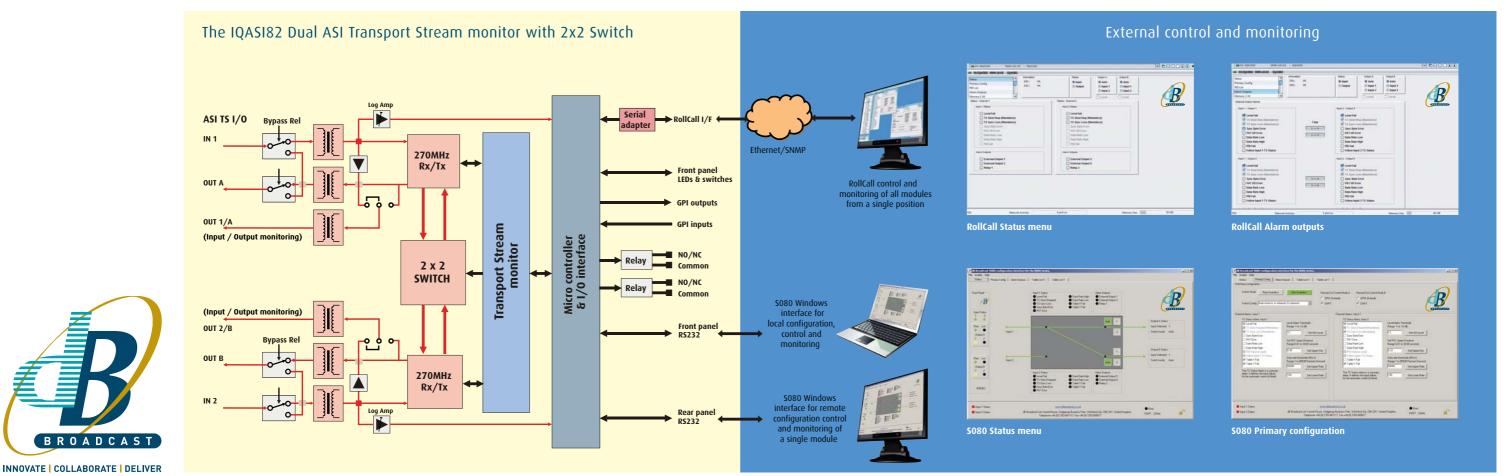
Multiple modules can be controlled and monitored from a single Ethernet port using the RollCall control and monitoring software from SAM. The RollCall system provides control and monitoring for the IQASI82 series plus the SAM product range with the additional capability of monitoring third party equipment via SNMP, serial or GPI interfaces.

Alarm

The module is fully configurable using dB Broadcast's S080 Windows configuration software, SAM RollCall system or the command-line interface, ensuring that alarms only activate under conditions specified by the user. For each transport stream there are 3 user configured alarms and others giving the status of the switch.

Frames

The IQASI82 series of modules can be housed in frames from dB Broadcast and the SAM. Both 1U (IQH1A) and 3U (IQH3B) chassis are available, with single or dual PSIIs.





The IQASI82 series modules are fully integrated into the SAM IQ Modular range enabling use with existing IQ Modular infrastructure, other products from the IQ Modular range and the RollCall Control and Monitoring system.

Technical specifications:

ASI inputs

Input connector: 2 off inputs (ASI IN 1 & 2) - BNC

ASI output

Output connectors: 2 off main outputs (ASI OUT A and B) – BNC 2 off auxiliary outputs (ASI OUT 1/A & 2/B) – BNC

(additional outputs or active loop through of input)

RS232

Connector: 9 Pin D type Rear connector: Screw terminal

External control output

Connector: 8 off – Screw terminals

Relay outputs

Connector: 2 off – Screw terminals

Physical

Dimensions: IQH1A Frame: IQH3B Frame: 2 slots of a 3RU or 1RU frame 1RU, 4 slots, single or dual PSU 3RU, 16 slots, single or dual PSU

Environment

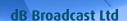
Operating temperature:

0 - 40°C

Graphical User Interface PC requirements:

Microsoft Internet Explorer 9

	IQASI82	IQASI85
		(other module in
Switching		IQASI80 series)
2x2 near-seamless switch	Yes	Yes
2x2 changeover non-seamless switch	Yes	Yes
Switch mode - Main/Reserve	Yes	Yes
Switch mode - Preview	Yes	Yes
Switch mode - Biased or unbiased	Yes	Yes
Switch mode - Auto on or off	Yes	Yes
Monitoring		
Level fail (set -1 to -12dB)	Yes	Yes
TS fail	Yes	Yes
TS sync loss (TR101290 1.1 TS sync loss)	Yes	Yes
Sync byte error (TR101290 1.2 sync byte error)	Yes	Yes
PAT upper distance error (partial TR101290 1.3 PAT error)	Yes	Yes
Set PAT upper distance	Yes	Yes
	Yes	
Data rate high (value set by user)		Yes
Data rate low (value set by user)	Yes	Yes
PID fail (up to 32 PIDs per channel)	Yes	.,
Table X fail (a summary alarm of 16 separate table segment detectors)		Yes
Up to 16 individual table segment detectors*		Yes
Control		
	Yes	Yes
Front panel		Yes
GPI's for control/monitoring	Yes	
Serial RS232 - front panel 9 Pin D type	Yes	Yes
Serial RS232 - rear 3 pin connector	Yes	Yes
RollCall control and monitoring from SAM - rear RJ45 Ethernet on gateway controller card	Yes	Yes
Alarm outputs (via general purpose inputs/outputs)		
Alarms 1 & 2. TS input 1 monitoring (user configurable)	Yes	Yes
Alarm 3. Output A is in local or remote mode	Yes	Yes
Alarm 4. Output A is routed with input 1 or 2	Yes	Yes
Alarms 5 & 6. TS input 2 monitoring (user configurable)	Yes	Yes
Alarm 6. TS input 2 monitoring (user configurable)	Yes	Yes
Alarm 7. Output B is in local or remote mode	Yes	Yes
Alarm 8. Output B is routed with input 1 or 2	Yes	Yes
Aldilli 8. Output B is fouted with hiput 1 of 2	162	162
In addition to the above open-collector Darlington outputs there are:		
Relay 1. TS input 1 monitoring (user configurable)	Yes	Yes
Relay 2. TS input 2 monitoring (user configurable)	Yes	Yes
$\ensuremath{^{*}}$ the user specifies the PID, table id, table id extension, section number range $\ensuremath{^{\circ}}$ version		



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