

ANQ503 Data Interface Module

- The ANQ503 is a Questek Data Interface Module (DIM) with 32 preconfigured inputs.
- This module is preconfigured for 8 separate rooms with 4 inputs used in each room. The rooms have a bedside call/assist/cancel station (2 inputs), an ensuite call/assist/cancel station (2 inputs) and either a single or dual LED or Light Globe type corridor indicator. This provides for simple, efficient field installation and commissioning of rooms using these stations.
- It is designed to connect specific Questek call stations ACQ132/ACQ032 and corridor indicator lights ALX040/ALQ010, ALX402/ALQ102 to the Questek DIM Network and then on into the Questek Central Equipment. 1 or 2 light corridor indicators are selected by link for each room.
- All inputs are via RJ connectors for easy module change and can be connected with the power on.
- For each of the 8 rooms, there is one RJ socket for bedside station, one RJ socket for ensuite station and one RJ socket for the corridor indicator. One ACQ132 station can be connected to the bed RJ socket and an ACQ032 can be connected to the ensuite RJ socket. The ensuite call station can have a wet area slave connected to it.
- One or two globe or LED corridor indicator lights selected by link for each room. The colour and steady/flash patterns of overdoor lights for the calls are preconfigured for ALX402 and ALX040.
- Modules can include *lifeboat mode* that generates local ding sound if DIM network data fails.
- There can be up to 127 standard 16 input DIMs in the Questek DIM Network. This DIM has 32 inputs so there can only be a maximum of 63 of these DIMs. Both 16 and 32 input DIMs can be mixed in any combination. ANQ503 DIMs have two addresses.
- The primary DIM address 1 to 126 is set in binary on 7-address switch.
- The secondary address is the address numerically following the primary address
- There is a Heartbeat (HB) indicator LED that pulses regularly to indicate that the processor is operating properly.
- There is a Transmit (TX) indicator LED which blinks each time this DIM responds
- An optional Vigil Heartbeat function is built in.
- Manufactured to comply with the Australian Standard AS3811.



OPERATION:

- The module's primary address is set on the DIP switches. The secondary address is the next address. 127 cannot be used as a primary address as there can be no secondary address.
- When the Questek Central Equipment addresses the network each module checks the address and the module whose address matches, answers. The ANQ503 acts like two DIMs responding with the first 16 inputs to the primary address and the second 16 inputs to the secondary address. There must be no other DIM using the secondary address.
- The Data LED on the DIM blinks to indicate that this module is answering.

SPECIFICATION:

- Size: 221mm long x 145mm wide x 76mm deep. ABS plastic enclosure in dark grey colour.
- Connection: 2 x 5 pin 5mm spacing pluggable screw terminals for DIM Network (Dinkle).
 2 x 2 way heavy-duty screw terminal for 12-volt power connection.
 24 x 6 pin RJ connectors for call stations and corridor indicators.
 1 x 6 pin RJ (TEST JACK) for connection to the Questek Vigil Data Test Unit.
 Corridor indicators can be link selected to 1 or 2 LED or Globe type (Link "1" or "2")

ELECTRONICS:

CMOS Technology with static discharge protection on all inputs and outputs.

Operating Voltage: 12 VDC
 Maximum Voltage: 15 VDC
 Standing Current: 20mA
 Active Current: 7mA per active input
 Input impedance: 10K ohms
 Output transistor: open collector with 100-ohm series protection resistor.
 Address range: 1 to 126 Decimal, 01 to 7E Hex (Secondary address is +1)
 Data rate: 4800 Baud
 Data: 8 bit + Even Parity
 Data Format: UART standard serial
 Microcontroller: MC68HC908AB32
 Frequency Standard: 7.3728Mhz Crystal

ADDRESSING:

This is set in binary on the first 7 DIP switches.

address switch open = bit selected and switch "ON" = bit not selected (or zero)

The Printed Circuit board is clearly labelled with the switch values in decimal.

SWITCH	OFF VALUE DECIMAL	ON VALUE	EXAMPLE 45 (SWTCH)	EXAMPLE 45 (VALUE)
1	1	0	OFF	1
2	2	0	ON	0
3	4	0	OFF	4
4	8	0	OFF	8
5	16	0	ON	0
6	32	0	OFF	32
7	64	0	ON	0
			<u>TOTAL</u>	<u>45</u>

The message string is:

Room 1 | Room 2 | Room 3 | Room 4 | Room 5 | Room 6 | Room 7 | Room 8 |
 C,A,EC,EA|C,A,EC,EA|C,A,EC,EA|C,A,EC,EA|C,A,EC,EA|C,A,EC,EA|C,A,EC,EA|C,A,EC,EA|
 Where C=Bed Call, A=Bed Assist, EC=Ensuite Call, EA=Ensuite Assist

LIFEBOAT MODE:

ANQ503 monitors both the state of all 32 inputs and the interrogation by the central equipment. If there is an active input and no interrogation from the central equipment, ANQ503 operates a local Ding Sounder. This ding sounder dings 3 dings in sequence. This attracts staff who use the corridor indicators to locate the call. The period of absent interrogation before activating lifeboat mode can be set with DIP switch 8. On is 6 minutes until Lifeboat mode becomes active. Off is 10 seconds. The six-minute option is common for installations using a computer. This gives technicians time to reboot a computer before Lifeboat mode becomes active.

VIGIL HEARTBEAT:

In the past, project engineers have set aside an input on a DIM on a Vigil DIM network for a Heartbeat Module. The Heartbeat Module toggles an input every 7 minutes or so to let Vigil know that the DIM network is still operating. The ANQ503 has this option built in. The option is activated by placing a jumper over the link that is next to DIP switch 8. The input that will toggle is the 32nd input. This is input 16 of the secondary address.

CONNECTION:

DIM Network and power connection marked on the printed circuit board.

DNET (Address interrogation from central to DIMs) DRET (DIM Data returned from DIM to central)

Bed PIN	ACQ132 6 pin RJ	DIM Input	Ensuite ACQ032 6 pin RJ	DIM Input	Corridor Indicator 6 pin RJ
Pin 1	Not used		Not used		lower lamp ON
Pin 2	+12 VDC		+12VDC		+12 VDC Supply
Pin 3	Call	1	Ensuite Call	3	op or centre lamp ON
Pin 4	Assist	2	Ensuite Assist	4	top or centre lamp flash
Pin 5	V0		V0		V0
Pin 6	Not used		Not used		lower lamp flash

