

Alarm & Receiving Attention Unit



- 12 inputs - contact or voltage Buffered outputs
- RS-232/422/485 Serial Interface
- Receiving Attention facilities
- Flexible configuration
- Common Alarm outputs
- 1U case
- Mains and d.c. power options
- Redundant power facility

This unit provides flexible alarm handling facilities, with particular application in satellite earth stations.

The local front panel gives an indication of new alarms; these may be acknowledged using individual pushbuttons. A summary alarm indicator and optional sounder indicate unacknowledged alarms.

The unit incorporates a multi-standard interface port, through which alarm status may be obtained, and alarms may be remotely acknowledged. This may be configured for RS-232, RS-422 or 4-wire RS-485, and supports two industry-standard protocols.

The unit includes a number of configurable features. These may be set via the serial port, using a program which will run on most PCs. Alternatively options may be set via the front panel.

Selection Guide

DDA76-01	Rack Alarm unit with manual and mains lead. Two sets buffered alarm
DDA76-02	Rack Alarm unit with manual and mains lead. One set buffered alarm



Alarm & Receiving Attention Unit (cont.)

Specification	
Packaging	19" rack mount unit, 1U high. 360mm deep.
Power Supply	100-240V a.c. 50-60Hz. 20-60V d.c. floating input (Isolation 500V d.c. between d.c. power input and other low voltage circuitry)
Redundancy	Redundant power supplies achieved by cross-connecting two or three units, or by fitting an additional external power supply.
Inputs	12 inputs to accept volt-free contacts or d.c. voltage of either polarity. Wetting current 3mA nominal. In d.c. input mode inputs individually optoisolated (no common connection) - input voltage user configurable 4-6V, 10-30V or 40-60V d.c.
Outputs	Relay contacts for: a. Unaccepted alarm b. Accepted alarms c. Any alarm d. Each input; buffered indication of alarm state (two sets) All relay contacts rated 30V d.c. 0.5A.
Front Panel	Master 'Unaccepted Alarm' indicator (red) Alarm accept button for each input Alarm LED (red) for each input Receiving attention LED (yellow) for each input Lamp test button 'PSU OK' LED Sounder mute button with indicator
Sounder	Local audible warning when unaccepted alarms. May be disabled via front panel switch.
Serial port	Supports RS-232, RS-422, RS-485 4-wire with addressing. Protocol allows access to alarm and receiving attention status, and allows remote acceptance of alarms.
Configuration	The following may be configured, via the front panel or the remote interface: a. Input polarity b. Alarm latch option c. Input debounce time (to eliminate transients) d. Input masking (excludes from summaries)
Connectors	IEC mains inlet QM circular d.c. power connector 9-D socket - alarm input (12 off) 44-HD plug - buffered outputs (2 off) (option for one set outputs on two 25-way D-plug) 9-D plug - common alarm outputs 9-D socket - serial interface
Protocol	Supports the following protocols without reconfiguration: STX/ETX (as used by Scientific Atlanta, CPI) "Printable ASCII" (as used by STS, Miteq, CPI) Address set via rear panel DIP switch
Command Set	Commands/enquiries for: Alarm status Receiving Attention status Remote receiving attention Configuration
CE Marking	Designed to meet EN60950 (safety), EN550022 (EMC)

Alarm & Receiving Attention Unit (*cont.*)

- Compatible with BT RAM
- Solid state circuitry for reduced power consumption
- Flexible population options
- Low-cost RM&C interface - substantial wiring savings
- Ten channels
- Optoisolated input option
- Logic, voltage and contact alarm inputs
- 24-28V and 40-60V supply options

This unit is intended to provide shelf alarm facilities in telecommunications systems and other equipment rooms generating a substantial number of signals. The DDA48-01 configuration is functionally identical to the BT Goonhilly RAM; however use of proven semiconductor technology gives a number of advantages over pure relay logic. Modular construction gives the opportunity for cost savings where the full potential of the unit is not required, as well as tremendous flexibility in meeting special requirements.

Static power consumption is very low, determined largely by the number of relays which are energised.

Alarm Handling

Each input accepts a volt-free contact. As an option, an alternative optoisolated input can accept various d.c. voltages. The input polarity ("on" or "off" in alarm) is selected for each individual input via switches on the back panel.

Changes of input state are acknowledged using individual "receiving attention" switches on the front panel. Each channel has an "alarm" and a "receiving attention" indicator, and there is a common alarm indicator and a buzzer.

The alarm status of each input is available on repeater contact outputs - two or four sets per input on the standard units. Summary outputs give the alarm status and receiving attention status.

Remote Monitoring & Control Interface

A low-cost remote monitoring and control interface is available as an option. By simply daisy-chaining alarm units into a controller, alarm and receiving attention status are available to a host computer. This eliminates the need to wire individual status back to a monitoring unit.

The interface returns either the alarm status or the unacknowledged alarm status of all inputs, and optionally "receiving attention" status.

Eight alarm units may be connected onto a common cable if receiving attention information is required; sixteen units if only alarm status is needed. Compatible interface units provide general-purpose inputs and outputs for other purposes. A variety of controllers are available.

Alarm & Receiving Attention Unit (cont.)

Power

The unit is intended to run off the "station battery" - 24-28V d.c. nominal, positive earth. Compatible mains power supplies are available. An option allows operation from a 40-60V d.c. supply; this uses an efficient internal d.c. to d.c. converter to minimise energy wastage.

Inputs

Ten inputs on 37-way D-type plug. Pinout as BT RAM unit "normally open" signals. Each input expects a contact closure to earth. The contact wetting current is normally set to 3mA - other values possible with internal adjustment. Minimum current 500uA.

Some population options additionally have a 9-way socket for each input, allowing individual connection of alarm inputs. A variation on this option allows use of individually optoisolated inputs able to accept the following d.c. voltages:

- 4-6V
- 11-30V
- 45-60V

For special input requirements the DDA48 can be provided fitted with the DDS9405 multi-function input board. This can be configured to provide a number of facilities, including:

- Isolated volt-free contact input
- Logic level input
- Analog comparators
- Watchdog facilities

Individual Outputs

Two 37-way D-type plugs, each with one changeover contact per input, common alarm and receiving attention signals.

Some population options additionally have ten 9-way D-type plugs, each carrying two changeover contacts reflecting the alarm status of an input. (The design supports the addition of further pairs of outputs if required, subject to packaging constraints).

Configurable alarm summary outputs can be provided as an option. Ten 9-way D-type plugs are provided, each carrying two changeover contacts. Each active alarm may be configured to turn on any of the relays (up to four relays per alarm channel).

Common Outputs

9-way D-type plug, with one "alarm" changeover contact and two "receiving attention" changeover contacts.

Monitoring & Control

4-wire interface compatible with System 800. Electrically isolated from alarm circuitry. Returns alarm status, and optionally receiving attention status.

Alarm & Receiving Attention Unit (cont.)

EMC

The static design ensures that there will be no significant emissions. All inputs include filtering networks.

Standard Configurations

The minimum standard configuration is as follows:

- Inputs on 37-way D-type plug
- Two 37-way D-type plugs for output, each with one changeover contact per input and two common outputs.
- One 9-way D-type plug with common outputs.

Packaging

All units are standard 19" rack mount, 2U high, depth 260mm.

Selection Guide

Options are as follows:

- 1 - Alarm inputs on individual 9-pin D-plugs as well as on 37-way D-plug.
- 2 - Optoisolated inputs on individual 9-pin D-plugs (as well as contact inputs).
- 3 - Two additional sets of buffered output contacts per input, each on a 9-pin D-plug.
- 4 - Remote monitoring and control interface.

Option:	1	2	3	4	Preferred part
Part No	Inputs on 9-D	Opto inputs	O/P on 9-D	R M & C I/F	
DA48-01	Yes	No	Yes	No	Yes
DA48-02	No	No	Yes	No	
DA48-03	No	No	No	No	
DA48-05	Yes	Yes	No	No	
DA48-06	Yes	No	No	No	
DA48-07	Yes	Yes	Yes	No	
DA48-21	Yes	No	Yes	Yes	Yes
DA48-22	No	No	Yes	Yes	
DA48-23	No	No	No	Yes	
DA48-25	Yes	Yes	No	Yes	
DA48-26	Yes	No	No	Yes	
DA48-27	Yes	Yes	Yes	Yes	

The above table specifies the part numbers for units with a 24-28V d.c. power requirement. For 40-60V d.c. operation, add the suffix "H" to the part number (e.g. DDA48-21H).

Units can also be provided fitted with the DDS9405 multi-function input board, under part numbers DDA48-08-XXX and DDA48-28-XXX.