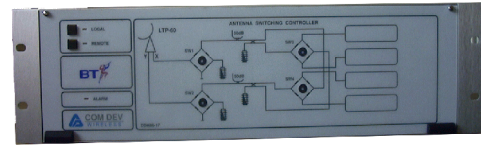


# DOUBLE D ELECTRONICS LTD

## DDA86 Modular Controller

- \* Modular Construction
- \* Waveguide Switch, Coaxial Switch Control
- \* LNA/LNB Power Supplies
- \* Data Circuit Switching
- \* Wide range of interfaces
- \* Automatic Changeover logic
- \* Remote monitoring & Control
- \* Local front panel



The DDA86 is a family of units and modules for small to medium sized controllers (including LNA/LNB controllers) and switching systems. A modular construction allows support for virtually any configuration, and non-standard features can be incorporated on request.

The main features are as follows:

### Construction

19" rack mount. All units are plug-in, allowing simple field maintenance. Most variations can be accommodated in 3U, with 6U required for the larger systems. Coaxial switching systems may incorporate the switches (and possibly other RF components) within the unit, in which case this also affects the size.

### Power Supplies

Universal input 90-240V a.c. 50-60Hz. Options for single and redundant power feeds.

### Coaxial Switch Control

Most standard coaxial switches can be accommodated. IF transfer switches (d.c. to 200MHz) are available in 50 $\Omega$  and 75 $\Omega$  versions. Coaxial transfer and multi-way switches operating at up to 18GHz (or 26GHz) are also available.

### Waveguide Switch Control

Up to three switches per module, using the same interface as the DDA70 family of controllers.

### HPA Interface

DDA70 compatible connections support three HPAs per module, each with three fault inputs and a mute output. Buffered alarm outputs can be provided.

### Data Circuit Switching

Switching modules allow selection of low-frequency signals, based round either 9-pin D-connectors (typically for serial interfaces) or the IEEE-488 interface. A typical application is the provision of a hot standby computer for RC&M systems. A further module provides electronic switching of RS-422 signals. Included in the range is a watchdog card which monitors pulses from the on-line computer, changing over after a timeout.

### LNA/LNB Power

A variety of options to power LNAs and LNBs. For simple systems a fixed 24V d.c. output is often adequate. Options provide for variable output voltage. Switched voltage units are available for dual band systems. For units with dual mains feed and other than 24V output, the local power generation circuitry may also be made redundant.

Up to six outputs can be provided; each from a separate circuit for best reliability. Each is on a separate rear panel connector, with its own self-resetting fuse. Where LNB power has to be fed via its coaxial output connector, a range of bias tees can be provided.

Each LNB power supply is individually monitored, and an alarm generated if the current drain goes outside preset limits.

### Input/Output

Further modules provide various input and output options to suit the application.

### Control Facilities

Most control facilities can be implemented in software, typically including redundancy controllers, switching logic and general I/O interface.

The unit includes a serial port for remote monitoring and control; it supports RS-422 and 4-wire RS-485. The industry standard 'Printable ASCII' and 'STX/ETX' protocols are supported. Commands vary according to the facilities required, and are generally based on the DDA70 Waveguide Switch Controller command set.

### Local Control

For most units a local front panel provides manual control of the switching, and various status indications.

### Example Systems

The following are examples of systems available within the DDA86 family:

- DDA86-03 IF switch controller, 1-4 switches, redundant power.
- DDA86-04 IF Switch controller, 1-8 switches, single power.
- DDA86-05 Coaxial switch controller for eight switches, including four separate redundancy subsystems.
- DDA86-08 1+1 LNA/LNB Controller (see separate datasheet)
- DDA86-09 1+2 LNA/LNB Controller (see separate datasheet)