PA8 / PA16 Electronically Steerable Array Antennas

Control Functions.

A total of 15 target sites can be entered and editted, and this data is held permanently in memory. When **Directional** mode is selected the control system will point the antenna's beam towards the currently selected target site. Other operational modes are **Manual,** where the user can select which of the 8 (or 16) beams is energised, **Omni**, where all the array panels are energised creating a low gain omnidirectional antenna and **Nearest,** where the beam will automatically be pointed towards the nearest target site in the memory. When the helicopter is closer than 1.5km from the selected target site in Directional mode, the system automatically changes to Omni mode in order not to risk overloading the receive site.

GPS Receiver.

The integrated GPS receiver provides the current location of the helicopter to the processor (for use in the pointing calculation).It also has a look-up library of magnetic declination values worldwide, andso also provides the local declination value (again for use in the pointing calculation). Additionally it provides NMEA data sentences (for output in RS232 format, see 'ground data'). The current lat/long is displayed on the terminal screen.

Electronic Compass.

A high performance compass module is mounted inside the pod. It features enhanced accuracy and stability, with liquid-filled bubble pitch/roll sensors backed up by mems rate gyros, separate filtering of pitch/roll sensors and magnetometers for output stability in vibrating environments and a sophisticated and proven calibration routine to remove errors caused by permanent magnetic fields generated by the airframe and associated hardware.

Ground Data.

Lat/long and associated position information from the integrated GPS receiver is available as an output at the control connector. It can then be added to the transmission to provide position data to a tracking receive site at the other end of the link. Various formats can be selected; RS232 NMEA at 4800 baud or 1200 baud and there is an option to include an FSK (Bell) modem as a separate parallel output.

Hand-held Terminals.

The control system software supports two different terminals. The Trans-Tech Pro-Term is standard, but the Oyster OT-40 is available on request. The pods can also interface with a PC running terminal emulation software.

External GPS Antenna.

An external GPS antenna with inbuilt 20dB gain LNA is provided with the system. The LNA is powered from a DC voltage on the inner of the GPS connector on the top plate of the pod. External cabling is not provided with the system.

PEAK ANTENNAS

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