

*ESD1447*

- *Automatic code changing (ACC) on modes 1 and 3/A*

- *Manual code entry via keypad*

- *Seven segment display showing codes, flight level GMT*

- *Comprehensive B.I.T.E. providing ease of maintenance*

- *Satisfies EMC requirements of BS3G100*

The control unit has been developed to provide full STANAG 5017 facilities for the ESD446 microminiature transponder. Capable of operating simultaneously on modes 1, 2, 3/A and C, the unit incorporates special features for reply code selection. Code entry for modes 1 and 3/A is manually effected by use of the keypad, thus eliminating difficult to operate thumb-wheel switches. Pressing the '#' key enables the keypad for 10 seconds during which period the four digit code may be entered. The loaded code is displayed in the pending windows and may be transferred to the active window and stored by the operation of a single toggle switch.

Mode 2 codes are set by screwdriver adjusted switches fitted beneath a removable cover on the top of the unit.

Mode C input is derived from a digitising encoding altimeter, using the standard ICAO annex 10 format.

Provision is made for mode 1 and 3/A codes to be changed automatically at predetermined time intervals. The unit may be programmed with up to 48 codes for each mode. These codes are stored in the control unit but may be erased using a front panel control or an external switch. Comprehensive test facilities are incorporated which permit either a control unit or complete system test to be executed. Other features incorporated into the unit include full military emergency and SPI (IDENT) reply formats. Indicator lamps are provided for system and automatic operation failure and a reply lamp is included to indicate satisfactory operation.

Electrical connection to the aircraft wiring is achieved using Pattern 602 bayonet lock multiway connectors.

Designed to operate over the temperature range of -35°C to +70°C, the unit incorporates a microprocessor for system control and a custom designed integrated circuit for decode/encode and self test logic.

### Dimensions and weight

Height: 95mm (3.74in)  
Width: 146mm (5.75in)  
Depth: 165mm (6.50in)  
Weight: 1.6Kg (3.5lb)

### NATO stock number

5841-99-765-8176

### Temperature/altitude limits

Temperature -35°C to +55°C  
Continuous altitude 60,000 ft (18,300m)

### Mechanical limits

#### Vibration

BS3G. 100 part 2 sect 3. sub-sect 3.1  
cat 3 and 4 (of para 3.2.1)

#### Acceleration

BS3G. 100 part 2 sect 3. sub-sect 3.6  
Normal conditions - class1A(i)  
Crash conditions - class II for grade C  
equipment

### Cooling airflow

Not required

### Compass safe distance

0.3m for 1° magnetic deviation

### Radio frequency interface

When operating with ESD446 transponder (NSN 5895-99-142-0801) the system operates within the limits defined in BS3G. 100 part 4. Sect 2 as improved by specification RSRE X6872.

### Connectors

On control unit:  
Patt 6020-14-19SB connects to transponder  
Patt 6020-14-19SC connects to altimeter  
Patt 6020-14-19SN connects to code injection unit for ACC code loading

### Mating halves for aircraft cable looms

Patt 6026-14-19PB  
Patt 6026-14-19PC  
Patt 6026-14-19PN

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## ESD1447 IFF/SSR Control Unit

ESD Publication No. ESD/051.08.96

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