

AUTOMATIC AERIAL TUNING OUTFIT ETG(1)

SUMMARY OF DATA

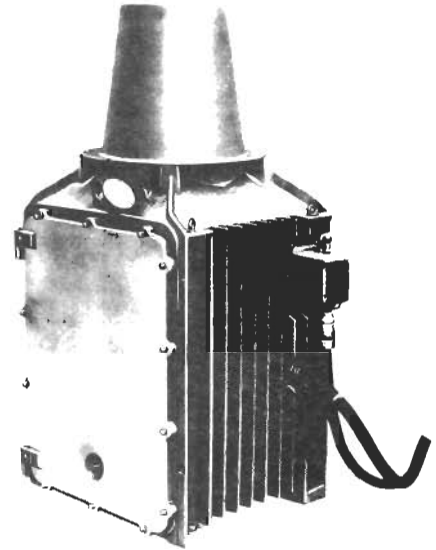
ETG(1)

PURPOSE

The Automatic Aerial Tuning Outfit ETG and its associated Control Unit provide automatic impedance matching of a 30 ft transmitting whip antenna to a 50 ohm feeder and for automatic setting of power when used with a suitable shipborne 1 kW power amplifier and its drive equipment.

BRIEF DESCRIPTION

The outfit transforms the whip antenna impedance to 50 ohms by a broad-band input transformer followed by an 'L' matching circuit consisting of a variable series capacitance and a variable shunt inductance. These variable components are driven by stepping motors controlled via the associated Control Unit, from phase and magnitude detector circuits in the rf input circuit of the tuner. The rf tuning signal is coded and the detector circuits are designed to respond only to this coded signal in order to give the maximum possible immunity to malfunction of tuning due to rf power fed back from other adjacent transmitting antennae.



AUTOMATIC AERIAL TUNING OUTFIT ETG(1)

MAJOR UNITS

- 5820-99-533-1760 Cabinet Electrical Equipment containing:
  - 5820-99-533-1761 Inductor Unit Motor Assembly
  - 5820-99-533-1762 Capacitor Unit Motor Assembly
  - 5820-99-533-1763 Panel Electronic Circuit
  - 5820-99-533-1764 Panel Electronic Circuit

PHYSICAL DATA

	Height	Width	Depth	Weight
Cabinet Electrical Equipment	2.044 m	0.632 m	0.545 m	175 kg

POWER SUPPLIES

- 115 V 48/62 Hz single phase for anti condensation heaters.
- 115 V for fan and  $\pm 15$  V dc for control circuits are supplied from the Control Unit.

ELECTRICAL CHARACTERISTICS

Frequency Range	1.5-28 MHz
Input Power	Up to 1 kW pep
VSWR	Better than 1.3 at 2-28 MHz 1.4 below 2 MHz
Efficiency	Variable with frequency from better than 90% at frequencies above 5 MHz to better than 25% at 1.5 MHz.

ASSOCIATED AERIAL

AWW.

HANDBOOK

- BR 8595 (ETG)
- BR 1625 (AWW).

ESTABLISHMENT LIST

S1875.

INSTALLATION SPECIFICATION

B1228.

**5820-99-533-1749/1750 CONTROL UNIT  
(OUTFIT ETG(1))**

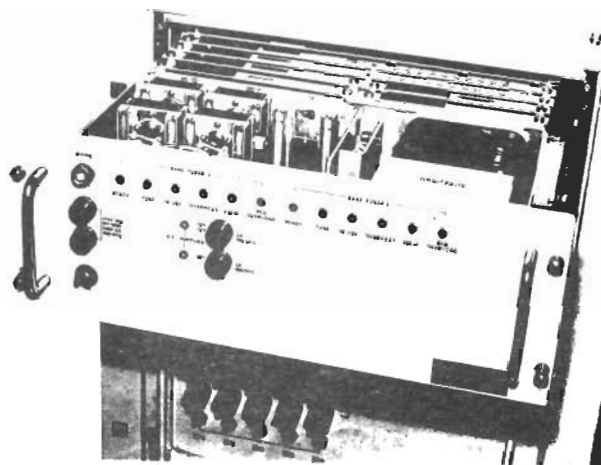
**SUMMARY OF DATA**

**PURPOSE**

The Control Unit, used in conjunction with Outfit ETG(1) provides control for automatic matching of an Aerial Outfit AWW whip antenna to a 50 ohm feeder and controls the power setting of the associated drive and amplifier.

**BRIEF DESCRIPTION**

The unit provides automatic control for the tuning circuits of one or two Outfits ETG(1). The tuning circuit is designed such that it will operate irrespective of the transmission mode to which the drive is set. Front panel indicators depict Tune, Ready, In Use and Warning indications.



**MAJOR UNITS**

- 5820-99-533-1749 Control Unit (Single)
- 5820-99-533-1750 Control Unit (Dual)

**PHYSICAL DATA**

	Height	Width	Depth	Weight
Control Unit	178 mm	483 mm	522 mm	21.5 kg (Single) 24.5 kg (Dual)

CONTROL UNIT

**POWER SUPPLIES**

115/240 V 48/62 Hz.

**ELECTRICAL CHARACTERISTICS**

Frequency Range	1.5-28 MHz
RF Power Output	75 mW $\pm$ 0.7 dB into 50 ohms with step attenuator at min attenuation when used with a drive unit producing 100 mW $\pm$ 0.75 dB.
Audio Output	0 dBm at 1953 Hz whilst setting 1 kW power level.
Tuning Time	Normally less than 10 s with a maximum of 15 s.

**HANDBOOK**

BR 8595.

**ESTABLISHMENT LIST**

S1788.

**INSTALLATION SPECIFICATION**

B1221.