

SUMMARY OF DATA

PURPOSE

D/F Outfit FU1 is a Commutated Aerial Direction Finder System which gives instantaneous visual presentation of the bearing of an aircraft transmitting within its range and on one of its preset frequencies. Aircraft Carriers will be fitted with a two channel equipment; all other types of ship requiring this system will have one channel equipment.

FREQUENCY RANGE

225-399.9 MHz.

Any one of ten frequencies can be pre-selected from 1750 available in each D/F channel.

BRIEF DESCRIPTION

The bearing information is presented on the C.R.T. as a radial trace, developed from the phase comparison of signals received by adjacent dipoles or unipoles in the electronically commutated aerial array. Normal scale indication of the bearing is relative to true north, in addition there is an outer scale driven from the ships gyro compass system.

Commutation imposes a phase modulation on the incoming signal carrier, the modulation is converted to a low frequency amplitude waveform and compared with a reference waveform of identical frequency, in a phase meter. Output from the phase meter proportional to the sine and cosine components of the bearing angle are applied to the C.R.T. producing the radial trace.

MAJOR UNITS

Receiver Cabinet	Height 5 ft	Width 2 ft	Depth 1 ft 10½ in.	Weight 600 lb
D/F Cabinet	Height 5 ft 6½ in.	Width 2 ft 3 in.	Depth 1 ft 7 in.	Weight 400 lb
Unipole D/F Aerial Array (Two-channel)	Diameter of Counterpole	7 ft 6 in.		
	Diameter of Array	3 ft 9 in.		
	Weight	400 lb		
Dipole D/F Aerial Array (One-channel)	Diameter of Array	5 ft		
	Weight	1000 lb		
Azimuth, Indicator				

PERFORMANCE

D/F Range	UHF communication range (minimum)
Instrumental Error	Maximum 2° (exclusive of site error)
I.F. Bandwidth	For 6 dB down. Not less than 60 kHz For 60 dB down. Not greater than 140 kHz
Receiver Sensitivity (With r.f. input of 1µV modulated to depth of 30% at 1000 Hz)	Signal-plus-noise to noise ratio is greater than 10 dB
A.F. Output (With r.f. Input of 5µV modulated to depth of 100% at 1000 Hz)	Monitor Output 200 mW Line Output between 2.0 and 3.5 V for any load from 100 to 1800 ohms.

Attenuated line output 1 mW (maximum) into 600 ohms.

POWER REQUIREMENTS

230 or 110 V ± 45-65 Hz single phase. One channel 1420 watts. Two channel 2720 watts.

AERIAL SYSTEM

Dipole D/F Aerial Assembly or
Unipole D/F Aerial Assembly

HANDBOOK

BR 2303(1)(2)(3)(4)

ESTABLISHMENT LIST

E1215

INSTALLATION SPECIFICATION

B862