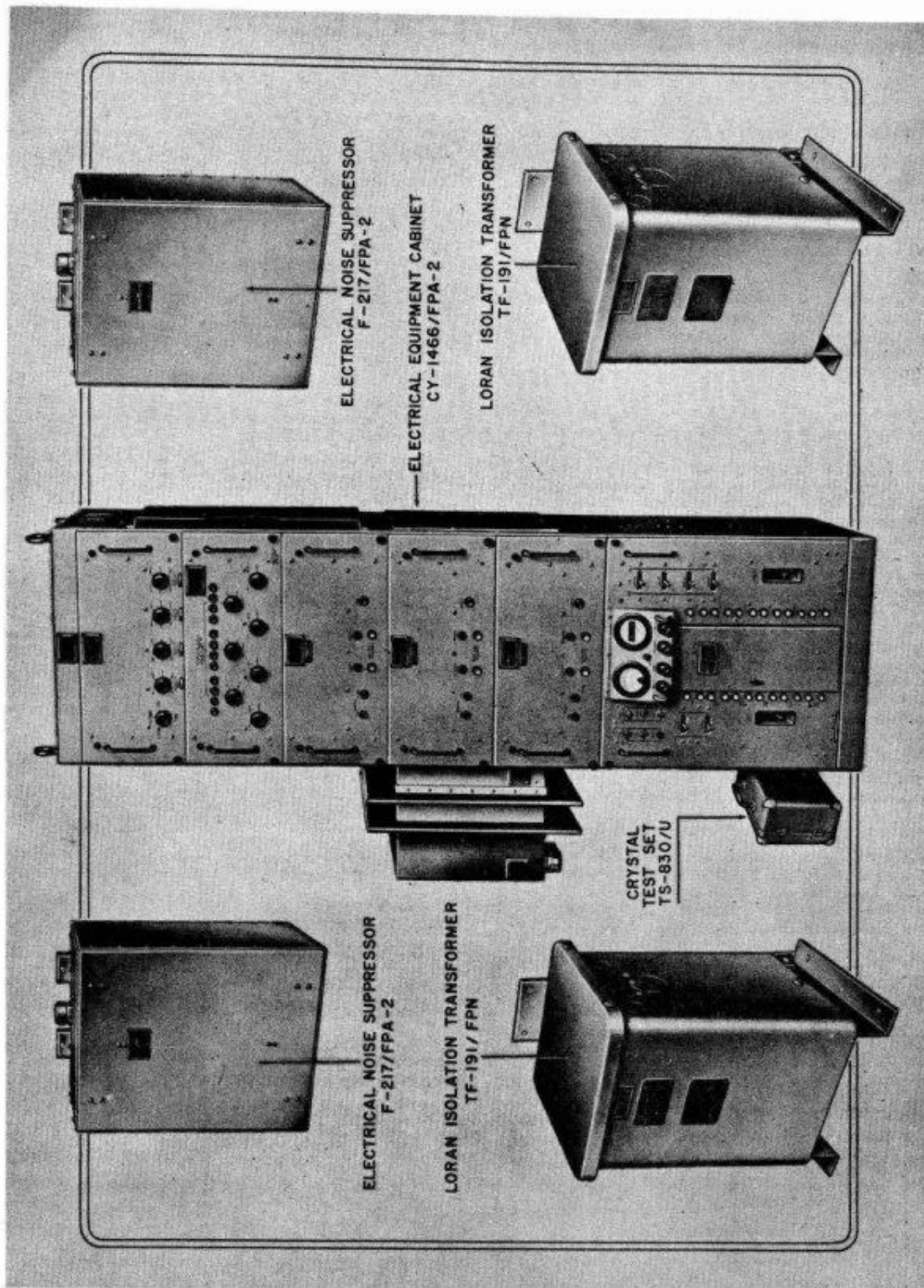


LORAN SWITCHING GROUP



Loran Switching Group AN/FPA-2

AN/FPA-2

FUNCTIONAL DESCRIPTION

Correlates major loran station equipments by selective switching, separates remote and local signals (approximately equalizing their amplitudes), and distributes (while excluding stray r-f fields) AN/FPA-2, loran timer, and lighting circuit power.

RELATION TO OTHER EQUIPMENT

Used with two or four loran timers (Loran Timer Set AN/FPN-30 or Loran Timer Model UE-1b) and two transmitters of the Model T-137 series or Model T-325/FPN series.

MECHANICAL AND ELECTRICAL CHARACTERISTICS

Five rack-and-drawer type units are mounted in a cabinet (Cabinet, Electrical Equipment, Type CY-1466/FPA-2) by pull-out-and-tilt hardware with the sixth unit on a hinged panel on the bottom. A compartmented entrance box is bolted to the left side of the cabinet and provides antenna, transmitter, power and alarm connections.

The uppermost chassis is Switch Assembly Type SA-355/FPA-2 (Timer Selector), which includes provisions for selectively connecting any of four timers to any of four exciters in two transmitters. The second chassis from the top of the cabinet is Switch Assembly Type SA-354/FPA-2 (Electronic Switch Selector), which includes provisions for selectively connecting the inputs of any of four timers to any of the three electronic switch units mounted below it in the cabinet. Three identical electronic switch units (Electronic Switch Type SA-356/FPA-2), identified as ESU 1, ESU 2, and ESU 3 in descending order, separate the local and remote signals into separate channels and reduce the amplitude of the local signal. ESU 1, ESU 2, and ESU 3 are the only AN/FPA-2 units containing vacuum tubes, and the power supplies are self-contained. The bottom unit (Panel, Power Distribution, Type SB-336/FPA-2), mounted on a hinged panel, contains the switches, fuses, and blown-fuse indicator lamps required for the distribution and control of all power supplied to the AN/FPA-2, to all loran timers of the station, and to the timer room lighting circuits.

Two identical power-line noise suppressors (Electrical Noise Suppressors, Type F-217/FPA-2) are provided, one for each power source. Each filter is within an aluminum box which is mounted by brackets on a flat surface.

Two identical power-line isolation transformers (Loran Isolation Transformers, Type TF-191/FPA) are provided, one for each power source. Each transformer, with a 115/230-volt input and 115-volt output, is within a steel casing which can be bracket-mounted on a flat surface.

A germanium diode checker (Crystal Test Set Type TS-830/U) is furnished for testing the diodes in the electronic switch units.

MANUFACTURER'S (CONTRACTOR'S) DATA

Federal Telephone and Radio Company, a division of I. T. & T., Clifton, New Jersey; Part Number A1014665; Contract Tcg-38743 (CG-21,314-A) dated 29 December 1951; approximate cost \$16,000, including equipment spares.

TECHNICAL DATA

Tube Complement.—(3) SR4WGY, (3) 6AU6, (3) 5651, (9) 5654/6AK5W, (3) 5726/6AL5W, (9) 6005/6AQ5W. Total tubes: 30.

Power Source.—115/230 ± 10 percent volts, ac, single phase, 50 to 65 cps. Facilities are provided for two input supply lines.

Power Required.—Depends on lighting circuits and timer load. AN/FPA-2 alone requires approximately 480 watts. Each UE-1b timer requires 1,160 watts, and each AN/FPN-30 timer requires 1,260 watts.

Pretuned transformers Z3201 and Z3202.—Sets of r-f transformers pretuned to the assigned loran frequency are packed in a separate box.

Spare Parts.—Set of equipment maintenance spare parts packed in separate spare parts box.

REFERENCE DATA AND LITERATURE

- (a) CG-273-16, Instruction Book for Loran Switching Group AN/FPA-2;
- (b) CG-273-15, Instruction Book for Loran Timer Set AN/FPN-30;
- (c) NAVSHIPS 900, 427A-1B, Final Instruction Book for Loran Timer Navy Model UE-1 plus the two Instruction Book Supplements for Modification of Loran Timer Navy Model UE-1 (approved by C. G. Headquarters 30 August 1951 and 16 July 1952);
- (d) CG-273-11, Instruction Book for Radio Transmitter Type T-325B/FPN.

Type Classification	
Design Cognizance	Coast Guard, Electronics Engineering Division
Procurement Cognizance	Coast Guard, Headquarters
Stock Number	

SHIPPING DATA

Shipping Box No.	Contents	Over-all Dimensions ^a			Volume ^a	Weight ^a
		Height	Width	Depth		
1	Cabinet, Electrical Equipment, CY-1466/FPA-2 and cabinet enclosed units	88-3/8	46-1/4	33-3/4	80.0	1,170
2	Loran Isolation Transformer, TF-191/FPN	28-1/2	25	21-3/4	9.0	320
3	Loran Isolation Transformer, TF-191/FPN	28-1/2	25	21-3/4	9.0	320
4	Electrical Noise Suppressor, F-217/FPA-2	19	31	25	8.5	135
5	Electrical Noise Suppressor, F-217/FPA-2	19	31	25	8.5	135

^a Dimensions are in inches, volume in cubic feet, and weight in pounds.