

STATUS: Commercial

CLASSIFICATION OF EQUIPMENT: Unclassified

USING SERVICE: Air Force

DATE OF THIS SHEET: 12 May 52

AN/FRR-TYPE

COMMERCIAL TYPE NUMBER: NATIONAL HRO-50

RADIO RECEIVING EQUIPMENT



Radio Receiving Equipment National HRO-50 is a radio receiver normally used for fixed ground, point-to-point communication in the Military Amateur Radio System. Its frequency range is covered by a series of plug-in coils, which have switches for spreading each one of the amateur bands (3.5 mc through 54 mc) over the entire tuning dial scale. This equipment can receive f-m signals by inserting the National NFM type narrow-band f-m adapter and the National XCU crystal calibrator for 100-kc and 1,000-kc check points.

The input circuit can be operated with a single wire antenna, a balanced transmission line, or a 72-ohm coaxial cable. The actual input impedance is between 300 to 600 ohms, depending on the frequency of the input signal.

There are two stages of r-f amplification (before the converter) to provide high sensitivity. The i-f system uses 12 permeability-tuned circuits in three i-f stages for selectivity. Terminals are provided for external input to the audio system for phone or mike and for silencing the receiver during periods of transmission. For emergency communication, a connector is available for operation from an external 6-v d-c supply.

AN/FRR-TYPE		INSTRUCTION LITERATURE: National HRO-50 Instruction Book
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MAJOR COMPONENTS

QUANT	NAME OF COMPONENT	DIMENSIONS (IN) INSTALLED	WEIGHT (LBS)
1	Radio Receiver	19-3/4 x 10-1/8 x 16-1/2	75
1	Speaker	13 x 11 x 8	8

OPERATIONAL CHARACTERISTICS

TACTICAL USE: Normally issued for use in the Military Amateur Radio System.

INSTALLATION: Fixed-ground, two models: one for table mounting, the other for standard 19-inch rack.

APPROXIMATE RANGE (IN MILES): Long.

CAN COMMUNICATE WITH: AN/ARC-2, -5, -8, -9, -21, -25; AN/ART-13; AN/CRT-3, -5; AN/FRC-10; AN/FRT-4, -5, -6, -10, -15, -17, -18, -19; AN/GRC-9, -13, -26; AN/GRT-2; AN/MRC-2, -6, -16, -20, -22; AN/PRC-7, -19, -20; AN/SRC-3; AN/SRT-1, -3, -4; AN/TRQ-1; AN/URT-2, -3, -4, -10; AN/YRC-1, -4; AN/VRT-1; BC-191, -329, -339, -365, -401, -447, -610; MBS; MQ; OA-60/FRT; RC-52; SCR-177, -188, -193, -274, -281, -399, -499, -506, -536, -543, -585, -694; T-4/FRC, -5/FRC, -83/SR, -158/FRT, -159/FRT, -171/FR, -172/FR, -173/FR, -174/FR, -175/FR, -177/FR, -180/FR; TAB; TAJ; TAQ; TBC; TBK; TBL; TBM; TBN; TBO; TBU; TBW; TBX; TBY; TCB; TCC; TCE; TCG; TCH; TCK; TCP; TCS; TCY; TCZ; TDD; TDE; TDF; TDH; TDK; TDN; TDO; TEB; TEC; TEF; Collins 18S-4 (AF Model); Collins 32V-2; Fisher TS 25-3; Marconi TH-41-B; Westinghouse Type MW; Wilcox 96D, 99A.

TECHNICAL CHARACTERISTICS

FREQUENCY RANGE IN MEGACYCLES: 0.05 - 0.43, 0.48 - 35.0, and 48.0 - 54.0.

TYPE MODULATION: Am (fm with Adaptor NFM-83-50).

TYPE OF SIGNAL: Cw, mcw, voice, tone.

POWER OUTPUT: 10 w.

POWER REQUIREMENTS: 110-120/220-240 v, 50/60 cyc, 1 phase at approximately 115 w. For emergency service, it can be operated from Vibrator Power Supply 650-S whose power requirements are 90 w (at 15 amp) from a 6-v storage battery.

PHYSICAL CHARACTERISTICS

Radio Receiving Equipment National HRO-50 measures 21-1/8 x 19-3/4 x 16-1/2 inches, net weight 83 pounds, volume 2.6 cu ft. Packed for domestic or export shipment: total weight 95 pounds, total volume 3.4 cu ft. Shipped in 2 packages.