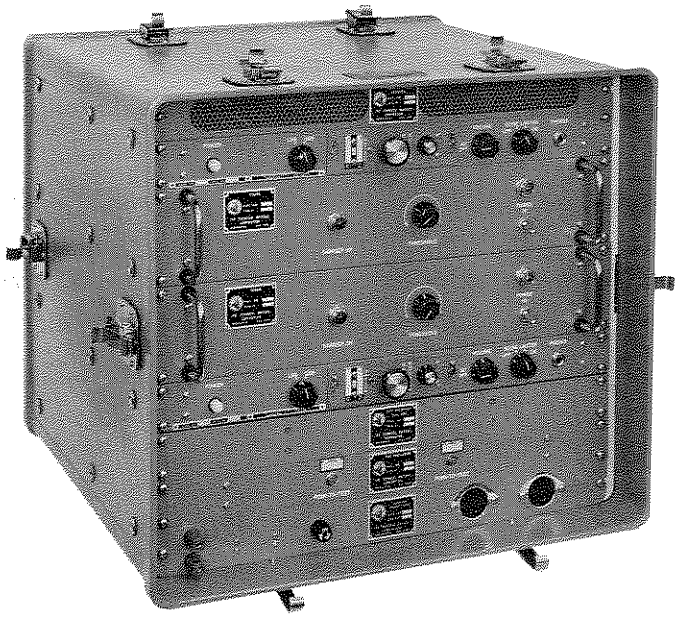
TECHNICAL BULLETIN NUMBER 3019A

Codan Operated Receiving System
COR-3



PURPOSE

The Model COR Radio Receiving System has been developed specifically for use in Coastal Harbor radio telephone service as a completely solid state replacement for the Western Electric Model 23 series of radio receiving equipments currently in use in that service. The many advantages of solid state circuitry, in the way of low power drain, heat dissipation, compact size, and improved reliability, are fully exploited in the COR system.

APPLICATION

- Unattended Receiving Service for:
  1. Coastal Telephone Service
  2. Harbor Control
  3. Ship-Shore Phone
  4. Ranger Stations
  5. Extended Telephone Service
  6. Air To Ground
  7. Air Traffic Control

FEATURES

- 2 to 16 MHz (fixed frequency)
- Completely Solid State
- Weatherproof
- Stability 1 Part in 10^6
- Remote Operation
- Built-in Remote Receiver Test Oscillator
- 115/230 Volt Operation, Electronic Switching To Emergency Battery Supply
- Eliminates Transmission Line Loss

DISCUSSION

Each system, consisting of two receiving channels, complete with CODAN units, test oscillator, battery charger and antenna multicoupler, is housed in a weather-proof fiberglass case approximately 24″ deep x 21″ wide and 18.5″ high (approximately 5.4 cubic feet) which is designed for outdoor service. A thermostatically controlled interior fan ventilates the fiberglass case to prevent overheat-

ing due to absorption of heat from the sun. As an aid in keeping down the heat from the sun, the case is painted white for minimum heat absorption. A companion case for housing four (4) each Western Electric KS 5361 batteries or equivalent is also available as an accessory item. Although the system normally operates on AC power, instantaneous changeover to battery operation is achieved without interruption of service.

CODAN OPERATED RECEIVING SYSTEM

During periods of AC operation, the batteries are kept fully charged by an internal trickle charger. Due to extremely low power drain, each two channel system will operate continuously for a period of approximately five days on an 85 ampere-hour storage battery.

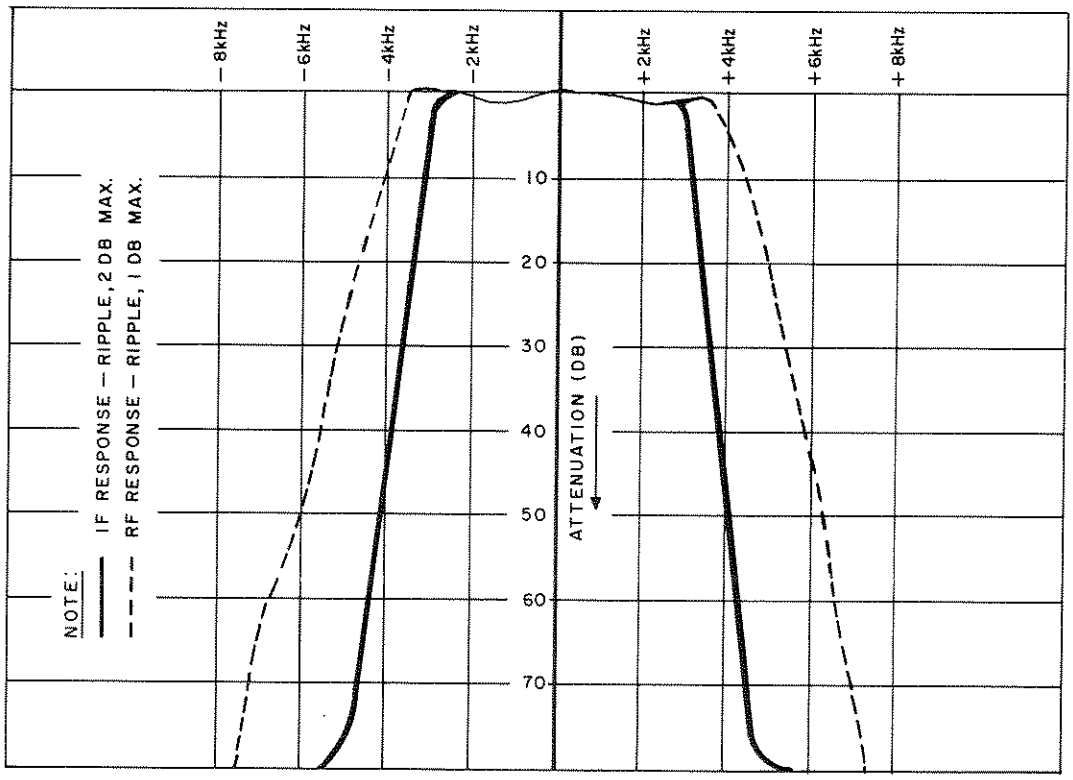
Remote control and indicator functions have been incorporated which are compatible with existing Coastal Harbor Installations.

All transistorized circuits with the exception of the power supplies and the audio and IF section of the receiver, are plug-in printed circuit modules, thus permitting rapid servicing and maintenance and assuring reliable operation.

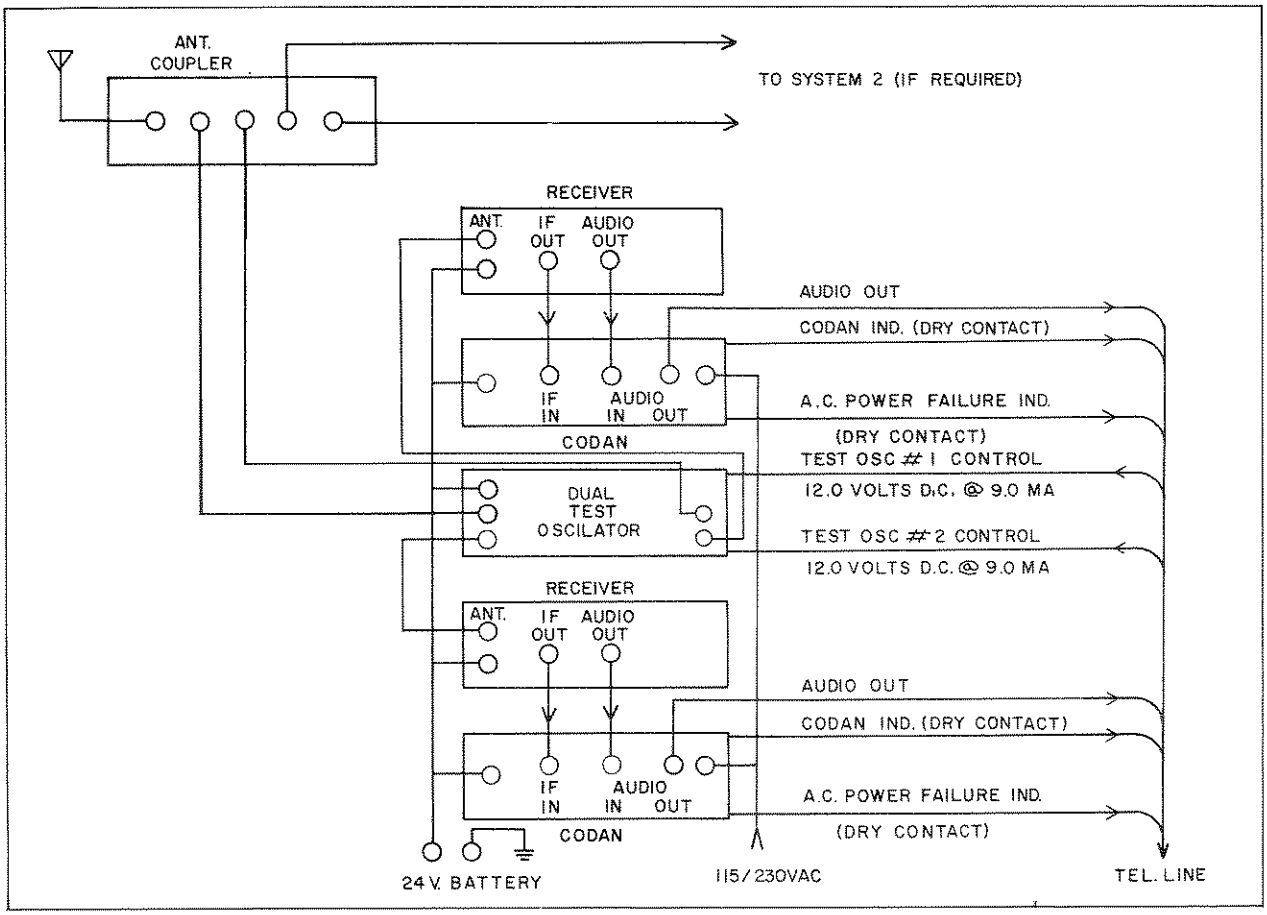
TECHNICAL SPECIFICATIONS:

FREQUENCY RANGE:	2.0 to 16 MHz (extended range to 32.0 MHz available on special order).
MODES OF OPERATION:	AM, MCW.
STABILITY:	Crystal controlled 1 part in 10^6 per degree centigrade change in ambient.
INPUT IMPEDANCE:	Basic receiver; – 50 ohms antenna coupler: High impedance (Vertical antenna).
TUNING:	Fixed tuned (crystal controlled).
SENSITIVITY:	Better than 3 microvolts for 20 db signal plus noise to noise ratio.
RF BANDWIDTH:	7.5 kHz at 3 db points.
IF BANDWIDTH:	6.0 kHz at 3 db points.
IMAGE REJECTION:	Greater than 120 db.
AF OUTPUT:	Adjustable up to +10VU into 600 ohm line. 500 milliwatts to headphone monitor or speaker.
IF REJECTION:	Better than 120 db.
AGC:	Output remains constant within 3 db for 100 db change in input within the input voltage range of 1 microvolt to 100,000 microvolts.

POWER INPUT:	115/230 volt AC, 1 phase 50/60 Hz 20.0 watts or 24.0 volts DC, 12.0 watts. For waterproof battery case housing, see OPTIONS/ ACCESSORIES.
REMOTE CONTROL:	12.0 volts DC at 9.0 ma for each test oscillator.
REMOTE INDICATIONS:	1. AC power failure, dry contact closure to ground. 2. CODAN operate indicator, dry contact closure to ground.
TEMPERATURE AND HUMIDITY:	0 to 50 degrees centigrade at 90% humidity.
LOOSE ITEMS:	Mating RF connectors and instruction manuals.
WEIGHT:	Two channel receiver; 100 lbs. less batteries and battery case.
SIZE:	Two channel receiver; 24″ deep x 21″ high x 18.5″ wide. Battery case: Same as receiver.
OPTIONS/ACCESSORIES:	(priced separately.)
Battery Case:	TOC-8 case configured to house 4 WE KS-5361 (or equivalent) batteries. These batteries will provide approximately 85 hours emergency operation.



TYPICAL RESPONSE CURVES



FUNCTIONAL BLOCK DIAGRAM

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