

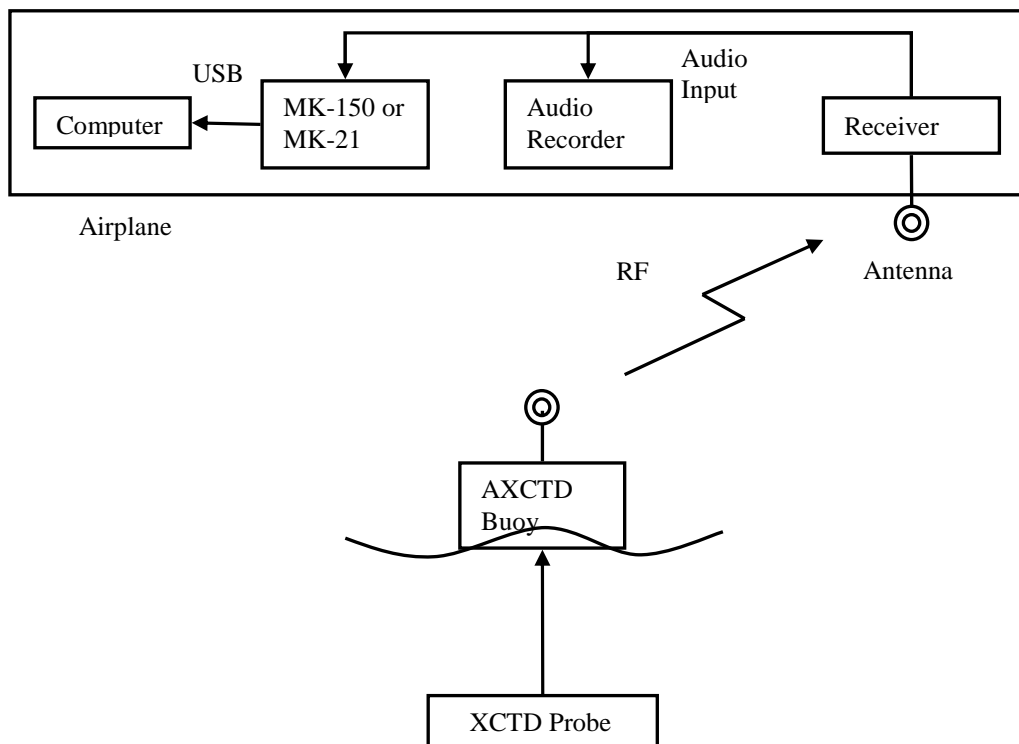
# AXCTD

## *Airborne eXpendable Conductivity, Temperature, and Depth probe*

The AXCTD system allows profiles of oceanographic conditions to be collected from aircraft. Deployed probe assemblies descend via parachute to the sea surface. A float inflates on contact with water and after a short delay, a standard XCTD probe drops from the floating buoy. Data is transmitted from the probe to the buoy on a copper wire and from the buoy to the aircraft through a radio signal. Profiles can be saved and processed with several different data acquisition options.

The hydrodynamically designed XCTD probe contains a temperature sensor, a conductivity sensor, a battery, electronics, and communication wire. Conductivity is measured with an inductive cell that detects induced EMF in a toroid due to seawater conditions. Temperature is measured by sensing resistance changes in a thermistor. Depth is calculated from the well known drop rate of the probes.

AXCTD data flow:



## System Specifications

AIRCRAFT Speed: 280 knots max. 80 knots min. Elevation: 25,000 ft. max. 150 ft. min.	RF OPTIONS 169.650 MHz (AXBT narrow band) 170.500 MHz (channel 12) 172.000 MHz (channel 14) 173.500 MHz (channel 16)
SEA STATE WMO scale: 5 max.	RF OUTPUT Power: 1 Watt

## Probe Specifications

	RANGE	ACCURACY	RESOLUTION
Conductivity (mS/cm)	0 to 60	+/- 0.03	0.015
Temperature (°C)	-2 to 35	+/- 0.02	0.01
Depth (m)	0 to 1000 m	+/- 2%	0.11

## Receiver Specifications

Frequency	172.000MHz (14 channel)
Receiving mode	FM-W
Input impedance	50ohm unbalanced
Sensitivity	-3dBu typ. (12dB SINAD, Dev=75KHz, Mod=1KHz)
IF frequency	10.7MHz
Filter bandwidth	100KHz
Frequency response	Less than +/-1dB from 10Hz to 7.5KHz
Audio output impedance	50ohm
SP output impedance	8ohm
Audio output level	0.72Vp-p at 400Hz (dial 4 – 00)
Tape output level	0.72Vp-p at 400Hz (dial 4 – 00)
Antenna connector	BNC jack
Audio out connector	BNC jack
Power requirements	12V to 15VDC, 0.1A (max. 0.25A)
Operating temperature	0 to 40 deg. C
Dimensions	320mm (W) x 120mm (H) x 220mm (D)
Weight	4.5kg (with batteries)
Batteries	UM-1 (D cell), 10 ea.

XCTD patents granted in the USA, Canada, England, and Norway; applied for in Japan and Germany.



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