

ANTENNA ASSEMBLY AS-570/SLR

**EQUIPMENT DESCRIPTION.**

Antenna Assembly AS-570/SLR is used with Countermeasures Receiving and/or Transmitting Sets AN/SLR-2, AN/BLR-1, AN/SLQ-7, AN/SLQ-4 and AN/SLQ-6. Two complete antenna assemblies are used with the AN/SLQ-4 and AN/SLQ-6. The function of the Countermeasures Receiving Sets is to provide a means for determining the presence, frequency, direction and character of signals emitted from approaching ships and/or airplanes.

Maximum Range..... Line of Sight

**ANTENNA SPECIFICATIONS.**

Antenna Assembly AS-570/SLR consists of a coaxial horn assembly reflec-

tor, pedestal base including drive motor and synchros and a fiberglass radome. The antenna is a high gain, directional antenna consisting of two fixed waveguide horns mounted one inside the other and directed upward, with a rotating reflector mounted at an angle of 45 degrees directly above the horns. The inner horn has a frequency range of from 5000-10, 750 mc while the outer horn has a range of from 2300 to 5300 mc.

Total Weight.....276 lbs

Wind Load at 90 Knots.....150 lbs

Feed..... Coaxial Horn

Reflector:

Type..... Parabolic Section

Material..... Aluminum

Beam Width:  
 Horizontal..... 20°(low frequency)  
                     6°(high frequency)  
 Vertical..... 40 degrees

Polarization..... Elliptical

Antenna Rotation..... 0 to 320 rpm  
 (also operated manually)

Scan Coverage:  
 Horizontal..... 360 degrees  
 Vertical..... 40 degrees

Operating Temperature  
 Range                 -31°F to 131°F

mast and there should be no obstructions above the level of the base of the radome.

Waveguide:  
 Outer Horn - Flexible CG-1125/U from the horn connects with RG-109/U which goes to the System Switch Assembly SA-156/ULR.  
 Inner Horn - Flexible CG-1126/U from the horn connects with RG.110/U which also goes to SA-156/ULR.

Cables.....MSCA-19, TTRSA-2

Drive Motor  
 and Synchros.....115 volts ac

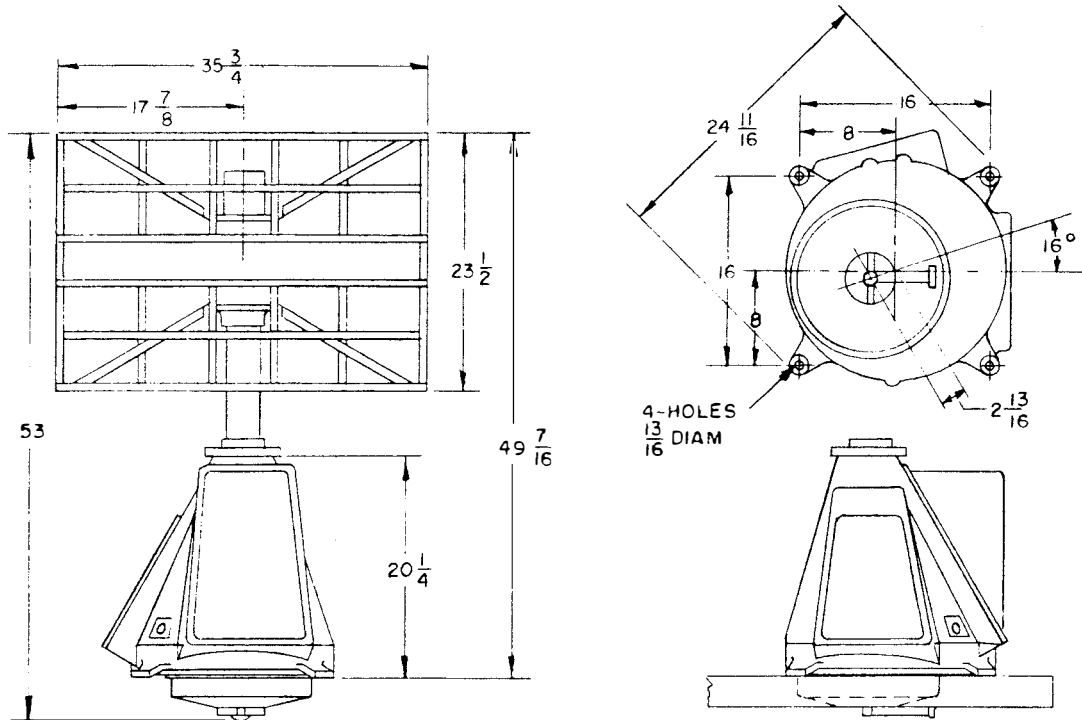
INSTALLATION DATA.

The antenna assembly is supported by a platform secured to the mast. There should be a minimum distance of 5 feet from the center of the antenna to the

REFERENCES.

NavShips 91997(A) (30 July 1953)

BuShips Drawing RE100F 2036  
 RE 8H 2763



ANTENNA ASSEMBLY AS-571/SLR

EQUIPMENT DESCRIPTION.

Antenna Assembly AS-571/SLR is a high-gain, directional array type antenna designed for use with Countermeasures Receiving Sets AN/SLR-2 and AN/BLR-1. It operates in the frequency range from 300 to 600 megacycles.

ANTENNA SPECIFICATIONS.

The antenna assembly consists of two reflectors mounted back-to-back, three vertical dipoles, two horizontal dipoles and a pedestal containing a drive motor, synchros and a rotating point. A square junction box is mounted in the center of the reflector with two cylindrical arms extending from the junction to either side of the reflector. These arms and the junction box house the transmission lines from the dipoles while the coaxial switch which allows for the operation of either the horizontal or vertical dipole array is mounted on top of the junction box.

Total Weight..... 225 lb

Wind Load at 90 Knots..... 150 lb

Feed..... Two horizontal dipoles and three vertical dipoles

Reflector:  
Type..... Mattress type on side with vertical dipoles; corner reflector on side with horizontal dipoles

Size..... 23-1/2" x 35-3/4"

Material..... Aluminum

Beam Width:

Dipole	300 mc	600 mc
Horizontal Dipoles		
Horizontal Plane	50°	30°
Vertical Plane	90°	60°
Vertical Dipoles		
Horizontal Plane	55°	30°
Vertical Plane	60°	70°

ANTENNA SPECIFICATIONS (Cont'd).

Polarization.. Horizontal and Vertical

Antenna Rotation.....0-280 rpm

Operating Temperature

Range.....-18°F to +149°F

Heaters..... 115/220 volts ac, single  
phase, 60 cycles

Outlet.....115 volts ac, single  
phase, 60 cycles

INSTALLATION DATA.

The antenna assembly is mounted on a platform supported by the mast with a minimum distance of 8 feet from the center of the antenna to the mast.

Transmission Line.....RG-18/U

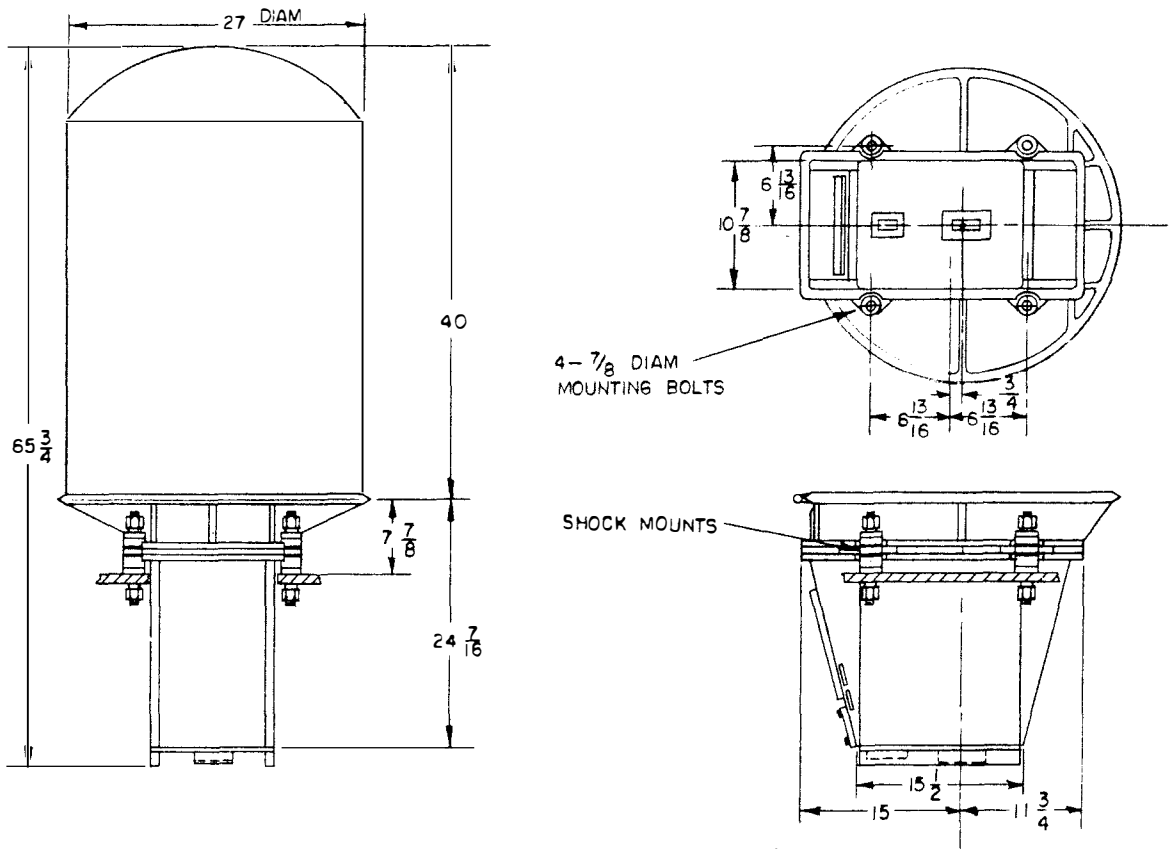
Cables..... TSGA-4, MSCA-14,  
TTRSA-2

REFERENCES.

Preliminary NavShips Instruction  
Book

BuShips Drawings:

RE 100D 2019  
RE 100D 2044  
RE 8H 2763



ANTENNA ASSEMBLY AS-605/SLA-3

**EQUIPMENT DESCRIPTION.**

Antenna Assembly AS-605/SLA-3 is an experimental antenna installed on some carriers and used as a part of Countermeasures Receiving Set AN/SLR-2. The function of the AN/SLR-2 Countermeasures Set is to provide a means of detecting the presence and direction of approaching vessels and/or airplanes.

Maximum Range .....Line of Sight

**ANTENNA SPECIFICATIONS.**

Antenna Assembly AS-605/SLA-3 is actually a modified version of Antenna Assembly AS-570/SLR. By the addition of a dipole and an additional reflector to the AS-570/SLR Antenna the frequency range is lowered from 2300 mc to 1000 mc.

The antenna assembly consists of a coaxial horn assembly, reflector, ped-

estal base including drive motors and synchros and a fiberglass radome. The antenna is a high gain, directional antenna with two fixed waveguide horns mounted one inside the other providing the feed for the frequency range from 2300 to 10,750 mc while the dipole mentioned above provides the feed for the range from 1000 to 2300 mc. The inner horn has the range from 5000 to 10,750 mc while the outer horn has the range from 2300 to 5000 mc.

Total Weight..... 240 lb

Feed..... Coaxial Horns and Dipole

**Reflectors:**

Type..... Parabolic Sections  
Material..... Aluminum

**Beam Width:**

Horizontal..... 30° (low frequency)  
6° (high frequency)  
Vertical..... 40 degrees

ANTENNA SPECIFICATIONS (Cont'd).

Polarization Elliptical

Antenna Rotation. . . . . 0 - 320 rpm  
automatically  
or manually

Scan Coverage:  
Horizontal. . . . . 360 degrees  
Vertical. . . . . 40 degrees

INSTALLATION DATA.

The antenna assembly is supported by a platform secured to the mast. There should be a minimum distance of 5 feet from the center of the antenna to the mast and there should be no obstructions above the level of the radome.

Waveguide:  
Outer Horn - CG-855/U from the horn connects with RG-109/U which

runs to the Switch Assembly SA-156/ULR where it is connected by a length of RG-9A/U.

Inner Horn - CG-856/U from the horn connects with RG-110/U which is connected to the SA-156/ULR as above.

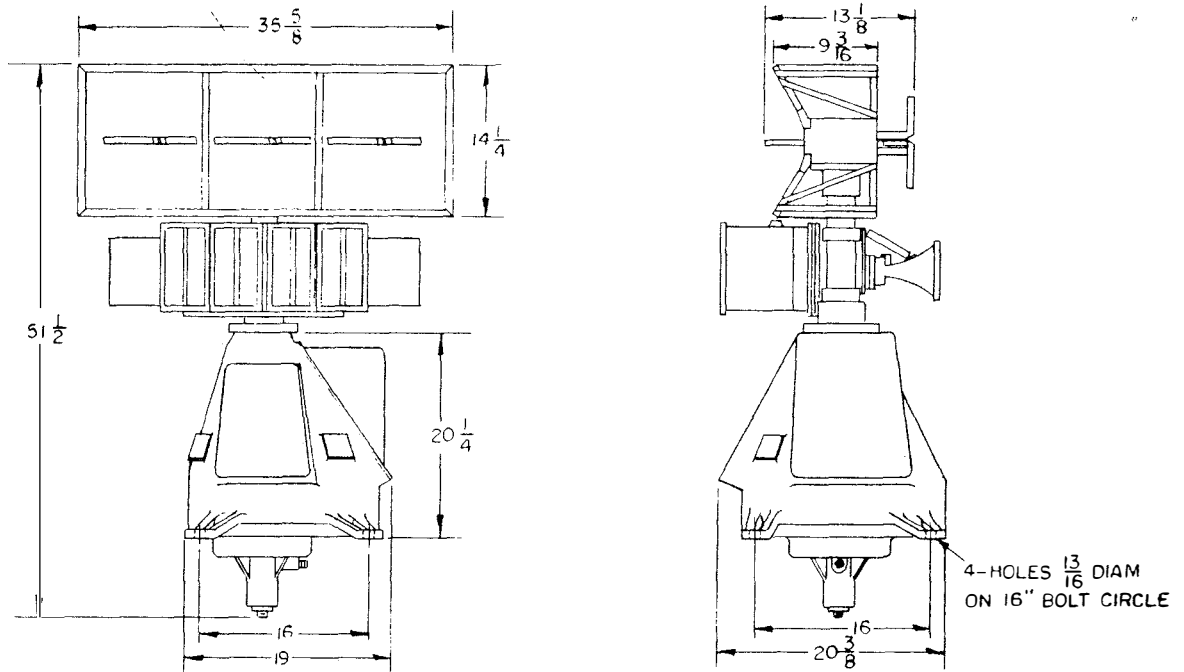
Coax. . . . . A short length of RG-10/U from the dipole connects with RG-18/U and runs to the SA-156/U where it also is connected by a length of RG-9A/U.

Cables. . . . . MSCA-19, TTRSA-2

Drive Motors  
and Synchronos. . . . . 115 volts ac

REFERENCES.

BuShips Drawings: RE 100C 2034  
RE 100C 2047  
RE 100D 2037  
RE 100H 2048



ANTENNA ASSEMBLY AS-616/SLR

EQUIPMENT DESCRIPTION.

Antenna Assembly AS-616/SLR is a UHF multi-antenna array, directional in azimuth and is used with Countermeasures Receiving Sets AN/BLR-1 and AN/SLR-2. The antenna assembly is designed to receive either horizontally or vertically polarized signals in the frequency range from 550 to 2400 mc.

Maximum Range..... Line of Sight

ANTENNA SPECIFICATIONS.

The antenna assembly consists of two reflectors mounted back-to-back, six vertical dipoles, three horizontal dipoles, a horizontally polarized horn, a vertically polarized horn and a pedestal containing the drive motor, synchros and a rotating joint.

Horizontally polarized signals are received by the horizontal dipoles from 550 to 1100 mc and by the horizontally polarized horn from 1100 to 2400 mc. Likewise vertically polarized signals are received by the vertical dipoles from 550 to 1100 mc and by the verti-

cally polarized horn from 1100 to 2400 mc.

No windshield or dome is required for the antenna assembly since the array is completely weatherproofed and spray proofed and can withstand primary wind loads.

Total Weight..... 260 lb

Wind Load at 90 Knots..... 635 lb

Feed..... Three horizontal dipoles, six vertical dipoles for the reflectors and coax feed for the horns

Beam Width:

Dipole	550 mc	1100 mc
Horizontal Dipoles Horizontal Plane Vertical Plane	35° 85°	20° 70°
Vertical Dipoles Horizontal Plane Vertical Plane	40° 60°	60° 70°

ANTENNA SPECIFICATIONS (Cont'd).      INSTALLATION DATA.

Beam Width (Cont'd):

Horn	1100 mc	2400 mc
Horizontally Polarized Horizontal Plane Vertical Plane	35° 70°	20° 50°
Vertically Polarized Horizontal Plane Vertical Plane	20° 95°	10° 65°

Polarization..Horizontal and Vertical

Antenna Rotation..... 0 -250 rpm  
automatically  
or manually

Operating Temperature  
Range..... -31°F to + 131°F

The antenna assembly should be mounted 40 feet from the nearest radar antenna, 10 feet from the mast and high enough above the water to give a maximum line of sight.

Transmission Line.... Two RG-18/U cables run to Switch Assembly SA-156/ULR where they are connected by two RG-9A/U cables.

Cables..... TSGA-4, MSCA-14,  
TTRSA-2  
Drive Motor..... 115 volts ac

REFERENCES.

NavShips 92244 (20 April 1954)

BuShips Drawings:  
RE 100D 2035  
RE 100D 2044  
RE 8H 2763