UNCLASSIFIED	
SECURITY SUMMARY & SPECIAL HANDLING REQUIR	EMENTS
The title of this application is : AN/APS-152(V)1, (V)2 & AN/APS-148, SEAVIEW I	RADAR
The overall classification of this application is : UNCLASSIFIED	
Refer to your Security Manual for further guidance.	
The Application Level Special Handling is : A	
Approved for public release; distribution is unlimited (DoD Directive 5.	230.24)
DOWNGRADING INSTRUCTIONS	
Special Handling Instruction : A	
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CLASSIFICATION UNCLASSIFIED	

CLASSIFICATION

UNCLASSIFIED

PAGE 1

FULL RECORD PRINT FOR AN/APS-152(V)1, (V)2 & AN/APS-148, SeaView Radar

Selected Frequencies

(U) 9600.0 MHz

System Name : (U) AN/APS-152(V)1, (V)2 & AN/APS-148, SeaView Radar

(Nomenclature)

Agency : (U) N - Department of the Navy

NTIA Certified : (U) No Overall Security : Unclassified

Date/Time Last Mod.

8/3/2010 6:37:00 PM (GMT)

System Description : (U) P

(U) Provides intermediate and long range detection, surveillance and tracking of

small and large sea surface targets in sea clutter conditions to ranges in

excess of 200 nautical miles.

Provides land mass and shore line detection for navigation purposes; imaging of sea

surface contacts for classification using Inverse Synthetic Aperture Radar (ISAR) techniques; imaging of land & littoral regions using Synthetic

Aperture Radar (SAR) techniques. SAR is only used by the AN/APS-152(V)1.

Sysfem also provides user enabled Track While Scan

(TWS) capabilities in the primary sea surface surveillance modes (Search I and Search II) and

weather detection.

Target Date(s)

 System Approval
 : (U) 9/1/2010

 System Activation
 : (U) 9/1/2010

 System Termination
 : (U) 9/1/2035

NSEP Use : (U) Yes ITU Waiver : (U) No

Control Numbers

SPS- 17317/2

Source Documents

•(U) SPS - 17317/2 AN/APS-152(V)1, (V)2 & AN/APS-148, SeaView Radar Certification Application 8/3/2010

Geographic Areas for Stage 2

City, State/Country : (U) San Diego Naval Station, (U) CA

Location Type : (U) Polygon of 8 points

City, State/Country : (U) Homestead Air Force Base, (U) FL

Location Type : (U) Polygon of 18 points

City, State/Country : (U) Jacksonville, (U) Florida

Location Type : (U) Single Point

Lat/Lon : (U) 302005N0813927W

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FULL RECORD PRINT FOR AN/APS-152(V)1, (V)2 & AN/APS-148, SeaView Radar

City, State/Country : (U) Barking Sands Pacific Missile , (U) HI

Location Type : (U) Polygon of 25 points

City, State/Country : (U) Naval Air Station, Patuxent Ri, (U) MD

Location Type : (U) Polygon of 18 points

City, State/Country: (U) Greenville, (U) South Carolina

Location Type : (U) Single Point

Lat/Lon : (U) 345020N0822217W

City, State/Country : (U) Corpus Christi, (U) Texas

Location Type : (U) Single Point

Lat/Lon : (U) 274121N0971735W

City, State/Country : (U) Fort Worth, (U) Texas

Location Type : (U) Single Point

Lat/Lon : (U) 324515N0972012W

City, State/Country : (U) McKinney, (U) Texas

Location Type : (U) Single Point

Lat/Lon : (U) 331204N0963919W

City, State/Country : (U) Waco, (U) Texas Location Type : (U) Single Point

Lat/Lon : (U) 313409N0971101W

City, State/Country : (U) Kaneohe, (U) Hawaii

Location Type : (U) Single Point

Lat/Lon : (U) 212429N1574723W

City, State/Country : (U) Table Mountain Open Area Test, (U) Table Mountain Open Area Test

Site (OATS), CO

Location Type : (U) Single Point

Lat/Lon : (U) 400800N1051500W

Number Of Units : (U) 7

Estimated Initial Cost of the System : (U) \$1500000

Information Transfer Requirement

(U) Pulse Compression and Unmodulated Radar Pulses

System Essentiality

(U) Maritime Search Radar

Replacement Information

(U) NA

Stations

Station Name : (U) AN/APS-152(V)1, (V)2 & AN/APS-148

Transmitters

FULL RECORD PRINT FOR AN/APS-152(V)1, (V)2 & AN/APS-148, SeaView Radar

(U) AN/APS-152(V)1, (V)2 & AN/APS-148

Receivers

(U) AN/APS-152(V)1, (V)2 & AN/APS-148

Antennas

(U) AN/APS-152(V)1, (V)2 & AN/APS-148

Station Name : (U) Target - Generic

Links - Selected Modes

Link

<u>Transmitting Station</u> <u>Receiving Station</u>

(U) AN/APS-152(V)1, (V)2 & AN/APS-148 (U) Target

Radio Service : Radiodetermination

Station Class : MR Equipment Combination

Transmitter : (U) AN/APS-152(V)1, (V)2 & AN/APS-148
Tx Antenna : (U) AN/APS-152(V)1, (V)2 & AN/APS-148
Receiver : (U) AN/APS-152(V)1, (V)2 & AN/APS-148
Rx Antenna : (U) AN/APS-152(V)1, (V)2 & AN/APS-148

Selected Modes

<u>Frequency</u>	Em. Des	<u>Power</u>	Notes
(U) 9600.0 MHz	(U) 411KP0N	Peak (U) 50000 W	PRI
(U) 9600.0 MHz	(U) 820KP0N	Peak (U) 50000 W	PRI
(U) 9600.0 MHz	(U) 1M62P0N	Peak (U) 50000 W	PRI
(U) 9600.0 MHz	(U) 3M17P0N	Peak (U) 50000 W	PRI
(U) 9600.0 MHz	(U) 9M13Q1N	Peak (U) 50000 W	PRI
(U) 9600.0 MHz	(U) 6M08Q1N	Peak (U) 50000 W	PRI
(U) 9600.0 MHz	(U) 225MQ3N	Peak (U) 50000 W	PRI
(U) 9600.0 MHz	(U) 87M0Q3N	Peak (U) 50000 W	PRI
(U) 9600.0 MHz	(U) 6M08P0N	Peak (U) 50000 W	PRI

TRANSMITTER AN/APS-152(V)1, (V)2 & AN/APS-148

Nomenclature : (U) AN/APS-152(V)1, (V)2 & AN/APS-148

Manufacturer : (U) RAYTHEON CO. OR RAYTHEON MANUFACTURING CO.

Model Name : (U) APS-152(V)1, APS-148, SEA VIEW RADAR

NTIA Approval Status : (U) Unapproved

Date/Time Last Mod. : 6/30/2010 12:12:29 AM (GMT)

Coordination ID : (U) J/F 12

Freq. Stability : (U) Not Applicable : (U) 22 ppm

Output Device : (U) Traveling Wave Tube

Tuning Method : (U) Fixed Crystal Radar/Comm : (U) Radar Supp. of Harmonics : (U) Yes

Figure 1 - 2nd Harmonic Curve (U)

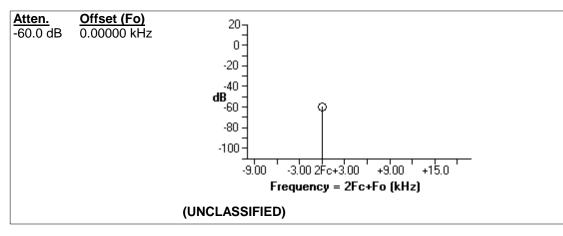
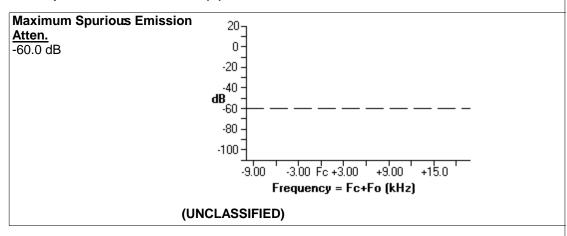


Figure 2 - Spurious Emission Curve (U)



Frequencies

Fixed Frequency : (U) 9600.0 MHz **Em. Designator** : (U) 6M08P0N

FULL RECORD PRINT FOR AN/APS-152(V)1, (V)2 & AN/APS-148, SeaView Radar

Neccessary BW : (U) 6080.0 kHz

Modulation - 6M08P0N

Occupied Bandwidth : (U) 6080.0 kHz
Measured/Calculated : (U) Calculated
Radar/Communications : (U) Radar

Radar Type : (U) Non-FM Pulse Radar

 Pulse Repetition Rate
 : (U) 275 pps

 Pulse Rise Time
 : (U) 0.000100 ms

 Pulse Fall Time
 : (U) 0.0000750 ms

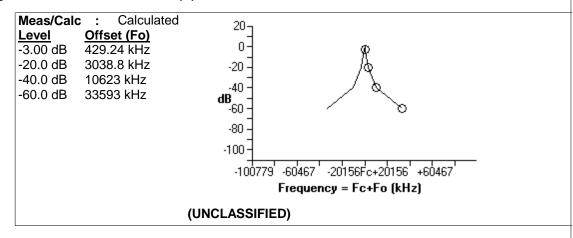
 Pulse Width
 : (U) 0.000960 ms

 Pulse Duty Cycle
 : (U) 0.02640 %

Spread Spectrum : No

Pulse Width : (U) 0.000960

Figure 3 - Fundamental Curve (U)



 Em. Designator
 : (U) 3M17P0N

 Neccessary BW
 : (U) 3170.0 kHz

Modulation - 3M17P0N

Occupied Bandwidth : (U) 3171.2 kHz
Measured/Calculated : (U) Calculated
Radar/Communications : (U) Radar

Radar Type : (U) Non-FM Pulse Radar

 Pulse Repetition Rate
 : (U) 275 pps

 Pulse Rise Time
 : (U) 0.000100 ms

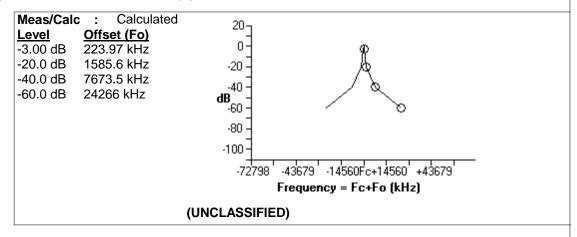
 Pulse Fall Time
 : (U) 0.0000750 ms

 Pulse Width
 : (U) 0.00192 ms

 Pulse Duty Cycle
 : (U) 0.05280 %

Spread Spectrum : No

Figure 4 - Fundamental Curve (U)



Em. Designator : (U) 1M62P0N Neccessary BW : (U) 1620.0 kHz

Modulation - 1M62P0N

Occupied Bandwidth : (U) 1620.9 kHz
Measured/Calculated : (U) Calculated
Radar/Communications : (U) Radar

Radar Type : (U) Non-FM Pulse Radar

 Pulse Repetition Rate
 : (U) 275 pps

 Pulse Rise Time
 : (U) 0.000100 ms

 Pulse Fall Time
 : (U) 0.0000750 ms

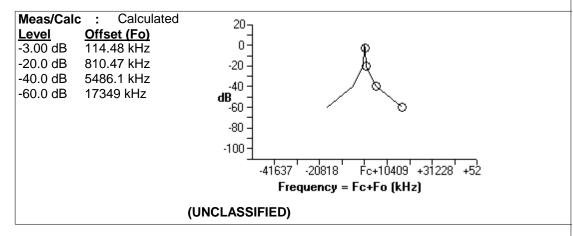
 Pulse Width
 : (U) 0.00384 ms

 Pulse Duty Cycle
 : (U) 0.1056 %

Spread Spectrum : No

Pulse Width : (U) 0.00384

Figure 5 - Fundamental Curve (U)



Em. Designator : (U) 820KP0N Neccessary BW : (U) 820.00 kHz

Modulation - 820KP0N

FULL RECORD PRINT FOR AN/APS-152(V)1, (V)2 & AN/APS-148, SeaView Radar

Occupied Bandwidth : (U) 820.00 kHz
Measured/Calculated : (U) Calculated
Radar/Communications : (U) Radar

Radar Type : (U) Non-FM Pulse Radar

 Pulse Repetition Rate
 : (U) 275 pps

 Pulse Rise Time
 : (U) 0.000100 ms

 Pulse Fall Time
 : (U) 0.000750 ms

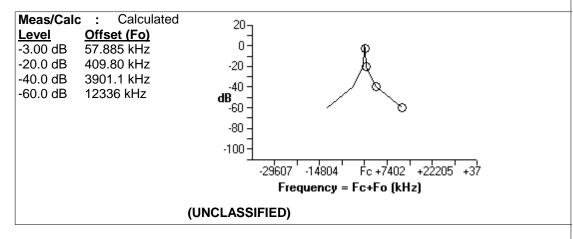
 Pulse Width
 : (U) 0.00768 ms

 Pulse Duty Cycle
 : (U) 0.2112 %

Spread Spectrum : No

Pulse Width : (U) 0.00768

Figure 6 - Fundamental Curve (U)



Em. Designator : (U) 411KP0N Neccessary BW : (U) 411.00 kHz

Modulation - 411KP0N

Occupied Bandwidth : (U) 411.00 kHz
Measured/Calculated : (U) Calculated
Radar/Communications : (U) Radar

Radar Type : (U) Non-FM Pulse Radar

 Pulse Repetition Rate
 : (U) 275 pps

 Pulse Rise Time
 : (U) 0.000100 ms

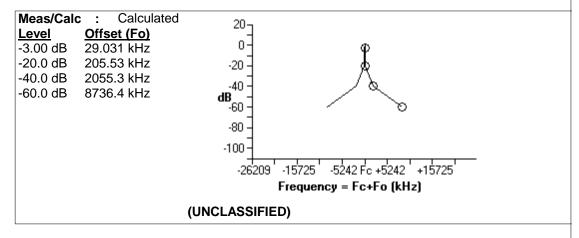
 Pulse Fall Time
 : (U) 0.0000750 ms

 Pulse Width
 : (U) 0.0154 ms

 Pulse Duty Cycle
 : (U) 0.4224 %

Spread Spectrum : No

Figure 7 - Fundamental Curve (U)



Em. Designator:(U) 87M0Q3NNeccessary BW:(U) 87000 kHz

Modulation - 87M0Q3N

Occupied Bandwidth: (U) 87020 kHzMeasured/Calculated: (U) CalculatedRadar/Communications: (U) Radar

Radar Type : (U) FM Pulse Radar

Pulse Repetition Rate: (U) 500 ppsPulse Rise Time: (U) 0.000100 ms

Justification : (U) Short rise time and fall times

allow for a more precise resolution of elements within the SAR/ISAR image and increase Search I performance.

 Pulse Fall Time
 : (U) 0.0000750 ms

 Pulse Width
 : (U) 0.0200 ms

 Pulse Duty Cycle
 : (U) 1.000 %

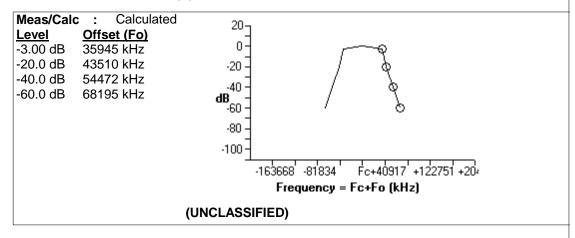
 Pulse Comp. Ratio
 : (U) 1500

 Pulse Freq. Deviation
 : (U) 75000 kHz

Spread Spectrum : No

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Figure 8 - Fundamental Curve (U)



Em. Designator : (U) 225MQ3N Neccessary BW : (U) 225000 kHz

Modulation - 225MQ3N

Occupied Bandwidth : (U) 225220 kHz
Measured/Calculated : (U) Calculated
Radar/Communications : (U) Radar

Radar Type : (U) FM Pulse Radar Pulse Repetition Rate : (U) 500 pps

Pulse Repetition Rate : (U) 500 pps Pulse Rise Time : (U) 0.000100 ms

Justification : (U) Short rise time and fall times

allow for a more precise resolution of elements

within the SAR/ISAR image and increase Search I performance.

 Pulse Fall Time
 : (U) 0.0000750 ms

 Pulse Width
 : (U) 0.0100 ms

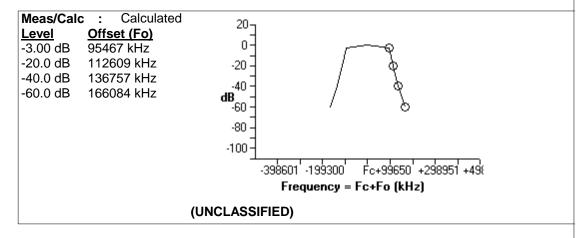
 Pulse Duty Cycle
 : (U) 0.5000 %

 Pulse Comp. Ratio
 : (U) 2000

 Pulse Freq. Deviation
 : (U) 200000 kHz

Spread Spectrum : No

Figure 9 - Fundamental Curve (U)



 Em. Designator
 : (U) 6M08Q1N

 Neccessary BW
 : (U) 6080.0 kHz

Modulation - 6M08Q1N

Occupied Bandwidth : (U) 6080.0 kHz
Measured/Calculated : (U) Calculated
Radar/Communications : (U) Radar

Radar Type : (U) Coded Pulse Radar

Pulse Repetition Rate: (U) 372 ppsPulse Rise Time: (U) 0.000100 ms

Justification : (U) Short rise time and fall times

allow for a more precise resolution within the Search

II and increase mode performance.

 Pulse Fall Time
 : (U) 0.0000750 ms

 Pulse Width
 : (U) 0.0269 ms

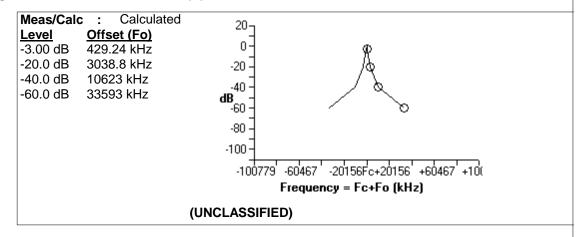
 Pulse Duty Cycle
 : (U) 0.9999 %

 Radar Subpulses
 : (U) 28

 Spread Spectrum
 : No

 Pulse Width
 : (U) 0.0269

Figure 10 - Fundamental Curve (U)



Em. Designator : (U) 9M13Q1N Neccessary BW : (U) 9130.0 kHz

Modulation - 9M13Q1N

Occupied Bandwidth : (U) 9130.0 kHz
Measured/Calculated : (U) Calculated
Radar/Communications : (U) Radar

Radar Type : (U) Coded Pulse Radar

Pulse Repetition Rate: (U) 744 ppsPulse Rise Time: (U) 0.000100 ms

Justification : (U) Short rise time and fall times

allow for a more precise resolution within the Search

Il and increase mode performance.

 Pulse Fall Time
 : (U) 0.0000750 ms

 Pulse Width
 : (U) 0.0134 ms

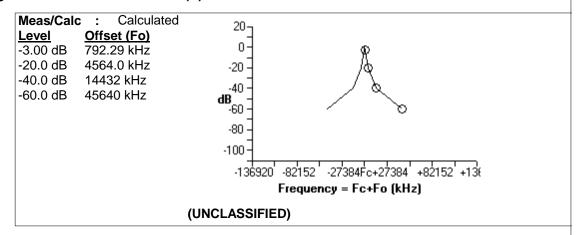
 Pulse Duty Cycle
 : (U) 0.9999 %

 Radar Subpulses
 : (U) 28

 Spread Spectrum
 : No

 Pulse Width
 : (U) 0.0134

Figure 11 - Fundamental Curve (U)



Powers

Power Type: Peak Envelope Upper Limit: (U) 50000 W

FULL RECORD PRINT FOR AN/APS-152(V)1, (V)2 & AN/APS-148, SeaView Radar

RECEIVER AN/APS-152(V)1, (V)2 & AN/APS-148

Nomenclature : (U) AN/APS-152(V)1, (V)2 & AN/APS-148

Manufacturer : (U) RAYTHEON CO. OR RAYTHEON MANUFACTURING CO.

Model Name : (U) APS-152(V)1, APS-148, SEA VIEW RADAR

NTIA Approval Status : (U) Unapproved

Date/Time Last Mod. : 6/30/2010 12:12:48 AM (GMT)

Coordination ID : (U) J/F 12

Fcc Acc. Number : (U) Not Applicable
Freq. Stability : (U) 22 ppm
Image Reject : (U) 50.0dB
Oscillator Tuned : (U) Either

Tuning Method : (U) Crystal Controlled

Frequencies

Fixed Frequency: (U) 9600.0 MHz

Sensitivities

Em. Designator : (U) 87M0Q3N Necessary BW : (U) 87000 kHz

Perf. Crit. : (U) MDS - Minimum Discernable Signal (dB)

Perf. Value : (U) 0

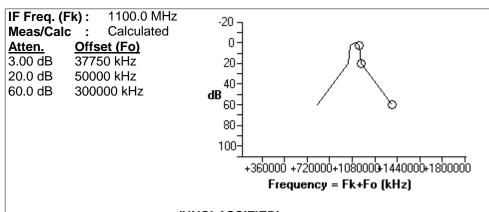
 Sensitivity
 : (U) -110 dBm

 Noise Fig.
 : (U) 4.00 dB

 Noise Temp.
 : (U) 438 K

 Spur. Reject
 : (U) 60.0 dB

Figure 12 - IF Selectivity Curve (U)



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Sensitivities

Em. Designator : (U) 9M13Q1N Necessary BW : (U) 9130.0 kHz

Perf. Crit. : (U) MDS - Minimum Discernable Signal (dB)

 Perf. Value
 : (U) 0

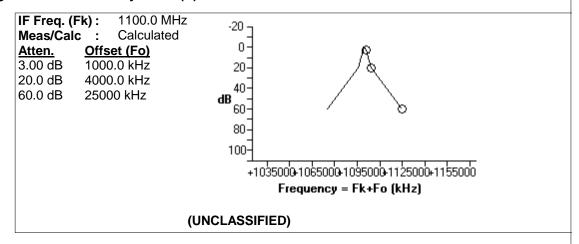
 Sensitivity
 : (U) -110 dBm

 Noise Fig.
 : (U) 4.00 dB

 Noise Temp.
 : (U) 438 K

 Spur. Reject
 : (U) 60.0 dB

Figure 13 - IF Selectivity Curve (U)



Sensitivities

 Em. Designator
 :
 (U) 6M08Q1N

 Necessary BW
 :
 (U) 6080.0 kHz

 Perf. Crit.
 :
 (U) Other

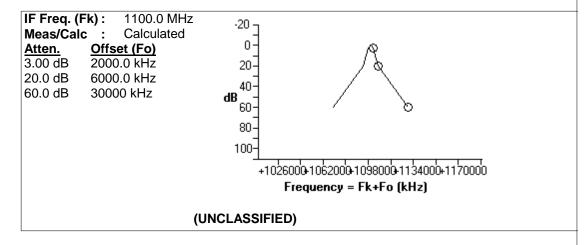
 Perf. Value
 :
 (U) 0

 Sensitivity
 :
 (U) -110 dBm

 Noise Fig.
 :
 (U) 4.00 dB

 Spur. Reject
 :
 (U) 60.0 dB

Figure 14 - IF Selectivity Curve (U)



Sensitivities

Em. Designator : (U) 225MQ3N Necessary BW : (U) 225000 kHz

Perf. Crit. : (U) MDS - Minimum Discernable Signal (dB)

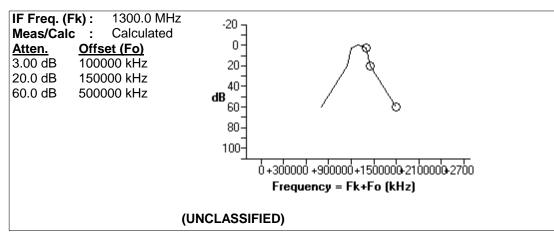
 Perf. Value
 : (U) 0

 Sensitivity
 : (U) -110 dBm

 Noise Fig.
 : (U) 4.00 dB

 Noise Temp.
 : (U) 438 K

Spur. Reject : (U) 60.0 dB Figure 15 - IF Selectivity Curve (U)



Sensitivities

Em. Designator : (U) 6M08P0N

Necessary BW : (U) 6080.0 kHz

Perf. Crit. : (U) MDS - Minimum Discernable Signal (dB)

Perf. Value : (U) 0

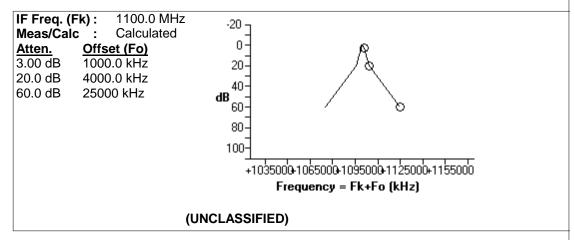
 Sensitivity
 : (U) -110 dBm

 Noise Fig.
 : (U) 4.00 dB

 Noise Temp.
 : (U) 438 K

 Spur. Reject
 : (U) 60.0 dB

Figure 16 - IF Selectivity Curve (U)



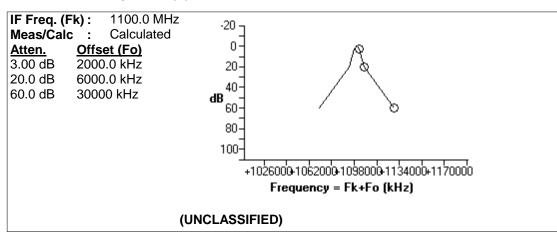
Sensitivities

Em. Designator : (U) 3M17P0N Necessary BW : (U) 3170.0 kHz

Perf. Crit. : (U) MDS - Minimum Discernable Signal (dB)

Perf. Value : (U) 0 Sensitivity : (U) -110 dBm Noise Fig. : (U) 4.00 dB

Noise Temp. : (U) 438 K Spur. Reject : (U) 60.0 dB Figure 17 - IF Selectivity Curve (U)



Sensitivities

Em. Designator : (U) 1M62P0N Necessary BW : (U) 1620.0 kHz

Perf. Crit. : (U) MDS - Minimum Discernable Signal (dB)

Perf. Value : (U) 0

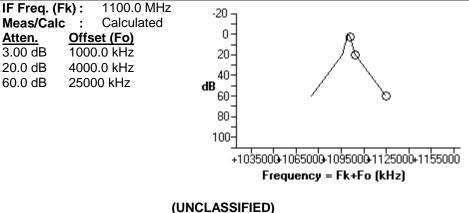
 Sensitivity
 : (U) -110 dBm

 Noise Fig.
 : (U) 4.00 dB

 Noise Temp.
 : (U) 438 K

 Spur. Reject
 : (U) 60.0 dB

Figure 18 - IF Selectivity Curve (U)



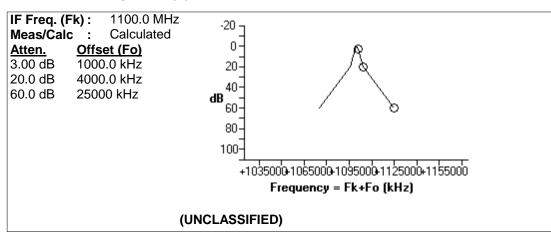
Sensitivities

Em. Designator : (U) 820KP0N Necessary BW : (U) 820.00 kHz

Perf. Crit. : (U) MDS - Minimum Discernable Signal (dB)

Perf. Value : (U) 0 Sensitivity : (U) -110 dBm

Noise Fig. : (U) 4.00 dB Noise Temp. : (U) 438 K Spur. Reject : (U) 60.0 dB Figure 19 - IF Selectivity Curve (U)



Sensitivities

Em. Designator : (U) 411KP0N Necessary BW : (U) 411.00 kHz

Perf. Crit. : (U) MDS - Minimum Discernable Signal (dB)

Perf. Value : (U) 0

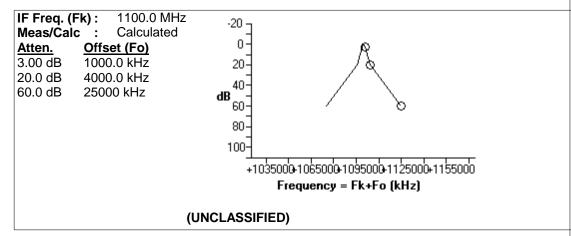
 Sensitivity
 : (U) -110 dBm

 Noise Fig.
 : (U) 4.00 dB

 Noise Temp.
 : (U) 438 K

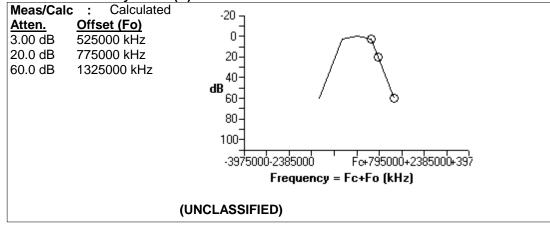
 Spur. Reject
 : (U) 60.0 dB

Figure 20 - IF Selectivity Curve (U)









FULL RECORD PRINT FOR AN/APS-152(V)1, (V)2 & AN/APS-148, SeaView Radar

ANTENNA AN/APS-152(V)1, (V)2 & AN/APS-148

Nomenclature : (U) AN/APS-152(V)1, (V)2 & AN/APS-148

Antenna Code : Aperture

Manufacturer : (U) RAYTHEON CO. OR RAYTHEON MANUFACTURING CO.

NTIA Approval Status : (U) Unapproved

Date/Time Last Mod. : 6/29/2010 11:10:47 PM (GMT)

Coordination ID (U) J/F 12 Lower Freq. Limit (U) 9400.0 MHz (U) 9800.0 MHz **Upper Freq. Limit Polarization** (U) Vertical Main Beam Gain (U) 36.0 dBi (U) 0.000 dB 1st Horz. Sidelobe Atten. : 1st Vert. Sidelobe Atten. : (U) 0.000 dB (U) Relative dB Atten. Rel/Act Horz. Beamwidth (U) 1.92 degrees (U) 3.00 degrees Vert. Beamwidth

Horz. Scan Type : (U) Electronic Scan Sector
Horz. Scan Speed : (U) 720 degrees/sec
Horz. Scan Rate : (U) 120 scans/min

Horz. Scan Type : (U) Electronic Scan Sector Vert. Scan Type : (U) Mechanically Steerable

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Frequency List

Tx Station	Rx Station	Frequency (MHz)	Em. Des.	Stn. Class
(U) AN/APS-152(V)1, (V)2 & AN/APS-148 (U) Targ) Target (U) 9600.0	(U) 1M62P0N	MR
			(U) 225MQ3N	
			(U) 3M17P0N	
			(U) 411KP0N	
	(U) Target		(U) 6M08P0N	
			(U) 6M08Q1N	
			(U) 820KP0N	
			(U) 87M0Q3N	
			(U) 9M13Q1N	

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