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Report 48

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ENEMY RADAR CHARACTERISTICS

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RADIO RESEARCH LABORATORY
Harvard University

Operating under the supervision of the
Office of Scientific Research and Development

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ENEMY RADAR CHARACTERISTICS

There is attached a chart of tentative data on enemy radar equipment which is based upon material compiled from many sources by the Office of the Chief Signal Officer, particularly Mr. George Rappaport. It is believed that the material presented in this form may be convenient for reference purposes.

Information concerning any additions or corrections that are in order will be appreciated.

HAC:ec



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NAME	FREQUENCIES MC	PRF CPS	WAVE LENGTH (λ) METERS	POLARIZATION	FUNCTION	RANGE (MI)	POWER (HP)	ANT. GAIN*	STRUCTURE	BEAM WIDTH	LOBE SWITCHING	SCANNING	OCCURRENCE	COMMENTS
JAPANESE F (BUADICANAL)	97-103	1000	20	H	E W	55	5 5		STERBA TRANSMITTER STERBA RECEIVER	18°		ROTATES	BUDICANAL WAVE RUSKA (?)	PRIMITIVE
HOARDING	107 125 127	500		V	E W	150		200	BROADSIDE ARRAY	4°		ELECTRICAL	FEW GERMAN	NOT WELL KNOWN
WASSERMAN (CHIMNEY)	110 (?)			V	HEIGHT FINDING & W						VERTICAL BY PHASING			
FREYA MK I	120-130	920 1060	3 2.5	V	E W GCI	80	100	10	SEPARATE ELEMENTS FOR T-R	25°	NONE	ROTATES OP OSCILLATES		SUPERSEDED BY MK II
FREYA MK II	120-130	505-530	3 2.5	V	E W GCI	150	100	40(?)	COMMON T-R IMPULSE SIZE	20°	NONE	ROTATES OR OSCILLATES	G-CI STATIONS	
GERMAN ASV	176	500	2.8	H	ASV	30-50	10	~15	TRANS YAGI & REC YAGI		NONE	NONE	FEW	COPY OF BRITISH MK I
GERMAN NAVAL	200													
GERMAN NAVAL	330-500				GUNNERY	20-40								
GEMA (RHUBARB)	350-390	500-800	~3	V	SHIP PLOTTING	15-20 mi / 25 mi range				22°	YES (?)		EXTENSIVE	
GERYNEN SUB	350-450				E W					20°				
GERMAN NAVAL	430-476									25°				
GERMAN (Fu Ge 200)	430 (?)	632 (?)			ASV	~50			YAGIS					
COASTAL GUN RANGING	470-490	500-500	~2.5	H	SHIP PLOTTING						NONE OBSERVED			NONE OBSOLETE
EMIL EMIL	480-500	1800 4750 Peak at 2700	2.5 4.1 at 4000	V	A I	15 ALTITUDE	5(?)	10	4 VERTICAL YAGIS	45°	19 23/SEC		INCREASING	SET CAPTURED DETAILS SOON
FLAKMESSGERAT M.K. I	550-580	4000	1-2	V	AA FIRE CONTROL	25	5	140	PARABOLOID	25°	NONE			MAJORITY ARE CONCENTRATED BETWEEN 550-580 MC
FMG II	550-580 (?)								PARABOLOID		ROTATING DIPOLE		RARE	"
FMG III	550-580	3500 4000	1-2	V	FIRE CONTROL	25	5	140	PARABOLOID	20°	ROTATING DIPOLE		ON ALL FRONTS	"
FMG IV					FIRE CONTROL SIC								FEW	NEW TYPE
WURZBURG I	550-580	3650 3950	2.0 1.3	V	GCI E W	25	5	140	PARABOLOID	13°	NONE	SEARCHES	SUPERSEDED BY MK II	TRAILER HOUSED
WURZBURG II	550-580	1775 1975	2.4 1.75	NOT SPECIFIC	GCI E W	45	5	900	PARABOLOID	55°-75°	20-26/SEC		MANY	MAJORITY ARE CONCENTRATED BETWEEN 550-580 MC
WURZBURG III	550-580	3650 3950	2.75 1.0	NOT SPECIFIC	GCI E W	25	5	140	PARABOLOID	13°	20-26/SEC		MANY	"
WURZBURG IV	550-580	1775 1975	2.3 1.0	V	GCI E W	45	5	900	PARABOLOID	55°-75°	NONE	SEARCHES	SUPERSEDED BY MK IV	
COASTAL GUN RANGING (BASKET)	~550	1400 1600	1.3 1.0	H	SHIP PLOTTING				PARABOLOID (?)					WURZBURG (?)
COASTAL GUN RANGING (BASKET)	~550	2000 3000	1.3 0.8	H	SHIP PLOTTING				PARABOLOID (?)					WURZBURG (?)
GERMAN (Fu Ge 202)	335-362				TAIL WARNING				PAIR OF YAGIS POINTING BACK					BOMBARDMENT AIRCRAFT

THIS CHART IS BASED ON MATERIAL COMPILED BY MR GEORGE RAPPAPORT OCS/SGO

† ALSO REPORTS OF WAVE RANGES FROM 100-180 MC ESPECIALLY AT 100-120 MC AND AT VARIOUS WAVELENGTH FREQUENCIES

* WITH RESPECT TO DIPOLE ANTENNA BY 100-400 MC WITH RESPECT TO ISOTROPIC SOURCE

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TENTATIVE DATA
ON ENEMY RADAR

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