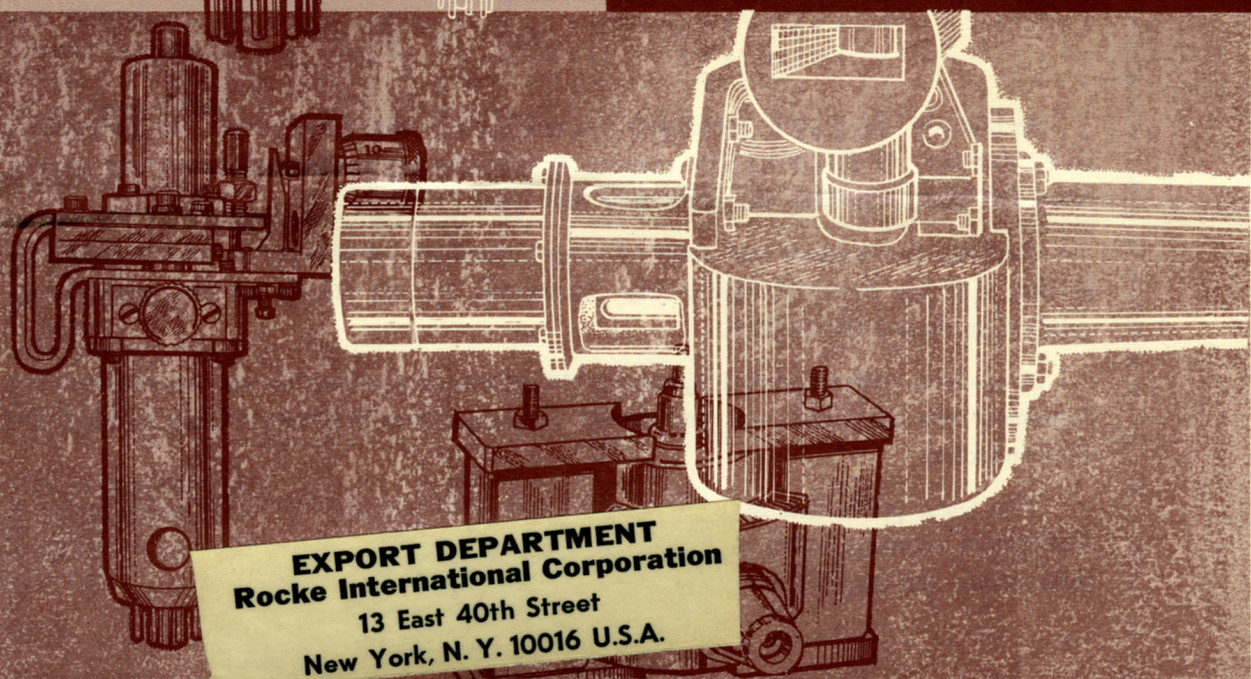


AmpereX®

MICROWAVE TUBES AND COMPONENTS



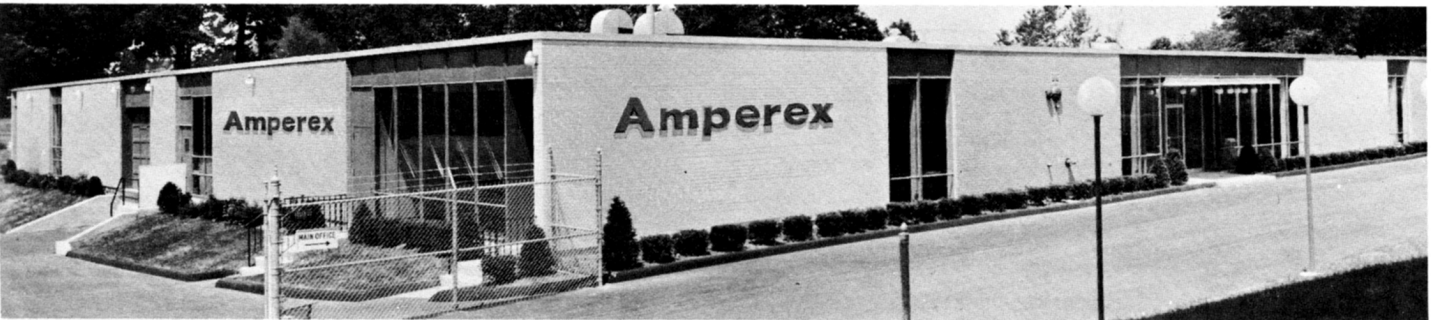
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*Amperex Semiconductor Manufacturing Plant
Cranston, Rhode Island*

In line with the growth, complexity and new applications of electronics, The AMPEREX ELECTRONIC CORPORATION research laboratories are continuously improving existing tubes and semiconductors, and developing new types.

Facilities for research and study of glass technology, metallurgy, chemistry, solid state physics, radiation detection, high voltage phenomena, etc. are utilized for the purpose of incorporating these improvements.

A modern, well-equipped Engineering Department is available for the assistance of our customers who are concerned with circuit and application problems relating to tubes and semiconductors.

The latest production techniques and "know-how" are applied to the manufacture of AMPEREX products which, for over 35 years, have achieved a reputation for reliability of performance and long life.

FOREWORD

This condensed catalog has been prepared to assist engineers seeking the proper microwave tubes and components for their application. It can be used as a quick reference catalog for new equipment designs as well as for replacement purposes.

Included in this catalog is a tabulated listing of Amperex CM and MM components.

Condensed catalogs for other Amperex products are also available upon request.

Condensed Tube Catalog - A quick reference catalog for Amperex Power Tubes, Entertainment and Audio Types and Cathode Ray Tubes.

Semiconductors - A quick reference catalog for Amperex transistors, diodes, and photo-sensitive

devices. This catalog also contains information on facilities, transistor technology, conversion parameters and semiconductor applications.

Nuclear Products - A quick reference catalog for Amperex neutron detectors, photomultiplier tubes, radiation counter tubes and Thermocoax wire products.

For special applications or when standard tubes are not suitable, the Amperex Research and Development Laboratories will be pleased to analyze your requirements and advise you on the possibility of developing and manufacturing new devices.

For further information on microwave tubes and components write:

Product Manager
Microwave Tubes and Components

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MICROWAVE TUBES

Microwave Triodes

TYPE NO.	FILAMENT		Plate Dissipation (Watts)	Mu	Trans-conductance (Micromhos)	PLATE		POWER OUTPUT CHARACTERISTICS			
	Volts	Amps				Volts	Amps	Power (Watts)	Gain (db)	Bandwidth (Mc)	Frequency (Mc)
5861/EC55	6.3	0.4	10	30	6,000	250	0.020	2.8	OSC	OSC	1,000
								0.5	OSC	OSC	3,000
								1.8	8	50-0.1 db	4,000
8108/EC157	6.3	0.73	10	43	21,000	180	0.060	0.5	13	50-0.1 db	4,000
								0.5	19	25-3.0 db	3,000
								0.25	0	Doubler	6,000
8436/EC158	6.3	0.85	30	30	25,000	180	0.140	5	8	50-0.1 db	4,000
								2	12	50-0.1 db	4,000

Klystrons UHF High Power

TYPE	HEATER		Power Supply Ion Pump Getter	
	(Volts)	(Amps)	(kv)	(ma)
YK1000	7.5 ± 3%	32	3	3
YK1001	7.5 ± 3%	32	3	3
YK1002	7.5 ± 3%	32	3	3

Traveling Wave Tubes

TYPE	Description	Freq. Range (kMc)	Type Output	HEATER		Helix Voltage (volts)
				Volts	Amps	
55340	Amplifier	3.8-4.2	Waveguide	6.3	0.8	1100
7537	Amplifier	4.4-5	Waveguide	6.3	0.8	1100
YH1030	Amplifier	5.9-7.2	Waveguide	6.3	0.8	2300

Klystrons (Listed in order of frequency range)

TYPE	DESCRIPTION	Freq. Range (Mc)	HEATER		Beam Voltage (volts)
			Volts	Amps	
6975	OSC, Reflex, Tunable	8500-9600	6.3	0.45	300
DX184	OSC, Reflex, Tunable	31000-36000	6.3	0.8	2250
DX151	OSC, Reflex, Tunable	67000-73000	3.5	1.75	2450
DX242	OSC, Reflex, Tunable	90,000-100,000	4	1.75	2500
DX264	OSC, Reflex, Tunable	100,000-110,000	4	1.75	2500
DX237	OSC, Reflex, Tunable	110,000-120,000	3.5	1.8	2500
DX247	OSC, Reflex, Tunable	140,000-150,000	3.5	1.8	2500

* ETR - Electronic tuning range

MICROWAVE TUBES

CAPACITANCES (pf)			Maximum Frequency (Mc)	DESCRIPTION	TYPE NO.
G-P	Input	Output			
1.3	1.8	0.03	3,000	Disc-seal triode, for amplifier and oscillator application.	5861/EC55
1.4	3.0	0.035	>6,000	Disc-seal triode, for amplifier, oscillator double or tripler applications. Long life.	8108/EC157
1.75	4.0	0.055	>6,000	Disc-seal triode, for amplifier, oscillator double or tripler applications. Long life.	8436/EC158

MAXIMUM RATINGS

Beam Voltage (kv)	Beam Current (ma)	Drift Tube Current (ma)	Focus Electrode Voltage (V)	Collector Dissipation (kw)	Ion Pump Voltage (kv)
20	2.5	150	-500	50	4
21	2.0	150	-500	35	4
21	2.0	150	-500	35	4

Mag. Field (Gauss)	Gain (db)	Power Output (Watts)
600	37	5
600	34	3.5
600	36	10

Reflector Voltage (volts)	Beam Current (ma)	ETR* (Mc)	Po(W)
160-230	30	50	0.040
100-500	15	60	0.100
300	17	100	0.100
300	18	150	0.07
300	18	150	0.05
400	16	200	0.05
400	16	200	0.02

MICROWAVE TUBES

MAGNETRONS (Listed in order of frequency range)

TYPE	DESCRIPTION	Freq. Range (Mc)	HEATER		E _A (kv)	I _A (Amps)	Duty	Pulling Figure (Mc)	Type ¹ Output	Pulse Dur. (μsec.)	P _o (kw)
			Volts	Amps							
5J26	Osc. Mechanically Tuned	1220-1350	23.5	2.2	34	60	0.002	5	CO	1.0	400
DX206	CW, Fixed Frequency	2425-2475	4.0	30	5.6	0.380	-	-	CO&WG	-	1.2
DX260	CW, Fixed Frequency	2425-2475	4.0	30	5.6	0.380	-	-	CO&WG	-	1.2
7090	CW Osc. Fixed Frequency	2425-2475	5.3	3.2	1.6	0.200	CW	5	CO	CW	0.200
7091	CW Osc. Fixed Frequency	2425-2475	5	35	4.5	0.75	CW	4	CO	CW	2.5
7292	Same as 7091 except liquid cooled, 7091 is forced air cooled.										
55125	CW Osc. Fixed Frequency	2425-2475	5	66	6.3-6.6	1.4	CW	-	CO	CW	5.0
5586	Osc. Tunable	2700-2900	16.0	3	27-32	70	0.0005	15	CO	1	800
5657	Osc. Tunable	2900-3100	16.0	3	27.5-32.5	70	0.0005	15	CO	1	800
55100-04	Osc. Fixed Frequency	2940-2980	5.0	2.6	30	-	0.0012	-	CO	-	400
55100-03	Osc. Fixed Frequency	2980-3005	5.0	2.6	30	-	0.0012	-	CO	-	400
55100-02	Osc. Fixed Frequency	3005-3030	5.0	2.6	30	-	0.0012	-	CO	-	400
55100-01	Osc. Fixed Frequency	3030-3060	5.0	2.6	30	-	0.0012	-	CO	-	400
6589	Osc. Tunable	3350-3500	16.0	3	26-30	50	0.0005	10	WG	1	500
55085-04	Osc. Fixed Frequency	3450-3490	5.0	2.9	30	-	0.0002	-	CO	-	360
55085-03	Osc. Fixed Frequency	3490-3530	5.0	2.9	30	-	0.0002	-	CO	-	360
55085-02	Osc. Fixed Frequency	3530-3570	5.0	2.9	30	-	0.0002	-	CO	-	360
55085-01	Osc. Fixed Frequency	3570-3614	5.0	2.9	30	-	0.0002	-	CO	-	360
4J59	Osc. Fixed Frequency	6275-6375	12.6	3.5	16-19	30	0.001	15	WG	1	210
4J58	Osc. Fixed Frequency	6375-6475	12.6	3.5	16-19	30	0.001	15	WG	1	210
4J57	Osc. Fixed Frequency	6475-6575	12.6	3.5	16-19	30	0.001	15	WG	1	210
YJ1010	Osc. Mechanically Tuned	8500-9600	13.75	3.6	22.5	27.5	0.001	15	WG	2.5	220
2J51, A	Osc. Tunable	8500-9600	6.3	1.0	14	14	0.001	18	WG	1	63
4J78	Osc. Fixed Frequency	9003-9167	13.8	3.35	22	-	0.001	15	WG	-	225
55032	Osc. Fixed Frequency	9003-9168	13.7	3.5	23	27	0.002	18	WG	1.0	225
JPT9-01	Osc. Mechanically Tuned	9150-9600	6.3	1.1	0.920	0.1	CW	20	WG	-	10W
55031	Osc. Fixed Frequency	9168-9345	13.7	3.5	23	27	0.002	18	WG	1.0	225
YJ1000	Osc. Fixed Frequency	9190-9320	6.3	-	3.4	3	0.001	18	WG	1.0	2.5
JP9-7A	Osc. Fixed Frequency	9210-9270	6.3	0.6	6.0	5.5	0.0025	15	WG	2.5	7.0
2J56	Osc. Fixed Frequency	9215-9275	6.3	1.0	16	16	0.001	15	WG	0.25	40
JP9-7D	Osc. Fixed Frequency	9345-9405	6.3	0.6	6.0	5.5	0.002	15	WG	2.5	8.0
2J42	Osc. Fixed Frequency	9345-9405	6.3	0.6	6.0	5.5	0.002	15	WG	2.5	8.0
2J55	Osc. Fixed Frequency	9345-9405	6.3	1.0	16	16	0.001	15	WG	0.25	40
4J50	Osc. Fixed Frequency	9345-9405	13.8	3.3	23	27	0.001	15	WG	6.0	225
725A	Osc. Fixed Frequency	9345-9405	6.3	1.0	16	16	0.001	15	WG	2.5	40
6972	Osc. Fixed Frequency	9345-9405	10	2.85	20	18	0.002	15	WG	5.5	75
55030	Osc. Fixed Frequency	9345-9405	13.7	3.5	23	27	0.001	18	WG	1.0	225
7028	Osc. Fixed Frequency	9345-9475	6.3	0.5	3.8	3.5	0.001	14	WG	1.0	3.0
4J52A	Osc. Fixed Frequency	9350-9400	12.6	2.3	15	15	0.001	13	WG	5.0	70
JP9-15	Osc. Fixed Frequency	9405-9465	6.3	0.6	8.5	7.0	0.0015	18	WG	2.5	19
55029	Osc. Fixed Frequency	9405-9505	13.7	3.5	23	27	0.002	18	WG	1.0	225
7093	Osc. Fixed Frequency	34, 512-35, 208	5	3.9	13.5-15	15.5	0.0003	50	WG	0.02	30
8153/ 55008	Osc. Fixed Frequency	34, 512-35, 208	5.0	3.9	17	20	0.0005	-	WG	0.5	80
DX164	Osc. Fixed Frequency	75,000	4.8	4.12	13	-	0.0002	-	WG	-	10

1 - CO = Coaxial

WG = Waveguide

CM AND MM COMPONENTS SECTION



CM COMPONENTS

25 CM BAND

Frequency Range 1120 - 1700 MC

Type	Component	Max. VSWR	Description
PM 7070L (SL 7510) PM 7135L (SL 7600/1)	Direct Reading Frequency Meter Standing Wave Detector	- -	error 0.1% (with correction curve <0.05%) min. measurable VSWR 1.005; max. measurable VSWR >100 probe displacement 350 mm; min. readable displacement 0.1 mm
PM 7220L (SL 7498/2) PM 7325L (SL 7603)	Matched Load Waveguide/Coaxial Transition	1.02 1.25	max. mean power 1 W N-connector

17 CM BAND

Frequency Range 1450 - 2200 MC

PM 7070D (SL 5815)	Direct Reading Frequency Meter	-	error 0.1% (with correction curve <0.05%)
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10 CM BAND

Frequency Range 2600 - 3950 MC

PM 7009S (SL 5640B) PM 7070S (SL 5212) PM 7215S (SL 5243/2) PM 7135S (SL 5200/1)	Power Generator Direct Reading Frequency Meter Adjustable Short Circuit Standing Wave Detector	- - >100 -	error 0.1% (with correction curve <0.05%) loaded "Q" >2500; error of displacement 0.1 mm min. measurable VSWR 1.005; max. measurable VSWR >200 probe displacement 175 mm; min. readable displ. 0.02 mm
PM 7150S (SL 5262/3) PM 7220S (SL 5376/2) PM 7250S (SL 7586) PM 7295S (SL 5980/41) PM 7296S (SL 5980/42) PM 7300S (SL 5980/51) PM 7325S (SL 5378/B) PM 7335S (SL 5680)	Sliding Screw Tuner Matched Load Cross-guide Coupler Waveguide Switch Automatic Waveguide Switch Waveguide Switch Waveguide/Coaxial Transition Taper	- 1.02 - 1.05 - 1.05 1.25 1.1	a VSWR of >30 can be reduced to <1.02 max. mean power 1 W coupling factor 20, 30 or 40 db; directivity >20 db remote-controlled version of PM 7295S cross-talk attenuation >80 db N-connector WG 10 to WG 10A

CM COMPONENTS

7.5 CM BAND

Frequency Range 3300 - 4900 MC

PM 7070A (SL 5590) PM 7135A (SL 5200/3)	Direct Reading Frequency Meter Standing Wave Detector	- -	error 0.1% (with correction curve < 0.05%) min. measurable VSWR 1.005; max. measurable VSWR < 200 probe displacement 175 mm; min. readable displ. 0.02 mm a VSWR of < 30 can be reduced to < 1.02 max. mean power 1 W remote controlled version of PM 7305A/50, but with switching circuit PM 7295 cross-talk attenuation 80 db N-connector
PM 7150A (SL 7380) PM 7220A (SL 7622/2) PM 7296A (SL 7490/42)	Sliding Screw Tuner Matched Load Automatic Waveguide Switch	- 1.02 -	
PM 7305A/50 (SL 4790/61) PM 7325A (SL 7606)	Waveguide Switch Waveguide/Coaxial Transition	1.05 1.25	

6 CM BAND

Frequency Range 3950 - 5850 MC

PM 7070G (SL 5174) PM 7135G (SL 5550/1)	Direct Reading Frequency Meter Standing Wave Detector	- -	error 0.1% (with correction curve 0.05%) min. measurable VSWR 1.005; max. measurable VSWR > 100 probe displacement 92 mm; min. readable displ. 0.02 mm a VSWR of > 30 can be reduced to < 1.02 acc. of displacement 0.1 mm max. mean power 1 W coupling factor 20 db; directivity > 20 db remote-controlled versions of PM 7305G cross-talk attenuation > 80 db remote-controlled versions of PM 7305G N-connector
PM 7150G (SL 5261) PM 7125G (SL 5017/2) PM 7220G (SL 5057/2) PM 7250G/20 PM 7296G (SL 5990/42) PM 7305G (SL 5990/61) PM 7306G (SL 5990/62) PM 7325G (SL 7607)	Sliding Screw Tuner Adjustable Short Circuit Matched Load Cross-guide Coupler Automatic Waveguide Switch Waveguide Switch Automatic Waveguide Switch Waveguide/Coaxial Transition	< 100 1.02 - - 1.05 - 1.25	

5 CM BAND

Frequency Range 4900 - 7050 MC

PM 7070C (SL 7599)	Direct Reading Frequency Meter	-	acc. 0.1% (with correction curve < 0.05%)
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4.5 CM BAND

Frequency Range 5850 - 8200 MC

Type	Component	Max VSWR	Description
PM 7070J (SL 5585) PM 7135J (SL 5550/2)	Direct Reading Frequency Meter Standing Wave Detector	- -	acc. 0.1% (with correction curve < 0.05%) min. measurable VSWR 1.005; max. measurable VSWR > 100 probe displacement 92 mm; min. readable displacement 0.01 mm a VSWR of > 30 can be reduced to < 1.02 acc. of displacement 0.1 mm max. mean power 1 W coupling factor 20 db, directivity > 20 db remote-controlled versions of PM 7305J
PM 7150J (SL 7085/3) PM 7215J (SL 7080/2) PM 7220J (SL 7070/2) PM 7250/20 (SL 7581/20) PM 7296J (SL 7010/42) PM 7305J (SL 7010/61) PM 7306J (SL 7010/62) PM 7325J (SL 7607)	Sliding Screw Tuner Adjustable Short-Circuit Matched Load Cross-Guide Coupler Automatic Waveguide Switch Waveguide Switch Automatic Waveguide Switch Waveguide/Coaxial Transition	- 100 1.02 - - 1.05 - 1.25	

CM COMPONENTS

3.5 CM BAND

Frequency Range 7050 - 10,000 MC

PM 7070H (SL 7100)	Direct Reading Frequency Meter	—	acc. 0.1% (with correction curve < 0.05%) min. measurable VSWR 1.005; max. measurable VSWR >100 probe displacement 72 mm; min. readable displacement 0.01 mm
PM 7135H (SL 5341/4)	Standing Wave Detector	—	
PM 7215H (SL 5290/2)	Adjustable Short Circuit	>100	acc. of displacement 0.1 mm max. mean power 1 W remote-controlled versions of PM 7305H cross-talk attenuation >80 db N-connector frequency range 8200 - 10,000 Mc
PM 7220H (SL 5915/2)	Matched-Load	1.02	
PM 7926H (SL 7020/42)	Automatic Waveguide Switch	—	
PM 7305H (SL 7020/61)	Waveguide Switch	1.05	
PM 7325H (SL 7609)	Waveguide/Coaxial Transition	1.25	
PM 7335HX (SL 5910)	Taper to Waveguide WR 90 (RG52/U)	1.05	

3 CM BAND

Frequency Range 8200 - 12,400 MC

Type	Component	Max. VSWR	Description
PP 4000X	Waveguide Stand	—	height 100 - 114 mm
PP 4020X	Straight Waveguide Section	—	length 10, 20 or 40 cm
PP 4025X	E-plane Bend	1.07	radius of curvature 29 mm
PP 4030X	H-plane Bend	1.07	radius of curvature 29 mm
PP 4035X	Twist	1.10	length 187 mm
PP 4040X	Shunt Tee	—	length 80 mm
PM 7009X (SL 5660/KL)	Power Generator	—	
PM 7070X (SL 5205)	Direct Reading Frequency Meter	—	acc. 0.1% (with correction curve < 0.05%) loaded "Q" >1500;
PM 7295X (SL 5600/41)	Waveguide Switch	1.05	cross-talk attenuation >80 db
PM 7296X (SL 5600/42)	Automatic Waveguide Switch	—	remote-controlled version of PM 7295
PM 7305X (SL 5600/61)	Waveguide Switch	1.05	cross-talk attenuation >80 db
PM 7306X (SL 5600/62)	Automatic Waveguide Switch	—	remote-controlled version of PM 7305
PM 73335HX (SL 5910)	Adaptor to Waveguide WR 112 (RG 51/U)	1.05	frequency range 8200 - 10,000 Mc
PP 4045X	Series Tee	—	length 80 mm
PP 4050X	Hybrid Tee	—	decoupling >40 db
PP 4070X	Waveguide/Coaxial Adaptor	1.50	N-connector
PP 4080X	Horn	1.25	directivity: E-plane 20°; H-plane 25°
PP 4090X	Multi-hole Directional Coupler	1.05	directivity >40 db; coupling factor 10 db or 20 db (±0.2 db)
PP 4095X	Cross-guide Directional Coupler	—	directivity 20 db; coupling factor 26 db (±0.5 db)
PP 4110X	Fixed Attenuator	1.10	attenuation 6, 10 or 20 db (±0.2 db); max. peak power 1 kw
PP 4130X	Flap Attenuator	1.15	max. attenuation 20 db; max. mean power 1 W
PP 4140X	Phase Shifter	1.15	phase shift 0 - 250°; accuracy 10%; insertion loss < 0.3 db
PP 4150X	Rotary Vane Attenuator	1.50	max. attenuation 50 db; accuracy 2%
PP 4170X	Low-power Matched Load	1.10	mean power 2 W max.
PP 4200X	Klystron Mount	—	when using klystron 2K25 the output power is > 20 mw
PP 4220X	Adjustable Crystal Mount	1.10	sensitivity 1 mv d. c. for 0.1 μw; N-connector
PP 4225X	Broadband Crystal Mount	1.50	sensitivity: 1 mv d. c. for 10 μw; BNC-connector
PP 4245X	Tunable Thermistor Mount	1.10	freq. range 8.2 - 11 Gc; BNC-connector
PP 4260X	Calibrated Short Circuit	>100	accuracy of the displacement 0.02 mm
PP 4270X	Sliding Screw Tuner	—	a VSWR of >20 can be reduced to <1.02; insertion loss for a VSWR of 20 is <2 db
PP 4290X	Direct Reading Wavemeter	1.10	freq. range 8.500 - 9.800 Mc; absolute acc. 2 Mc at 25° C; loaded "Q" approx. 10,000
PP 4300X	Broadband Wavemeter	1.10	relative accuracy 3.10 ⁻⁴ ; loaded "Q" 3,000
PP 4360X	Measuring Cavity	—	for electron paramagnetic resonance measurements, freq. range 8,650 - 8,950 Mc; loaded "Q" > 3,000
PP 4380X	Standing Wave Detector	1.05	accuracy of the probe displacement 0.01 mm; BNC-connector
PP 4385X	High Precision Standing Wave Detector	—	min. measurable VSWR 1.005; max. measurable VSWR 2,000; probe displacement 82 mm; acc. of probe displacement 2 μ; BNC-connector
PP 4421X	Ferrite Isolator	1.15	freq. range 8.5 - 9.6 Gc; forward acc. < 0.8 db; reverse att. > 13 db; peak power 50 kw
PP 4422X	Ferrite Isolator	1.20	freq. range 8.5 - 9.6 Gc; forward att. < 0.5 db; reverse att. > 20 db; max. mean power 1 W
PP 4500X	Noise Generator	1.20	noise factor up to 18.7 db; tube K50A (temp. 21, 800°K); attenuation 0 - 13 db (acc. 0.5 db)

MILLIMETER COMPONENTS

2 MM Band
Frequency Range 110 - 170 GC

PP 4020B/06 PM 7335B	Straight Waveguide Section Transition to WR8, claw flange on either side	-	length 6 cm
PP 4020B/BP	Transition to WR 5 and american flange	-	length \approx 4 cm
PP 4021B/BP	Transition to WR8 and american flange	-	length \approx 4 cm
PP 4025B	E-plane Bend 90°	1.07	-
PP 4030B	H-plane Bend 90°	1.07	-
PP 4050B	Hybrid Tee	-	decoupling > 30 db
PP 4080B	Horn	1.07	directivity: E-plane 6°; H-plane 10°, gain 25 db
PP 4130B	Flap Attenuator	1.15	max. att. 35 db
PP 4140B	Phase Shifter	1.15	0 - 180°
PP 4150B	Rotary Vane Attenuator .	-	max. attenuation 50 db, error 3%
PP 4170B	Matched Load	1.08	max. mean power: 0.2 W
PP 4420B	Crystal Mount	-	sensitivity > 10 mv per mw; VSWR between 1.5 and 2.5 dependent on the crystal
PP 4230B	Harmonic Generator (4mm 2 mm)	-	conversion loss between 20 and 30 db dependent on the crystal
PP 4260B	Adjustable Short Circuit	>50	accuracy of displacement 0.02 mm
PP 4270B	Tuner	-	a VSWR of 10 can be reduced to < 1.15
PP 4400B	Calibrated Variable Impedance	-	IRI between 0 and 1; phase adjustment between 0 and 360°

4 MM Band
Frequency Range 60 - 90 GC

Type	Components	Max. VSWR	Description
PP 4020E	Straight Waveguide Section	1.05	length 5 or 10 cm
PP 4020E/BP	Adaptor to flange UG387/U	1.05	length \approx 5 cm
PP 4025E	P-plane Bend 90°	1.05	radius of curvature 18 mm
PP 4030E	H-plane Bend 90°	1.05	radius of curvature 13 mm
PP-034E	H-plane Bend 180°	1.05	radius of curvature 18 mm
PP 4035E	Twist	1.05	length \approx 5 cm
PP 4050E	Hybrid Tee	-	decoupling > 35 db
PP 4080E	Horn	1.1	gain \approx 20 db
PP 4130E	Flap attenuator	1.15	max. attenuation 40 db
PP 4140E	Phase Shifter	1.15	0 - 180
PP 4150E	Rotary Vane Attenuator	-	max. attenuation 50 db; error 3%
PP 4170E	Matched Load	1.08	max. mean power 0.2 W
PP 4200E	Klystron Mount	-	when using klystron type YK 1010, the delivered power is > 100 mw
PP 4220E	Crystal Mount	-	average sensitivity: 50 - 100 mv per mw; VSWR (< 2.5) as well as the sensitivity depends on the 1N53 used
PP 4260E	Adjustable Short Circuit	>70	accuracy of displacement 0.02 mm
PP 4270E	Sliding Screw Tuner	-	a VSWR of 10 can be reduced to < 1.05
PP 4300E	Wavemeter	1.20	frequency range 65 - 75 Gc; accuracy < 40 Mc
PP 4400E	Calibrated Variable Impedance	-	IRI between 0 and 1; phase adjustment between 0 and 360°
PP 4422E	Ferrite Isolator	-	forward att. < 1.5 db; reverse att. > 15 db from 69.5 - 72.5 Gc; peak att. > 25 db

MILLIMETER COMPONENTS

8 MM Band
Frequency Range 31 - 36 GC

Type	Components	Max. VSWR	Description
PP 4000Q	Wavemeter Stand	-	height 80 - 135 mm
PP 4015Q	Flange Connection	-	connection for flange Z83, 0019
PP 4020Q	Straight Waveguide Section	-	length 5, 10 or 20 cm
PP 4020Q/AR	Adapter to flange UG599/U	-	length 5 cm
PP 4020Q/BR	Adapter to flange UG381/U	-	length 5 cm
PP 4025Q	E-plane Bend	1.07	radius of curvature 35 mm
PP 4030Q	H-plane Bend	1.07	radius of curvature 37 mm
PP 4035Q	Twist	1.07	length 50 mm
PP 4050Q	Hybrid Tee	-	decoupling > 35 db
PP 4080Q	Horn	1.15	directivity: E-plane 15°; H-plane 16°
PP 4090Q	Multi-hole Directional Coupler	1.05	coupling factor 10 or 20 db (± 0.2 db); directivity > 40 db
PP 4130Q	Flap Attenuator	1.15	max. attenuation > 20 db; max. mean power 200 mw
PP 4140Q	Phase Shifter	1.15	phase shift 0 - 200°; absolute accuracy 10%
PP 4150Q	Rotary Vane Attenuator	1.15	max. attenuation 50 db; accuracy 3%
PP 4170Q	Low-Power Matched Load	1.05	max. mean power 1 W
PP 4200Q	Klystron Mount	-	instrument supplied with klystron 55.335
PP 4222Q	Adjustable Crystal Mount	1.25	BNC-connector
PP 4260Q	Calibrated Short Circuit	> 50	accuracy of the displacement 0.02 mm
PP 4270Q	Sliding Screw Tuner	-	a VSWR of > 10 can be reduced to < 1.03; insertion loss for a VSWR of 10 is < 2 db
PP 4300Q	Broadband Wavemeter	1.20	relative accuracy $5 \cdot 10^{-4}$; loaded "Q" > 3000
PP 4382Q	Standing Wave Detector	-	min. measurable VSWR 1.03; accuracy of the displacement 0.01 mm; max. probe penetration 2 mm; BNC-connector
PP 4400Q	Calibrated Variable Impedance	-	IRI between 0 and 1; phase adjustment between 0 and 360°
PP 4420Q	Ferrite Isolator	1.15	freq. range 33 - 36 Gc; forward att. < 1 db; reverse att. 13 - 26 db; max. mean power 200 mw
55.335	klystron		for range 32 - 35 Gc output power > 100 mw resonator voltage 2250 V; resonator current 15 ma; reflector voltage -100 to -500 V

Accessories

PP 4010E	Loose Claw Flange
PP 4015E	Clamping-ring
PP 4016E	Pillar Mounted Clamping-ring
PP 4930B	25 Crystal Whiskers for PP 4220B and 4230B
PP 4931B	Silicon Mount for PP 4220B and PP 4230B

INFORMATION ON AMPEREX MICROWAVE TUBES AND COMPONENTS

is available from these Field Sales Offices and Government Sales Offices:

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Tel: 617-BE 2-2425

P.O. Box 447, 26 Maple Ct., E. Longmeadow,
Mass. 01461—Tel: 413-LA 5-3059

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202-ST 3-3480 (Ans. Svce)

6302 Lincoln Ave., Baltimore, Md. 21209
Tel: 302-RO 4-7189
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LUND & COMPANY

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