

EX-GOVT. VALVES AND C.R. TUBES

Valve Types and Their Commercial Equivalents

(Information supplied by The Inter-Service Technical Valve Committee)

Many readers, both inside and outside the Services, who are concerned with the use of valves marked with Service names, would like to know the commercial types on which the Service types were based. The following tables give this information. The first column shows the Service names, A . . . being an Army type, N . . . a Naval type, V . . . an Air Force type, and CV . . . a common Service type. Since 1941 all valves adopted by the Services have been given "CV" titles, and later all the old A . . ., N . . ., and V . . . valves were brought into this system to eliminate overlapping. However, as large stocks of valves marked with the old Service type designations still exist and numerous equipments are marked with those names, they are made the basis of the arrangement in the first column.

A warning should be given that strict equivalence between the Service type and the given commercial type must not be assumed, as the specification for the Service valve may require selection either for electrical or mechanical requirements or both.

Original Service Name	Current Title	Other Service Names	Commercial Type	Original Service Name	Current Title	Other Service Names	Commercial Type
AD1	CV1314		DLS10	ARTP1	CV1344		TP22
ARDD1	CV1300		10D1	ARTP2	CV1345		TP25
ARDD3	CV1301		D63, 6H6G	AR4	CV1303		HL210A
ARDD5	CV1054	VR54	EB34	AR5	CV1166	NR42	LP2
ARD2	CV1078	VR78	D1	AR6	CV1304		LP2
ARD4	CV1302		D42	AR7	CV1109	NR55, VR109 and A	4D1
ARH1	CV1280	NR67	X64				
ARP1	CV1118	NR39, VR118	PT2, KT2	AR8	CV1306		HL23DD
ARP2	CV1320		SP2	AR9	CV1307		210LF
ARP3	CV1321		9D2	AR10	CV1308		L21DD
ARP4	CV1322		SP210	AR11	CV1309		4019B
ARP5	CV1323		VP2	AR12	CV1310		4020A
ARP6	CV1324		SP4	AR13	CV1311		4022AR
ARP7	CV1325		42MPT	AR14	CV1312		220RC
ARP8	CV1326		AC4/Pen	AR15	CV1313		220LF
ARP9	CV1327		Pen1340	AR16	CV1032	VR32	220B
ARP9A	CV1328		7D8S	AR17	CV1037	NR31, VR37	MH4
ARP10	CV1329		APP4G*	AR20	CV1316		4021B
ARP11	CV1330		TSP4	AR21	CV1055	NR48, VR55	EBC33
ARP12	CV1331		VP23	ATP4	CV1366		V248A
ARP13	CV1332		210VPT, VP21	ATP5	CV1367		V245
ARP14	CV1333		220IPT	ATP7	CV1368		V226
ARP15	CV1195	NR86	KTW63	ATP10	CV1369		4061A
ARP16	CV1074	NR83, VT74	KTZ63	ATP35	CV1370		PV1-35
ARP17	CV1186	NR85	KT63, 6F6G	ATP75	CV1371		PZ1-75, SW75Pen
ARP18	CV1334		KT24				4069A
ARP19	CV1335		SP41	ATP100	CV1372		PY3-600
ARP20	CV1336		SP42	ATP600	CV1373		807
ARP21	CV1192	NR79	Z62	ATS25	CV1374		4282BZ
ARP22	CV1337		116Pen	ATS70	CV1365		SG250
ARP23	CV1124	NR70, VR124	MS/Pen	ATS250	CV1357		LS5
ARP24	CV1338		220VPT	AT15	CV2845		LS5B
ARP25	CV1181	NR59	KT41	AT16	CV2846		MZ05-20
ARP26	CV1340		KT44 (mod)	AT20	CV1361		DET25
ARP33	CV1341		MSP4	AT35	CV1025	VT25	ACT6
ARP34	CV1053	VR53	EF39	AT75	CV1222	NT39	DET16
ARP35	CV1091	VR91	EF50	AT200B	CV1363		FW4-500
ARP36	CV1065	VR65	SP41 (mod)	AU1	CV1264	NU12	RG5-500, 4064A
ARP37	CV1342		QP25	AU2	CV1349		MU12/14, UU5,
ARP38	CV1343		KTZ73 (mod)	AU3A	CV1039	NU17, VU39	IW4, 44IU
ARS6	CV1317		S625				U17
ARS7	CV1318		VS24, PM12M, S215VM	AU4	CV1113	NU18, VU113	V1907
			VS2	AU5	CV1111	VU111	GU50, MU4250,
ARS8	CV1319		VS2	AU6	CV1072	VU72	RG1/240
ARTH2	CV1347		ECH35				

Original Service Name	Current Title	Other Service Names	Commercial Type	Original Service Name	Current Title	Other Service Names	Commercial Type
AU7	CV1355	VS70 VS110 VS68 VI77	ESU300	NR41	CV1083	VR83	210VPT, VP21
AU8	CV1356		U22	NR42	CV1166	AR5	LP2
AU12	CV2853		U15, RZ1-250	NR43	CV1167		PM24A
AW2	CV1070		7475	NR44	CV1168		AC044, PX4
AW3	CV1110		S130	NR45	CV1169		VMP4G
AW4	CV1068		STV280/40	NR46	CV1170		D41
AW5	CV1359		ME41	NR47	CV1040	VR40	PX25, DO24,
AW6	CV1077		EM31				PP5/400
CV5	CV5		GU21	NR48	CV1055	AR21, VR55	EBC33
			(special)	NR49	CV1056	VR56	EF36
CV9	CV9		AL60	NR50	CV1171		HA1, AT4, A40
CV18	CV18		RK34	NR51	CV1172		VP4A
CV19	CV19		EHT1	NR52	CV1173		354V
CV24	CV24		HL41	NR53	CV1174		KT42, MP/Pen,
CV25	CV25		4242A				Pen4VA,
CV26	CV26		813				AC/Pen
CV27	CV27		4357A	NR54	CV1175		ZA1, AP4
CV28	CV28		ACT9	NR55	CV1109	AR7, VR109 and A	4D1
CV30	CV30		4270A				
CV31	CV31		U20	NR56	CV1178		DA30, DO30
CV33	CV33		4077A	NR57	CV1179		TT4
CV34	CV34		MR10	NR58	CV1180		V312
CV45	CV45		S130 (mod)	NR59	CV1181		KT41
CV49	CV49		3B/501A	NR60	CV1182		H42
CV65	CV65		Pen25	NR61	CV1183		W42
CV66	CV66		RL37	NR62	CV1184		A373
CV71	CV71		"Osglim"	NR64	CV1281		KTW61
CV75	CV75		4313C	NR65	CV1282		AC/S2Pen,
CV84	CV84		3B/102B				MSP4
CV93	CV93		V625	NR66	CV1187		D41
CV152	CV152		GU21	NR67	CV1280	ARH1	X64
CV173	CV173		DDR2	NR68	CV587		DH63, 6Q7G
CV181	CV181		ECC32	NR69	CV1103	VI103	Y63
CV185	CV185		PM202	NR70	CV1124	ARP23, VR124	MS/Pen
CV187	CV187		U19	NR71	CV1129	VR129	MS/PenT
CV190	CV190		DLS10	NR72	CV1188		N43
CV207	CV207		AC/P4	NR73	CV1285		ECC31
CV216	CV216		VR150/30	NR74	CV1189		AC6Pen
CV225	CV225		ACT17	NR75	CV1190		AC/P4
CV235	CV235		U23	NR76	CV1191		KTZ41
CV242	CV242		GS18, CMG25	NR77	CV1286		EL35
CV243	CV243		4045A	NR78	CV581	6C5G	6C5G
CV244	CV244		4046A	NR79	CV1192	ARP21	Z62
CV245	CV245		4328D	NR81	CV1941	6K7G	6K7G
CV285	CV285		VA35	NR82	CV1193		X65
NGT1	CV1141	VGT128	GDT4C	NR83	CV1074	ARP16, VT74	KTZ63
NGT2	CV1128		GT1C	NR84	CV1194		X41
NGT3	CV1142		MR75	NR85	CV1186	ARP17	KT63, 6F6G
NGT4	CV1143		GT1A	NR86	CV1195	ARP15	KTW63
NGT5	CV1144		BT19	NR87	CV1196		AC5PenDD
NGT6	CV1145		BT9A	NR88	CV1197		RL18, EC53
NGT7	CV1147		BT35	NR94	CV1198		AC/P4
NGT9	CV1149		BT41	NR95	CV1502	VR502	KT32
NR15	CV1151		I410, PM4DX	NS1	CV1069	VS69	STV280/80
NR16	CV1153		PM254	NS3	CV1200		202
NR16A	CV1154		PM254	NS4	CV1201		4317
NR18	CV1156		DEQ	NS5	CV1202		304
NR22	CV1158		S410, PM14	NT13	CV2788		P610
NR23	CV1159		S410, PM14	NT18	CV1206		DO60, DA60
NR26	CV1038	VR38	MHL4	NT20	CV1208		P625, PM256
NR27	CV1160		104V	NT36	CV1219		DA100, MZ1-100
NR28	CV1019	VR19	215P	NT37	CV1220		4033A
NR31	CV1037	AR17, VR37	MH4	NT38	CV1293		SW75Pen,
NR35	CV1163		PM2BA				PZ1-75, PT6
NR37	CV1164		MS4, MSPen	NT39	CV1222	AT75	ACT6
			(mod)	NT40	CV1223		DET5
NR38	CV1165		VMS4, MVSPen	NT58	CV1288		DET12, TY1-50
			(mod)	NT62	CV1237		PM24D
NR39	CV1118	ARP1, VR118	PT2, KT2	NT65A	CV1240		PZ1-35

Original Service Name	Current Title	Other Service Names	Commercial Type	Original Service Name	Current Title	Other Service Names	Commercial Type
NT82	CV1246	AU1	P2	VR137	CV1137	NR95	RL16, EC52
NT87	CV1250		4279A	VR502	CV1502		KT32
NT92	CV1252		4212E	VR503	CV1503		KT33C
NU5	CV1261		RX3-120	VR505	CV1505		MH41
NU12	CV1264		FW4-500	VS68	CV1068		STV280/40
NU13	CV1265	AU3A, VU39	U15, RZ1-250	VS69	CV1069	AW4	STV280/80
NU15	CV1267		U4020	VS70	CV1070	NS1	7475
NU17	CV1039		MU12/14, UU5, IW4, 44IU	VS110	CV1110	AW2	S130
NU18	CV1113		U17	VT20	CV1020	AW3	220P
NU20	CV1268		U50	VT23	CV1023	AT35	230XP
NU31	CV1279	AU4, VU113	MU2	VT25	CV1025		DET25
NU33	CV1290		SU2150A	VT31	CV1031		SG250
NU34	CV1134		HVR2	VT34	CV1034		DET3
VG121	CV1121		T41	VT45	CV1045		X56
VG128	CV1128	NGT2	GT1C	VT46	CV1046	NR83, ARP16	PT25H
VI77	CV1077	AW6	EM31	VT47	CV1047		TZ05-20,
VI103	CV1103	NR69	Y63	VT50	CV1050		VLS417
VR18	CV1018	NR28	215SG	VT51	CV1051		HL2K
VR19	CV1019		215P	VT52	CV1052		Pen220A
VR22	CV1022		220PA	VT58	CV1058		EL32
VR28	CV1028		220VSG	VT60	CV1060		E960
VR32	CV1032	AR16	220B	VT61	CV1061		807
VR35	CV1035		QP21	VT61A	CV1573	NR83, ARP16	4074A, DET19,
VR37	CV1037		MH4	VT62	CV1062		RK34
VR38	CV1038		MHL4	VT73	CV1073		TVO3-10 (mod)
VR40	CV1040		PX25, DO24, PP5/400	VT74	CV1074		DET12, TY1-50
VR41	CV1041	ARP34	PM12M	VT75	CV1075		H63
VR43	CV1043		210PG	VT75A	CV1576	NR83, ARP16	KTZ63
VR44	CV1044		210DDT	VT75B	CV1577		KT66
VR49	CV1049		210SPT	VT76	CV1076		KT44T
VR53	CV1053		EF39	VT79	CV1079		KT44
VR54	CV1054	ARDD5	EB34	VT80	CV1080	NR83, ARP16	DA41, TZ40
VR55	CV1055	NR48, AR21	EBC33	VT81	CV1081		KT8
VR56	CV1056		EF36	VT88	CV1088		4307A
VR57	CV1057		EK32	VT96	CV1096		4052A
VR59	CV1059		HA2, 955, 4671	VT104	CV1104		832
VR65	CV1065	ARP36	SP61	VT105	CV1105	NR83, ARP16	5B/502A
VR65A	CV1574		SP41	VT114	CV1114		PT15
VR66	CV1066		P61	VT127	CV1127		ML6
VR67	CV1067		L63	VT506	CV1506		E1024
VR78	CV1078		D1	VU39	CV1039		Pen46
VR82	CV1082	ARD2	220TH	VU71	CV1071	NR83, ARP16	5C/450A
VR83	CV1083		220VPT, VP21	VU72	CV1072		MU12/14, UJ5,
VR91	CV1091		EF50	VU111	CV1111		IW4, 44IU
VR92	CV1092		EA50	VU113	CV1113		U52
VR95	CV1095		ZA2, 954, 4672	VU134	CV1134	NR83, ARP16	GU50, RG1-
VR99	CV1099	ARP35	X66	VU504	CV1504		240, MU4250
VR99A	CV1581		ECH35, E1341	VU508	CV1508		V1907
VR100	CV1100		KTW62				U17
VR101	CV1101		MHLD6				HVR2
VR102	CV1102	NR55, AR7	BL63			NR83, ARP16	V1901
VR106	CV1106		9D2				V1913
VR107	CV1107		15D2				
VR108	CV1108		8D2				
VR109	CV1109		4D1				
VR116	CV1116	NR39, ARP1	V872			NR83, ARP16	
VR117	CV1117		41MTL				
VR118	CV1118		PT2, KT2				
VR119	CV1119		DDL4				
VR122	CV1122		41MXP				
VR124	CV1124	NR70, ARP23	MS/Pen			NR83, ARP16	
VR125	CV1125		MS/PenB				
VR126	CV1126		4SH				
VR127	CV1127		MS/PenT				
VR128	CV1128		HL23				
VR130	CV1130	NR71	E1148, DET20			NR83, ARP16	
VR135	CV1135		RL7, EF54				
VR136	CV1136						

CATHODE-RAY TUBE DATA

Characteristics of Some Ex-Service Surplus Types

Compiled by D. W. Thomasson

Type	Screen	Base	Size		Operating Conditions					Sensitivity	
			L	D	V ₁	V ₂	V ₃	V _{max}	I _b	X-axis	Y-axis
NC1	G. M.	9.1	160	25	0.8	0.135	0.8	—	3	100	90
NC6	G. —	12.1	350	75	1.45	0.6	3	4	10	320	480
NC7	G. S.	12.2	630	230	1.7	1	6	6	40	1490	1270
NC12	G. S.	12.3	420	160	1.8	0.8	5	6	3	550	1000
NC14	B. —	12.3	420	160	2	0.35	2	2.5	20	600	1140
NC16	G. M.	12.4	200	70	0.8	0.12	0.8	1.5	3	150	150
NC19	G. M.	9.1	160	25	0.8	0.135	0.8	—	3	100	90
VCR97	—	12.3	420	160	2	0.35	2	2.5	20	600	1140
VCR138	G. S.	12.3	340	85	2	0.35	2	2.5	—	750	350
VCR139A	G. M.	12.4	200	70	1.5	0.25	1.5	1.5	3	170	170
VCR522	G. M.	9.1	160	25	0.8	0.135	0.8	—	3	100	90

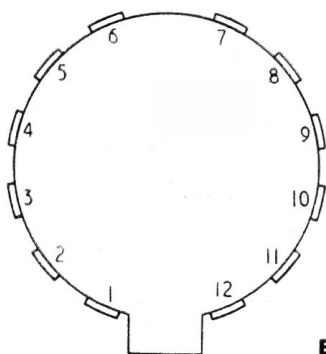
NOTES.—Screen type; G = Green, B = Blue, M = Medium persistence, S = Short persistence.

The connections given in the lists of bases are liable to alteration. The effective connections will usually be as shown, however, as the changes usually involve taking two leads to a common connection to avoid the necessity of strapping them externally. The addition of a suffix letter is sometimes used to indicate more extensive changes.

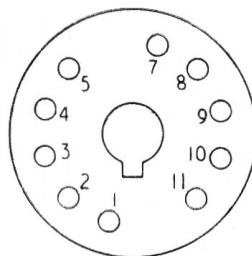
The dimensions given are the overall length and the effective screen diameter (mm).

V₁, V₂, V₃ are potentials in kV on first anode, focus anode and final anode, respectively; V_{max} = kV (max.) on final anode; I_b = beam current (μA). Sensitivity = mm per volt/V₃ in volts.

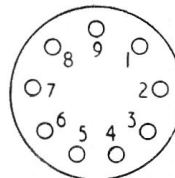
12-WAY S.C.



12-PIN SPIGOT



BRITISH 9-PIN



BASE CONNECTIONS

British Standard 9-pin Base

	1	2	3	4	5	6	7	8	9
9.1	X ₁	Y ₁	A ₂	H C	H	M	A ₁ A ₃	X ₂	Y ₂

Standard 12-way side contact (G.E.C. type)

	1	2	3	4	5	6	7	8	9	10	11	12	Caps
12.1	M	—	H C	H	A ₁	A ₂	Coa.	X ₁	—	A ₃	—	X ₁	Y ₁ Y ₂
12.2	M	—	H C	H	A ₁	A ₂	Coa.	Y ₂	X ₂	A ₃	X ₁	Y ₁	—
12.3	M	C	H	H	A ₁	A ₂	Coa.	Y ₂	X ₂	A ₃	X ₁	Y ₁	—

12-pin spigot-type base

	1	2	3	4	5	6	7	8	9	10	11	12
12.4	C	M	H	H	A ₂	—	Y ₂	X ₂	A ₃	X ₁	Y ₁	—

SYMBOLS: M = Modulator (grid); H = Heater; C = Cathode; Coa. = Coating; X₁, X₂ = X-axis deflector plates; Y₁, Y₂ = Y-axis deflector plates; A₁, A₂, A₃ = Anodes numbered from the cathode. (Anodes one and three may be strapped internally, the A₁ connection being omitted. X₁ and Y₁ may be similarly treated. These variations are unpredictable.)

THE list alongside gives some of the more important data on some of the C.R. tubes now available in the surplus market. All the types given have 4-V heaters, taking about 1 A, and are of the electrostatic focus and deflection type. The figures given are average values, but considerable variation may be experienced between different tubes of the same type.

It may be noted that, while some of the types given are closely similar as far as the quoted characteristics are concerned, they are not equivalents. This may be due to different minimum spot sizes or similar factors relatively unimportant for many applications, but is often a matter of construction.



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More Cathode-ray Tube Data

Further Notes on Ex-service Types

THE following list has been compiled in response to a number of requests for an extension of the original list given in the December, 1947, issue.

A number of correspondents were anxious to have details of C.R. tubes suitable for use in television receivers, but a careful search has revealed only one type with white

Compiled by
D. W. THOMASSON

trace, large screen (12in) and magnetic deflection. This tube, the CV274, has not been seen in the surplus market as yet, and it seems that television experimenters must

either put up with a green or blue trace and electrostatic deflection or buy in the civilian market.

There are a good many tubes for magnetic deflection, but they are mostly of the "afterglow" type, and useless for television. It is useful to note that such screens can generally be identified by the greenish tint of the screen caused by

Type	Screen	Base	Size		Operating Conditions					Sensitivity		Remarks
			L	D	V ₁	V ₂	V ₃	V _{max}	I _b	X	Y	
ACR1	W	—	495	136	3	0.6	3	4	15	600	675	
ACR2	As ACR1, but less stringent specification.											
ACR8	W or G	—	—	136	0.15	0.56	3	3	20	870	500	
ACR10	G	12.4	205	70	0.45	0.07	0.45	1	2	170	170	= VCR139A
ACR11	As ACR8, but with metallized outer coating.											
ACR12	G	—	620	295	4	0.8	4	5	—	650	650	
ACR13	G	—	431	160	2	0.48	3	5	15	620	1160	
NC2	G	8.1	414	136	Gas	Focus	—	1.5	—	450	450	0.6 V Htr.
NC3	G	9.1	203	71	—	—	—	0.8	—	120	150	
NC4	B/G	Otherwise as NC2.										
NC5	W	6.1	495	136	3	0.55	3	4	—	600	675	
NC8	Red	—	—	Gas focus	—	—	1.5	—	—	—	—	= 32E
NC9	B	12.5	380	114	—	—	—	2	—	490	490	
NC10	W	6.1	495	136	3	0.55	3	4	—	600	675	
NC11	G	12.3	420	160	1.8	0.8	5	6	3	550	1000	Obsolete.
NC13	G	12.3	495	175	0.45	0.44	2.2	4	—	520	520	
NC15	G	12.6	380	116	1.2	0.35	1.2	2	—	530	370	= VCR518
NC17	D	8.2	393	90	Mag.	Focus	—	15	—	Mag.	Defl.	Skiatron
NC18	Y	12.3	431	160	2	0.8	5	6	—	620	1160	= CV966
NC20	G	12.5	585	300	4	0.8	4	5	20	900	900	
VCR84	A	12.7	685	305	1.8	0.65	3.5	4	—	1175	550	Obsolete.
VCR85	A	12.7	660	300	1.8	1.6	6	7	—	1345	1300	
VCR86	A	12.7	570	160	1.8	0.97	5	5.5	—	900	700	Obsolete.
VCR87	A	12.7	512	160	3	0.7	3	5.5	—	700	750	
VCR112	G or W	—	495	135	0.2	0.56	3	3.5	—	870	500	
VCR131	G	12.7	585	300	4	0.8	4	5	—	900	900	
VCR138	G	12.3	340	90	1.2	0.2	1.2	2.5	—	357	780	
VCR138A	G	12.3	340	90	1.2	0.2	1.2	5	—	357	780	Larger screen than
VCR139A	G	12.4	205	70	0.8	0.135	0.8	1	3	170	170	VCR138
VCR140	A	8.2	587	306	Mag.	Focus	5.5	6.5	—	Mag.	Defl.	
VCR511	A	12.7	585	300	4	0.8	4	6.5	—	1000	1000	{ 2 screen variants A & B.
VCR514	G	12.3	370	90	0.8	0.28	2	2.5	—	380	580	
VCR515	B or G	—	384	90	0.2	1.2	—	1.5	—	480	400	2 anodes
VCR516	A	8.2	452	230	Mag.	Focus	4	5	—	Mag.	Defl.	
VCR517	A	12.3	431	160	2	0.5	3	6	—	720	880	5 screen variants A-E
VCR518	B	12.6	380	116	1.2	0.35	1.2	2	—	530	370	Double Beam.
VCR518A	G											
VCR519	G	—	640	312	0.5	0.5	2.2	4	—	720	720	Compass.
VCR520	A	8.2	393	885	Mag.	Focus	10	15	—	Mag.	Defl.	
VCR521	A	12.3	340	92	1.8	0.7	4	5	—	357	780	
VCR522A	G	9.1	145	39	0.8	0.135	0.8	1	—	90	90	
VCR523	G	12.7	660	295	1.8	1.6	6	7	—	1345	1300	Similar to VCR85.

NOTES: The screen type is given by the following symbols: A = Afterglow; (long persistence); B = Blue; B/G = Blue-Green; D = Dark Trace; G = Green; W = White; Y = Yellow.

The size is given in mm, L being the overall length, and D the diameter. The operating voltages are given in kilovolts, and the beam current in μ A.

V₁ = 1st anode; V₂ = 2nd anode voltage; V = 3rd anode voltage;

V_{max} = maximum final anode voltage; I_b = beam current. The sensitivities are given in mm/V/V.

More Cathode-ray Tube Data—
phosphorescence. After exposure to sunlight, the screen glows plainly when shaded again. This will not,

of course, identify a tube with a "dark-trace" screen.

All but two of the tubes listed are 4-V heater types, the current drawn

being of the order of 1 A. The deflection and focus are generally electrostatic, the exceptions being noted.

BASE TYPES

There are a large number of variations between tubes of a given type, but the connection lists are framed to cover these as far as possible.

	1	2	3	4	5	6	7	8	9	10	11	12	Side Caps
6.1	K	G	H	H	A ₂	A ₁	—	—	—	—	—	—	A ₃ ; Y ₁ ; Y ₂ ; X ₁ ; X ₂ . 6-clip type.
8.1	A	Y ₁	F	X ₁	G	Y ₂	F	X ₂	—	—	—	—	8-pin spigot.
8.2	—	H	—	—	G	—	H	K	—	—	—	—	Int. Octal.
9.1	X ₁	Y ₁	A ₂	H,K	H	G	A _{1,3}	X ₂	Y ₂	—	—	—	Brit. 9-pin.
12.1	G	—	H,K	H	A ₁	A ₂	Coa	X ₂	—	A ₃	—	X ₁	Y ₁ ; Y ₂ . — — — — 12-way S.C.
12.2	G	—	H,K	H	A ₁	A ₂	Coa	Y ₂	X ₂	A ₃	X ₁	Y ₁	— — — — — 12-way S.C.
12.3	G	K	H	H	A ₁	A ₂	Coa	Y ₂	X ₂	A ₃	X ₁	Y ₁	— — — — — 12-way S.C.
12.4	K	G	H	H	A ₂	—	Y ₂	X ₂	A ₃	X ₁	Y ₁	—	— — — — — 12-pin Spigot.
12.5	K	G	H	H	—	A ₂	—	Y ₂	X ₂	A ₃	X ₁	Y ₁	— — — — — 12-pin Spigot.
12.6	K	G	H	H	—	A ₂	A ₄	Y ₂	X ₂	A ₃	X ₁	Y ₁	— — — — — 12-pin Spigot.
12.7	K	G	H	H	A ₁	A ₂	Coa	Y ₂	X ₂	A ₃	X ₁	Y ₁	— — — — — 12-way S.C.

SYMBOLS: G = Grid (Modulator); H = Heater; K = Cathode; Coa = Coating (Internal); X₁, X₂, Y₁, Y₂ = X- and Y-axis deflector plates
A₁ = 1st anode; A₂ = 2nd anode; A₃ = 3rd anode; A₄ = Splitter plate in double-beam tubes.
The probable variations are: Coating and A₁ to A₃, K to H, and X₁, Y₁ to A₃.