TYPE DESIGNATION SYSTEM

symbol		old	new
first letter	before the group of numbers	D: electrostatic deflection and focus	D: single trace oscilloscope tube M: monitor tube
second letter		B, G, H, L, N, P or W: cf. screen designation system	—
third letter		M: multiple trace tube	—
number preceding hyphen		screen diameter or screen diagonal in cm	
number following hyphen		serial number indicating a particular design or development	
final letters		F: flat faceplate	BE, GH, GJ, GL, GM, GR, LD or cf. screen designation system

For eliminating the parallax the oscilloscope- and monitor tubes can be provided with internal graticules. These tubes are available on special order. The type designation of tubes with not illuminable graticules must be completed with /01, /03, /05, etc., while those with illuminable graticules with /02, /04, /06, etc. and those with illuminable graticules and provided with fittings for illumination with /02S, /04S, /06S, etc.

SCREEN DESIGNATION SYSTEM

Code			Screen colour		Persistence
new	old	EIA	fluorescence	phosphorescence	
BE	B	P11	blue	blue	medium short
GH	H	P31	green	green	medium short
GJ	G	P1	yellowish green	yellowish green	medium
GL	N	P2	yellowish green	yellowish green	medium short
GM	P	P7	bluish white	yellowish green	long
GR	—	P39	yellowish green	yellowish green	long
LD	L	P33	orange	orange	very long
W	W	P4	white	white	medium

Persistence is defined as the period of time during which brightness diminishes to 1/10 of its initial value.

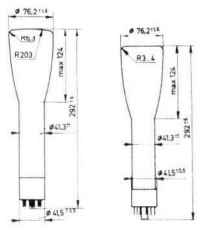
Persistence	JEDEC description
less than 1 μs	very short
1 μs ... 10 μs	short
10 μs ... 1 ms	medium short
1 ms...100 ms	medium
100 ms... 1 s	long
over 1 s	very long

EXPLANATION OF SYMBOLS

A	side connection according to JEDEC J1-22
$a_1 \ldots a_4$	anode 1...4
b	metal rimband
B	side connection according to JEDEC J1-21
D_1 and D_2	horizontal deflection plates
D_3 and D_4	vertical deflection plates
d_{12}	horizontal deflection factor
d_{34}	vertical deflection factor
f	heater
$g_1 \ldots g_4$	grid 1...4
I_f	heater current
i.c.	internal connection; base connection should not be used as tie point for components
k	cathode
m	external conductive coating
t_h	heating time
U_a	anode voltage
$U_{a_1} \ldots U_{a_4}$	voltage of anode 1...4
U_f	heater voltage
$U_{g_1} \ldots U_{g_4}$	DC voltage between grid 1...4 and cathode
$-U_{g_1\ cut\ off}$	negative grid bias for the visual extinction of undeflected focused spot (at oscilloscope tubes) and for raster (at monitor tubes)
U_K	voltage between grid 1 and cathode at cathode control

All voltages refer to cathode unless otherwise stated.

In double-trace oscilloscope tubes the equivalent electrodes are distinguished by subscripts a and b.



with spherical faceplate (D. 7-113) and flat faceplate (D. 7-113 F) respectively, for medium operating voltages

Application

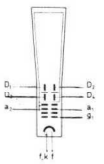
in small size portable oscilloscopes for medical and industrial purposes

Screen Types

DB 7-113	DB 7-113 F
DG 7-113	DG 7-113 F
DN 7-113	DN 7-113 F
DP 7-113	DP 7-113 F

System Structure

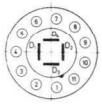
Arrangement of Electrodes:



Base Connections

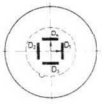
(bottom view)

1 — f
2 — g_1
3 — k
4 — g_3
5 — D_2
6 — D_4
7 — g_2
8 — D_3
9 — D_1
10 — i. c.
11 — f



Deflection

(viewed from screen end)



Deflection Method: electrostatic, symmetrical

Focusing Method: electrostatic

Base

Medium-Shell Magnal, 11-pin, JETEC No. B11-66

Minimum Useful Screen Diameter 70 mm

Heating

U_f = 6.3 V
I_f = 600 mA

Typical Operation

U_{a2} = 2 kV
U_{a1} = 320...600 V
$-U_{a1\ cut\ off}$ = 45...90 V
d_{12} = 39.4...53.5 V/cm
d_{34} = 30...41 V/cm

Maximum Ratings

U_{a2} = 2.5 kV
U_{a1} = 1 kV

Accessories

Socket: VST 5
Metallic Shield: ART 1