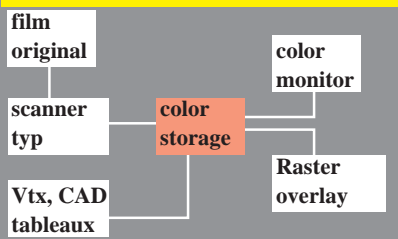


diagram for interfaces in the area image handling – printing



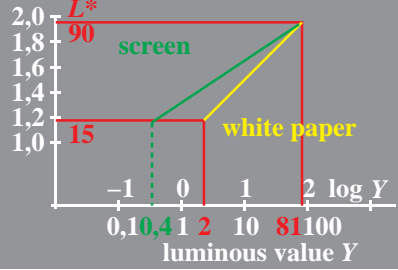
ME250-1, B6_28

sensation scaling functions

lightness L^* and luminous value Y
 adaptation on surround white:
 $L^* = 100 (Y / 100)^{1/2,0}$
 adaptation on surround gray:
 $L^* = 100 (Y / 100)^{1/2,4}$
 description with CIELAB 1976:
 $L^* = 116 (Y / 100)^{1/3,0} - 16$
 adaptation on surround black:
 $L^* = 100 (Y / 100)^{1/3,0}$

ME250-2, B6_29

log L^* lightness (75 steps)



ME250-3, B6_30

colorness luminous value

$N^* L^* Y = (L^*/10)^2 Y = (L^*/10)^3 / 9$

N^*	L^*	Y	Y_{max}	$Y_{normalized}$
0	90	81	Y_{max}	81,0 (=Y _{paper})
2	80	64		56,9
4	70	49		38,1
6	60	36		24,0
8	50	25		13,9
10	40	16		7,1
12	30	9		3,0
14	20	4		0,9
15	15	2,25	Y_{min}	0,4

ME250-4, B6_31

linear scan area Y lightness- area L^* lightness color $L^* h^* no. d$

76,6 ... 85,5	87,5 ... 92,4	90	FFF	4095
60,1 ... 68,1	77,5 ... 82,4	80	DDD	3549
45,6 ... 52,5	67,5 ... 72,4	70	BBB	3003
33,1 ... 39,0	57,5 ... 62,4	60	999	2457
22,6 ... 27,5	47,5 ... 52,4	50	777	1911
14,1 ... 18,0	37,5 ... 42,4	40	555	1365
7,6 ... 10,5	27,5 ... 32,4	30	333	819
3,1 ... 5,0	17,5 ... 22,4	20	111	273
1,6 ... 3,0	12,5 ... 17,4	15	000	0

ME250-5, B6_32

colorness black- luminous cover- $O^* L^* V^* ness N^* value Y range b$

15,15,15	0	81	Y_{max}	0,00
13,13,13	2	64		0,22
11,11,11	4	49		0,41
9, 9, 9	6	36		0,57
7, 7, 7	8	25		0,71
5, 5, 5	10	16		0,83
3, 3, 3	12	9		0,91
1, 1, 1	14	4		0,98
0, 0, 0	15	2,25	Y_{min}	1,00

ME250-6, B6_33

colorness yellow- luminous cover- $O^* L^* V^* ness Y^* value Y range b$

15,15,15	0	81	Y_{max}	0,00
15,15,13	2			0,22
15,15,11	4			0,41
15,15, 9	6			0,57
15,15, 7	8			0,71
15,15, 5	10			0,83
15,15, 3	12			0,91
15,15, 1	14			0,98
15,15, 0	15	76	Y_{min}	1,00

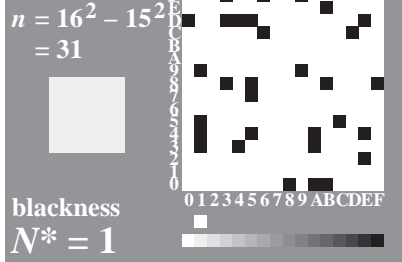
ME250-7, B6_34

interfaces in area of:

- 1. color scanner original – color scanner – color storage – raster area coverage
- 1. color scanner with color measurement sensitivities = spectral values
- 2. minimum 12-Bit color image storage generates cubic screen and quadratic raster area function
- 3. minimum 8-bit resolution for linear photoelectric sensors

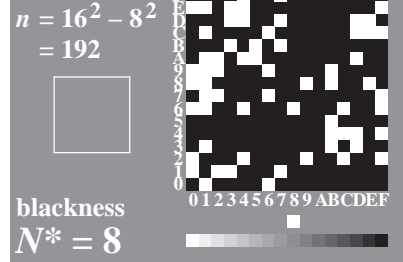
ME250-8, B6_35

point amount:



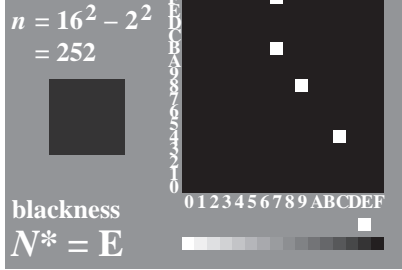
ME251-1, B6_36_1

point amount:



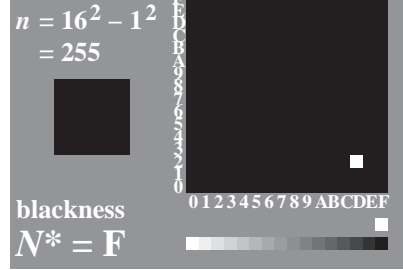
ME251-2, B6_36_2

point amount:



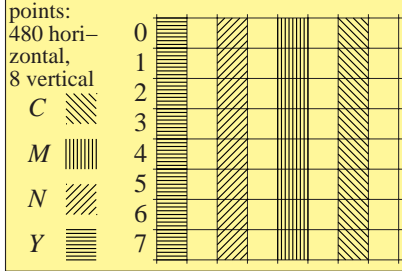
ME251-3, B6_36_3

point amount:

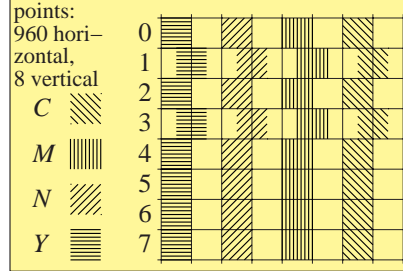


ME251-4, B6_36_4

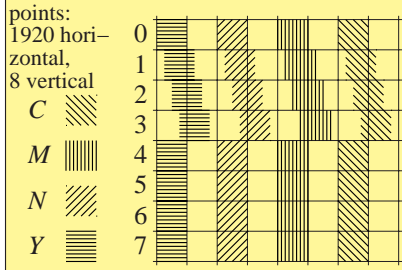
print positions by matrix printer



print positions by matrix printer



print positions by matrix printer



colorness black- luminous cover- $O^* L^* V^* ness N^* value Y range b$

15,15,15	0	81	Y_{max}	0,00
13,13,13	2	64		0,22
11,11,11	4	49		0,41
9, 9, 9	6	36		0,57
7, 7, 7	8	25		0,71
5, 5, 5	10	16		0,83
3, 3, 3	12	9		0,91
1, 1, 1	14	4		0,98
0, 0, 0	15	2,25	Y_{min}	1,00

ME251-8, B7_03