

Europäisches Patentamt

European Patent Office

Office européen des brevets



EP 0 843 333 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3: 02.06.1999 Bulletin 1999/22

(51) Int. Cl.⁶: **H01J 29/70**

(11)

(43) Date of publication A2: **20.05.1998 Bulletin 1998/21**

(21) Application number: 97119888.2

(22) Date of filing: 13.11.1997

(84) Designated Contracting States:

AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

(30) Priority: 14.11.1996 JP 302714/96

(71) Applicant: Hitachi, Ltd.
Chiyoda-ku, Tokyo 101 (JP)

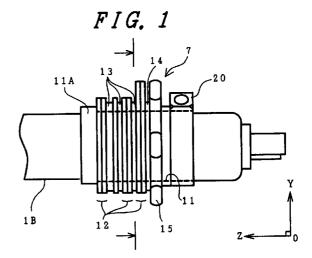
(72) Inventors:

- Suzuki,Kenji
 Chiba-ken 297 (JP)
- Yoshioka, Hiroshi
 Chiba-ken 297 (JP)
- (74) Representative:

Beetz & Partner Patentanwälte Steinsdorfstrasse 10 80538 München (DE)

(54) Color cathode ray tube provided with a beam convergence adjustment device

(57) A color cathode ray tube includes an evacuated envelope (1) formed of a panel portion (1A) carrying a phosphor screen (4) on an inner surface thereof, a neck portion (1B), a funnel portion (1C) connecting the panel portion and the neck portion, a three-beam, in-line type electron gun (2) housed in the neck portion for generating a center electron beam and two side electron beams, a deflection device (6), adjustable magnetic field producing device (7, 12) mounted on the neck portion for moving the two side electron beams in mutually opposing directions, and a magnetic structure mounted on the neck portion for producing such a fixed magnetic field as to move the two side electron beams in mutually opposing directions.





EUROPEAN SEARCH REPORT

Application Number EP 97 11 9888

	OCUMENTS CONSIDE		Relevant	CLASSIFICATION OF THE		
Category		f document with indication, where appropriate, of relevant passages		APPLICATION (Int.Cl.6)		
Х	US 4 091 347 A (BARI 23 May 1978	1-3,8-1	1 н01Ј29/70			
Υ	* column 1, line 41 * column 2, line 38 * column 2, line 59	- column 1, line 67 - column 2, line 50 - column 3, line 23 - column 3, line 65	*			
Υ	US 4 670 726 A (OGA 2 June 1987 * column 1, line 24 * column 3, line 63 figures 5A-C; examp	- column 1, line 31 - column 4, line 12	4-7			
D,A	US 3 725 831 A (BAR * figures 4-6 *	BIN R) 3 April 1973	1-3,8-1	.1		
D,A	US 3 808 570 A (THO 30 April 1974 * figures 4,5 *	MPSON I ET AL)	1,4-7, 10,11	TECHNICAL SISTERS		
A	US 3 898 597 A (VON * column 2, line 19	K RENSO) 5 August 19 - column 2, line 36	1,11	TECHNICAL FIELDS SEARCHED (Int.Cl.6)		
A	US 4 117 433 A (SMI 26 September 1978 * column 4, line 58 * column 5, line 20 figures 1,3 *	TH JOSEPH LELAND) - column 4, line 62 - column 5, line 28	1,11			
	The present search report has	peen drawn up for all claims				
	Place of search	Date of completion of the sea	į.	Examiner		
X∶pa	MUNICH CATEGORY OF CITED DOCUMENTS tioularly relevant if taken alone tioularly relevant if combined with anot	E : earlier pa after the fi	orinciple underlying thent document, but pu	ıblished on, or		
A: ted	troubly reference and content with and the same category hnological background n-written disclosure ermediate document	L : document & : member o	L : document cited for other reasons & : member of the same patent family, corresponding document			

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 97 11 9888

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

29-03-1999

Patent document cited in search repo	rt	Publication date		Patent family member(s)	Publication date
US 4091347	A	23-05-1978	AU	503581 B	13-09-1979
			AU	2312477 A	14-09-1978
			BE	852540 A	18-07-197
			BR	7701516 A	03-01-1978
			CA	1062757 A	18-09-1979
			DE	2711266 A	29-09-197
			DK	113977 A,	
			FΪ	770772 A,	
			FR	2344955 A	14-10-197
			GB	1570729 A	09-07-1980
			JP	1074001 C	30-11-198
			JP	52113621 A	22-09-197
			JP	56016500 B	16-04-198
			NL	7702838 A	20-09-197
			SE	410919 B	12-11-197
			SE	7702706 A	18-09-197
					22-02-197
			ZA	7701454 A	
US 4670726	Α	02-06-1987	JP	61200648 A	05-09-198
			JР	61208725 A	17-09-198
			JР	61208726 A	17-09-198
			JP	61214335 A	24-09-198
			JP	61146087 A	03-07-198
US 3725831	Α	03-04-1973	AR	194981 A	30-08-197
			AT	351085 B	10-07-197
			AT	32373 A	15-12-197
			BE	793991 A	02-05-197
			CA	968400 A	27-05-197
			CH	559996 A	14-03-197
			DD	102510 A	12-12-197
			DE	2226335 A	19-07-197
			DK	144780 B	01-06-198
			EG	10765 A	31-10-197
			FI	57332 B	31-03-198
			FR	2167968 A	24-08-197
			GB	1391798 A	23-04-197
			HK	36476 A	25-06-197
			IE	37057 B	27-04-197
			JP	951763 C	25-05-197
					25-05-1975 05 - 11-1975
			JP	48082731 A	
			JP	51045936 B	06-12-197
			KR	7800414 A	10-10-197
			NL	7300496 A,	
			CL	381371 B	01-12-197
			SE SU	1159492 A	30-05-198

 $\frac{Q}{\omega}$ For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 97 11 9888

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

29-03-1999

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4117433 A		FI 781187 A FR 2389225 A GB 1604491 A JP 53133326 A NL 7804367 A SE 7804410 A	26-10-1978 24-11-1978 09-12-198 21-11-1978 27-10-1978 26-10-1978

u For more details about this annex : see Official Journal of the European Patent Office, No. 12/82