

Chunghwa Picture Tubes, Ltd.

Inspection Specification

To : YIH HSING ENTERPRISE CO.,LTD.
Date : 2004.08.23

CPT TFT-LCD
Incoming Inspection Standards

Model : CLAA170EA 07Y

ACCEPTED BY :

APPROVED BY	CHECKED BY	PREPARED BY
		Product Planning Management General Division

Prepared by : Product Planning Management General Division TFT Business Unit

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INCOMING INSPECTION STANDARDS

1. Incoming inspection right

- (1) The Incoming Inspection Standard will be agreed and signed by both sides (Customer and CPT) before CPT receives the PO (Purchase Order) forward 7 days.
- (2) The Customer shall notify CPT inspection result in writing within 14 days, otherwise goods will be deemed accepted by customer.

2. Inspection conditions is as follows:

- (1) Viewing distance is approximately 35 ~ 40 cm
- (2) Viewing angle is normal to the LCD panel as Fig_1 (10°)
- (3) Ambient temperature is approximately 25 ± 5
- (4) Ambient humidity is $60 \pm 5\%$ RH
- (5) Ambient illuminance is from 300 ~ 500 Lux.
- (6) Input signal timing should be typical value.

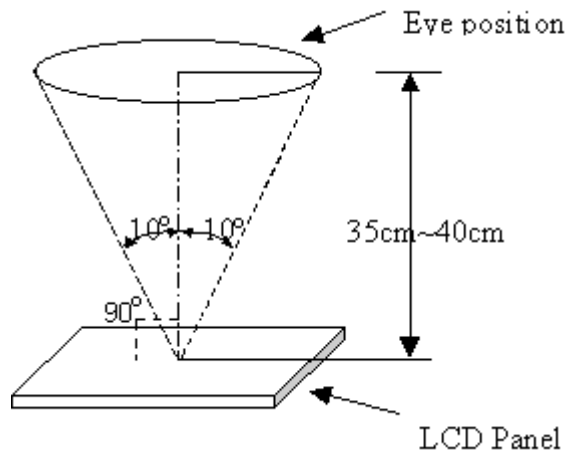


Fig _ 1

3. Special condition

- (1) Viewing distance is close for inspection of adjacent dots and distance between defect dots.
- (2) Viewing condition of "Shot block non-uniformity from oblique angle" is as Fig_2.
- (3) Exceptional case: View angle $\pm 40^\circ$ while inspected image-sticking.

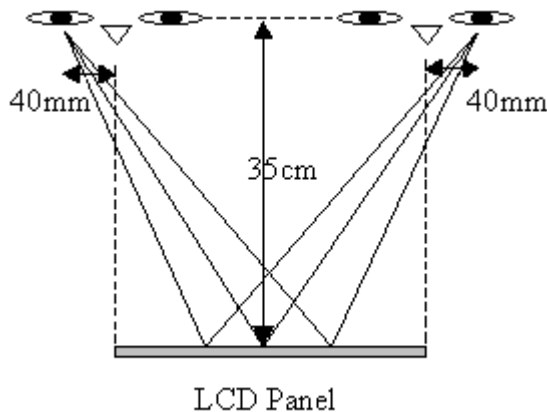


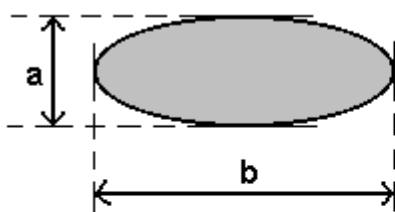
Fig _ 2

4. Inspection Criteria

DEFECT TYPE		LIMIT		Note	
VISUAL DEFECT	SCRATCH		0.03mm W 0.1mm L 10mm	N 4	-
	INTERNAL	SPOT	0.3mm 1.0mm	N 5	Note1
		FIBER	W 1.0mm, L 3.0mm	N 5	Note1
		POLARIZER BUBBLE	0.3mm 1.0mm	N 5	Note1
		TOTAL	N 10		-
ELECTRICAL DEFECT	BRIGHT DOT		N 8		Note2
	DARK DOT		N 8		-
	TOTAL DOT		N 10		Note2
	TWO ADJACENT DOT		3 PAIRS		Note3
	THREE OR MORE ADJACENT DOT		1 PAIRS		Note3
	DISTANCE BETWEEN DEFECT DOT		Two bright dots	10mm	Note4
	LINE DEFECT		NOT ALLOWED		-

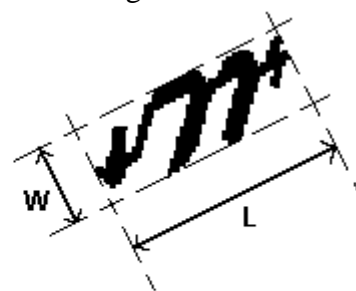
One pixel consists of 3 sub-pixels, including R,G, and B dot.(Sub-pixel = Dot)

[Note1] W : Width[mm], L : Length[mm], N : Number, ϕ : Average Diameter



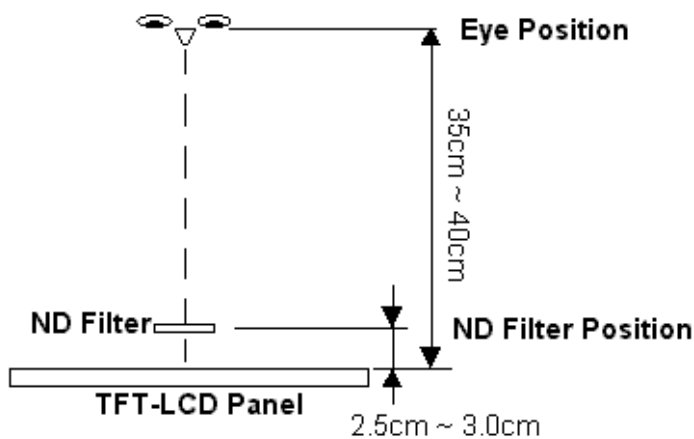
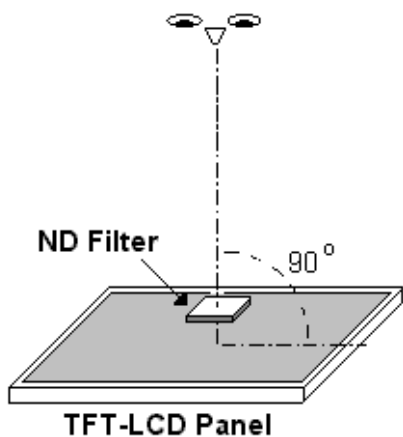
$$\phi = (a + b) / 2$$

1. (White, black) Spot
2. Polarizer Bubble

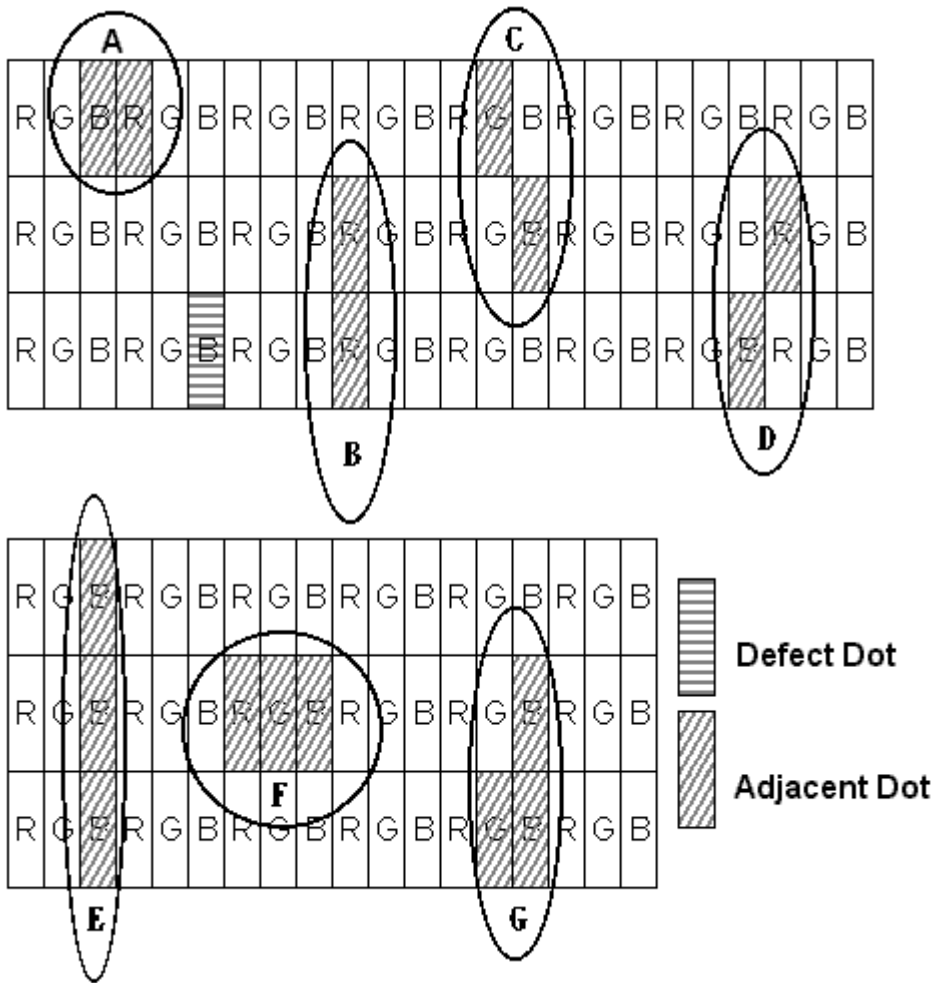


1. Fiber

[Note2] Bright dot is defined through 5% transmission ND Filter as following.

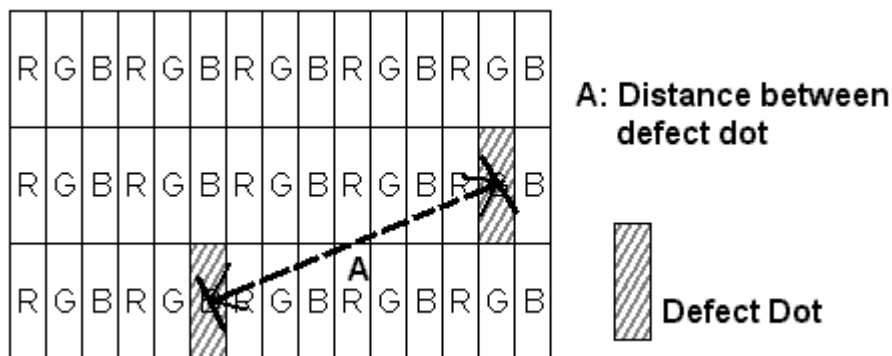


[Note3] Judge defect dot and adjacent dot as following. Allow below (as A, B, C and D status) two adjacent defect dots, including bright and dart dot. And they will be counted 2 defect dots in total quantity.



Allow above (as E, F and G status) three adjacent defect dots, including bright and dart dot. And they will be counted 3 defect dots in total quantity.

[Note4] Definition of distance between defect dot as following.



[Note5] Other

- (1) The defects that are not defined above and considered to be problem shall be reviewed and discussed by both parties.
- (2) Defects on the Black Matrix, out of Display area, are not considered as a defect or counted.

6. Handling precaution

- (1) Don't disassemble and reassemble the module by self. (禁止自行拆解。)
- (2) Acid, alkali, alcohol or touched directly by hand will damage the display.
(酸性、鹼性、酒精或手的直接接觸將會損傷顯示面。)
- (3) Static electricity will damage the module. Please configure grounding device.
(靜電會損傷模組。請裝配接地設備。)
- (4) The strong vibration, shock, twist or bend will cause material damage, even module broken.
(強烈的衝擊、震動、扭轉或彎曲將會造成原材損傷，甚至面板破裂)
- (5) It is easy to cause image sticking while displaying the same pattern for very long time.
(長期顯示同一畫面亦造成影像殘留。)
- (6) The response time, brightness and performance will vary from different temperature.
(反應時間、亮度與均勻性會因溫度而有所變化)