



# Chunghwa Picture Tubes, Ltd.

## Inspection Specification

To :  
Date :

*CPT TFT-LCD*  
*Incoming Inspection Standards*

Model : **CLAA181XA**     **01D**

ACCEPTED BY :

APPROVED BY	CHECKED BY	PREPARED BY
		<b>Product Planning Management General Division</b>

Prepared by : Product Planning Management General Division TFT Business Unit

**CHUNGHWA PICTUER TUBES, LTD.**

1127 Hopin Rd., Padeh, Taoyuan, Taiwan 334, R.O.C.

Doc.No	<b>CLAA181XA01 D</b>	Issue Date	
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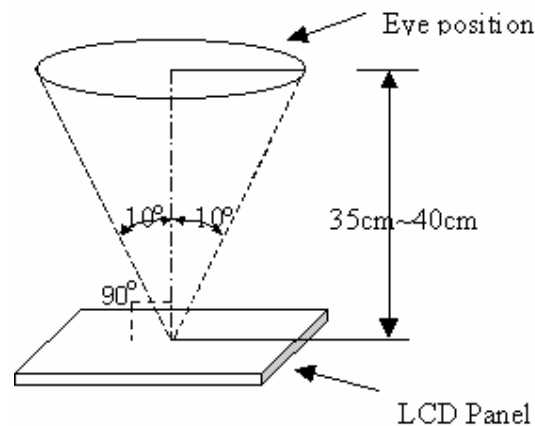
## INCOMING INSPECTION STANDARDS

### *Incoming Inspection Clause*

- (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 *within 30 day*, and CPT will execute RMA. Otherwise goods will be deemed accepted by Customer.
- (3) If there are any external fail statuses on the LCD Panel after Customer assembled, it will be judged to *Customer Responsibility*.
- (4) Guarantee period : From CPT delivers panels to Customer to Customer ships or delivers finished products (Monitor, NB, TV set...) out of Customer's factory.
- (5) There are *not any CPT's brand, label or mark on the LCD Panel*, even on the packing box.

### 1. Inspection conditions is as follows:

- (1) Viewing distance is approximately 35 ~ 40 cm
  - (1-1) Viewing distance is close for inspection of adjacent dots and distance between defect dots.
- (2) Viewing angle is normal to the LCD panel as Fig\_1 (10°)
- (3) Ambient temperature is approximately  $25 \pm 5^\circ\text{C}$
- (4) Ambient humidity is  $60 \pm 5\% \text{ RH}$
- (5) Ambient illuminance is from 300 ~ 500 Lux.
- (6) Input signal timing should be typical value.



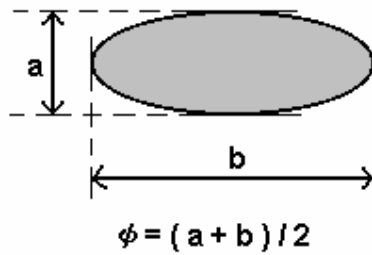
Fig\_1

2. Inspection Criteria

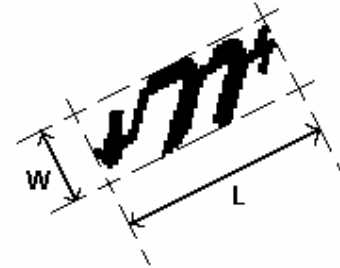
DEFECT TYPE		LIMIT		Note	
VISUAL DEFECT	SCRATCH		$0.08\text{mm} \leq W \leq 0.2\text{mm}$ $L \leq 10\text{mm}$	$N \leq 7$	-
	INTERNAL	SPOT	$0.8\text{mm} \leq \varphi \leq 1.5\text{mm}$	$N \leq 7$	Note1
		FIBER	$W \leq 0.2\text{mm}, L \leq 3.0\text{mm}$	$N \leq 5$	Note1
		POLARIZER BUBBLE	$0.8\text{mm} \leq \varphi \leq 1.5\text{mm}$	$N \leq 7$	Note1
		TOTAL	$N \leq 12$		-
ELECTRICAL DEFECT	BRIGHT DOT		$N \leq 15$		Note2
	DARK DOT		$N \leq 10$		-
	TOTAL DOT		$N \leq 25$		Note2
	TWO ADJACENT DOT		$\leq 7$ PAIRS		Note3
	THREE ADJACENT DOT		$\leq 3$ PAIRS		Note3
	FOUR ADJACENT DOT		$\leq 2$ PAIRS		Note3
	FIVE OR MORE ADJACENT DOT		NOT ALLOWED		-
	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,  $\varphi$  : Average Diameter

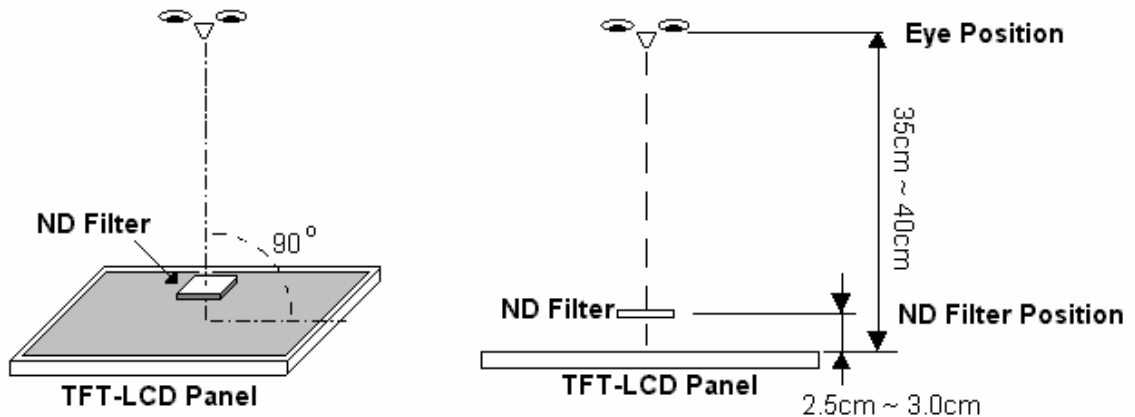


- 1. (White, black) Spot
- 2. Polarizer Bubble

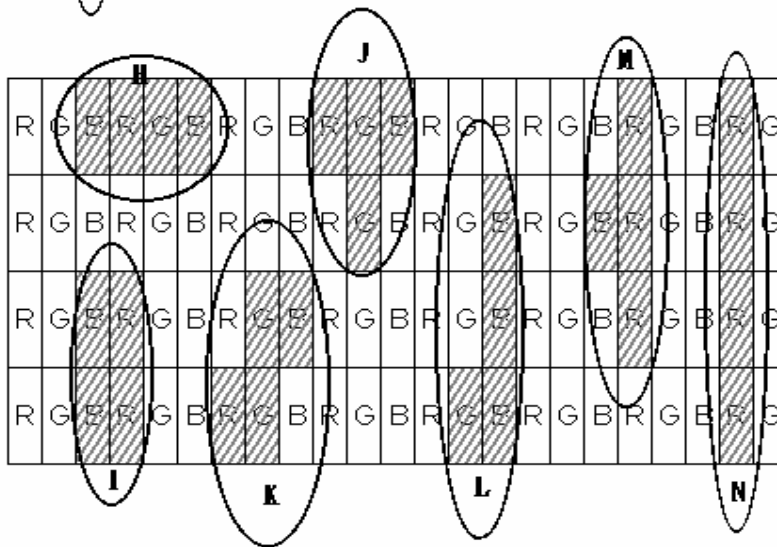
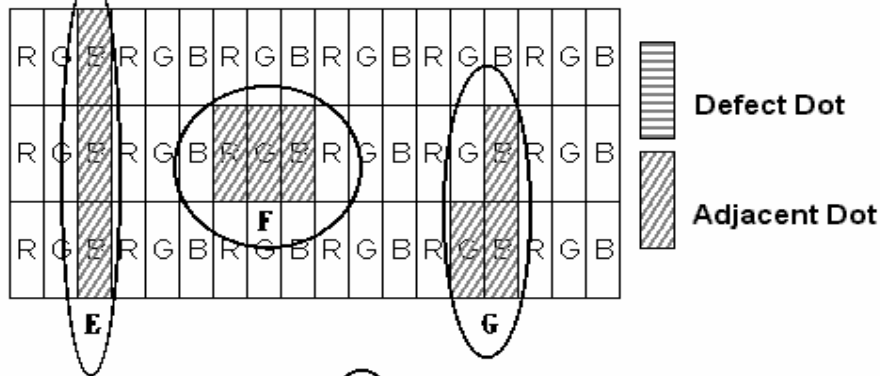
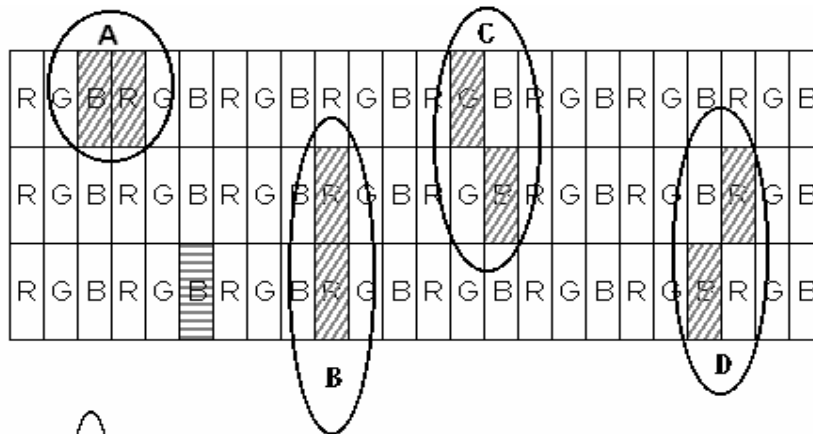


- 1. Fiber

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



[Note3] Judge defect dot and adjacent dot as following. Allow below (A and B status) adjacent dot, including bright and dart adjacent 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. Allow above (as H, I, J, K, L, M and N status) four adjacent defect dots, including bright and dart dot. And they will be counted 4 defect dots in total quantity.

[Note4] Other

- (1) The defects that are not defined above and considered to be problem shall be reviewed and discussed by both parties.
- (2) The performance of display was judged by 1% transmission ND Filter, and the method as Note 2.

(3) Defects on the Black Matrix, out of Display area, are not considered as a defect or counted.

### 3. Mechanical :

Regarding the mechanical dimension, please refer the Technical Specification.

- a. The tolerance of mechanical dimension is  $\pm 0.5\text{mm}$ .
- b. And the tolerance of length of lamp cable is  $\pm 5.0\text{mm}$ .

### 4. 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)