



MULTI-INNO TECHNOLOGY CO., LTD.

[http:// www.multi-inno.com](http://www.multi-inno.com)

TOUCH PANEL SPECIFICATION

Model : MI1010CBP-C

Customer :

Approved	
Commont	

Revision	1.0
Engineering	
Date	2012-08-15
Our Reference	



REVISION RECORD

REV NO.	REV DATE	CONTENTS	REMARKS
1.0	2012-08-15	First Release	



CONTENTS

- APPLICATION
- GENERAL SPECIFICATIONS
- ABSOLUTE MAXIMUM RATINGS
- ELECTRICAL CHARACTERISTICS
- PIN CONNECTIONS
- APPEARANCE SPECIFICATION
- QUALITY ASSURANCE
- CTP PRODUCT LABEL DEFINE
- PRECAUTIONS IN USE CTP
- OUTLINE DRAWING

■ APPLICATION

DVD player, UMPC, POS, MID

■ GENERAL SPECIFICATIONS

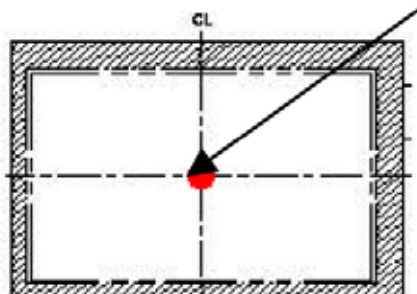
Composition: 10.1 inch Capacitive Touch Panel (CTP).

Interface: USB for the CTP.

Item	Specification	Unit
Type	Transparent type projected capacitive touch panel	
Input mode	Human's finger	
Outline Dimension	250.8(W) x 156.8(H) x 2.45 (D)	mm
Active area	223.72(W)(typ.) x 126.28(H)(typ.)	mm
Transparency	$\geq 85\%$	%
Haze	$\leq 1.0\%$	%
Hardness	7H (min) [by JIS K5400]	Pencil hardness
Weight	160 (typ)	g
Report rate	MAX:122	Points/sec
Response time	15	ms
Point hitting life time	1,000,000 times min.	Note 1

Note 1: Use 8 mm diameter silicon rubber/force 3N to knock on the same point twice per second (no-operating), after test function check pass.

central point



■ ABSOLUTE MAXIMUM RATINGS

Symbol	Description	Min	Typ	Max	Unit	Notes
VCC1	Supply voltage	-0.3	-	6.5	V	
Vio	DC input voltage	-0.3	-	VCC1+0.3	V	

■ ELECTRICAL CHARACTERISTICS

Symbol	Description	Min	Typ	Max	Unit	Notes
VCC1	Supply voltage	--	5.0	--	V	
GND	Supply voltage	-	0	-	V	
I	Supply current		60		mA	At VCC1=5.0
	System clock frequency			20	MHz	At VCC1=5.0

■ PIN CONNECTIONS

No.	Name	I/O	Description
1	VCC1	P	Power; VCC1 =5.0V(typ.)
2	D-	Signal	USB Signal
3	D+	Signal	USB Signal
4	GND	P	Ground

Note: Interface protocol please refer to Universal Serial Bus Specification Revision 1.1

■ APPEARANCE SPECIFICATION

1 Process/Content:

1.1 Inspection equipment: fluorescent lamp, functional test jig, magnifying glass, Vernier caliper, ESD wrist strap.

1.2 Environment demand

1.2.1 Temperature : $25\pm 5^{\circ}\text{C}$

1.2.2 Humidity : 30-75%RH

1.2.3 Illuminance : Fluorescent light (appearance : 800-1200UXL function : 100-500UXL)

1.3 Inspection process

1.3.1 Inspect distribution operation

1.3.2 Shift team leader is in charge of distributing work when work order goes to OQC inspection of finished products

1.3.3 Products of great emergency or especially asked by customer should be finished in advance.

1.3.4 All the items should be fully inspected before shipment.

1.3.5 The inspection standard & specification should be carried out according to customer's demand. If customer has no other standard & specification, just stick to this one.

1.4 Sampling plan

1.4.1 Do tests regularly according to MIL-STD-105E. Single sampling plan is arrived out according to Level II.

1.4.2 Defect definition

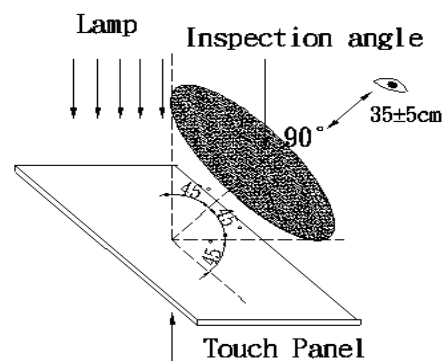
1.4.2.1 Major defect is inspected according to AQL 0.40%.

1.4.2.2 Minor defect is inspected according to AQL 0.40%.

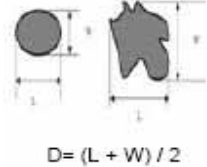
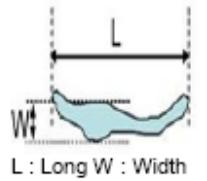
1.5 Appearance inspection

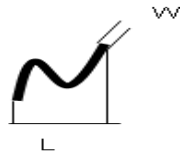
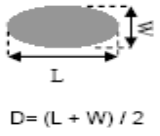

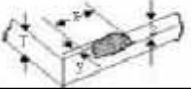
1.5.1 Appearance inspection method

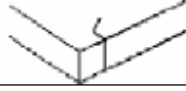
Inspection angle spacing : 30-40cm



1.5.2 Appearance inspection standard

Item	Spec		Statement
	Spec	Q'ty allowed	
Foreign material Punctiform	$D > 0.5\text{mm}$	0	 $D = (L + W) / 2$
	$0.3\text{mm} \leq D \leq 0.5\text{mm}$	5	
	$D < 0.3\text{mm}$	Disregarded	
Foreign material Linear	$W > 0.1\text{mm}$ $L > 5\text{mm}$	0	 L : Long W : Width
	$0.05\text{mm} \leq W \leq 0.1\text{mm}$ $L \leq 5\text{mm}$	5	
	$W < 0.05\text{mm}$	Disregarded	
Image uniformity	Gray color can be seen on RGB through ND5%		

TP scratch	Spec	Q'ty allowed	
	$W > 0.07\text{mm}$ $L > 7\text{mm}$	0	
	$W \leq 0.07\text{mm}$ $L \leq 7\text{mm}$	5	
TP dented spot	Spec	Q'ty allowed	 $D = (L + W) / 2$
	$D > 0.5\text{mm}$	0	
	$0.3\text{mm} \leq D \leq 0.5\text{mm}$	5	
TP overflows or lacks of glue	$\pm 0.45\text{mm}$		
Surface broken	$X < 2\text{mm}$ $Y < 2\text{mm}$ $Z < \text{glass}$		
Edge broken	$X < 2\text{mm}$ $Y < 2\text{mm}$ $Z < \text{glass}$		

Rift	Not allowed	
Bubble appears in protection film	$D > 10\text{mm}$ $N=0$ $5 \leq D \leq 10\text{mm}$ $N=2$ $D < 5$ disregarded	
TP deviation	According to the specifications of customer's drawing	
Bubble	$D \leq 0.2\text{mm}$ disregarded $0.2\text{mm} < D \leq 0.3\text{mm}$ $N \leq 2$ $0.3\text{mm} < D$ not allowed No influence on appearance and function in invisible area OK	
Printing ink	No light leak Silk-screen saw tooth: $S \leq 0.1$ disregarded $0.1\text{mm} \leq S \leq 0.15\text{mm}$ $N=5$ $S > 0.15$ ng LOGO break line NG Script dim, printed backwards, no printing in wrong place	
Finger print	Not allowed	
Stain	Stain on surface can be removed OK Bonding surface has no influence on appearance and function OK Can't be removed & not allowed	
Protection film	Bent isn't allowed No lift up Bent is allowed $L < 10\text{MM}$ $N \leq 5$	

■ QUALITY ASSURANCE

1 Test Condition

1.1 Temperature and Humidity(Ambient Temperature)

Temperature : $25 \pm 5^{\circ}\text{C}$
 Humidity : $65 \pm 5\%$

1.2 Operation

Unless specified otherwise, test will be conducted under function state.

1.3 Container

Unless specified otherwise, vibration test will be conducted to the product itself without putting it in a container.

1.4 Test Frequency

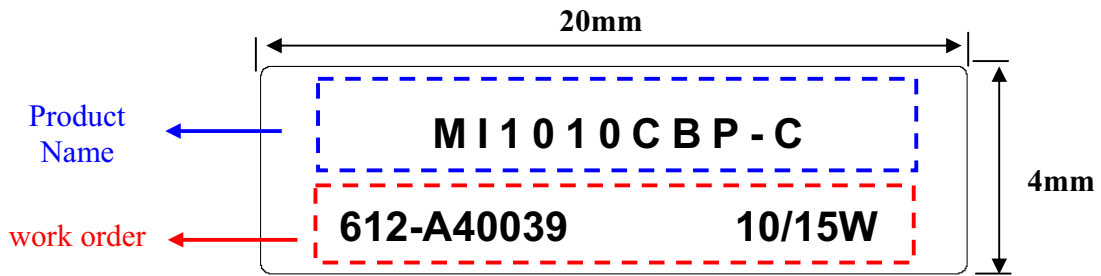
In case of related to deterioration such as shock test. It will be conducted only once.

1.5 Test Method

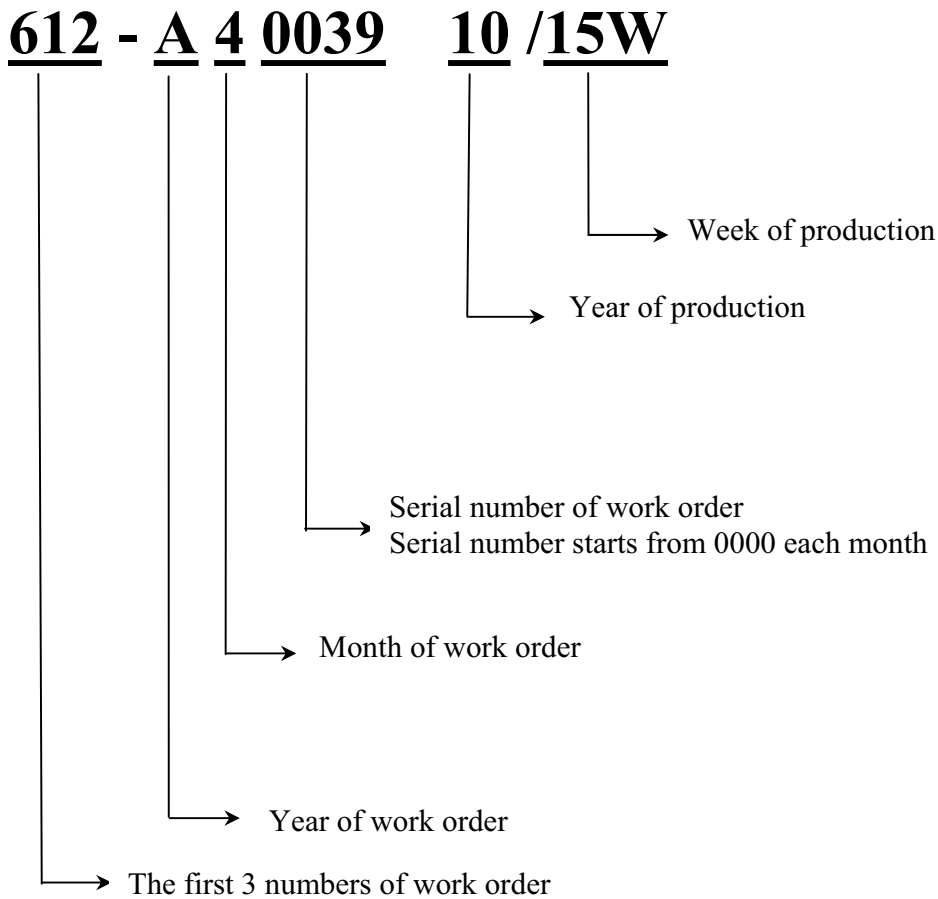
Reliability Test Item & Level		Test Level
No.	Test Item	
1.	Low Temperature Storage Test	T= -30°C ,120hrs after 24 hrs at room temperature and test.
2.	High Temperature Storage Test	T= 80°C ,120hrs after 24 hrs at room temperature and test.
3.	High Temperature and High Humidity Storage Test	T= 60°C , 90%RH,120hrs after 24 hrs at room temperature and test.
4.	Thermal Cycling Test (No operation)	-30°C 30min ~ 80°C 30 min , 100 Cycles after 24 hrs at room temperature and test.
5.	Vibration Test (No operation)	Frequency :10 ~ 55 HZ Amplitude :1.5 mm Sweep time : 11 mins Test Period: 6 Cycles for each direction of X, Y, Z
6.	ESD TEST	150pF,330Ω Air:± 15KV;Indirect Contact: ± 8KV 10 times/point;4 points/panel face

■ CTP PRODUCT LABEL DEFINE

CTP Product Label style:



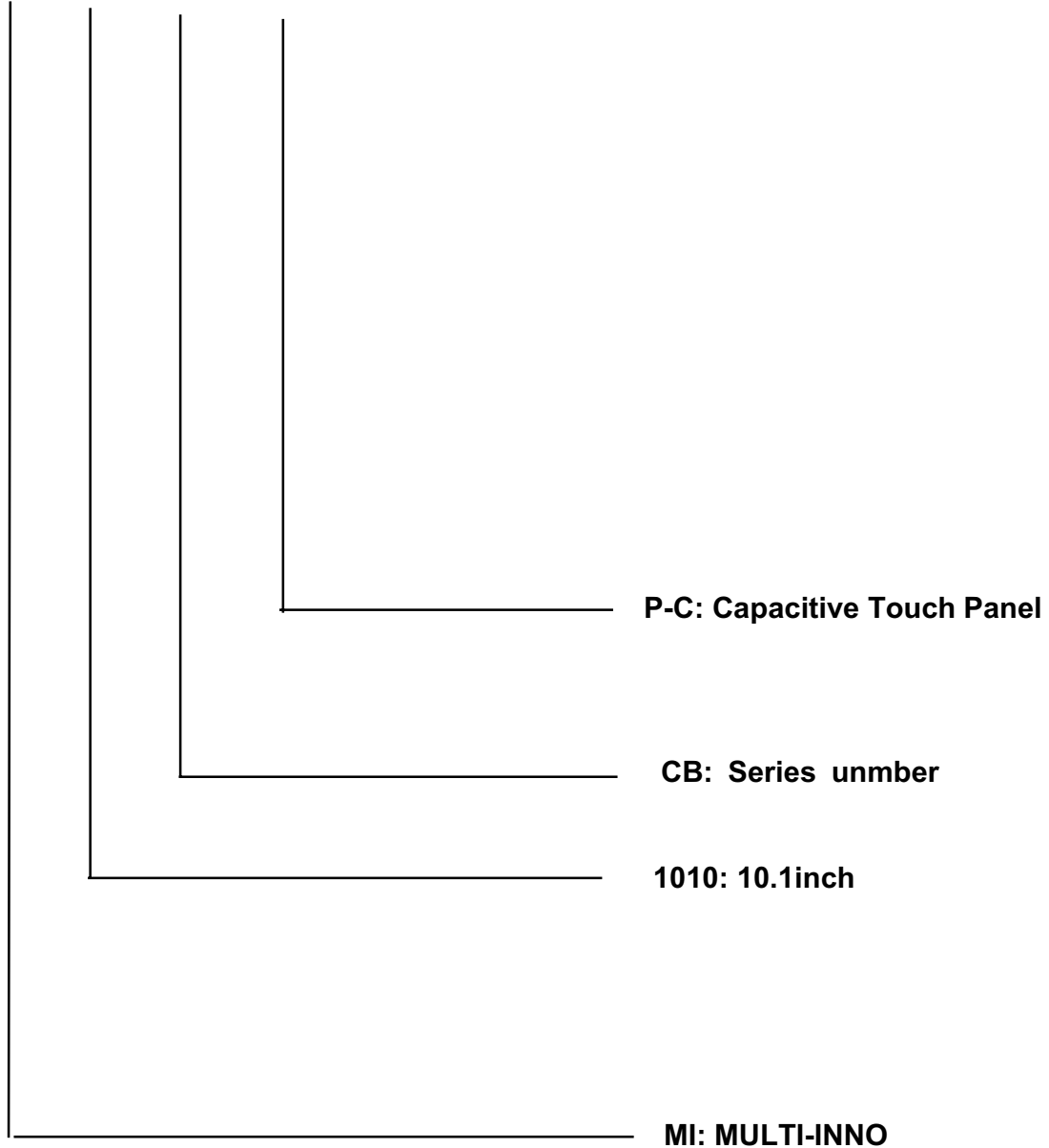
Work order Define:





Product Name Define:

MI 1010 CB P-C



■ PRECAUTIONS IN USE CTP

1. ASSEMBLY PRECAUTIONS

- (1) Since Touch Panel is consist of glass,please be careful your hands to be injured during handing. You must wear gloves during handing.
- (2) Do not touch, push or rub the exposed touch panel, tweezers or anything harder than HB pencil lead. And please do not rub with dust clothes with chemical treatment.
- (3) Do not stack the touch panels together.Do not put heavy objects on touch panel.
- (4) Please do not take a CTP to pieces and reconstruct it. Resolving and reconstructing modules may cause them not to work well.
- (5) Please excessive force or strain to the panel or tail is prohibited, Do not lift touch panel by cable(FPC).
- (6) Use clean sacks or glove to prevent fingerprints and/or stains left on the panel. Extra attention and carefulness should be taken while handling the glass edge.
- (7) Please pay attention for the matters stated below at mounting design of touch panel enclosure.
Enclosure support to fix touch panel must be out of active area.(do not design enclosure presses the active area to protect from miss put)

2. OPERATING PRECAUTIONS

- (1) Please be sure to turn off the power supply before connecting and disconnecting signal input cable.
- (2) Please do not change variable resistance settings in CTP. They are adjusted to the most suitable value. If they are changed, it might happen CTP does not satisfy the characteristics specification
- (3) Be careful for condensation at sudden temperature change. Condensation makes damage to snesor or electrical contacted parts.
- (4) CTP has high frequency circuits. Sufficient suppression to the electromagnetic interference shall be done by system manufacturers. Grounding and shielding methods may be important to minimize the interference.
- (5) Touch the panel with your finger or stylus only to assure normal operation. Any sharp edged or hard objects are prohibited.
- (6) Operate the panel in a steady environment. Abrupt variation on temperature and humidity may cause malfunction of the panel.

3. ELECTROSTATIC DISCHARGE CONTROL

- (1) The operator should be grounded whenever he/she comes into contact with the CTP. Never touch any of the conductive parts such the copper leads on the FPC and the interface terminals with any parts of the human body.

- (2) The CTP should be kept in antistatic bags or other containers resistant to static for storage.
- (3) Only properly grounded soldering irons should be used.
- (4) If an electric screwdriver is used, it should be well grounded and shielded from commutator sparks.
- (5) The normal static prevention measures should be observed for work clothes and working benches; for the latter conductive (rubber) mat is recommended
- (6) Since dry air is inductive to statics, a relative humidity of 50-60% is recommended.

4. STORAGE PRECAUTIONS

- (1) When you store touch panel for a long time, it is recommended to keep the temperature between 0°C-40°C without the exposure of sunlight and to keep the humidity less than 90%RH.
- (2) Please do not leave touch panel in the environment of high humidity and high temperature such as 60°C 90%RH
- (3) Please do not leave touch panel in the environment of low temperature; below -20°C.

5. OTHERS

For the packaging box, please pay attention to the followings:

- a. Please do not pile them up more than 5 boxes. (They are not designed so.) And please do not turn over.
- b. Please handle packaging box with care not to give them sudden shock and vibrations. And also please do not throw them up.
- c. Packing box and inner case for CTP are made of cardboard. So please pay attention not to get them wet. (Such like keeping them in high humidity or wet place can occur getting them wet.)

6. LIMITED WARRANTY

Unless otherwise agreed between MULTI-INNO and customer, MULTI-INNO will replace or repair any of its CTP which is found to be defective electrically and visually when inspected in accordance with MULTI-INNO acceptance standards, for a period on one year from date of shipment. Confirmation of such date shall be based on freight documents. The warranty liability of MULTI-INNO is limited to repair and/or replacement on the terms set forth above. MULTI-INNO will not responsible for any subsequent or consequential events.

OUTLINE DRAWING

