



# Shenzhen AV-Display Co., Ltd



Updated in Nov, 2011



Shenzhen AV-Display Co., Ltd.

# Group Core Business



AVD

LCD Module	COB, COG, TAB	1996
1st LCD Panel Line	TN, STN	2003
2nd LCD Panel Line	STN, FSTN	2008
Touch Panel Line	Resistive, Capacitive	2010

Sister Companies

PCB	Shenzhen Beyond Sci-Tech Co., Ltd.	2~10 layers	2003
LED Backlight	Shenzhen HC Opto Electronic Co., Ltd	Mono & TFT	2005
MCU Design House		Software Design	2002
Liquid Crystal	Jiangsu Hecheng Chemical Materials Co., Ltd		2006



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# New Investment

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Oct 2011: New sets of COG equipment introduced, monthly capacity increased 300Kpcs

Nov 2011: New Testing Chamber is purchased to meet the customer's requirement.

New Industrial Park in GanZhou, Jiang Xi

◆ Ground Space: 200,000 Square Meters (300 Mu)

◆ Start from 2010, expecting to run in 2014

1st stage: 20,000 square meters for PCB factory

20,000 square meters for LCD/LCM/TP factory



# AVD Locations



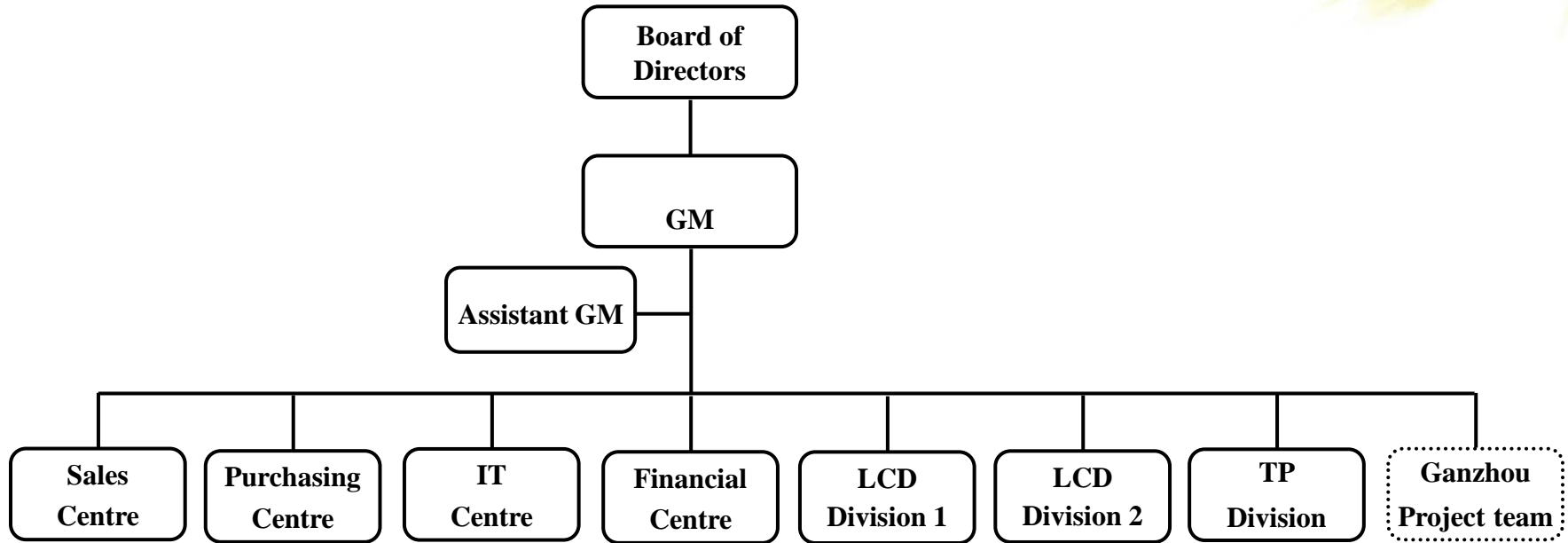
★ : AVD factory (headquarter)  
◆/◇ : Sales office

☆: AVD subsidiary factories  
●: Sister companies



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# AVD Organization Diagram



# AVD Core Capabilities

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- Vertical Integration
  - Main Components are made in house for better quality control and competitive price
- Strong Quality Commitment
  - Audit approval by World Class Customer base
- Successful Track Record
  - Long term Customer Partnership focus
  - Financially stable
- Highly Experienced Engineering Team
  - Quick to market
  - Cost effective solutions
  - Supply Chain alliance strategy (LCD driver, keypad)
- Total Customer Support
  - Available for local support in Europe and North America
  - Flexible and Fast response



# Company Philosophy

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## Operation Targets

- To offer first class products and service in the display industry;
- To be a strong team with good performance and strong social accountability;
- To be a well accepted and trusted partner by our customers;
- To be a well recognized team by our employees.

## Our Spirits

Commitment  
Innovation

Enterprise  
Team Work



# Business Model

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## ➤ Design Phase:

- Work with customers' design teams from projects early stages
- Provide a suitable solution to meet the design requirement with exceptional technical support as well as offer recommendations on how to reduce the overall cost of the customers LCD or LCD module
- Utilize our added value capabilities

## ➤ Manufacturing Phase

- Utilize high skill labor forces
- Provide the most cost competitive products



# Quality System & Target

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- ISO9001
- ISO14001
- ISO/TS16949
- QC080000

## Management Targets:

- Improve Quality
- Stimulate Environmental Awareness
- Continuous Processing Improvements
- Better Serve Customers



# AVD Product Lines



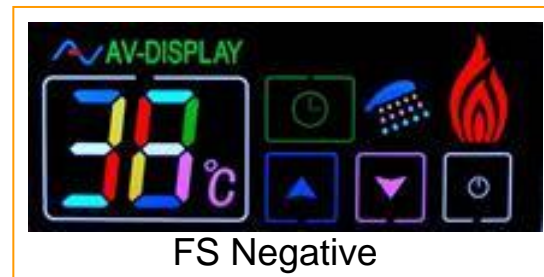
Chip on Board



Automotive



FS Positive



FS Negative



Chip on Glass



PMVA



Customized Module

- LCD Panel
- Touch Panel
- LCD / LCM + Assemblies
- TFT with Controller Board
- C-TP (Integrated inside the LCD – AVD Patent)



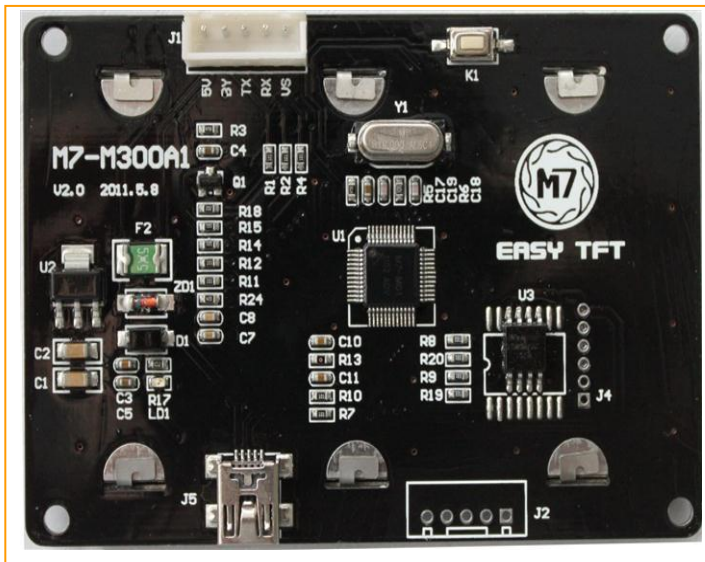
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# Easy TFT - TFT with Control Board



## Advantages:

- Easy to Assemble (by mounting holes)
- Easy to Control
  - ◆ Easily deal with pictures and editing interface by USB disk
  - ◆ Flexible configuration (memory size optional)
  - ◆ Simple command instruction, easy to learn
- Low cost MCU to drive TFT module, refresh fast
- The frequent change of the TFT screen will not cause problem to customer.



Size Available: 2.3"~7"



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# Plant Overview

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- No. of employees: 2000
- LCM workshop: clean room level: Class  $\leq 10,000$   
LCD workshop: clean room level:  $\leq 1,000$ , partial  $\leq 100$
- Production floor space: 10000m<sup>2</sup>
- Panel Lines: 2
- Monthly Capacity:
  - COB Module: 1KKpcs                      COG Module: 600Kpcs
  - LCD Panel: 100K Sets (14"\*16" mother glass, 2 shifts)
  - Touch Panel: 30K Sets (400\*500mm Mother glass)



# LCD Panel Technology

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- Display mode: TN, HTN, TN-DYE, STN, FSTN, FFSTN, ASTN...
- Product packages: COG, COB, SMT, TAB
- Ability: COB: 1/240 duty    COG: 1/160 duty
- Min LCD glass thickness: 0.4mm  
Dot Gap:  $\geq 12\mu\text{m}$     Cell Gap: 3.0~12.0 $\mu\text{m}$
- Top: -40 °C(low) or +105°C(high)
- Connection type: pin, zebra, HSC, FPC...
- Heater: achieve a better response time under extremely low temp, etc: -30~-40 degree C



# Key Production Equipments-LCD



**ITO glass clean line before PR coating**  
**1000 class clean room**



**Automatic exposing line**  
**100 class clean room**



**Developing and post baking line**  
**1000 class clean room**



**Cell-making room**  
**100 class clean room**



# Production & Testing Equipment - LCM



- COG Bonding Machine
- TAB Bonding Machine
- COB Bonding Machine
- Ultrasonic Cleaning Machine
- Heat Seal Machine
- Reflow Oven
- .....



- Low/High Temperature Oven
- Vibration Testing
- ESD Testing
- LCM auto optics testing system
- BM-7 Luminance Meter
- XRF RoHS Testing Machine UX-300
- .....



# Touch Panel

- TP technology:
  - Projected Capacitive TP
  - Static Capacitive TP
  - Voltage-driven Multi-touch TP
  - Resistive TP
- Production Space: 3900m<sup>2</sup>
- Size Capacity: 2.2"~12.1"
- Technical Capacity
  - Min Line Gap: 10um
  - Min Pitch: 0.12mm
  - Alignment Tolerance: 0.01mm
  - Min Line Width: 10um
  - Plate Thickness: 0.4mm~1.1mm



# Applications



- ◆ Telecom
- ◆ Industrial Control
- ◆ Metering
- ◆ White Goods
- ◆ Automotive
- ◆ Medical Devices
- ◆ Consumer Electronics
- ◆ HHT & POS
- ◆ Security Products

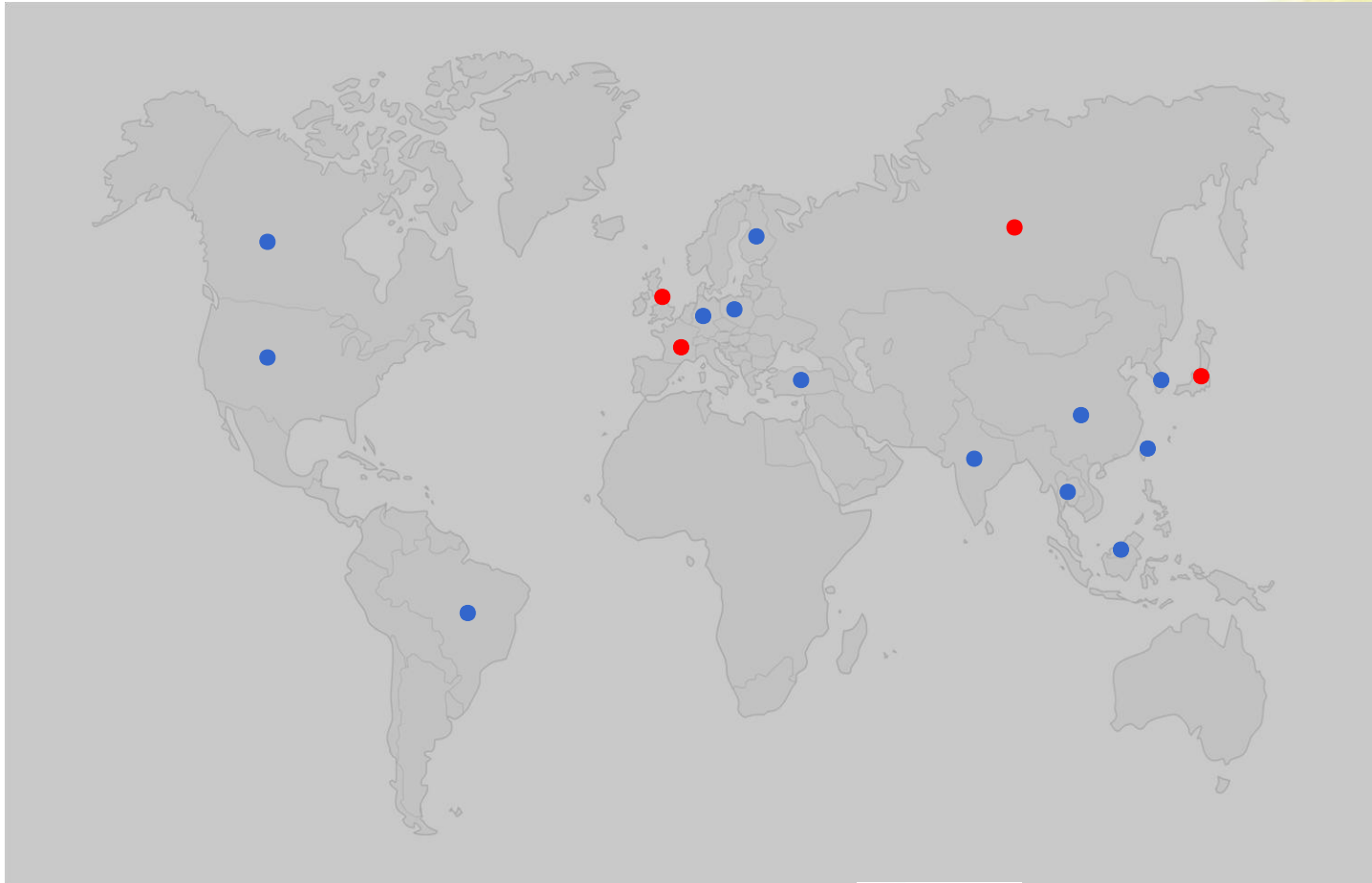


# AVD Worldwide Footprints



● : developed markets

● : developing markets



SIEMENS

ABB

AVAYA

Honeywell

NORTEL

SES

OMRON

Roche

SMA

tyco

POLYCOM

APC  
Legendary Reliability

invenSYS

Hisense

EMERSON

SHARP

Carrier

elster

Panasonic



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BYD

GE

gorenje

arçelik

POLAR

VASCO

LG

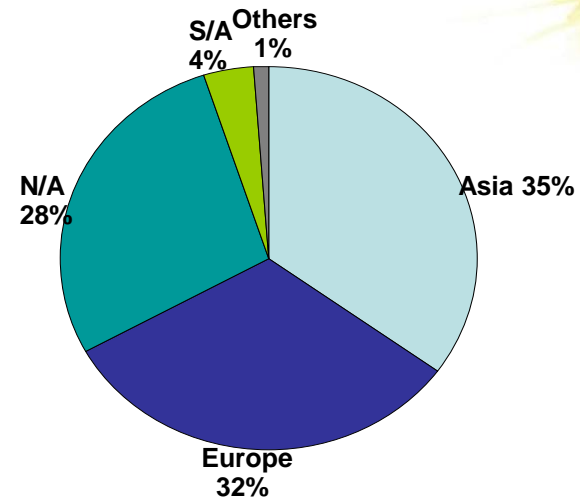
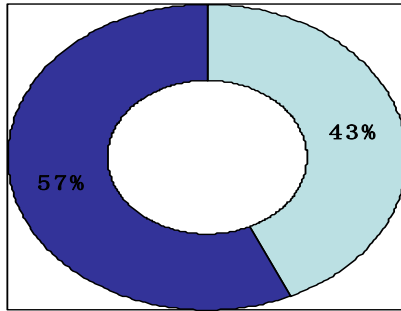
TRANE

Rockwell  
Automation

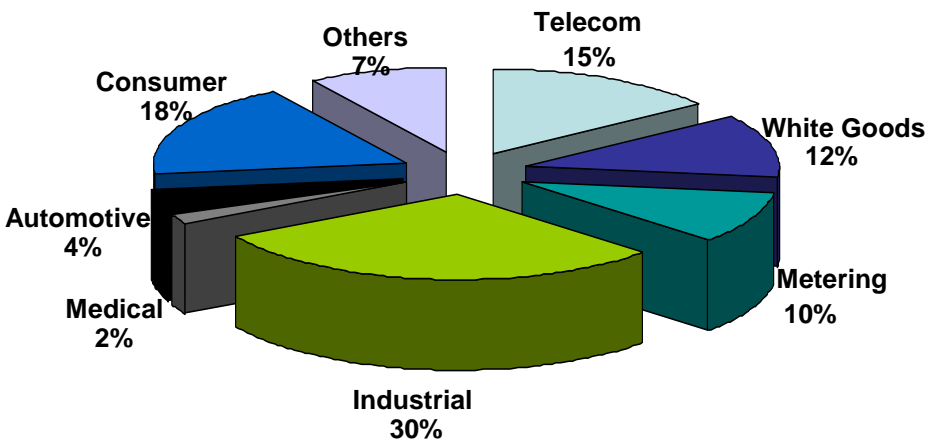
# Facts & Figures 2010



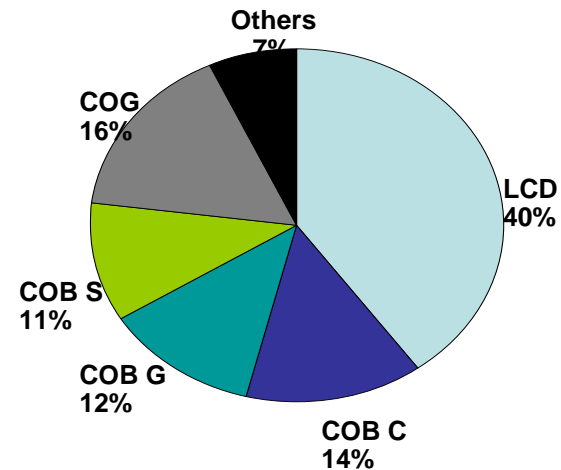
## Region



## Market Segment



## Type





**Thank You!**



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