

The Training of New Employees

the goal of training: to master the basical knowledgement of LED display
and to prepare a good attitude for the foreign trade business

procedures	the main content	time arrangement	
1.study of theory and examine	to get familiar with products; to strenghten professional knowlegement	25days	
	detailed explanation of electronial parameters(1st): introduction of led display;protection degree;virtual pixels;packaging method;color temperature;lamps;viewing angle;pixel density;brightness and calculation method;pixel configuration;module configuration;screen size;lifetime;screen configuration	2days	
	detailed explanation of electronial parameters(2nd): supply power;pcb board;scanning method;refresh frequency;ic;working temperature;stability;pixel density;gray grade;caliberated brightness; brightness adjustment;dot correction	2days	
	detailed explanation of electronial parameters(3rd): difference between outdoor and indoor screen;classification of products; application;confirmation;delivery time;optimal viewing distance;working environment;hanging structure;making of solutions	2days	
	controlling principles of screen: connection of cables;controlling system;linkage method;praphics cards; communication method and distance	2days	
	2.the cases study(1st)	to look at former emails from customers; to get familiar with content of common emails; to examine professional knowledgement content:the organized emails from customers	2days
	3.training of actual operations	to get familiar with working content and meethod; to learn emails edit and enclosure arrangement content:answer to simulated inquiries and emails	3days
4.the cases study(2nd)	after finishing the third stage continue to have cases study to get consolidated (if the result of third stage is good,then this stage can be omitted) content:the organized emails from customers	5days	
5.preparation of actual operations	to collect and arrange materials needed at work; to learn how to gather materials collection and file of pictures, parameter tables,video and PDF maintainance materials	3days	
6.practice in product line	to visit workshop in factory; to watch production and linkage of LED screen	1days	
7.final preparation	to scan and check prepared materials; to have a good emotion for enjoying work	3days	

First part. about led display

A. LED display's development, history, application, usage

1. 1923: LED were invented
2. 1965: first commercial LED were launched
red, green, yellow LED lamps were launched one by one
3. 1990: Blue LED were invented by Nichia
4. 1993: Blue LED lamps were launched into the market by Nichia
5. from 1993 the full color LED display were launched into the market by the LED display factories.
6. 1998: white LED lamps were invented.

B: application of the LED display:

1. Commercial advertising: the main model for the full color LED display.: p10, 16, 20, 25, 31, 25.
2. Rental display: P10, 16 is virtual outdoor full color LED display is the main model for the rental display:
this is more and more popular since the display's cost is too high for common business, many of them can only rent for some activities several times per year.
this is also a fast developing market for the LED display.
3. Message showing system: Price information, weather & humidity information & news & notices
fit for the oil station, train & bus station, air port, etc: P20 outdoor full color & P20 outdoor double color/single color is the main model for outdoor system; P7.62 indoor full color/double color/single color is the main model for indoor system.
4. Stadium display: only for the football, basketball stadium: 200-400 meters around the stadium: p16 & p20 is the main model for the stadium display.
5. LED truck display: P10 is the main model: install on two sides of the truck, and make advertising while moving.

C: the current industry condition:

1. Barco, lighthouse, Eurodisplay are the leading company in this area.
2. Factories from mainland China and Taiwan is a fast developing strength.
3. Our company is only a new and fast developing (from 2001) company in this industry, turnover per year is 8 million USD.

D: developing prospect:

1. the LED display is a new and fast developing industry, will have a very great developing future.

Second part. study of theory

A. Detailed technical specifications study(take P20mm for an example)

Location 1 specifications of 2.88*1.92m outdoor full color LED video display(Double sided display)		
Design plan and specifications of PH	20	mm virtual outdoor full color LED video display
Nickel(or hot galvanizing)using declaration		
In order to protect the display in the humidity environment(100% humidity), for the cabinet, the PCB,cable wires,etc will add nickel(or hot galvanizing) to protect the display from rusty		
1. Pixel		
Pixel composition(LED lamps composition)	3	1R,1G,1B 2R1G1B 2R2G1B
Wave length(nm)		R:626-628,G:518-520,B
Pixels pitch(mm)		20
2. Module		
Module composition(pixels number)	length	16
	hight	8
Module Size(mm)	length	320
	hight	160
	width	16
3. Cabinet		
Cabinet composition(module quantities in the cabinet)	length	4
	hight	6
Cabinet size(mm)	length	1280
	hight	960
	width	80-250mm
Pixels number in a cabinet(dots)	length	64
	hight	48
Cabinet material		Iron cabinet with nickel plating(or hot galvanizing)
4. Screen		
Screen weight(kg/m ²)		70
Screen coposition(cabinet quantities of the screen)	length	10
	height	10
Screen size(m ²)	length(m)	12.8
	height(m)	9.6
	size(sqm)	122.88
Screen number(pcs)	2.0000	double sided
Total screen sizee(m ²)		11.0592
Ratio		1.333

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Balance with the best ratio		0.1667
Resolution(real pixels)	length	640
	hight	480
Resolution(virtual pixels)	length	288
	hight	192
5. Packing		
Packing Way	1	One or Two unit boxes packed into one wooden case
Packing material		Wooden case
Packing quantities		2
Packing Size(mm)	length	2985 +200
	hight	2125 +300
	width	380 +200-300
Total Packing Size(CBM)		4.820775
Total Weight(KG)(Net weight)		774 70kg 1.35
6.Other electricity parameter		
Pixel density(dots/m ²)	real	2500
	virtual	10000
White balance brightness(cd/m ²)		7500nits
Colour temperature		5000-9500 3000 6500K 9500
Brightness adjusted		100 grade by software, or by auto-optic induced.
View angle(degree)		Horizontal:110;Vertical:70
Best viewing distance(m)	MIN	12
1. One letter's viewing distance 2. whole screen's viewing distance 3. when the customer has a requirement on the viewing distance, we will know which model fit the need best and save cost	MAX	272
Communication distance(m)		cable:100 150 repeater 1 muti mode fiber:200-1000 3 single mode fiber:2000-3000
LED driving method		Constant current driving
Gray grade		16384 levels for each colour
Display colour		4.4 trillion 1677216
Refresh frequency(Hz)		≥400
Picture display method		Dots to dots display synchronized with monitor(computer)
Signal interface		DVI
Input signal		Video:PAL/NTSC Optioned:VGA,video, DVD,TV
Software		Support windows 2000 XP series system vista

Address: ERALED Industry Park, Xincheng Road, Shajing town, Bao an District, Shenzhen, China
 Email: manager@eraled.biz MSN: ERALEDdisplay@hotmail.com, Skype: ERALEDdisplay

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Protection grade 扩展资料		IP65
Working temperature(Celsius degree)		-10 ~ +50
Stored temperature(Celsius degree)		-30 ~ + 70
Humidity(RH)		up to 100(for the common display, only up to 95)
Screen lifetime(hours) Nichia CREE AXT SILAN TAIWAN		>100,000(11.4 years)
Whole display flatness		Less than 1mm Juncture
Maintance way		1. Font-maintained(or back-maintained), modules displaced 2 front maintained: 1)cabinet front miantance 2)module front maitaince
Switch		Swith power supply 220v/110v
Power consumption(w/m ²)	MAX	850

B. controlling principles of screen and controlling system

Basic composition:

display/creen body+control system+signal sources+steel structure for installation.

1.display body- cabinet-module-pixel-LED lamp

1) the display body were composed by several cabinets, each cabinets were composed by several modules, each module were composed by some pixels, each pixel were composed by several LED lamps:

2)Display body: for the common full color LED display, when it's designing for commercial advertising, the ratio between the length and height should be 4:3 or 16:9(video display format)

3)cabinet: the size limit for iron cabinet is: 3.5*2.5,meters

the size limit for alluminum cabinet is:2.5meters*2meters

the size limit for plastic cabinet is:0.6meter*0.6meter

4)Module:

module composition(pixel/dots number):32*16,16*16,16*8,8*8,8*16

16*16 will be the main model in the future.

5)Pixel:

Pixel composition:1R1G1B,2R1G1B,SMD 3in1, SMD 3and1

1R1G1B is the main model and future developing direction.

6)LED lamps:

Nichia is the first company which invented the blue LED lamps,comparing to CREE and other LED companies, it's red, green and blue lamps have some advantages on lifetime, brightness depressing, high brightnss.

Nichia has the advantages(comparing to Cree and other LED lamps brand) of:

1).hight brightness:(nearly two times higher for each color)

2).low current, low power consumption.

3).low working temperature, much longer lifetime expectation.

2. Display/Screen body: full color LED display, double color display, single color display

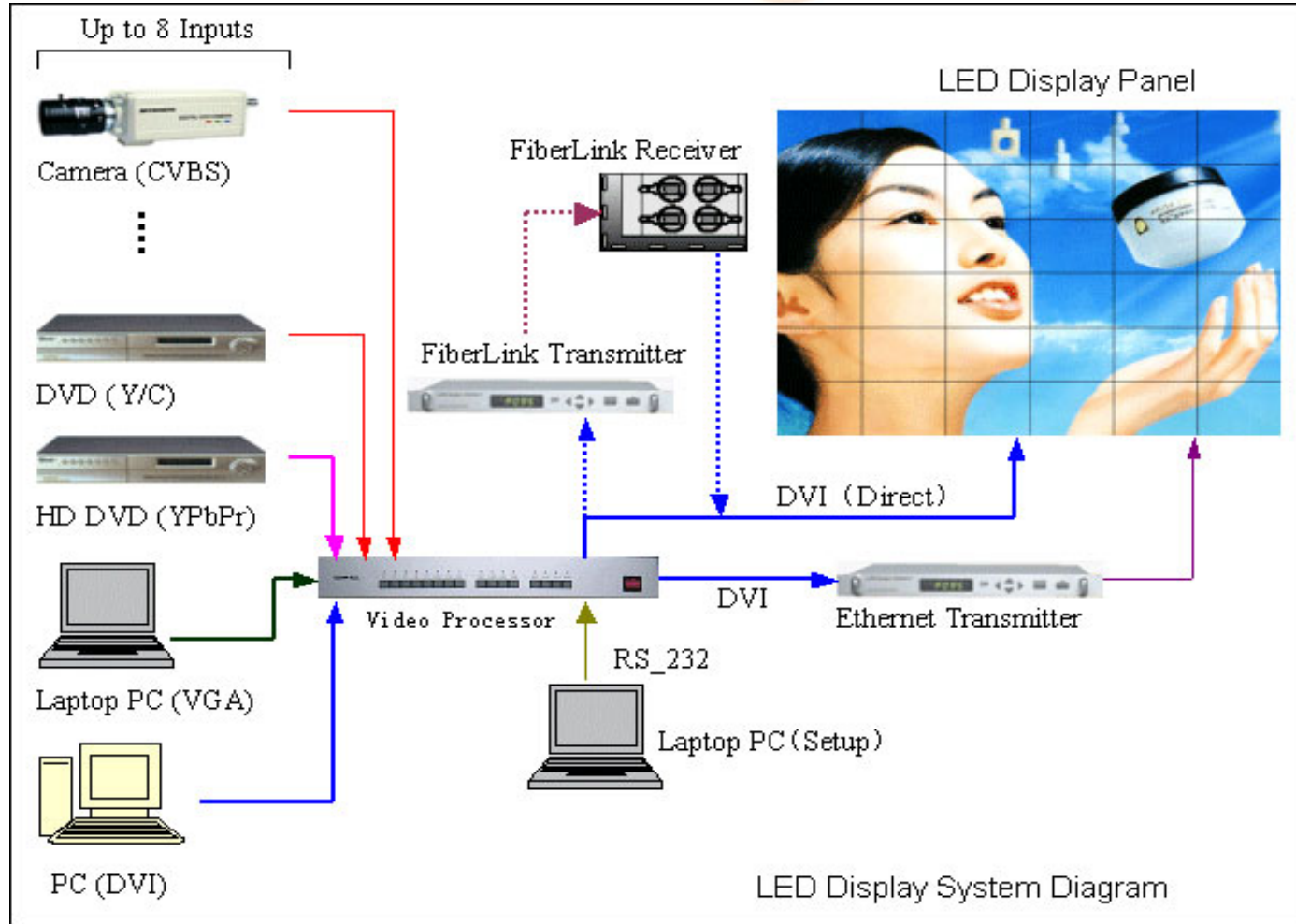
Address: ERALED Industry Park, Xincheng Road, Shajing town, Bao an District, Shenzhen, China

Email: manager@eraled.biz MSN: ERALEDdisplay@hotmail.com,Skype: ERALEDdisplay

- 1) full color display: Pixel pitch(mm): 4mm,5mm,6,7.62,8,10,12,14,16,18,20,22,25,30,31.25:
P6mm, P7.62mm, P10mm, P16mm, P20mm are the main models for the full color LED display.
- 2) double color/single color LED display: pixel pitch: 4mm, 4.75, 6, 7.62, 10, 12, 12.5, 14, 16, 20, 25, 31.25mm:
P7.62, P20 is the main model for the double/single color LED display

3. Control system:

sending card-receiving card-Hub card-each modules-each pixel-achieve pixel by pixel controlling from PC to sending card(for data sending)-data transimition by data cable-receiving card(for data receiving)-HUB card(for data transferring to the display)



Third part. cases study

1. Dear Jerry

My partner has had contact with Evan for the visit Oct. 24 afternoon

The project is still valid for the 20 columns.

My partner had had previous contact with your company at its last exhibition in Hong Kong

I have a new project to screen the ground from 12 meters by 3 meters.

Did you this type of product?

Kind regards

Address: ERALED Industry Park, Xincheng Road, Shajing town, Bao an District, Shenzhen, China

Email: manager@eraled.biz MSN: ERALEDdisplay@hotmail.com, Skype: ERALEDdisplay





2. Hi Jerry.

I've got a new request from new customer.

He need 3 signs follow the request bellow.

A. 3500x3500mm Full color - P20 - Outdoor.

B. 2500mmx2500mm full color - P20 - Outdoor.

C. 3000mmx3000mm full color - P20 - Outdoor.

If you need more information pls contact me.

Please send me the quotation till coming Sunday.

Thanks and have a nice weekend.

3. I want to buy the product you are selling on Alibaba.com.

I want a screen of 40 mm to shows,

time of arrival in Paraguay South America, product cost and cost of shipping via air, esurgente.

thanks

4. Hi Jerry

How did the fair go, was it successful?

I actually have a couple of questions to ask you?

1. How much does the RF modem cost for the single color msg center? And if it is 2 sided (back to back) would I need 2?

2. You have told me in the past that if we reduce the gray grade, we reduce the angle of view, is that the only thing that we reduce? Does it also effect the refresh rate or brightness?

3. What is the maximum distance we can have with the data cable? That is the distance between the sending card and receiving card?

5. Hereby you are informed on kindly that we are an Iranian Company looking for large indoor full color LED displays for Traffic management /Control room.

pls furnish us with your best suggestions and technical information plus the FOB price list.

your soonest response would be highly appreciated.

6. I am writing to ask budget or price list of some of their products that are of great interest to my plans.

I have plans for the construction of screens outdoors and indoors led display and to do so viewers need led with modules 16 x 16 , 16 x 8 , 16 x 32 ,these modules can be only color or full color such as the (PH-10 , PH-12 , PH-16)full color

also need all the material or complet kit for the costruccion of the screen,as a source unit controller that it is progrand by computer and RS232, RS485 port, communication and software apropiate in order throughout the electronic modular unassemble.

T need that includes the price of shipping & packaging to spain (tenerife,

Canary islands.

Thak for your attention and I hope to answer

7. Hi Jerry,

My name is Caroline and I work for Mr. Fernandes.

Address: ERALED Industry Park, Xincheng Road, Shajing town, Bao an District, Shenzhen, China

Email: manager@eraled.biz MSN: ERALEDdisplay@hotmail.com,Skype: ERALEDdisplay



Please have a few questions.

Ex.: Outdoor full P16 - It came all set Up or will have to put all the pieces together Here? Items like Lock Button , sending card, display card and amplifier are accessories? What is the Flight Case, is a special Box that you going to put the Outdoor?

Please I need you to inform me what are the items that is accessories and wight one came "inside" the outdoor.

I also need to know if any of the items has part number, serial number or any kind of numbers or letters inform in the items, if have you need to include this information in the Invoice. Otherwise when came here and the government finds any kind of letters and numbers And we didn't inform in the Invoice we gonna have to pay a big Fine (Penalty).

8. Hi Jerry,

Do you offer message LED display (1 color, 3 colors). Please send me offer.

I am looking for message display about

1000 x 600 mm or

1500 x 800 mm.

9. How was your weekend?

Speaking of the information you have send to me on Friday

We get only P10,15 & 16. I know you have bigger that P16 and smaller than P10.

Like I have inform you we need your full offer. Please send me the other today.

10. Hi Jerry,

This is leong wai kow from X-Stream Media.

thanks for your info just now, I just discussed with my boss.

pls give me a best price for P20, sBillAnax chip, LED screen,

as I do not waste anymore time to look for other supplier since I am

dealing with you for long,

If everything going fine, I will come to see you next week.

11. Dear Jerry,

We are interested in your production.

We are specialized in importing products LED in Belgium.

We have applied for a LED screen. For a soccer field outside.

The viewing distance is between 10m and 150m.

The screen size should be approximately 12m 2.

Can you send us a quote with full monitoring system.

Which model is best for this distance? We want a good quality image.

No call me, because my english is very bad. Send me a Email, only.

12. Hi Jerry,

Please send me a cotation to:

50 m2 P40 4 leds indoor with aluminium cabinet + flyght case + cables "read to use".

50m2 P16 virtual outdoor with aluminium cabinets + flyght case + cables "read to use"

please send me two cotations each with SBillAnax and Cree Leds

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13. Hi Jerry, just want to let you know that we have received the screen and we are very satisfied with it, though late, thanks so much.. we will send you the freight amount on Friday and I'll notify you once it's done. the screen is fantastic! we definitely want to continue business with you, we would like a bigger screen for about US\$5000.00, let me know what you can get us for that amount ok. we do intend to order some more after that. let me know about the US\$5000.00 you have already made good progress now. but still not enough, Try your best to do well again. pls dont give up now. all your efforts will be wasted if so you helped me a lot whole heartedly from the beginning till now too.

14. Hi, i would like to get some informations about your LED display panels. Can you send your price list with tech. specifications? I want to build few big promo display cca.

7m x 4,5m

or something around this diameters. Can you write me, how many cost transport from China to Slovakia?

Thank you for your quick reply.

15. FIRST

For an Outdoor use, we are looking for 10 pcs of LD Wall dimensions around 200cmx150cm

(we do know that sizes are not given in this way, it is final customers that send this info, so please convert in the closer LED with a comparable size, expressed in diagonal inch).

Full color dot pitch 16mm *customer really would like this to save cost! Maybe P12

Distance from viewer: from 10m to 100m

Distance from Ground (high) 3m

It is controlled by cable, 20 meters from LED panel

TWO

For Outdoor use, on a mountain site, dimensions 96cm x 48cm ,(please provide nearest ,model with a diagonal in inch) full color, with a protection (shell, or a case) against rain, snow that should be heated etc., Please provide cost for Iron case or Aluminium case.

Distance from viewer starting from 4 m,

Distance from ground around 3-4 m.

Should have dot pitch 10mm .

It is controlled via LAN cabling so it is wireless

Should have an internal memory of at least 500MB.

We are talking about mountain site where people go to sky, night time temperature could reach -25 in winter night time in the Italian alps. We would like this to be well protected, maybe by a heated case. We would like to know the difference in cost between Aluminium and Iron, for the case.

The other are controlled via cables, around 20 meters long, from panels. These led panels customer would like to stay at P16, to save money, but I have been told that P16 it is too big for such a small panels, and that P12 would be better. Please advise.

I think we may visit and discuss personally with you all this matter.

Please send to me the full address of your factory in CHINESE and in English, and let me know which days are the best for you to organize a visit.

16. Hello Jerry!!

General:

Address: ERALED Industry Park, Xincheng Road, Shajing town, Bao an District, Shenzhen, China

Email: manager@eraled.biz MSN: ERALEDdisplay@hotmail.com, Skype: ERALEDdisplay

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1. Our potential customers have got a bid price from another company and we would like to know how much will cost these items to us
2. We're interested in four Outdoor Led Screens and four Indoor Led Screens.
3. Attached you will find the list of the products specifications.
4. We would like to give to our customers an attractive price.

We have strong interest in reducing costs to our customers.

Looking forward to your quick response.

Regards,

Meir Dreifuss,

17. As following your last quotation, My customer asking if we can supply the display assembled already with all accessories. Can you ship it all assembled by sea? Also send me some info regarding one of your technician to come to ISRAEL for 4-5 days. 5x3 meter display.

18. We are a major advertisement company based in the Dominican Republic and we are looking on buying Full color Outdoor LED Display Screen, I need a quote on a 6 m * 4 m. Also since we are in the Caribbean it must be waterproof. Does it need to have Air Conditioner? Thanks

19. Hi Matina,

I need to know the contact window of your office here in Manaus? How much is the Freight? Size of container? and When the shipment is going to leave China

One more time, I need the Pictures!

When this shipment is going to leave China? The name of your Freight Forwarder? The contact of them here in Manaus?

20. dear jerry,

we are new at this business and not ready for "big outdoor " type, as of yet.

we found this korean company very helpfule with product information, price, terms and conditions.

i hope, we will grow and start 'big outdoor "types very soon, by spring of next year.

it is good that we are in close contact.

i have a employee in guangzhou and she travel to shenzhen 1-2 times a month to do good inspection of one of my suppliers.

contact her and show her your factory and your product. she is very new at LED business.

ken

More is omitted.

Fourth part. training of actual operations

To ask new employees to try to answer emails and experience working content, at the same time for fresh men to examine professional knowledgement.

Fifth part. cases study

Finishing the the fourth part, return to cases study and at the same time compare letters in reply by fresh men themselves with letters by old salesmen.

Model emails:

1.

Dear Garford Joseph,

1. Pls check the attachment for the air freight payment.

2. Pls arrange payment to me once you receive the goods and check everything goes well.

3. for this shipment, the air freight is a little high since the destination is a small air port, very sorry, the total cost is near doubled than expected 600 USD.

2. Hi, Mr Adam Slawinski,

Thank you for your trust and appreciation to me and my factory.

1. 12 working days we can complet the production, then delivery to you immediately. we never delay for our customer, you can check with our partner BillAnax in Poland.

2.Pls check the invoice and the bank account and send me back the bank transferring document once you complet the transferring deposit.

3. Any further updating requirements, pls inform me asap.

4. HI, Mr Adam,

1. pls check the attachment for the newest price list for all our product models.

2.Consideration your next order maybe a large amount, Pls contact with our EU service and marketing partner

3. Our parnter offen place some big quantity from my factory, so If you place the order together from our partner, then you will get more cost saving and get better local service. and save the headache of the customs clearance for your goods.

4. Christmas is coming, I think you can place some indoor full color LED display and also the LED background video for advertising and decorating use.

5. If you meet some problems for the software using, you can contact with our local service and marketing partner directly for all the necessary assistance you need.

5. Hi, Marco

1. all the detailed quotation list and technical data sheet for 16&14&12&10mm 2R1GB & 1R1G1B & SMD;

Synchronous control system solution & Asynchronous control system solution & alluminum cabinet cost difference is in the attachment.

Address: ERALED Industry Park, Xincheng Road, Shajing town, Bao an District, Shenzhen, China

Email: manager@eraled.biz MSN: ERALEDdisplay@hotmail.com,Skype: ERALEDdisplay

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2. Multi-function card&brightness sensorfor brightness changing automatically with the environment brightness changing(USD/set) 250
3. Working temperature(Celsius degree) -30~+55
Stored temperature(Celsius degree) -40~+75
4. the CE, RoHS, certificate is the 1st part of the attachment.
5. All other details you required are listed one by one in the attachment.
6. Any further assistance I can offer you, pls inform me asap
Very sorry to present the offer so late.
7. I am very happy to have a nice talk with you about China politics, common life of Chinese, language study and your Italian culture.
Hope to meet you again next time when you were in Shenzhen again.

6. Dear Mr Jimmy Goh ,

It's very happy for us to hear from you are interested in our LED display, and many thanks for your inquiry. here it also gives me a great honour to send your our catalogue.

we are not only a manufacture but also a solution provider on LED screen and Lighting system. our products are with high quality and best service, now we have passed the CE and Rohs certification, and we exporte to USA, France ,Switzerland, Czech, Slovakia, Poland, Romania, Israel and so on.

Our products have full color LED indoor&outdoor display screen, double color or single colorLED message board and LED lighting, such as LED back lighting wall, LED video wall and so on. Hoping you will be take more interests in our compnay .

Usually we will give some better suggestion and make a suitable solution for our customers' referance according to their different requirements aobut our LED display. so here would you also pls tell me your more informations before i give you some suggestion ? can you pls tell me that are you interested in our LED indoor diplay or outdoor display? what the size is? and what is your real usage about it? thank you.

It will be my great apprecaiton for getting your reply.

Best regards.

7. HI, Gee

1. pls check the detailed quotation list and technical specifications of the 2 message board you need.
2. any further updating news, pls inform me asap when you are free.
3. from the photo you gave me. it should be indoor tri color LED message.
- 4 if you need outdoor use, pls give me another photo to let me know where it will be installed. then i will be very clear on which is the best solution for it.
5. thank you very much for your kind paitent response.
do you have experience to mount display on concrete columns keeping roof?
please see this visualization
there can join construction only to vertical columns
do you know method to do this?

8. HI, Mr Rafal

Address: ERALED Industry Park, Xincheng Road, Shajing town, Bao an District, Shenzhen, China
Email: manager@eraled.biz MSN: ERALEDdisplay@hotmail.com, Skype: ERALEDdisplay



I am very sorry, but still need to confirm with you for some points to make the best solution for you:

1. Outdoor or indoor using? outdoor using right?

2. Size:

3m x 2m

1.5m x 2m

3m x 5m

right?

3.Usage:what's your expected usage of your LED screen. for comercial advertising . right?

4.Installation: where and how to intall the screens? and what's the distance between the display and the ground?
wall installation . right?

5.Viewing distance:what's your expected viewing distance of the screen.

I am really very sorry, you need to give me this data, if not, it will be hard for me to choose the best solution for your project need.

6. Our product is always very high quality and we can offer you local servicing in Poland for you.

7. If any quality problem, you can still contact with partner. and we can give you local training on how to use the LED display system.

8. from the photos you gave me. it is full color LED display, not one red single color.

9. the Detailed price list for our full color LED display is in the following list for your better reference.

More is omitted.

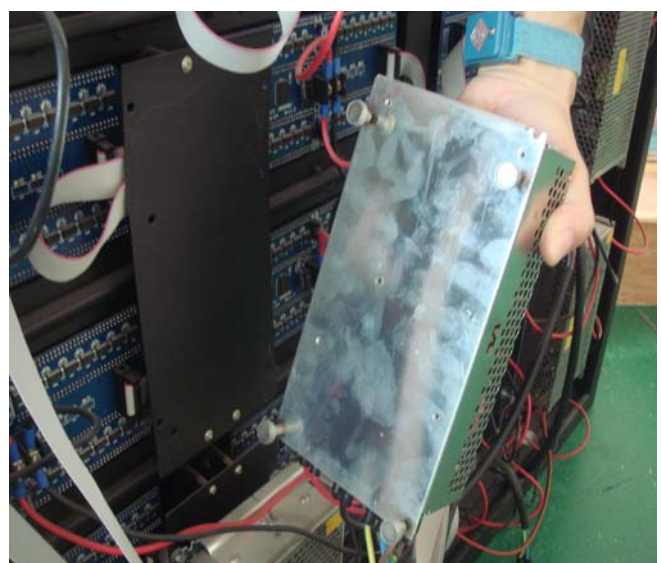
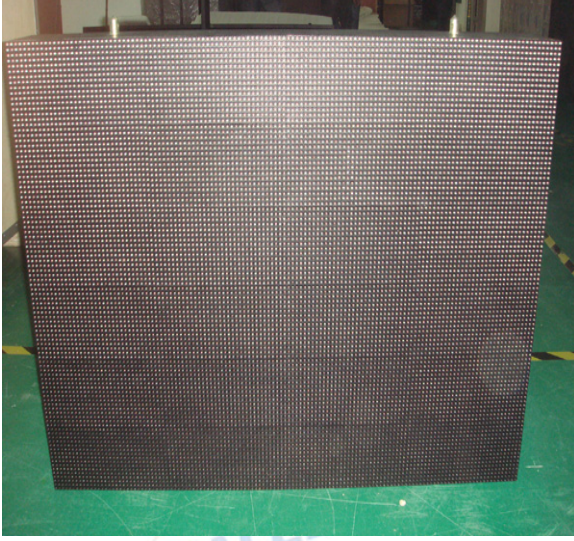
Sixth part. practice in product line

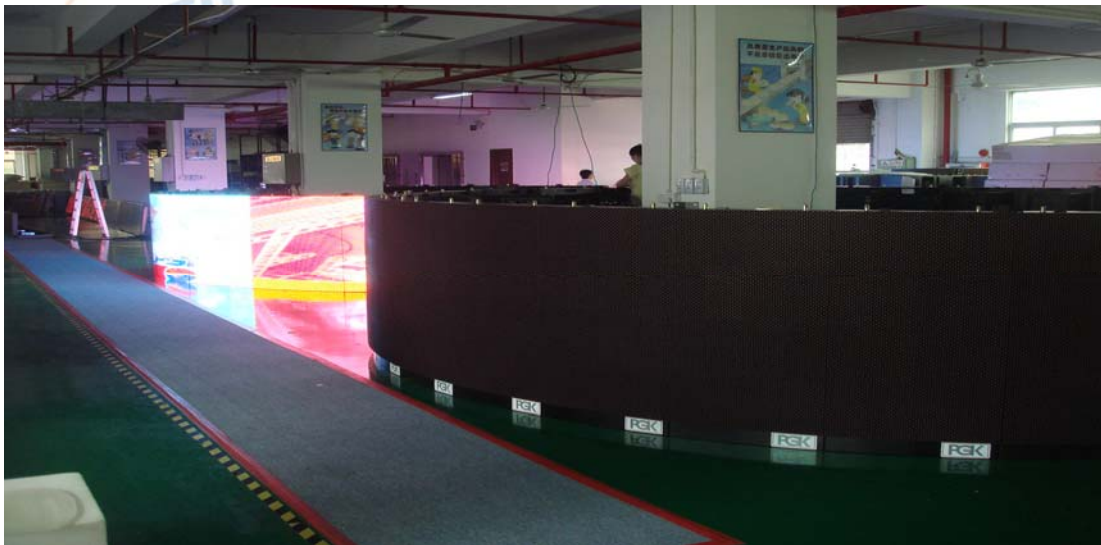
To bring new salesmen to visit our factory: watch the process of production of various components and the connection of led screen.



Address: ERALED Industry Park, Xincheng Road, Shajing town, Bao an District, Shenzhen, China

Email: manager@eraled.biz MSN: ERALEDdisplay@hotmail.com, Skype: ERALEDdisplay





Seventh part. final preparation

To arrange and file needed materials when working and prepare a good attitude for work.

Address: ERALED Industry Park, Xincheng Road, Shajing town, Bao an District, Shenzhen, China
Email: manager@eraled.biz MSN: ERALEDdisplay@hotmail.com, Skype: ERALEDdisplay