

The Essential Guide to Electronics in Shenzhen

Andrew 'bunnie' Huang

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To Gavin Zhao

*For opening my eyes to the real China.
You have been a great teacher and mentor;
I can do now what I once thought was impossible.*

*I hope you win your battle with cancer,
so that you can continue to mentor and inspire more people like me.*

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Introduction

深圳

(shēn · zhèn)





Introduction

Hello! This book is designed to help non-Mandarin speakers navigate the sprawling electronics markets of Shenzhen. The markets are locally referred to as the Hua Qiang Bei (HQB) markets, after the road that runs through the heart of the market.

The concept behind this book is to provide a “point-to-translate” interaction that is structured according to a typical transaction in the market:

1. Specifying components
2. Specifying quantity and packaging
3. Payment and delivery
4. Remembering the vendor’s location

The book also includes sections on what to expect, basic survival, and getting around. It does not cover topics such as eating, drinking, local attractions, places to stay, or making friends with the locals, as most basic travel guides for the area already provide adequate coverage of these topics.

Why Point to Translate instead of Phonetic?

The standard phonetic system for transcribing Mandarin is pinyin. However, pronouncing pinyin is very tricky. Consider the phrase, “I’m eating a goose.” The pinyin transcription is “wǒ chī é”, but the pronunciation is closer to “whua chee uh” - and that doesn’t even consider the complication of tonality. Thus, a verbal phrase-book style translation is not effective without at least a few hours of pinyin pronunciation training.

Fortunately, written Chinese is standardized, even across

China's hundreds of regional dialects. Therefore, pointing at written translations is effective at communicating with anyone in China, even to people who speak a dialect other than Mandarin.

Using the Guide

The book is designed around enabling fast real-time interaction with locals. Translations are organized by component type or scenario, and the spiral binding allows the book to be easily left open to that page, so both parties can view the bilingual phrases with ease. The binding also allows the book to accommodate the extra thickness of business cards, which may be placed in the included pouches for quick access. The pouches are interleaved among several copies of a market map, allowing business cards (which are primarily printed in Chinese) to be easily matched with map annotations. This simplifies the problem of remembering a vendor's location for repeat business.

It's generally recommended to bring printed specification drawings to the market, especially when sourcing switches, connectors, and other components with complex or arbitrary dimensions. While the vendors cannot speak English, most can read enough English characters to interpret a mechanical drawing. Each plastic business card holder sheet also has a larger pouch meant for storing folded up specification drawings.

The tabs along the edge enable fast navigation between sections, and the elastic band on the back functions as a bookmark for quick access. All the pages can be torn out for easy sharing with friends and suppliers.

Finally, this book never runs out of batteries, and is compatible with the most popular API in the market - printed name card, receipts, and drawings. It loads instantly

no matter where you are - the Great Firewall of China can't filter it. You actually *own* your copy of this book - unlike software, it's not licensed to you via a click-through EULA that robs you of all your fair use rights. It also can't be infected with malware, has no pop-up ads, and will never upload confidential notes about pricing, sources, and vendors to the cloud. Your data is your data!

About Technical Chinese

As my friend Gavin Zhao once quipped, Chinese is a wonderful language for poetry, but difficult for precise technical communications. Fans of Randall Munroe's XKCD may have seen the "Up-Goer Five" blueprint comic (<http://xkcd.com/1133/>), where complex technical concepts are explained using only the "ten hundred" most common English words. Considering that 98% of Chinese is covered with only 2,500 characters, and there are only 7,000 "general use" characters, most technical terms in Chinese have to be decomposed into idioms that are reminiscent of the Up-Goer Five scenario.

For example, a resistor is 电阻, which means "electric obstructor", capacitor is 电容, which means "electric container", and a computer is 电脑, which means "electric brain". On the other hand, some concepts have names which are simply phonetic loan words with no meaning, such as the Schottky diode: 肖特基二极管. The first three characters are "xiào tè jī" (sounds like "shao tuh gee"), which sound somewhat like "Schottky" but the characters mean "resembles particular basis/foundation"; clearly phonetic but no meaning. The last three characters mean "two-pole tube", which does make some sense. And then there are the pronunciation subtleties, such as 芯片号, "xīn piàn hào" (which means an "IC's part number" (literally "core flat item's number"), which with misplaced accents sounds like 性偏好, "xìng piān hào" which means "sexual

preference”. No native speaker would ever mispronounce or confuse the two, but a foreigner going up to a local asking “What’s your chip’s part number?” could be heard as “What’s your sexual preference?” if mispronounced and taken out of context.

Even Mandarin speakers find it challenging to communicate certain technical terms. Different idioms are used, for example, between Taiwan and Shenzhen. There are other differences across China depending upon the dialect and context: academics will typically use more formal and technically rigorous terms than a market trader or even an engineer. For example, in the market the descriptive term 三级管 (‘three-pole tube’) is sometimes used for a transistor, instead of the academically accepted 晶体管 (‘crystal tube’). Both of these could refer to a “metal oxide semiconductor field effect transistor” (MOSFET), but there’s no uniform system for abbreviating 金属-氧化物-半导体型场效应管 (that’s Metal-Oxide-Semiconductor Field Effect Transistor spelled out in Chinese characters). In this case, market traders will often fall back to using English acronyms or some local slang to refer to a given part.

For this book, I’ve worked with my Chinese friends to produce translations that are targeted at the vernacular of traders in the Hua Qiang electronics market (of which many are from the city of Chaozhou (潮州市), and so speak a common dialect). If you do happen to find any errors or have suggestions for improvements, please send a note to ptt-feedback@kosagi.com.

What’s in the Market (And What’s Not)

The Shenzhen electronics market is an amazing resource, but it’s not the be-all and end-all for sourcing electronic parts. As a general rule, if it’s not already in a product sold at Walmart, it’s probably not in this market. For example,

it's hard to find analytical-grade sensors for quantities like pH, radiation and air quality. The selection of FPGAs is pretty dismal, and it's not actually a great place to find microcontrollers – at least, not the types that Western-trained designers typically use. China has its own ecosystem of low-cost microcontrollers that are more popular with the locals. Also, given that the district sprang out of the ground in the 90's, old or rare parts are hard to find, such as vacuum tubes or certain models of JFETs favored by elite audio engineers. For sourcing specialty parts, Taobao (taobao.com is China's amalgamation of Amazon.com with eBay.com) is probably a better option than searching the physical markets.

On the other hand, the market is brimming with parts found in any major mobile phone produced within the past decade. There are shelves loaded with cables, connectors, crystals, LEDs, diodes, transistors, resistors and capacitors. Generally, I find the market to be most effective for the following activities:

- Sourcing “jellybean” parts (e.g., capacitors, resistors, and parts with non-critical specifications)
- Finding cost-down alternatives to expensive switches and connectors – if there isn't an exact replacement, there's likely a functional equivalent at a tenth the price
- Building an intuition for what's hot on the market
- Getting inspiration for making new products and finding new business opportunities

The market is also heavily skewed toward electronics; there are some electromechanical components such as relays and motors, but not much. Instead, there are other districts and malls in the region (within a 2-hour drive of Shenzhen) that specialize in products ranging from plastics and textiles, to motors and factory automation, to CNC and lasercutting services. There's even a district that specializes in art

supplies and bespoke oil paintings.

Pricing the Market and Haggling

What is the fair market price for a component? Generally, the Hua Qiang electronics district is a “professional” market, which means that there’s relatively little bargaining to do over price. This is a markedly different experience from the “tourist” markets in Shenzhen, such as the mall near the Luohu border crossing where typically the initial bid is 5x or 10x over the final price.

Vendors at the Hua Qiang electronics district are mostly factories trying to connect with volume buyers; the representatives at the booths don’t find sport in haggling (although tourism is starting to change the market’s character). Instead of ripping off tourists, they are looking for long-term revenue streams from repeat buyers. Thus, the initial ask is typically reasonable, and usually the best way to improve pricing is to increase the volume, or at least portray the appearance or promise of higher volumes. Serious-looking buyers will often receive initial samples for free, especially for relatively inexpensive components.

Bargaining may be a fruitful venture when purchasing tools for the lab bench, as the standard mark-ups reflect the cost of single-unit purchases. However, don’t expect to halve prices with aggressive bargaining; this just annoys the vendor as it’s a waste of time and effort to sell quality products with no margin. If a deal is too good to be true, it probably is – that memory stick probably doesn’t have half the memory it advertises, or that phone is probably second-hand or flawed in some way.

Still, there is some variation in cost for similar components, as some factories simply have a more competitive cost structure, or certain models of products are much more

popular and thus produced in higher volumes. The good news is there are many vendors crammed into a tiny space, so don't be afraid to inquire at several shops about their pricing. After four or five inquiries one can develop a fairly good intuition of what the median price should be for a given commodity.

Is it Fake?

First, "fake" is not an all-or-nothing concept. Is an iPhone no longer an iPhone if it has a small scratch on the back? Of course, it's still an iPhone; and for an appropriate discount, you'd likely be perfectly happy to buy it. But Apple wouldn't sell it, and thus it's a reject unit that has to be refurbished or scrapped. On the other hand, a flip phone with an Apple logo on the back is not a "fake iPhone", just as a human wearing cat-ears and a tail isn't a "fake cat"; it's a human dressing up as a cat (or more pedantically, a human in the "trade-dress" of a cat).

Here's a list of things to consider when evaluating if a product meets your needs. It's fairly long, so each bullet is a glyph that grades the potential performance impact of each practice *assuming the buyer is unaware it's happening*. In cases with full awareness, one can mitigate any negative impact while getting a good deal by either implementing a strong incoming material test program or by simply trading off quality for cost on non-critical parts.

Component performance risk legend:

- serious impact
 - ◐ likely serious impact
 - ◑ likely no impact
 - little or no impact
- Sometimes components are genuine but are partial reels not suitable for wholesale in Western markets, or

the reel may be short a few percent of the parts that it claims to have (so the reel might claim to contain 10,000 resistors, but actually has 9,900).

- ◎ Sometimes components are genuine, but have date codes over one or two years old. Because of strict inventory control policies in the largest manufacturers, these otherwise perfectly good components are sold as scrap. The date codes are then sometimes modified to be within a year old.
- Sometimes components are genuine, but are remainders from a large production run that didn't use up all the parts that were ordered, and are thus sold as scrap.
- Sometimes components are from "ghost shifts", where the exact production line that's used to make authorized product is run a bit longer to produce an extra lot (but perhaps without the same level of testing or quality control), which is then resold as brand-authorized product.
- (for jellybean parts) ● (everything else) Sometimes components are made by a local Chinese factory, but relabeled with the brand of more famous/reputable foreign manufacturers. This is particularly common on jellybean parts like resistors, capacitors and batteries, where the quality of the Chinese version is virtually indistinguishable from the foreign version. This is also done sometimes to offset import taxes or to pass tax audits.
- Sometimes sub-assemblies or modules that are made for brand-name products are sold directly by the sub-contractor, which means it's authentic quality and function but the factory might (or might not) be in breach of contract with the brand.
- Sometimes components are of a lower spec, but labeled as higher. This is particularly common in FLASH

memory, batteries, or any product that features multiple grades in identical casing (e.g. phones with different internal storage capacities). I also suspect this happens in capacitor and resistor tolerances and tempcos, but I haven't done a rigorous study to confirm the suspicion.

- Sometimes components are rejects from a factory, but sold as full-spec. Sometimes they are also refurbished to a like-new state, but without the factory's authorization. These are tricky to catch.
- Sometimes components are recycled and refurbished to be sold like new. This is particularly common among mobile phone parts and pieces. Apple introduced component-level serial numbers and associated DRM in part to combat the practice of Frankensteining phones, where several old broken phones are gutted and the good parts combined into a "new" phone.
- Sometimes components are pre-production prototypes, but are being sold as production grade parts. Keep an eye out for notices similar to "prototype not for sale" or "engineering sample" printed on the part.
- Particularly in consumer goods, brands and trademarks are copied and put on items that clearly have nothing to do with the brand's authorized products. In many cases, this practice has an almost satirical effect and is extremely easy to spot. When aware of the practice, it's a ○ (low impact) event; but if somehow the buyer is gullible enough to be fooled by the false trademark, it's definitely a bad deal.
- Particularly in consumer goods, sometimes the packaging is fancy but the product just sucks, is shoddily manufactured, lacks firmware QA/integration, or is not well-tested before shipping. You get what you pay for, *caveat emptor*.

- **Sometimes everything is genuine and on the up-and-up, but the agreed upon price is different from the price actually transacted in cash. This is done typically to either avoid taxes or to create inflated invoices which are passed on for reimbursement, effectively improving the middleman's margin. This practice doesn't impact the quality of the goods, but the negotiated discount is typically not passed on to the ultimate consumer or the person issuing the reimbursement for the purchase.**
- **Sometimes there are outright fakes, where someone has gone through the trouble of trying to copy the process, design, and firmware of a brand product and produce something that looks and functions exactly like the original but sells for less. But with so many other options, this is a lot of work for very little reward and thus is not so common.**

Hours & When to Go

Regardless of the posted hours, the markets are pretty empty before 10AM. Stalls at lower traffic areas will likely be shuttered. Things start hopping around 11AM, and most of the markets are forced to close by around 6PM. A few of the busier markets prop their doors open and continue to do business after-hours, but building managers strongly discourage the practice by turning off most of the ceiling lights and the air conditioning at the posted closing time.

The Chinese take their holidays very seriously. When planning a trip, be sure to consult the Internet for a list of China's public holidays. It's best to avoid going anytime within a couple weeks of the official Chinese Spring Festival (Chinese New Year). The exact date of the festival changes every year because it's synchronized to a lunar calendar, but tends to be in late January or early February. The other

major holiday where most businesses close for an extended period is the National Day holiday week, which occurs first week of October.

Internet & Helpful Apps

As a general rule, the Internet as you know it is blocked in China. There's no access to Google services, Facebook, Twitter, Imgur, YouTube, Vimeo, Dropbox, Telegram, etc. etc. As a consolation, there's Bing. Roaming data service will bypass the firewall since roaming phones are assigned an IP address from the home country of the subscriber's carrier, but it's an expensive option. Prices vary depending upon the carrier, but currently T-mobile offers one of the lowest cost international roaming data plans. A VPN is a cheaper way to get around the firewall, but depending upon the political climate even VPNs can be blocked. China's firewall routers have the ability to do deep packet inspection and thus can automatically discover VPN connections running on unconventional ports or with other small modifications intended to bypass less sophisticated firewalls.

This means you probably cannot rely upon your favorite cloud-based translation service, and your default mapping application probably won't work. You probably won't be able to install new apps. More importantly, you're not going to be able to access that important presentation or demo video you stored in the cloud.

So before going, I recommend downloading any critical data and storing it locally on your laptop. I also recommend installing Pleco (available on both Google Play and Apple Store), which is an off-line capable translation app that I've found to be well worth the price. I also hesitantly recommend installing Baidu maps. It's basically malware, so uninstall it upon leaving China, but it will at least provide a mapping app that works well in China and won't suffer

from mandatory GPS offsets or forced service outages at the most inconvenient times. Finally, most locals use Wechat to keep in touch, so even though that app is also a memory and battery hog, and it doesn't respect privacy settings, it's handy to have. In an ideal world, you'd have an unlocked phone for use only in China, and a phone you use everywhere else.

Smartphone users will want to temporarily disable all services that might try to synchronize with blacklisted servers outside of China. Otherwise, the phone will run down its battery quickly because these services will keep the phone and radio awake whilst desperately trying to contact servers that will never respond.

Tipping

There is no tipping in China. Service fees are inclusive, except at places like massage parlors.

Weather & Dressing

The fashion in Shenzhen is decidedly "business practical". In other words, it's what is comfortable for the weather conditions outside without looking like a slob. Many factories, as well as stores and offices outside of the city core will not have temperature-controlled environments. Without air conditioning or heat, comfort trumps fashion as the weather can go from hot and muggy in the summer, to clammy and damp in the winter. It also gets quite rainy in between the two.

For men, ties or suits are uncommon – even in business settings, a polo or collared shirt is more than sufficient, along with jeans or nice slacks. I personally wear nothing

other than T-shirts and shorts year round, and have rarely encountered a situation where I felt out of place or underdressed.

For women, my best advice is to wear comfortable shoes; you'll do a lot of walking. I'm no expert on women's fashion, but generally styles trend toward slightly conservative. Low-cut V-necks and tank tops aren't common in the office; if they are worn, it's typically with an additional layer on the outside. Short miniskirts are less common in the office, although daisy dukes seem to be more acceptable. Colorful and patterned is okay; it's not like Japan where anything other than black screams tourist or rebel.

Evening-wear does get classier and more fun, particularly in foreigner-friendly club and bar districts. Men will don collars and leather shoes, and women seem to gain a couple inches in height and lose a couple inches on the neck lines and even more on skirt length. Despite this, I still go to most clubs and pubs in my shorts and T-shirt, and there's still enough other folks dressed like me that I'm not too out of place. However, beware that the most trendy clubs may have dress codes.



Point-to-Translate Guide: Components



1.00 (1.0)	1.47	2.15	3.16	4.64	6.81
1.02	1.50 (1.5)	2.21 (2.2)	3.24	4.75 (4.7)	6.98
1.05	1.54	2.26	3.32 (3.3)	4.87	7.15
1.07	1.58	2.32	3.40	4.99	7.32
1.10 (1.1)	1.62 (1.6)	2.37 (2.4)	3.48	5.11	7.50 (7.5)
1.13	1.65	2.43	3.57	5.23	7.68
1.15	1.69	2.49	3.65	5.36	7.87
1.18	1.74	2.55	3.74	5.49	8.06
1.21 (1.2)	1.78	2.61	3.83	5.62 (5.6)	8.25 (8.2)
1.24	1.82 (1.8)	2.67 (2.7)	3.92 (3.9)	5.76	8.45
1.27	1.87	2.74	4.02	5.90	8.66
1.30 (1.3)	1.91	2.80	4.12	6.04	8.87
1.33	1.96	2.87	4.22	6.19 (6.2)	9.09 (9.1)
1.37	2.00 (2.0)	2.94	4.32 (4.3)	6.34	9.31
1.40	2.05	3.01 (3.0)	4.42	6.49	9.53
1.43	2.10	3.09	4.53	6.65	9.76

Table of E96 (1%) and E24 (5%) standard values.

This is provided for engineering reference. When specifying values, write them down. Vendors will understand the prefixes “K” and “M”. “m” is much more rare and therefore it’s recommended to write out values as e.g. “0.01” instead of 10mOhm.

Ohm
欧
ōu

K
千欧
qiān ōu

M
兆欧
zhào ōu

m (milli)
毫欧
háo ōu

Resistors - 电阻器

diàn zǔ qì

Note: SMT case sizes are on page 31.

SPECS 详情

tolerance 容差 róng chā	wattage 功率 gōng lǜ	composition 成分 chéng fèn	tempco 温度系数 wēn dù xì shù	cheapest 最便宜的 zuì pián yí de
0.1%	0.05W	thick film 厚膜 hòu mó	1ppm	finest 最好的 zuì hǎo de
0.5%	0.1W	thin film 薄膜 bó mó	5ppm	general use 通用的 tōng yòng de
1%	0.16W	carbon film 炭膜 tàn mó	10ppm	what's in stock 有现货的 yǒu xiàn huò de
5%	0.25W	metal film 金属箔 jīn shǔ bó	25ppm	anything is OK 什么都可以 shèn me dōu kě yǐ
10%	0.5W	ceramic 陶瓷 táo cí	50ppm	
20%	1W	wirewound 绕线 rào xiàn	100ppm	
随便 (any)	2W		500ppm	
	5W		1000ppm	

MOUNTING 封装

through-hole
插件式
chā jiàn shì

surface mount
贴片式
tiē piàn shì

OTHER 其他

resistor network
电阻器网络, 阵列
diàn zǔ qì wǎng luò, zhèn liè

isolated
隔离
gé lí

bussed
总线式
zǒng xiàn shì

convex
凸面
tū miàn

concave
凹面
āo miàn

1.0	1.2	1.5
1.8	2.2	2.7
3.3	3.9	4.7
5.6	6.8	8.2

Table of E12 (10%) standard values.

This is provided for engineering reference. When specifying values, write them down. Vendors will understand the prefixes “ μ ”, “n”, and “p”.

farad
法拉
fǎlā

milli
毫
háo

μ (micro)
微
wēi

n (nano)
纳[诺]
nà [nuò]

p (pico)
皮[可]
pí [kě]

Capacitors - 电容器

diàn róng qì

Note: SMT case sizes are on page 31.

SPECS 详情

tolerance
容差
róng chā

0.1pF

0.25pF

0.5pF

1pF

1%

5%

10%

20%

voltage
电压-额定
diàn yā-é dìng

2.5V

4V

6.3V

10V

16V

25V

50V

高压(HV)

dielectric
介电材料
jiè diàn cái liào

ceramic
陶瓷
táo cí

tantalum
钽
tǎn

aluminum
铝
lǚ

tempco
温度系数
wēn dù xì shù

COG,NPO

X5R

X7R

X7S

Y5V

Z5U

thin film
薄膜
bó mó

mica
云母
yún mǔ

other terms

temp range
工作温度
gōng zuò wēn dù

low ESR
低等效串联电阻
(低ESR)

low ESL
低ESL
注解：倒置结构

what brand?
什么品牌?
shén me pǐn pái

genuine
原装正品
yuán zhuāng zhèng pǐn

critical spec
关键描述
guān jiàn miào shù

MOUNTING 封装

through-hole
插件式
chā jiàn shì

surface mount
贴片式
tiē piàn shì

radial
径向
jīng xiàng

axial
轴向
zhóu xiàng

disc
圆盘
yuán pán

dipped
保形涂层
bǎo xíng tú céng

molded
模制
mó zhì

STYLE 类型



LED - 光二极管

guāng èr jí guǎn

COLOR 颜色

pink
粉红
fēn hóng

red
红
hóng

orange
橙
chéng

amber
琥珀
hǔ pò

yellow
黄
huáng

green
绿
lǜ

aqua
水蓝
shuǐ lán

blue
蓝
lán

purple
紫
zǐ

white
白
bái

RGB
七彩
qī cǎi

two-color
双色
shuāng sè

ultraviolet
紫外
zǐ wài

LENS 透镜样式

clear
透明
tòu míng

misty
雾状/ 散射
wù zhuàng / sǎn shè

crystal clear
无色透明
wú sè tòu míng

flat top
平头
píng tóu

domed
带圆顶
dài yuán dǐng

MOUNTING 封装

through-hole
插件式
chā jiàn shì

long leads
长脚
cháng jiǎo

short leads
短脚
duǎn jiǎo

surface mount
贴片式
tiē piàn shì

OTHER 其他

super-bright
高亮
gāo liàng

self-flashing
单闪
dān shǎn

slow flash
慢闪
màn shǎn

fast flash
快闪
kuài shǎn

high power
大功率
dà gōng lǜ

common anode
共阳
gòng yáng

common cathode
共阴
gòng yīn

LED tape
LED 灯带
LED dēng dài



SMT Case Sizes - 封装大小

fēng zhuāng dà xiǎo

Imperial
英制
yīng zhì

Metric
公制
gōng zhì

Wide Construction
倒置结构
dào zhì jié gòu

Metric
公制
gōng zhì

Imperial
英制
yīng zhì

01005	0402	0204	0510
0201	0603	0306	0816
0402	1005	0508	1220
0603	1608	0612	1632
0805	2012	0815	2037
1206	3216	0830	2075
1210	3225	1020	2550
1812	4532	1218	3245
2010	5025	1225	3264
2512	6332	2030	5176
C-case	6032		
D-case	7343		



Inductors - 电感器

diàn gǎn qì

SPECS 参数

power inductor
功率电感器
gōng lǜ diàn gǎn qì

high current
高电流
gāo diàn liú

rated current
额定电流
é dìng diàn liú

DC-DC converter
DC-DC 转换器
DC-DC zhuǎn huàn qì

tolerance
公差
róng chā

impedance
阻抗
zǔ kàng

DCR
DC电阻
DC diàn zǔ

amps
安培
ān bei

shielded
屏蔽
píng bié

unshielded
无屏蔽
wú píng bié

saturation current
饱和电流
bǎo hé diàn liú

RF inductor
射频电感器
shè pín diàn gǎn qì

high Q
高Q
gāo Q

high frequency
高频
gāo pín

SRF
自谐振频率
zì xié zhèn pín lǜ

test frequency
测试频率
cè shì pín lǜ

filter
滤波器
lǜ bō qì

ferrite bead
铁氧体磁珠
tiě yǎng tǐ cí zhū

through-hole
插件式
chā jiàn shì

surface mount
贴片式
tiē piàn shì

similar is OK
相似就可以
xiāng sì jiù kě yǐ

exact match
完全相同
wán quán xiāng tóng

MATERIAL 材料

core material
磁芯材料
cí xīn cái liào

wirewound
绕线
rào xiàn

ceramic
陶瓷
táo cí

ferrite
铁氧体
tiě yǎng tǐ

iron
铁
tiě

air
空气
kōng qì

metal composite
金属合成物
jīn shǔ hé chéng wù

OTHER 其他

selection guide
选择指南
xuǎn zé zhǐ nán

catalog
产品目录
chǎn pǐn mù lù

datasheet
规格书
guī gé shū

online datasheet
网上规格书
wǎng shàng guī gé shū



Diodes - 二极管

èr jí guǎn

TYPES 类型

Schottky
肖特基二极管
xiào tè jī èr jí guǎn

rectifier diode
整流二极管
zhěng liú èr jí guǎn

bridge rectifier
桥式整流器
qiáo shì zhěng liú qì

Zener diode
稳压二极管
wēn yā èr jí guǎn

ESD diode
TVS二极管
mò tài yì zhì èr jí guǎn

switching diode
开关二极管
kāi guān èr jí guǎn

general purpose diode
标准二极管
biāo zhǔn èr jí guǎn

LED
发光二极管
fā guāng èr jí guǎn

SPECS 参数

V_f
正向电压
zhèng xiàng diàn yā

V_r
最大反向电压
zuì dà fǎn xiàng diàn yā

high voltage
高电压
gāo diàn yā

high current
高电流
gāo diàn liú

average current
平均整流电流
píng jūn zhěng liú diàn liú

reverse leakage
反向漏电流
fǎn xiàng lòu diàn liú

current
电流
diàn liú

package
封装
fēng zhuāng

MATERIAL 材料

germanium
锗
zhè

silicon
硅
guī

OTHER 其他

catalog
商品目录
shāng pǐn mù lù

datasheet
规格书
guī gé shū

online datasheet
下载规格书的网站
xià zài guī gé shū de wǎng zhàn

similar is OK
相似就可以
xiāng sì jiù kě yǐ

exact match
完全相同
wán quán xiāng tóng

Market traders are not engineers. Don't expect them to know much about the technical details of a product. Best to come with a part number in hand, rather than a description.



Transistors - 晶体管

jīng tǐ guǎn

TYPES 类型

BJT
双极型晶体管
shuāng jí xíng jīng tǐ guǎn

NPN
NPN

PNP
PNP

Darlington
达林顿
dá lín dùn

FET
场效应晶体管
chǎng xiào yīng jīng tǐ guǎn

JFET
结型场效应管
jié xíng chǎng xiào yīng guǎn

MOSFET
金属-氧化物-半导体型场效应管
jīn shǔ - yāng huà wù - bàn dǎo tǐ xíng chǎng xiào yīng guǎn

Single
单
dān

Dual
双
shuāng

Array
阵列
zhèn liè

N-channel
N-沟道
N-gōu dào

P-channel
P-沟道
P-gōu dào

Market traders are not engineers. Don't expect them to know much about the technical details of a product. Best to come with a part number in hand, rather than a description.

Some of the terms are "translated" as English acronyms. In many cases transistors are basically classified by their English acronyms.

However, it's still helpful to show the letters because Mandarin speakers pronounce the English alphabet differently from native English speakers.

OTHER 其他

catalog
产品目录
chǎn pǐn mù lù

datasheet
规格书
guī gé shū

online datasheet
网上规格书
wǎng shàng guī gé shū

similar is OK
相似就可以
xiāng sì jiù kě yǐ

exact match
完全相同
wán quán xiāng tóng



Connectors - 连接器

lián jiē qì

Connectors are a challenge to describe in any language. Thus, it is recommended to bring technical drawings or preferably samples of the connector to the market.

TYPE 类型

pin header 排针 pái zhēn	rectangular 矩形 jǔ xíng	circular 圆形 yuán xíng	card edge 卡边缘 kǎ biān yuán	FPC 柔性电路板 róu xìng diàn lù bǎn	IC socket 芯片插座 xīn piàn chā zuò
barrel (power) 套管-电源用 tǎo guǎn-diàn yuán yòng	DIMM 存储模块插座 cún chū mó kuài chā zuò	memory card 内存卡 nèi cún kǎ	coaxial 同轴 tóng zhóu	female pin header 排针母插口 pái zhēn mǔ chā kǒu	

SPECS 参数

pitch 间距 jiān jù	pin count 脚数 jiǎo shù	# rows 排数 pái shù	single row 单排 pān pái	dual row 双排 shuāng pái	top entry 顶插 dǐng chā
inner diameter 内径 nèi jīng	outer diameter 外径 wài jīng	orientation 方向 fāng xiàng	side entry 侧插 cè chā	right angle 直角 zhí jiǎo	miniUSB 迷你USB mǐ nǐ USB
through hole 通孔 tōng kǒng	surface mount 表面贴装 biǎo miàn tiē zhuāng	mated height 组合高度 zǔ hé gāo dù	height 高度 gāo dù	microUSB 微型USB wēi xíng USB	mating connector 配套连接器 pèi tào lián jiē qì
plug 插头 chā tóu	jack 插孔 chā kǒng	male 公插/公头 gōng chā/gōng tóu	female 母插/母头 mǔ chā/mǔ tóu		

side with pins

side with holes

For engineering reference, tables of common resolutions are provided below. Significantly, many panel vendors don't know the resolution of the panels they are selling (just the make and model), so inquiries on resolution may be met with confusion or blank stares.

4:3 aspect resolutions	Wide aspect resolutions
CGA 320x200	WVGA 800x480
QVGA 320x240	WSVGA 1024x600
VGA 640x480	HD720 1280x720
PAL 768x576	WXGA 1280x768
SVGA 800x600	1280x800
XGA 1024x768	FWXGA 1366x768
XGA+ 1152x864	WXGA+ 1440x900
SXGA 1280x1024	FWXGA+ 1440x960
SXGA+ 1400x1050	HD+ 1600x900
UXGA 1600x1200	WSXGA+ 1680x1050
QXGA 2048x1536	HD1080 1920x1080
WQXGA 2560x1600	WUXGA 1920x1200
QSXGA 2560x2048	UWHD 2560x1080
	QHD 2560x1440
	UWQHD 3440x1440
	UHD 3840x2160
	4K 4096x2160

A few of the most prolific panel makers and their Chinese names are listed below.

Samsung 三星 sān xīng	LG LG	DLC 德尔西 dé'èr xī
Innolux 群创 qún chuàng	Tianma 天马 tiān mǎ	E Ink 元太 yuán tài
AUO 友达 yǒu dá	Sharp 夏普 xià pǔ	CPT 中华映管 zhōng huá yǐng guǎn
Hannstar 瀚宇彩晶 hàn yǔ cǎi jīng	BOE 京东方 jīng dōng fāng	Toshiba 东芝 dōng zhī
Kyocera 京瓷 jīng cí	KOE 日立 rì lì / hitachi	Mitsubishi 三菱 sān líng

Displays - 显示器

xiān shì qì

synonyms:

也稱:

panels
面板
miàn bǎn

screens
显示屏
xiǎn shì píng

please help test
请帮忙测试一下
qǐng bāng máng cè shì yí xià

grade
等级
děng jí

Most vendors will have a
pattern generator available
for testing.

TYPE
类型

LCD
液晶屏
yè jīng píng

OLED
OLED屏
OLED píng

EPD
电子纸
diàn zǐ zhǐ

LC cell
液晶玻璃
yè jīng bō lí

A+级

A级

A-级

B级

次品
(rejects)

brand new
新屏
xīn píng

recycled
旧屏
jiù píng

diagonal
尺寸
chǐ cùn

resolution
分辨率
fēn biān lǜ

ppi
点距
也稱像素间距

contrast ratio
对比度
duì bǐ dù

IPS
IPS
平面转换

backlight
背光
bèi guāng

brightness
亮度
liàng dù

backlightdriver
背光电路
bèi guāng diàn lù

anti-glare
雾面
wù miàn

shiny
镜面
jìng miàn

interface
信号接口
xìn hào jiē kǒu

connector
端子/连接器
duān zǐ / lián jiē qì

bias IC
驱动芯片
qū dòng xīn piàn

controller IC
控制芯片
kòng zhì xīn piàn

touchpanel
触摸屏
chū mó píng

captouch
电容触摸屏
diàn róng chū mó píng

resistive
电阻式触摸屏
diàn zǐ shì chū mó píng

optical/IR
红外线式触摸屏
hóng wài xiàn shì chū mó píng

landscape
横屏
héng píng

portrait
竖屏
shù píng

monochrome
单色
dān sè

full color
彩色
cǎi sè

make
品牌
pǐn pái

model
型号
xíng hào





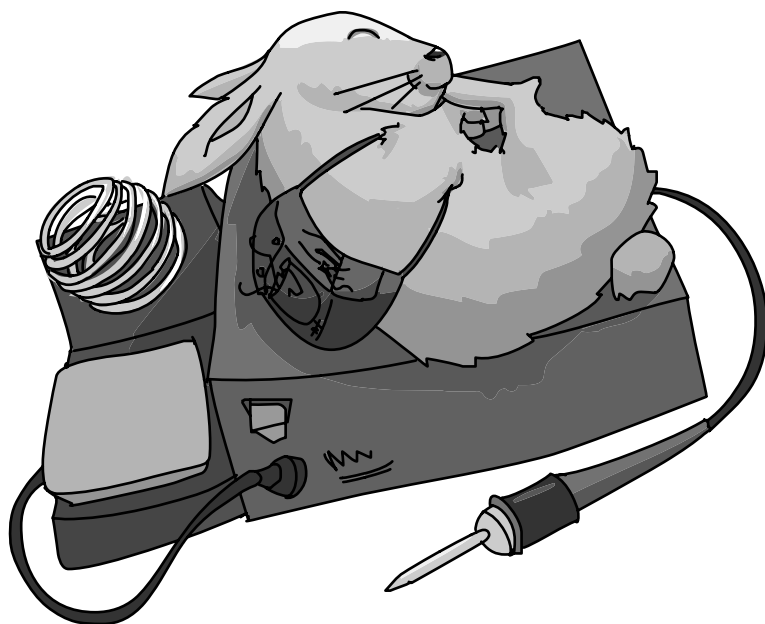
Computer Parts - 电脑零件

diàn nǎo líng jiàn

CPU 中央处理器 zhōng yāng chǔ lǐ qì	dual-core 双核 shuāng hé	single-core 单核 dān hé	quad-core 四核 sì hé	heat sink 散热器 sàn rè qì	heat sink paste 散热膏 sàn rè gāo
keyboard 键盘 jiàn pán	mouse 鼠标 shǔ biāo	USB stick 闪存盘 shǎn cún pán	serial port 串行端口 chuàn xíng duǎn kǒu	USB port USB接口 USB jiē kǒu	fan 风扇 fēng shān
RAM (stick) 内存(条) nèi cún (tiáo)	hard disk 硬盘 yǐng pán	SSD 固态硬盘 gù tài yǐng pán	microUSB 微型USB wēi xíng USB	cable 电缆 diàn lǎn	power supply 电源 diàn yuán
motherboard 主板 zhǔ bǎn	desktop PC 台式电脑 tái shì diàn nǎo	laptop 笔记本电脑 bǐ jì běn diàn nǎo	ultrabook 超极本电脑 chāo jí běn diàn nǎo	netbook 上网本电脑 shàng wǎng běn diàn nǎo	case 机箱 jī xiāng
LCD 液晶屏 yè jīng píng	diagonal 尺寸 chǐ cùn	resolution 分辨率 fēn biān lǜ	contrast ratio 对比度 duì bǐ dù	IPS IPS 平面转换	anti-glare 雾面 wù miàn
backlight 背光 bèi guāng	brightness 亮度 liàng dù	captouch 电容式触 diàn róng shì chù	entry level 入门级 rù mén jí	high end 高端 gāo duān	shiny 镜面 jìng miàn



Point-to-Translate Guide: Tools & Tooling





Tools - 工具

gōng jù

soldering iron
烙铁
lào tiě

solder
焊锡
hàn xī

lead free
无铅
wú qiān

with lead
有铅
yǒu qiān

flux
助焊剂
zhù hàn jì

desoldering braid
吸锡编带
xī xī biān dài

tweezers
镊子
niè zǐ

pliers
钳子
qián zǐ

wire cutters
剪钳
jiǎn qián

wire strippers
剥线钳
bō xiàn qián

copper tape
铜带
tóng dài

multimeter
万用表
wàn yòng biǎo

oscilloscope
示波器
shì bō jīng

calipers
卡尺
kǎ chǐ

digital calipers
数显卡尺
shù xiǎn kǎ chǐ

ruler
直尺
zhí chǐ

microscope
显微镜
xiǎn wēi jìng

magnifying lens
放大镜
fàng dà jìng

magnet
磁铁
cí tiě

battery
电池
diàn chí

lithium ion battery
锂离子电池
lǐ lí zǐ diàn chí

protection circuit
保护电路
bǎo hù diàn lù

test jig
测试治具
cè shì zhì jù

power strip
(几插)延长线
(jǐ chā) yán cháng xiàn

battery charger
电池充电器
diàn chí chōng diàn qì



Tools & Mechanical - 工具 & 机械

gōng jù

jī xié

wrench
扳手
bǎn shǒu

drill
钻头
zuān tóu

bolt
螺栓
luó shuān

nut
螺母
luó mǔ

washer
垫圈
diàn quān

flat head
平头
píng tóu

socket cap
圆柱头
yuán zhù tóu

button head
半圆头
bàn yuán tóu

screwdriver
螺丝刀
luó sī dāo

screw
螺丝钉
luó sī dīng

phillips
十字头
shí zì tóu

slotted
一字头
yī zì tóu

torx
梅花头
méi huā tóu

pentalobular
五角星头
iPhone luó sī

hex socket cap
圆柱头内六角头
yuán zhù tóu nèi liù jiǎo tóu

motor
马达
mǎ dá

servo
伺服器
sī fú qì

leadscrew
丝杆
sī gǎn

bushing
套管
tào guǎn

anti-backlash nut
消隙螺母
xiāo xì luó mǔ

shaft
轴
zhóu

knob
把手
bǎ shǒu

switch
开关
kāi guān

pushbutton
按钮开关
àn niǔ kāi guān

tact switch
触动开关
chù dòng kāi guān

rocker switch
摇臂开关
yáo bì kāi guān

slide switch
滑动开关
huá dòng kāi guān



Materials - 材质

cái zhì

aluminum

铝
lǚ

steel

钢
gāng

stainless steel

不锈钢
bù xiǔ gāng

titanium

钛
tài

chrome

铬
gè

bronze

青铜
qīng tóng

copper

铜
tóng

tin

锡
xī

lead

铅
qiān

lead-free

无铅
wú qiān

gold

金
jīn

silver

银
yín

platinum

铂
bó

wood

木
mù

ceramic

陶瓷
táo cí

tantalum

钽
tǎn

aluminum electrolytic

铝电解
lǚ diàn jiě

carbon

碳
tàn

plastic

塑胶
sù jiāo

epoxy

环氧树脂
huán yǎng shù zhī

superglue

强力胶
qiáng lì jiāo

glue

胶水
jiāo shuǐ

fiberglass

玻璃纤维
bō lí xiān wéi

carbon fiber

碳纤维
tàn xiān wéi

PCB

电路板
diàn lù bǎn

flex PCB

软板
ruǎn bǎn

rigid PCB

硬板
yìng bǎn

FINISHING

表面处理

plating

电镀
diàn dù

anodization

阳极氧化
yáng jí yǎng huà

powder coating

粉末涂料
fěn mò tú liào

painting

涂装
tú zhuāng



Injection Molding - 注塑模

zhù sù mó

COMMON TERMS 常用术语

tool / mold
模具
mó jù

mold base
模胚
mó pēi

parting line
分型线
fēn xíng xiàn

tonnage
吨位
dùn wèi

die casting
拉模铸造
lā mó zhù zào

ejector pin
顶针
dǐng zhēn

slider
滑块
huá kuài

lifter
斜顶
xié dǐng

gate
入水口
rù shuǐ kǒu

runner
分流道
fēn liú dào

hot runner
热流道
rè liú dào

sprue
主流道
zhǔ liú dào

DEFECTS 常见不良

ejector mark
顶针印
dǐng zhēn yìn

sink mark
缩水
suō shuǐ

knit line
分模线
fēn mó xiàn

flow line
气纹
qì wén

warpage
变形
biàn xíng

scratch
刮花
guā huā

discoloration
变色
biàn sè

wrong color
颜色错误
yán sè cuò wù

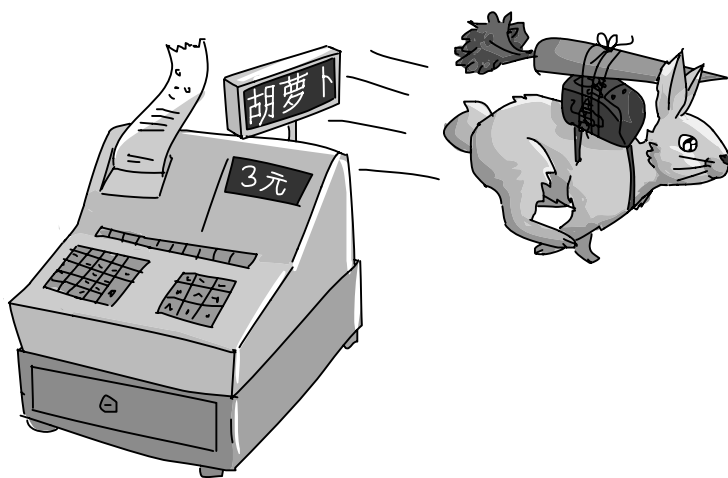
OTHER 其他

mirror finish
镜面加工
jìng miàn jiā gōng

satin finish
抛光处理
pāo guāng chǔ lǐ



Point-to-Translate Guide: Sealing the Deal





This sample is almost right, but I need something different.
 这个样品基本上是我想要的，但是我还有一些不同的要求。

Do you have something like this but...
 你有类似这个的产品吗，但是……

smaller?
 更小一点？
 gèng xiǎo yí diǎn?

bigger?
 更大一点？
 gèng dà yí diǎn?

thinner?
 更薄一点？
 gèng báo yí diǎn?

taller?
 更高一点？
 gèng gāo yí diǎn?

longer?
 更长一点？
 gèng zhǎng yí diǎn?

shorter?
 更短一点？
 gèng duǎn yí diǎn?

heavier?
 更重的？
 gèng zhòng de?

lighter?
 更轻的？
 gèng qīng de?

thicker?
 更厚一点？
 gèng hòu yí diǎn?

faster?
 更快的？
 gèng kuài de?

slower?
 更慢的？
 gèng màn de?

stronger?
 更强的？
 gèng qiáng de?

with surface mount feet?
 表面贴片？
 biǎo miàn tiē piàn?

with through hole pins?
 带通孔插脚？
 dài tōng kǒng chā jiǎo?

with alignment pins?
 带定位销的？
 dài dìng wèi xiāo de?

with surface mount signal wires, but through hole mounting feet?
 带有表面贴片信号线，但是是直插件？
 dài yǒu biǎo miàn tiē piàn xìn hào xiàn, dàn shì shì zhí chā jiàn?

in machine-assembly (reel/tube/tray) packaging?
 用于机器组装的包装方式（如卷状/管状/托盘包装）？
 yòng yú jī qì zú zhuāng de bāo zhuāng fāng shì (rú juǎn zhuàng / guǎn zhuàng / tuō pán bāo zhuāng)?



This sample is almost right, but I need something different.
 这个样品基本上是我想要的，但是我还有一些不同的要求。

Do you have something like this but...
 你有类似这个的产品吗，但是……

higher current?
 电流更高的？
 diàn liú gèng gāo de?

brighter?
 更亮的？
 gèng liàng de?

dimmer?
 更暗的？
 gèng àn de?

in a different color?
 不同的颜色？
 bù tóng de yán sè?

with self-blinking?
 有自闪的？
 yǒu zì shǎn de?

without self-blinking?
 无自闪的？
 wú zì shǎn de?

longer battery life?
 电池寿命更长的？
 diàn chí shòu mìng gèng zhǎng de?

in stock now?
 有现货的？
 yǒu xiàn huò de

cheaper?
 更便宜的？
 gèng pián yí de?

higher quality?
 质量更好的？
 zhì liàng gèng hǎo de?

in a retail box?
 包装盒？
 bāo zhuāng hé?

for use with 110V?
 用于110V电压？
 yòng yú yāo yǎo líng diàn yǎ?

with a US-style plug?
 带有美规电源插头？
 dài yǒu měi guī diàn yuán chā tóu?

with an EU-style plug?
 带有欧规电源插头？
 dài yǒu ōu guī diàn yuán chā tóu?



Packaging - 包装

bāo zhuāng

tape and reel
卷带装
juǎn dài zhuāng

cut tape
散带装
sàn dài zhuāng

bulk
散装
sǎn zhuāng

tube
管装
guǎn zhuāng

tray
盘装
pán zhuāng

retail box
盒子
hé zi

shipping box
箱子
xiāng zi

bag
袋子
dài zi

ESD bag
防静电袋
fáng jìng diàn dài

desiccant
干燥剂
gān zào jì

cushioning
泡沫包装
pào mò bāo zhuāng

make a handle out of tape
用胶带做一个手柄
yòng jiāo dài zuò yí gè shǒu bǐng

vacuum seal
真空密封
zhēn kōng mì fēng

packing tape
胶带
jiāo dài

label
贴纸
tiē zhǐ

No inventory
没现货
méi xiàn huò

The factory can make more
需要生产
xū yào shēng chǎn

It's not possible
不可能
bù kě néng

It will take a while
需要时间
xū yào shí jiān



Purchasing & Ordering - 采购&订货

cǎi gòu

dìng huò

Is this new stock?

这是新的库存吗?
zhè shì xīn de kù cún ma?

Is this refurbished?

这是二手的吗?
zhè shì èr shǒu de ma?

Are you the manufacturer?

你们有工厂吗?
nǐ men yǒu gōng chǎng ma?

I'm looking for top quality

给我最好的质量
gěi wǒ zuì hǎo de zhì liàng

I'm looking for your cheapest

给我最便宜的
gěi wǒ zuì piányi de

I'll take anything

任何可以用的
rèn hé kě yǐ yòng de

What is the MOQ?

最少订货量是多少?
zuì shǎo dìng huò liàng shì duō shǎo?

Can I have a sample please?

我能拿一个样品吗?
wǒ néng ná yí gè yàng pǐn ma?

If I buy more is there a discount?

如果我买多点会有折扣吗?
rú guǒ wǒ mǎi duō diǎn huì yǒu zhé kǒu ma?

Is this part EOL?

这个已经停产了吗?
zhè ge yǐ jīng tíng chǎn le ma?

Can you produce more?

你可以提供更多的吗?
nǐ kě yǐ tí gōng gèng duō de ma?

Can you make this custom for me?

你可以为我订制这个吗?
nǐ kě yǐ wéi wǒ dìng zhì zhè ge ma?

This store is

这店是
zhè jiàn shì

Wholesale

批发
pī fā

Retail

零售
líng shòu

Yes

是的
shì de

No

不
bù

Possible

可以
kě yǐ

Not possible

不可以
bù kě yǐ



Shipping - 出货

chū huò

Do you have stock here in the market?

现在在市場上有庫存嗎？

xiàn zài zài shì chǎng shàng yǒu kù cún ma?

I'll be back in a half hour to pick up the items

我在半個小時之內回來拿這些東西

wǒ zài bàn gè xiǎo shí zhī nèi huí lái ná zhè xiē dōng xī

Do I need to leave a deposit?

我是否需要留下押金？

wǒ shì fǒu xū yào liú xià yā jīn?

How much for shipping?

運費要多少錢？

yùn fèi yào duō shǎo qián?

Can you ship to this address?

可以出貨到這個地址嗎？

kě yǐ chū huò dào zhè ge dì zhǐ ma?

How long will it take?

要多長時間？

yào duō cháng shí jiān?

It should arrive by...

這要在...抵達(收貨時間)

zhè yào zài... dī dá (shōu huò shí jiān)

today

今天

jīn tiān

tomorrow

明天

míng tiān

day after tmrw

后天

hòu tiān

next week

下个星期

xià gè xīng qī

next month

下个月

xià gè yuè

Monday

星期一

xīng qī yī

Tuesday

星期二

xīng qī èr

Wednesday

星期三

xīng qī sān

Friday

星期五

xīng qī wǔ

Saturday

星期六

xīng qī liù

Sunday

星期日

xīng qī rì

What is your phone number?

你的手機號是多少？

nǐ de shǒu jī hào shì duō shǎo?

What is your Wechat?

你的微信是什麼？

nǐ de wéi xìn shì shén me?

What is your QQ?

你的QQ是多少？

nǐ de QQ shì duō shǎo?



Point-to-Translate Guide: Getting Around





Taking a Taxi - 搭乘出租车

dā chéng chū zū chē

Before leaving the hotel, ask the concierge for the hotel's name card. Show this to a taxi driver to get back. In general, taxi drivers can't speak or read English. Many also have bad eyesight (very farsighted from driving) so try to get a card with the address in a big font.

Please give me the hotel's business card

请给我这酒店的名片
qǐng gěi wǒ zhè jiǔ diàn de míng piàn

Take me to SEG plaza

请送我到赛格广场
qǐng sòng wǒ dào Sài gé guǎng chǎng

Take me to Hua Qiang Plaza Hotel

请送我到华强广场酒店
qǐng sòng wǒ dào huá qiáng guǎng chǎng jiǔ diàn

Take me to Coco Park

请送我到购物公园
qǐng sòng wǒ dào gòu wù gōng yuán

Take me to Futian border crossing

请送我到福田口岸
qǐng sòng wǒ dào fú tián kǒu àn

Take me to Luohu border crossing

请送我到罗湖口岸
qǐng sòng wǒ dào luó hú kǒu àn

Take me to Huanggang border crossing

请送我到皇岗口岸
qǐng sòng wǒ dào huáng gǎng kǒu àn

Take me to the Shenzhen Airport

请送我到深圳机场
qǐng sòng wǒ dào shēn zhēn jī chǎng

The blue colored taxis are electric, and are not subject to a gas tax. The red colored taxis will tack on a couple RMB to the fare to cover a gas tax that varies. If you have any doubts, ask for a "fa piao", or tax receipt, which forces the driver to justify any extra charges.

Please give me a receipt.

请给我发票
qǐng gěi wǒ fā piào



Taking the Metro - 搭乘地铁

dā chéng dì tiě

Where is the nearest metro station?

最近的地铁站在哪里？

zùi jìn de dì tiě zhàn zài nǎ lǐ?

Where can I buy a SZ metro card?

在哪里可以购买深圳通？

zài nǎ lǐ kě yǐ gòu mǎi shēn zhèn tōng?

In recent years, the Shenzhen metro has developed to cover most of the city core. The best stops for the electronics market are Hua Qiang station on the Luobao (green) line, and Hua Qiang North station on the Shekou (orange) line.

Although crowded during rush hour, it's typically faster to take the metro than to drive.

The metro has adequate English signage to indicate stops, exits, and entrances, so perhaps the only two questions to ask are “where is the nearest metro station”, and “where to get a pre-paid metro card”.

A pre-paid card will cost about 100RMB, and it typically comes with an initial balance. The amount varies depending on how fancy the card is - vanity cards may come with zero initial credit. The card is well worth it: vending machines for one-time use tokens take only coins and 5 RMB notes, and are fussy and slow to use.

Most stations have automated machines that can add value and check balance on metro cards.



Buying a SIM Card - 买手机号

mǎi shǒu jī hào

Where can I buy a prepaid SIM card with data?

在哪里可以买到手机号码?
zài nǎ lǐ kě yǐ mǎi dào shǒu jī hào mǎ?

I will only use the SIM in Shenzhen.

我只需要在深圳用这张手机号
wǒ zhǐ xū yào zài shēn zhèn yòng zhè zhāng shǒu jī hào

I need a SIM that can work in SZ and HK.

我需要一个在深圳和香港都可以用的手机号
wǒ xū yào yí gè zài shēn zhèn hé xiāng gǎng dū kě yǐ yòng de shǒu jī hào

I need a SIM that can work all over China.

我需要一个在整个中国都可以用的手机号
wǒ xū yào yí gè zài zhěng gè zhōng guó dū kě yǐ yòng de shǒu jī hào

I will be here less than 1 month.

我呆在这里不会超过1个月
wǒ dāi zài zhè lǐ bù huì chāo guò yí gè yuè

I will be here less than 1 week.

我呆在这里不会超过1周
wǒ dāi zài zhè lǐ bù huì chāo guò yí zhōu

I need a plan with at least 1G of data.

我需要至少1G的上网流量
wǒ xū yào zhì shǎo yí G de shàng wǎng wǎng liú liàng

I only need data, not voice.

我只需要上网流量, 不需要带通话功能的
wǒ zhǐ xū yào shàng wǎng liú liàng, bù xū yào dài tōng huà gōng néng de

I need data and voice.

我需要带通话功能和上网流量的
wǒ xū yào dài tōng huà gōng néng hé shàng wǎng wǎng liú liàng de

My phone is unlocked.

我的手机已经解锁
wǒ de shǒu jī yǐ jīng jiě suǒ

My phone is locked.

我的手机锁住了
wǒ de shǒu jī suǒ zhù le

Can you unlock my phone?

请问可以帮我把手机解锁吗?
qǐng wèn kě yǐ bāng wǒ bǎ shǒu jī jiě suǒ ma?

I don't know if my phone is unlocked.

我不知道我的手机是否已经解锁
wǒ bù zhī dào wǒ de shǒu jī shì fǒu yǐ jīng jiě suǒ



Topping up your SIM - 为手机号码充值

wèi shǒu jī hào mǎ chōng zhí

Can you help me activate the high speed data plan?

请问可以帮我把这张手机卡开通4G上网流量套餐吗？

qǐng wèn kě yǐ bāng wǒ bǎ zhè zhāng shǒu jī kǎ kāi tōng 4G shàng wǎng liú liàng tào cān ma?

What number do I text to check my balance?

请问发送编辑什么信息可以查询到我的手机卡上的余额？

qǐng wèn fā sòng biān jí shén me xìn xī kě yǐ chá xún dào wǒ de shǒu jī kǎ shàng de yú é?

Can you help me top up the balance on my SIM?

请问可以帮我的手机卡充值吗？

qǐng wèn kě yǐ bāng wǒ de shǒu jī kǎ chōng zhí ma?

Can I buy a pre-paid top up card?

请问我可以买一张手机充值卡吗？

qǐng wèn wǒ kě yǐ mǎi yī zhāng shǒu jī chōng zhí kǎ ma?

What number do I call to top up the phone?

请问通过拨打哪个号码可以进行手机卡充值？

qǐng wèn tōng guò bō dá nǎ ge hào mǎ kě yǐ jìn xíng shǒu jī kǎ chōng zhí?

Pre-paid high speed data SIM cards are available in China, which can be used with an unlocked GSM phone. Unfortunately most US phones are locked, so check with your carrier prior to travel about unlocking your phone.

There are many strategies for getting SIM cards, from buying cards in English-speaking HK that work in SZ, to buying China Mobile or China Unicom cards. I've only used China Unicom myself. At the time of writing, just after the Futian Border crossing after clearing customs, there is an official China Unicom booth selling cards that usually has English-speaking staff.

When buying top-up cards or SIM cards outside of official stores, be sure to activate or test the product in front of the person who sold the card. After leaving, the dealer will typically not honor any refunds or exchanges, and it's not unheard of to find fake or relabelled cards (e.g. 50 RMB cards marked up to 100RMB, 100 MB plans sold as 3GB plans, etc.).

Unfortunately the plans often have complex rules, such as peak vs. off-peak usage, special codes to text in for activating service options, and billing rates that change dynamically depending on the city you're in. It's difficult even for locals to keep up with the complex rules attached to most plans. Fortunately, since the cards are pre-paid, any liability is limited to the stored value on the card, and you can top up anytime.



A Few Survival Phrases: Input

Do you have a menu with pictures?

请问你有带图片的菜单吗？
qǐng wèn nǐ yǒu dài tú piàn de cài dān ma?

Do you have an English menu?

请问你有英文的菜单吗？
qǐng wèn nǐ yǒu yīng wén de cài dān ma?

I'll order whatever you recommend.

我会点你推荐的食物
wǒ huì diǎn nǐ tuī jiàn de shí wù

Can I have napkins?

可以给我干纸巾吗？
kě yǐ gěi wǒ gān zhǐ jīn ma?

Can I have the check please?

请问可以把帐单给我看一下吗？
qǐng wèn kě yǐ bǎ zhàng dān gěi wǒ kàn yí xià ma?

Can I have a receipt?

可以给我收据吗？
kě yǐ gěi wǒ shou jù ma?

I can eat spicy.

我能吃辣
wǒ néng chī là

I cannot eat spicy.

我不能吃辣
wǒ bù néng chī là

Can you please turn up the aircon?

请问你能把空调开大一点吗？
qǐng wèn nǐ néng bǎ kōng diào kāi dà yí diǎn ma?

May I have a....

我想要...
wǒ xiǎng yào...

bottled water

瓶装水
píng zhuāng shuǐ

soda drink

苏打水
sū dǎ shuǐ

tea

茶
chá

coffee

咖啡
kā fēi

beer

啤酒
pí jiǔ

I'd like my beer cold.

我想要冰冻啤酒
wǒ xiǎng yào bīng dòng pí jiǔ

Can I have ice to put in my beer?

请问可以给我一些冰块放进啤酒里吗？
qǐng wèn kě yǐ gěi wǒ yí xiē bīng kuài fàng jìn pí jiǔ lǐ ma?



A Few Survival Phrases: Output

Where is the toilet?

请问哪里有洗手间？
qǐng wèn nǎ lǐ yǒu xǐ shǒu jiān?

Is there a Western-style toilet?

请问这里有带西式马桶的厕所吗？
qǐng wèn zhè lǐ yǒu dài xī shì mǎ tǒng de cè suǒ ma?

May I have some toilet paper?

请问可以给我一些纸巾吗？
qǐng wèn kě yǐ gěi wǒ yī xiē zhǐ jīn ma?

Men's

男
nán

Women's

女
nǚ

Those with strict or picky diets would do best not to leave the tourist districts. Locals will eat anything, and they want to share their delicious heritage with guests. It might seem like good sport to find creative ways to force a particular cultural perspective upon the locals, but it can come off as impolite or rude.

Hygiene in China can also be challenging, particularly outside the tourist districts. Locals prefer squatting toilets; they consider toilet seats to be unsanitary.

Local bathrooms also don't stock toilet paper, so carry a packet of tissues around to be safe. The plumbing is also quite bad in most buildings, so used toilet paper is tossed in a bin next to the toilet, and not to be flushed.

Soap is rarely found at the sink outside local toilets (if there is a sink). It doesn't hurt to travel with a bottle of hand sanitizer at all times. To avoid Montezuma's revenge, keep that in mind when ordering food: perhaps go for the cooked vegetables over the raw salad?



Money

This place only accepts cash.

这里只接受现金
zhè lǐ zhǐ jiē shòu xiànjīn

We can only accept Chinese bank cards.

这里只接受中国的银行卡
zhè lǐ zhǐ jiē shòu zhōng guó de yín háng kǎ

This ATM only works with Chinese cards.

这个自动取款机只接受中国的银行卡
zhè ge zì dòng qǔ kuǎn jī zhǐ jiē shòu zhōng guó de yín háng kǎ

Is there a money changer nearby?

这里附近有没有可以兑换外币的地方？
zhè lǐ fù jìn yǒu méi yǒu kě yǐ huàn wài bì dì fāng?

Is there an ATM that accepts foreign cards nearby?

这里附近有没有可以用外国银行卡的自动取款机？
zhè lǐ fù jìn yǒu méi yǒu kě yǐ yòng wài guó yín háng kǎ de zì dòng qǔ kuǎn jī?

Can you accept Visa credit cards?

请问你接受维萨信用卡吗？
qǐng wèn nǐ jiē shòu wéi sà xìn yòng kǎ ma?

Can you accept Mastercard credit cards?

请问你接受万事达信用卡吗？
qǐng wèn nǐ jiē shòu wàn shì dá xìn yòng kǎ ma?

The general rule in China is that cash is king. Expect to pay everything in cash - even if it's thousands of dollars worth of goods. Don't worry, that inch-thick pile of currency is small compared to what the little old ladies are carrying. Also, unlike the US, China doesn't have civil forfeiture, so nobody worries about the police seizing cash simply because they are packing a fat stack.

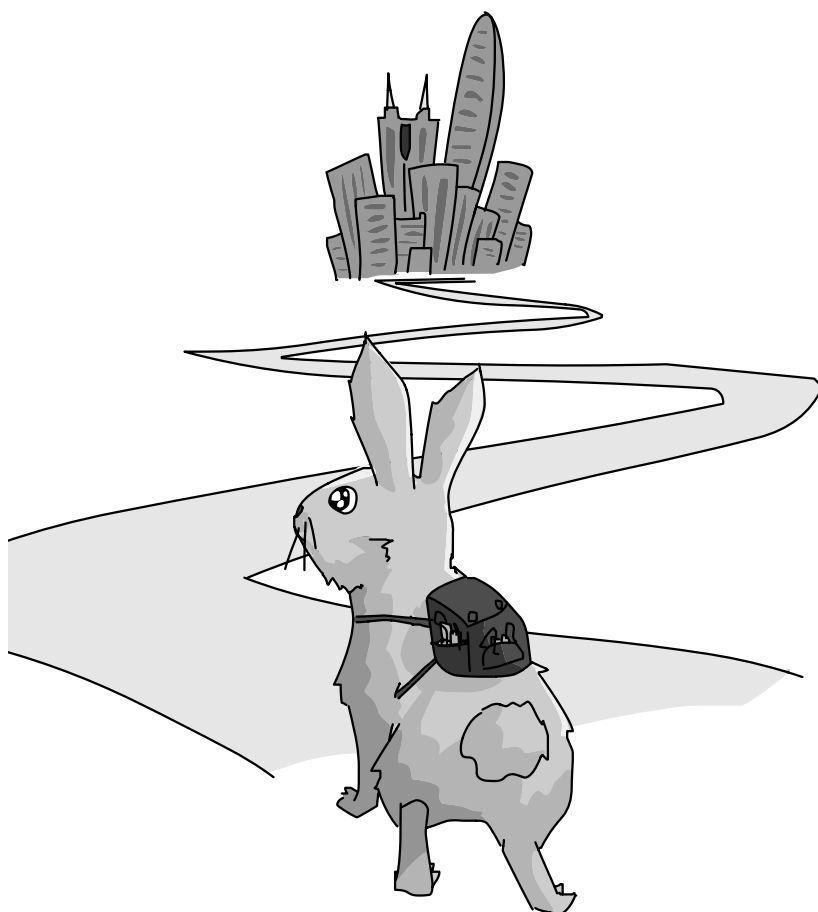
Since most locals have no need for foreign-card ATMs or money changers, don't be surprised if nobody seems to know where one is.

There are districts and malls that cater to foreigners. They will take credit cards, but they also tend to be pricier and more upscale.





Getting To Shenzhen, and Back Again



Visas

Many nationalities need a visa to enter China, including Americans. Don't rely on getting a visa on arrival – I've heard reports of people having to wait days in Hong Kong while their visas are processed. However, the rules are constantly in flux, so check the Internet and mind the date on the article. If the advice is more than a year or two old, question its validity.

The most recent and very significant development for Americans is the availability of 10-year multiple-entry visas to visit China. It's recommended to apply for a 10-year visa even if the intention is to visit just once; it costs almost the same as the shorter-term visas and it's unclear if and when the 10-year visa option will be terminated.

It's also recommended to apply through a visa processing agent instead of directly to the Chinese consulate. Most agents seem to have a special relationship with the consulate that often allow the normally strict requirements for showing itineraries, tickets, and hotel reservations to be bent. The convenience is well worth their nominal markup on the visa cost.

The other important thing to note is that even though the primary purpose for going to China may be to visit markets and factories for "business reasons", that's still technically a "tourist" activity. So apply for a tourist visa, as it's a much easier process than a business visa. A business visa is needed to operate or incorporate a new company in China. Simply inspecting, buying and exporting goods or subcontracting an existing Chinese factory is classified as a tourist type of activity.

APEC Business Travel Card (ABTC) holders whose countries honor visa reciprocity with China may enter China visa-free.

Notably, the US does not honor visa reciprocity under the ABTC program, and thus Americans who hold an ABTC must still apply for a visa to enter China.

Getting to the Border

Most first-time overseas travelers coming from the West will arrive via Hong Kong airport, which is still about 40km (25 miles) to the Shenzhen border. Although Shenzhen has its own international airport (which is a 45 minute, 100RMB+ cab ride to the electronics markets), it has fewer long-haul international flights compared to Hong Kong's airport. Meanwhile, there are numerous options for getting to Shenzhen from Hong Kong's airport, ranging from ferries to busses to taxis.

Hong Kong airport has a ferry to Shekou, a port city on the west side of Shenzhen. As the electronics markets are in the centrally-located Futian district, Shekou is a 45 minute, 100 RMB+ cab ride away and thus the ferry is not recommended.

Land transportation options from Hong Kong airport to the Shenzhen border include bus, train, shared ride van (aspirationally referred to as a limousine), and taxis.

Bus is by far the cheapest option, at around HK\$30, but can take several hours with unlucky transfer timing. Heavy rail takes about the same time (2.5 hours), involves several transfers, and costs around HK\$130 all told. Neither option is recommended unless one is very tight on money or the itinerary already involves a stop in Hong Kong city prior to crossing the Shenzhen border.

For direct transfers, shared ride vans are much faster, and about the same cost compared to rail options. After leaving baggage claim in Hong Kong airport, follow signs for "Transport to Mainland China" on the lower level. The

shared ride vans cost about HK\$150 (cash only), and will take around 40 minutes to get to the Huanggang border crossing.

On the downside, it's a rough experience, especially after spending 12 hours in an airplane. The shared ride van operators are pushy and brusque, and they will delay van departures until they've packed the van to optimize revenue. The seats are small, especially for people with Western-sized frames, and frequently the van has at least one passenger shouting into a phone the entire ride, or playing video games with the volume cranked all the way up.

The other major downside is that border crossing is done as a cohort; if one person has a visa issue or triggers a customs audit, everyone in the van has to wait together, and everyone in the van has to do the customs audit. For those on a tight schedule, it's a game of Russian roulette.

The fastest and most reliable method to get to the border from Hong Kong airport is via taxi. The teal-colored "New Territories" taxis will complete the trip in about 30-40 minutes. The fare will be around HK\$310-320 once tolls and baggage charges are factored in. Note the taxis may only take cash or Octopus card (a kind stored value payment card popular in Hong Kong). Fortunately, there are several ATMs in Hong Kong airport's arrival lobby that operate with foreign bank cards.

For a group of two or more people, it's a no-brainer to take the taxi over the shared ride van – it's the same cost, if not cheaper and much more pleasant and reliable.

The taxi experience from Hong Kong airport to the Shenzhen border is so smooth that I typically register a 1-hour prepaid data package once the plane's wheels touch down on the runway, and 90% of the time I'm into the border crossing

just as the package expires.

Which Border Crossing to Use?

Land transportation services can take passengers to any of the three major Hong Kong - Shenzhen border crossings: Futian, Huanggang, and Luohu. Here are the pros and cons of each.

	Futian	Huanggang	Luohu
Hours	06:30-22:30	24-hour	06:30-24:00
Transit method	Foot	Vehicle	Foot
HK-side taxi	✓	✓	via Sheung Shui Station
HK-side subway	Lok Ma Chau Station		Lo Wu Station
HK-side bus	limited	✓	via Sheung Shui Station
HK airport van		✓	
SZ-side taxi	✓	✓	✓
SZ-side subway	Futian Checkpoint Station		Luohu Station
SZ-side high speed rail			✓
SZ-side bus	✓	✓	✓

My personal favorite border crossing is the Futian border crossing, particularly for exiting China. It's frequented by locals who live on one side of the border but work on the other side, which means that rush hour can have long lines (but that's true of all border crossings at rush hour). However, this also means the number of foreigners are fewer, and the foreigners who use it tend to have their paperwork in order so the dedicated foreigner/passport lines are more predictable and shorter.

However, it's a walking border, which means the only option to get between the Hong Kong and China immigration checkpoints is a 100-meter walk via a covered footbridge. This means there are no cross-border shuttle services, but there are taxi and subway options available on both sides after exiting customs.

Getting from the Futian border crossing to the Hua Qiang electronics district is typically fast by taxi. However, due to a quirk in the layout of the roads, the return trip is often faster by subway. Catching a taxi on the Shenzhen side is usually a reasonable 5-10 minute wait, except near closing time, where the demand for pick-ups exceeds the supply from drop-offs. Ignore the people hustling for illegal rides and head straight for the taxi line, which is outside the main exit, to the left and behind the bus stands.

When making the return trip to Hong Kong International Airport, the Hong Kong side of the Futian crossing has both teal and red cabs that can pick up passengers destined for the airport. Use whichever line is shorter. The red cabs are not as frequent, but the teal cab line features frequent shouting matches and sometimes pushing fights as people try to cut ahead when the line gets long. Locals mercilessly cut around those who are not paying attention or are having difficulties with bulky luggage, so be aggressive and assert a spot in line.

The main downside of the Futian crossing is its limited hours, and dealing with the throngs of locals trying to take advantage of personal duty free allowances. There are some people who seem to make a living repeatedly crossing the border, carrying a couple boxes of goods at a time. Futian's efficiency means they can go back and forth several times each day. This arbitrage opportunity exists because some items have very high duties or are in very high demand in China. The prominent banners warning of stiff penalties

for taking baby formula out of Hong Kong are testimony to the amount of goods these border runners can move. At the height of the melamine milk contamination crisis, the demand for Hong Kong-sourced baby formula was so high that border runners had depleted Hong Kong's shelves of baby formula; Hong Kong mothers couldn't feed their babies. As a result, stiff penalties were enacted for exporting excessive baby formula. Thus, the Futian border crossing is typically smoother for leaving China than entering China. For entering China during peak hours, it's comparable to Huanggang, but in the evening and mid-day it's faster and quieter.

My second choice is the Huanggang border crossing. The main downside of this border crossing is that the only way to get from the Hong Kong-side checkpoint to the China-side checkpoint is by motor vehicle; however, the immigration line for vehicles with passengers is often a half hour wait, and can be much longer at peak times. Passengers can exit the car and go through each immigration checkpoint on foot, but after clearing immigration they must get back into a car. It's an odd firedrill but this is typically faster as the drivers have special passes that let them speed through the motor vehicle checkpoint. Shared ride van services don't even bother with getting the driver across the border; instead they use one set of cars to service the Hong Kong side, and another set of cars to service the China side.

There's also no subway or rail entrance at either side, so the only options are taxi, bus, or shared ride shuttle to get there. Because of the hybrid arrangement of driving then crossing immigration by foot, shared ride van drivers need a way to identify passengers emerging from the immigration counter. Typically this is done with a sticker bearing the vendor's logo that is placed on passenger's shirts at the time of ticket purchase. Display the sticker until both border checkpoints have been crossed, but don't forget to remove it or else it

will turn into a gummy mess in the laundry.

Those not utilizing a shared ride van service can take a bus that goes between the Hong Kong and China checkpoints. On the Hong Kong side, the bus costs HK\$10, and they accept Octopus card or cash. However, they don't give change, and they are very strict about that rule. I've seen unprepared foreigners forced to drop HK\$100 into the hopper and no change given. Best to bring an Octopus card, if one is available.

My least preferred border crossing is Luohu. It's extremely busy, the foreigner lines are longer, and it's farther than either Futian or Huanggang from the electronics market. The Hong Kong side is also exclusively a rail terminal; bus and taxi access is one stop away at Sheung Shui. It's also a bit seedy, so be on guard for petty theft when navigating its hallways. The primary advantage of Luohu is that the China side connects directly to the high speed rail terminal, enabling a fast transfer to Dongguang or Guangzhou.

Tourists frequent Luohu because of the huge mall on the China side of the border crossing. This mall is famous for "improbably cheap" brand-name clothes and handbags, and for inexpensive custom-tailored garments. However, vendors routinely attempt to overcharge patrons, and aggressive haggling is required to get a reasonable price. Haggling is literally a contact sport in this mall - vendors and shoppers are known to grab and slap each other when bargaining gets really heated - so if it feels too easy getting awesome deals in the Hua Qiang electronics district, go to Luohu for an afternoon and enter the shopping jungle.

Time-Saving Tips for Crossing the Border

Your passport is checked twice when going between Hong Kong and China: once by the Hong Kong authorities, and

once by the China authorities. When you find yourself being dropped off by a shuttle or driver after just one check, it means you're to cross the next check by foot, typically with your luggage in tow. This is typically done to save time, as certain border checks are much faster by foot than by car.

The China side requires a yellow immigration form to be filled out before approaching a customs officer. Although the immigration halls are meant to have forms stocked throughout, the kiosks farther from the officer's desks tend to run empty. Thus, frequent travelers will stash a couple extra copies of the yellow immigration forms in their bags. This saves time hunting for the yellow forms when they run out.

The Hong Kong side also requires an immigration form. However, users registered in the e-channel frequent visitor program can skip filling out these forms, and can also use specially marked automated clearance lines. Visitors planning to enter Hong Kong more than a couple times a year will find the e-channel registration well worth the price. There are enrollment booths in Hong Kong airport right after immigration but before baggage claim, and they are only open during normal business hours.

China Customs

China customs will X-ray baggage both entering and exiting China.

When entering China, customs officers are mostly looking in bags to enforce duties and to prevent smuggling. There's a compulsory duty on any electronic parts being brought into China, so don't carry reels or trays of parts - at least not without declaring them. Carrying more than one laptop is also a red flag, as the import of laptops is heavily taxed and thus a popular item for smuggling. Be particularly

wary of carrying multiple laptops into China that are in mint condition, or worse yet retail-boxed. These will be flagged as items intended for resale and levied a non-refundable duty of around 20% of the original purchase value, even if the items are intended strictly for personal use.

On the way out of China, it's typically duty-free to export reasonable quantities of electronic goods. However, customs is cracking down on the exportation of "fake" goods. They will seize any goods that improperly use trademarked brands (so trying to export those cute iPhone-branded Android devices can lead to trouble), and they may interrogate about who makes the products you're bringing out. If they are made by your factory, carry a business card, as I've been asked in the past to show proof that I work with or own a hardware manufacturing business bearing the trademark of the goods I'm trying to export.

Getting to the Border

Take me to Futian border crossing

请送我到福田口岸
qǐng sòng wǒ dào fú tián kǒu àn

Take me to Luohu border crossing

请送我到罗湖口岸
qǐng sòng wǒ dào luó hú kǒu àn

Take me to Huanggang border crossing

请送我到皇岗口岸
qǐng sòng wǒ dào huáng gāng kǒu àn

Take me to the Shenzhen Airport

请送我到深圳机场
qǐng sòng wǒ dào shēn zhèn jī chǎng

Where is the shuttle to HK Airport?

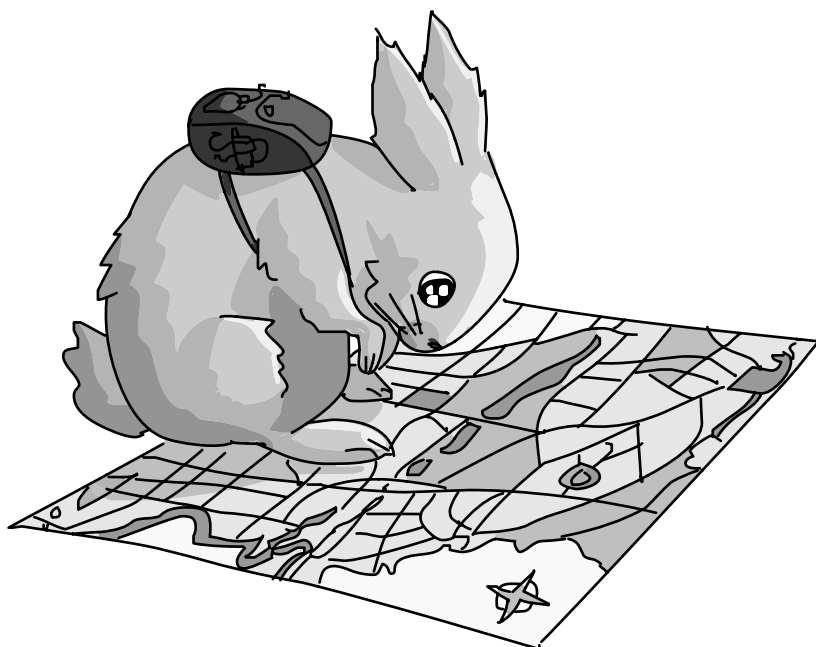
请问在哪里可以坐车去香港机场?
qǐng wèn zài nǎ lǐ kě yǐ zuò chē qù xiāng gǎng jī chǎng?

I need a yellow immigration form

我需要黄色的移民申请表
wǒ xū yào huáng sè de yí mǐn shēn qǐng biǎo

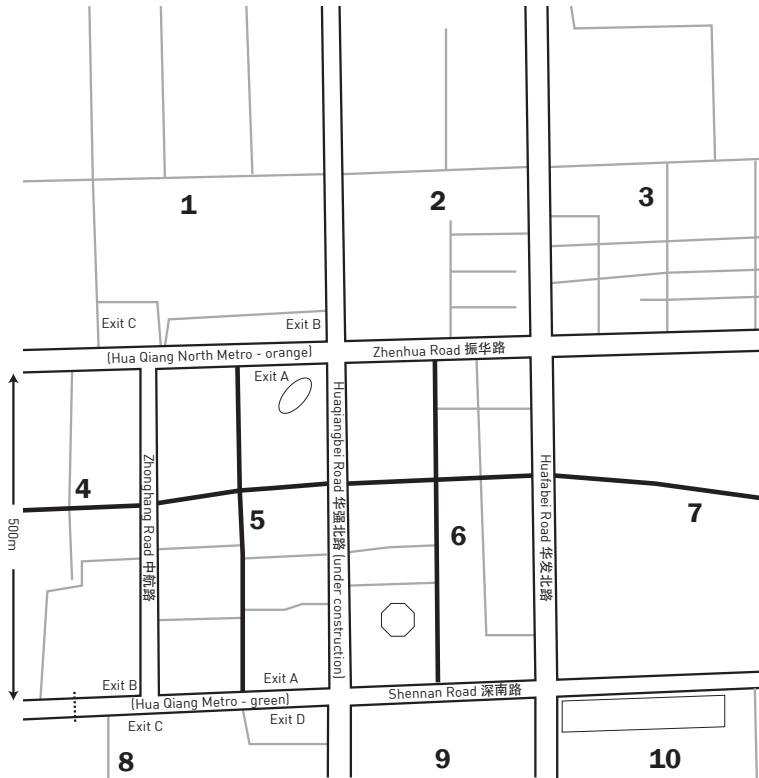


Maps





Maps of the Hua Qiang District

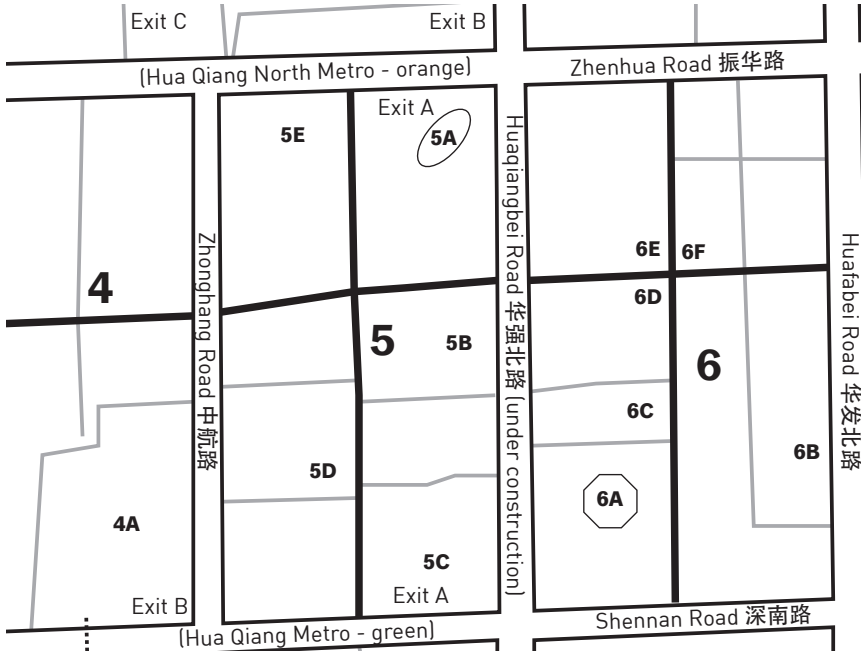


This section is divided into two parts. The first part is a brief field guide to the market. This guide divides the market into 10 blocks, and touches on the highlights of each block. The second part consists of multiple blank copies of the map. Behind each map is a plastic insert for holding business cards, receipts, datasheets and technical drawings.

Returning to a vendor's stall can be a formidable challenge, given the dearth of English signage. Use the point-to-translate phrases printed on each copy of the map to acquire a business card, and to ask the vendor to mark their stall on the map. This will help you find them again, should you need to buy more products in the future. Once in the correct building, the stalls are numbered using roman numerals and characters; be sure to jot down the stall number if it's not already printed on the business card.

The pages can be torn out for easy sharing with friends and suppliers.

Please note that Huaqiangbei road is in the process of being converted from a bustling road into a more pedestrian-friendly plaza, and in the process almost every building facing the road is undergoing significant remodeling. As a result, some details within this section may be out of date.



Sectors 4, 5 and 6 form the market core.

Broadly speaking, most of sector 5 is concerned with the sale of electronic components. Covered passageways make it seem as if all the buildings run together into a giant mega-mall, a kind of walk-in DigiKey for over-the-counter parts sales. Most of the buildings have upper floors where prices tend to get better (with the top floors of the International LED market being a notable exception).

Sector 6 is anchored by SEG plaza (6A) in the southwest. Most of the stores on the northwest side of sector 6 sell more consumer-oriented goods, from mobile phones to professional audio equipment. Stores on the east side of sector 6 tend to specialize more in mobile phone accessories - power banks, chargers, memory sticks, cables, etc. Right in the middle of sector 6 are a couple of malls specializing in security and surveillance cameras, as well as numerous resources for shipping goods.

Sector 4 contains several household and conventional strip-mall style retail shops, with a smattering of restaurants. It's a decent area to hunt for a sit-down restaurant if you want a bite to eat a bit away from the hustle and bustle of the market core.

Here are some highlights of the area.

6A is the iconic SEG plaza [赛格广场]. Octagonal in shape with twin spires, it's a great landmark. First two floors are electronic components; upper floors are consumer products and retail goods.

6B this market specializes in batteries, power banks, and FLASH memory drives. It's the first market on the left heading north from Shennan Road on Huafabei road. The entrance is just before the first 7-11.

6C is the smart wearables market. A relative newcomer to the market, it is stocked with all kinds of gadgets meant to be worn, from smartwatches to health monitors to music-playing glasses.

6D & 6E are markets selling surveillance gear, such as CCTV and IP cameras, and security products such as fingerprint readers and other access control systems. There's also a smattering of GoPro clones and accessories.

6F is nicknamed "shipping alley". It's lined with counter services from domestic shipping companies, as well as brokers that aggregate international shipments into bulk air freight containers. These brokers offer deeply discounted rates with the trade-off of a less certain time window for delivery. One can also buy all manner of boxes, packing tape, etc. for preparing shipments.

5A is the Hua Qiang Plaza Hotel (华强广场酒店). Its distinctive marquee shape and height also make it a great landmark. A solid place to stay when visiting the market. There is a Starbucks on the ground floor.

5B is the International LED market. The 5th and 6th floors feature shops specializing in LED lighting of all types. The ground floor sells many kinds of components and accessories.

5C from the entrance nearest the Hua Qiang metro exit and up the escalator to the fourth floor is an area specializing in laptops and laptop parts. At the time of writing, the complex is being remodelled, which means shops may be shuffling around.

5D is the Duhui mall. The third floor of this building has a nice collection of shops that sell tools ranging from soldering irons to BGA rework stations, as well as fest equipment and cases.

5E is the Golconda building. The 3rd and 4th floors warehouse a massive inventory of overstock and second hand LCD panels. The panels typically range in the larger form factors, from 7" panels typical of automotive entertainment head units, to 50"+ panels for TVs.

There's also a series of small food stalls that line the north side of the building which are good for a quick dumpling or a mango smoothie as a snack.

4A is the Bank of Communications (交通银行) building. The ground floor is the Century mall (世纪商场). The Century mall is a decent place to look for sit-down restaurants in an air conditioned and more Western-feeling environment.

At the lower west corner of sector 4 (just off the map) lies the Shanghai Hotel (上海宾馆). Most taxi drivers are familiar with this location and it has one of the easiest names for English-only speakers to pronounce ("shanghai bing gwan").



South of Shennan road lies a series of massive markets that specialize in mobile phone components.

10A is a massive mobile phone and parts market. The corner is marked by a 24-hour McDonalds, and just behind it on Huafabei road is an escalator that leads up into the belly of the beast. The south side of the building has open-air balconies, along which lie numerous test equipment and repair jig vendors. The second and third floors are packed from wall to wall with vendors who sell all manners of spare parts for phones (primarily iPhones), ranging from LCD screens to microprocessors, from buttons to batteries, from SIM cards to SD cards. There are also multiple vendors who can repair a phone's broken screen as you wait and watch, but it helps to speak Chinese. Assume nothing in this market is factory-new; most items are remanufactured, refurbished, overstock, or dent-and-scratch.

9A If I were to summarize this market in one word, it's "recycling". Here is where mobile phones go to find an afterlife. Chips are stripped off the boards, sorted, and packed into bulk bags for other vendors to further refine, test, and repackage into tape and reel. Bags of cameras and LCDs line the stalls, to be sold by the kilogram; you can find all manner of interesting parts if you have a keen eye. This market is a Rorschach test: if your eyes glaze over and the heat and smells bother you, you're probably not a practicing hardware engineer. The closer you are to a solder technician or practicing hardware engineer, the more you'll notice interesting and subtle, unusual things going on in every corner of the market.

8A Exit D of the Huaqiang metro station leads directly into a subterranean market that specializes in components and spare parts for Android-powered phones.



North of Zhenhua road lies a series of markets that specialize in the wholesale trade of mobile phones; even farther north lies a few shops which are somewhat analogous to US big-box retail electronics stores, selling primarily finished electronic goods for end consumers.

1A is a typical fashion (not electronics) mall. The basement of this area houses a number of restaurants, and is a decent hunting ground for quick sit-down meals.

2A the 2nd and 3rd floors of Yuanwang digital mall is a commodity exchange for mobile phones. Booths post lists with the current spot price of imported brand-name mobile phones, and phones are frequently traded by the dozen for fat stacks of cash. Hot new releases and deals can be found here. Leave the DSLR camera at the hotel before visiting; quick-reacting and aggressive security guards confiscate memory cards or force the deletion of photos taken by tourists.

2B the area immediately behind the commodity exchange has a few shops specializing in the repair of mobile phones, as well as some accessories and vendors specializing in the shipping of mobile phones.

2C is the Mingtong Digital Mall. It's a wholesale market for locally-produced phones. Here lie all manner of amusing phones, as well as some stunning reproductions of brand-name phones and second-hand phones. At the time of writing, the market is undergoing renovations which has forced the closure of about a quarter of the shops.

3A is a market specializing in tablets. The ground floor contains all manner of OEM tablets, and the floors above sell tablet sub-assemblies and parts. Specializing in wholesale trade, many vendors are amenable to putting your logo on their white-label hardware, if the order is big enough. There's also a selection of Android TV conversion devices sprinkled throughout.



Where am I? Please point on the map.
我现在的位置在哪里？请指出在这张地图上

Sorry, I don't know where we are.
对不起，我不知道我们在哪里

May I have your business card
请给我您的名片

Please mark your stall on this map
请标记您的货摊在这地图





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