

Cordless Phones

China Sourcing Report



July 2006

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CORDLESS PHONES MANUFACTURING IN MAINLAND CHINA, TAIWAN AND HONG KONG

A ground-level view of suppliers' manufacturing and export capabilities, and R&D plans in the cordless phone manufacturing industries in mainland China, Taiwan and Hong Kong

EXECUTIVE SUMMARY

Worldwide trends emphasizing digital technology and expanded applications are sustaining Greater China's cordless phone industry despite the steady decline in demand for fixed-line phones. The shrinking supplier population—more than 50 makers from over 100 suppliers in early 2005—is staying afloat by shifting to digital from analog, and to high frequencies from low frequencies. These R&D and production shifts, projected in the *Cordless Phones: Supplier capability in mainland China, Taiwan and Hong Kong*, published in January 2005, have driven the growth of 2.4GHz and DECT cordless phones.

Despite the drop in the number of active makers in mainland China, which now has nearly 30 cordless phone makers, it is still one of the top three largest cordless phone manufacturing bases worldwide. Many mainland China makers have moved to 2.4GHz production, although some continue to maintain a small volume of 46/49MHz cordless phones.

Taiwan has about 10 suppliers of cordless phones, mostly focusing on 2.4GHz and DECT technologies. Hong Kong suppliers are moving from 2.4GHz cordless phones to DECT phones.

The other key findings of this report are:

- 2.4GHz cordless phones have entered the mainstream, displacing 46/49MHz models. Makers maintain a small volume of the latter for developing markets.
- The DECT phone sector flourished in 2005 and will continue expanding, driven by increasing demand for high-frequency and high-security cordless phones.
- Supply of long-range and 5.8GHz cordless phones will decline due to low demand.
- Amid moderate output and export expansion plans, makers are looking to add value to their products by

integrating VoIP and wireless capabilities.

- To match worldwide mobile phone trends, new models feature SMS, MMS and compact, lightweight handsets that look like mobile phones.
- Prices are projected to remain steady, with potential increases resulting from a spike in production costs brought about by RoHS compliance.
- Production costs are expected to rise by 5 percent.

This report covers 29 companies across Greater China: 20 from mainland China, six based in Taiwan

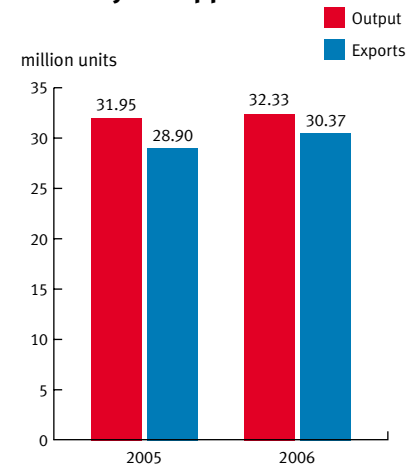
for that year. The projected aggregate output in 2006 is at least 32.33 million units. Of these, 30.37 million units are expected to be shipped overseas, or 94 percent of output.

This report comprises an Industry Overview section, a section on company profiles, a product gallery and a supplier index. The Overview comprises a section each on Industry Background, Manufacturing Capability, Products and Prices, and Outlook. The **Industry Background** discusses worldwide market developments alongside supply market situations in Greater China. It also discusses trends in these supply markets, factors driving growth in 2006, and issues and challenges faced by makers.

The **Manufacturing Capability** section discusses the makers' production capacities and plans. It also discusses the key production processes, specifying those that are done in-house and those that are subcontracted. The section on **Products and Prices** showcases the makers' product scope, and highlights current product development efforts. The **Outlook** section provides projections on production, exports, product development efforts and prices.

To prepare this sourcing report which covers mostly small-scale and midrange companies in Greater China, a Global Sources team of market analysts carried out on-site interviews and factory tours of 20 companies featured herein. Additional phone surveys were conducted on the other nine companies. Aside from company and factory data, all the companies supplied information about their manufacturing, export and R&D plans.

Production and export volumes of surveyed suppliers



Conservative growth is projected for cordless phone production and exports, as demand slows down and R&D focuses on adding value.

Source: Global Sources

and three from Hong Kong. Most of the companies are small, but altogether they represent at least 60 percent of Greater China's supplier base of cordless phones. All of them are export-oriented, private companies. Several of them are pioneer and leading makers in the different cordless phone product categories.

Their combined production of cordless phones in 2005 totaled 31.95 million units. Exports reached 28.90 million units, or 90 percent of the output

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INDUSTRY BACKGROUND

Greater China's cordless phone industry is quickening the pace of transition from analog to digital and from low-frequency to high-frequency phones. These shifts in direction are brought about by makers' response to worldwide trends emphasizing digital technology and expanded applications. They are also driven by the need to boost the market's competitiveness and counteract the growing rate of fixed-to-mobile substitution (FMS), which has been eating into landline phone sales in favor of the mobile phone.

The shift from analog to digital has been going on for years across Greater China. However, analog models continue to dominate some segments, particularly low-end low-frequency lines. This is sustained on the one hand by huge domestic demand and on the other by strong demand in developing markets and regions. The high technology threshold also keeps some companies from moving to digital.

Many makers, however, plan to commence digital cordless phone production in the coming months. Those who have been developing digital phones plan to increase their production volume.

The 46/49MHz line has been shrinking as many makers leave to develop high-frequency models such as 2.4GHz, 5.8GHz or DECT. Although several makers remain steadfast in pursuing low-frequency cordless phones to meet demand in some regions, supply will continue to decline in 2006. The increasingly tight competition in the domestic market has also resulted in a market shakeout that forced some companies out of the line altogether or into other cordless phone product types.

In the 2.4GHz line, the overcrowding of frequency exposed problems stemming from interference. Many makers are now challenged to improve their products' anti-interference and data security capabilities. However,

the line remains buoyant, with both demand and supply growing steadily.

As projected in the *Cordless Phones: Supplier capability in mainland China, Taiwan and Hong Kong* published in January 2005, the DECT phone sector flourished in 2005. The line is expected to continue on this uptrend, driven by increasing demand for high-frequency and high-security cordless phones.

In 2005, the long-range cordless phone market did not take off. Supply rose in 2005, but sluggish demand inhibited growth, and many makers started revisiting their business models in early 2006. Companies that reduced their 46/49MHz output to pursue long-range and super long-range cordless phones in 2005 are now reducing their investments in the latter.

Industry composition

Declining demand, mature technology and tightening competition are some of the factors that have constricted Greater China's cordless phone supplier base. Most of the companies that have dropped out of the line are small-scale companies with limited R&D capability. There are at present more than 50 suppliers in mainland China, Taiwan and Hong Kong, half the size of the supplier base in 2005.

This report covers 29 companies across Greater China: 20 from mainland China, six based in Taiwan and three from Hong Kong. Most of the companies are small, but combined they represent at least 60 percent of Greater China's supplier base for cordless phones. Most of the companies covered registered between \$1 million and \$15 million in annual sales of cordless phones in 2005. Almost all of them are private enterprises and are heavily export-oriented. Several of them are pioneer and leading makers in the different cordless phone product categories.

Mainland China is one of the largest manufacturing bases for cordless phones worldwide. It currently ranks

third after the United States and Germany in terms of production volume. This position is a result of more than 20 years of manufacturing experience in this line and mainland makers' huge production capacities.

Mainland China produced an estimated 105.5 million cordless phones in 2005, with 90 percent or 94.95 million units shipped overseas. Exports for the period January to November 2005 reached 86.47 million units, worth \$1.44 billion and an increase of 9 percent over 2004, according to statistics from the China Chamber of Commerce for Import and Export of Machinery and Electronic Products (CCCME).

Mainland China currently has nearly 30 makers of cordless phones. Many of these companies started as manufacturers and exporters of analog 46/49MHz cordless phones. Many of them have now moved to 2.4GHz production, although some continue to maintain a small volume of 46/49MHz cordless phones. Some of the leading suppliers are TCL Communication Equipment Co. Ltd [covered in this report], Desay Electronics Co. Ltd and Hi-Tech Digital Technology Ltd.

Taiwan has about 10 suppliers of cordless phones. The leading manufacturers include Kingtel Telecommunication Corp., Senao International Co. Ltd and Rexon Technology Corp., all listed companies on the Taiwan Stock Exchange and covered in this report. Small and medium-sized companies include George Tang Industrial Corp., Netvox Technology Co. Ltd and Advance Wireless Technology Corp., the last two also covered in this report.

Many small Taiwan makers produce cordless phones for the low-end market, with one of their export market targets being mainland China. More makers are diversifying into other product lines to stay competitive, either developing new cordless phone technologies and products or

Advance Wireless Technology Corp.

Advance Wireless Technology Corp. (Awtek) is an R&D-centric company that specializes in wireless communication and networking products. The company started cordless phone manufacture in 2000.

Aside from providing DECT phones, DECT RF modules and DECT headsets, Awtek can also manufacture products supporting Bluetooth and GSM technologies. The company also makes wireless PBXs, home gateways and VoIP products. It has technical partnership with Winfinity of Germany, and has invested some of its revenue in Winfinity Asia Technology in Taiwan.

Awtek's main business covers development contracts, turnkey solutions, product promotions and certification supports.

It recorded an annual sales of \$2 million from all its products in 2005, with \$1.5 million coming from exports. Awtek estimates sales of all products will reach \$9 million in 2006, with exports amounting to \$7.5 million.

The sales growth is estimated at 350 percent, and the export growth at 400 percent.

The company does OEM and ODM businesses. Its overseas customers include Xingtel, TopCom and Saiset. Its OEM cordless phones are for Taiwan cordless phone suppliers, such as Netvox, Rexon and Senao.

In 2005, Awtek generated 75 percent of its cordless phone sales from exports. Western Europe took up 60 percent of the export market share. Central and South America absorbed 20 percent of exports, North America 10 percent, and the rest went to other regions.

The company shipped more than 50,000 units of cordless phones in 2005. Shipments generated \$1.2 million.

Awtek expects export to reach 70,000 units this year, an annual growth of 40 percent. Hence, it expects cordless phone exports to hit \$3.8 million in 2006, a 217 percent rise from 2005.

Manufacturing capability

Awtek owns a factory in Taichung, Taiwan. The 660sqm factory has a production line that handles a part of the assembly and testing processes. The production line can generate 10,000 units of cordless phones a month.

Awtek outsources mold making, plastic injection molding, SMT and PCB subassembly to local subcontractors. The company also outsources some of the assembly and testing workload. Its subcontractors can produce more than 50,000 units of cordless phones per month.

In 2005, Awtek produced more than 100,000 cordless phones. In early 2006, it produced 5,000 units to 10,000 units of DECT phones per month.

The company estimates that output of cordless phones will likely exceed

140,000 units in 2006, an annual growth of at least 40 percent.

Products and prices

Awtek has a development center of wireless communication and networking products. It specializes in core technology for DECT, Bluetooth, GSM modules, ISDN (Integrated Services Digital Network), wireless PBXs, home gateways and VoIP products.

Awtek has a team of hardware engineers, RF engineers, software engineers and mechanical engineers who are experienced in developing wireless and customized products. Technological partnerships are also made with leading manufacturers for the R&D of new wireless VoIP communication products.

The company handles cosmetic

Supplier profile

Background

Year established	2000
Head office location	Taipei, Taiwan
Factory location/s	Taichung, Taiwan
Total factory space (sqm)	660
Total production workers	10
Annual R&D expenditure in 2005 (% of sales)	12

Sales and export index (US\$ million)

Annual sales in 2005 (all products)	2
Annual exports in 2005 (all products)	1.5
Annual sales in 2006* (all products)	9
Annual exports in 2006* (all products)	7.5
Annual sales in 2005 (cordless phones)	1.6
Annual exports in 2005 (cordless phones)	1.2
Annual sales in 2006* (cordless phones)	5
Annual exports in 2006* (cordless phones)	3.8

Cordless phone output and exports (units)

Year started making cordless phones	2000
Cordless phones made	DECT phones
2005 output	100,000+
2005 exports	50,000+
2006 output*	140,000+
2006 exports*	70,000+
Monthly capacity (in-house)	10,000
Monthly capacity (including subcontracted)	50,000+
Average monthly output	5,000 to 10,000

Export markets served

Main export markets	Europe
Major overseas customers	Xingtel, Topcom, Saiset
Export ports	Taichung, Taiwan
% OEM	100
Approvals/certifications/licenses	CE
Technology partners	Winfinity

* Target

design in-house and spent 12 percent of revenue on R&D in 2005. It has two technicians involved in QC certifications.

This year, the company plans to produce more compact DECT phones with Skype functions. Currently, the company offers the AW-3390, AW-163 and the AW-6460 DECT phones.

These models support operating ranges of 50m indoor and 300m outdoor. The DECT phones support 1.88GHz to 1.9GHz. They can support up to five handsets and can be registered with up to four base stations. The models can provide 50 caller ID groups and call waiting function.

The AW-3390 is a GAP-compatible DECT phone that supports FSK and DTMF, and handsfree operation. The unit's basic call functions include mute, key lock, paging, call barring and any-key talk. It also has a redial memory that tracks the last three locations.

The AW-3390 can support 100hr standby time and 8hr talk time. The model supports multiple languages, such as English, Spanish, French and Dutch. It is priced at \$30 each.


The AW-163 supports H.323 v4, SIP, PPPoE, NAT, fixed IP and DHCP. The unit also supports peer-to-peer IP calling and Microsoft NetMeeting v3. It has one WAN port, one LAN port and one PSTN port. The model is priced at \$80 each.


Awtek's AW-646 was released in September 2005. The model can support VoIP functions and is compatible with 802.11g. It is equipped with a WAN port, four LAN ports and one PSTN port. Other features are QoS support, dynamic DNS proxy, NAT, NAPT, firewall function with ACL and Diffserv. The AW-646 lists at \$130 per unit.


The minimum order starts at 2,000 units. It takes the company about 45 days to deliver products. All of Awtek's cordless phones carry the CE certification.

The company forecasts prices of cordless phones will decrease by 5 percent in 2006.

Popular export models

	Model name/number	AW-3390
	Release date	May 2005
	Minimum order (units)	2,000
	Delivery time (days)	45
	Packaging	White box
	Approvals/certifications/licenses	CE
	Indicated FOB price (US\$)	30
Key features & specifications		
1.8GHz to 1.9GHz DECT, 50m indoor and 300m outdoor operating ranges, 5 handsets, 4 base stations, phone book memory, call waiting, GAP compatibility, FSK/DTM dual mode, hot call, handsfree profile, redial memory, any-key talk, call barring, multilingual support, mute, key lock, paging, 46x123x22mm handset, 127x106x69mm base, 300g		

	Model name/number	AW-163
	Release date	March 2006
	Minimum order (units)	2,000
	Delivery time (days)	45
	Packaging	White box
	Approvals/certifications/licenses	CE
	Indicated FOB price (US\$)	80
Key features & specifications		
1.8GHz to 1.9GHz DECT, 50m indoor and 300m outdoor operating ranges, 5 handsets, 4 base stations, 50-location caller ID, phone book memory, optional call waiting, H.323 v4, SIP, PPPoE, NAT, fixed IP and DHCP, peer-to-peer call, Microsoft NetMeeting v.3, 1 WAN port, 1 LAN port, 1 PSTN port, 46x123x22mm base, 27x106x58mm handset, 300g		

	Model name/number	AW-646
	Release date	September 2005
	Minimum order (units)	2,000
	Delivery time (days)	45
	Packaging	White box
	Approvals/certifications/licenses	CE
	Indicated FOB price (US\$)	130
Key features & specifications		
1.8GHz to 1.9GHz DECT, 50m indoor and 300m outdoor operating ranges, 5 handsets, 4 base stations, 50-location caller ID, DHCP client for WAN, DHCP server for LAN, 253 users, PPPoE, static IP, QoS, ToS, Diffserv, 802.1P/Q, dynamic DNS proxy, NAT, NAPT, virtual server and DMZ, firewall with ACL, hacker pattern detection, 802.11g, 6Mbps to 54Mbps data rate, 802.1x and TKIP, site survey, 1 WAN port, 4 LAN ports		

PRODUCT GALLERY

2.4GHz cordless phones



Coby Communications
Model: CDRA-195
Key features: 1 base station, call waiting, 70 caller ID memories



Gaoke
Model: GK-851
Indicated FOB price (US\$): 20
Key features: Digital, 300m operating range, 3 handsets, 1 base station, caller ID, call waiting, backlit display, 150x120x30mm, 500g



Founder Telecommunication
Model: HT-380
Key features: 1.8GHz/2.4GHz, 50m indoor and 300m outdoor operating ranges, 4 handsets, 4 base stations, caller ID, call waiting, call barring, phone book, handsfree, walkie-talkie, keypad lock, 49x121x26.5mm (handset), 110x100x90mm (base station), 198g without battery, adapter and wire



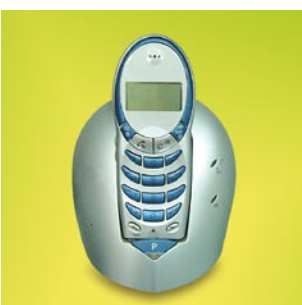
Gaoke
Model: GK-852
Indicated FOB price (US\$): 20
Key features: Digital, 300m operating range, 3 handsets, 1 base station, caller ID, call waiting, backlit display, 150x120x30mm, 500g



Founder Telecommunication
Model: HT-420
Key features: 1.8GHz/2.4GHz, 50m indoor and 300m outdoor operating ranges, 4 handsets, 4 base stations, caller ID, call waiting, call barring, phone book, handsfree, walkie-talkie, keypad lock, 46.5x118x27.2mm (handset), 115.4x95x73.5mm (base station), 201g without battery, adapter and wire



Kingtel
Model: KT-6411G (2.4GHz)/6411D (DECT)
Indicated FOB price (US\$): 25
Key features: 2.4GHz/DECT, 300m operating range, 4 handsets (2.4GHz), 6 handsets (DECT), 2 base stations, caller ID, digital expandable corded speakerphone/cordless system, call waiting, intercom, transfer and conference calls between handsets



Founder Telecommunication
Model: HT-680
Key features: 1.8GHz/2.4GHz, 50m indoor and 300m outdoor operating ranges, 4 handsets, 4 base stations, caller ID, call waiting, call barring, phone book, handsfree, walkie-talkie, keypad lock, 48x26x125mm (handset), 104x47x124mm (base station), 184g without battery, adapter and wire



Kingtel
Model: KT-6712G (2.4GHz)/6712D (DECT)
Indicated FOB price (US\$): 40 to 45
Key features: 2.4GHz/DECT, 300m operating range, 4 handsets (2.4GHz), 6 handsets (DECT), digital expandable corded speakerphone/cordless system, intercom, transfer and conference calls between handsets

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