

**ResearchInChina**

## **China Digital TV Transmitter Market Report, 2008**

Feb.2009



Property right statement: Copyright of charts, tables and sentences in this report belongs to ResearchInChina (Beijing Waterwood). For charts or tables marketed as from other sources, original publishers own the copyright. The quoted data in this report are collected from public sources. If there is any problem related to property right, please do not hesitate to contact ResearchInChina.

### 3. China Digital TV Transmitter Market

#### 3.1 Development Course

China started to develop digital TV transmitter in 1996, guided by national HDTV R&D Leading Group; meanwhile, developing project of HDTV function model kicked off formally, which was implemented by TEEG. Beijing Broadcasting Equipment Plant is the only one successful enterprise bidder of transmitter in the nine sub-projects. After two-year effort, China's first transmitter was born, whose average power of RF output was 50W. In mid Sep in 1998, the nine projects were displayed experimentally in central broadcasting TV Tower.

As the researcher of HDTV, Beijing Broadcasting Equipment Plant developed two sets of 1KW and one set of 2KW single-valve digital TV transmitters for Phase I of Special digital TV project approved by State Planning Commission. During the same year, under the fiscal support of Beijing, Beijing Broadcasting Equipment Plant successfully developed 1KW solid-state digital TV transmitter. In Nov 2000, both 1KW single-valve digital TV transmitter and 1KW solid-state digital TV transmitter passed technical certification of Beijing city.

In June 2000, State Planning Commission decided to build digital TV experimental plots in Beijing, Shenzhen and Shanghai in accordance with Special Digital TV Project. Digital TV testing labs and user products testing labs will be established based on the standard of SARFT, which would drive the development of China digital TV industry. In addition, Beijing Broadcasting Equipment Plant would develop 2KW solid-state digital TV transmitter and 3-5KW single-valve digital TV transmitter for Beijing digital TV lab. In Mar 2001, State Planning Commission approved the implementation of Beijing experimental plot, which kicked off. Beijing experimental plot would use 1KW solid-state digital TV transmitter developed by Beijing Broadcasting Equipment Plant to send digital TV signals for testing to central broadcasting TV tower.

In 2002, Anshan Gigamega Electronics Co., Ltd produced China first commercial digital TV transmitter, and then Dalian Toshiba Broadcast And Television System Co., Ltd and Beijing BBEF Electronics Group Co., Ltd successively launched their own digital TV transmitters. Up to 2008, output of digital TV transmitters amounted to 30.

### **3.2 Market Scale Changes and Forecast**

Digital TV transmitter is an important part of terrestrial digital TV network system; the small-power transmitter is irreplaceable, having great development potential in the market. Reasons for that are as follows:

Firstly, high-power transmitters are usually placed in outlying area considering environment protection and signal coverage; therefore traffic and maintenance are not so convenient. Secondly, duo to more and more complex tall buildings, subways, tunnels and elevators, the single high-power transmitter network system can not cover each spot. In consequence, small-power transmitters supporting by gap fillers will realize seamless coverage, TV transmitting equipments can't fully cover remote rural area; in the meantime, most of the valve transmitters have extended their active duties, so their technical indices can not meet the demand of digital transmitters.

According to national digital TV industry development policy, digital TV transmitters will replace original analog TV transmitters before 2015. At present, China has set terrestrial digital TV experimental spots in Shanghai, Shenzhen, Guangzhou, Beijing and Changsha. Digital Television Terrestrial Broadcasting Transmission System Frame Structure, Channel coding and Modulation Standards launched by Standardization Administration of China on Aug 24, 2006 formally came into effect on Aug 1 2007; thereafter construction of China digital TV terrestrial broadcasting transmission system fully started. The initial period will focus on urban areas and then the rural area and remote regions.

Planning Institute of SARFT drew up three phases of terrestrial digital TV network construction:

Phase I: as to 2008, 37 cities network construction would be finished; standard-definition programs broadcast and HDTV business would be operated; in the meantime, a central monitoring platform and 37 city digital TV monitoring nets.

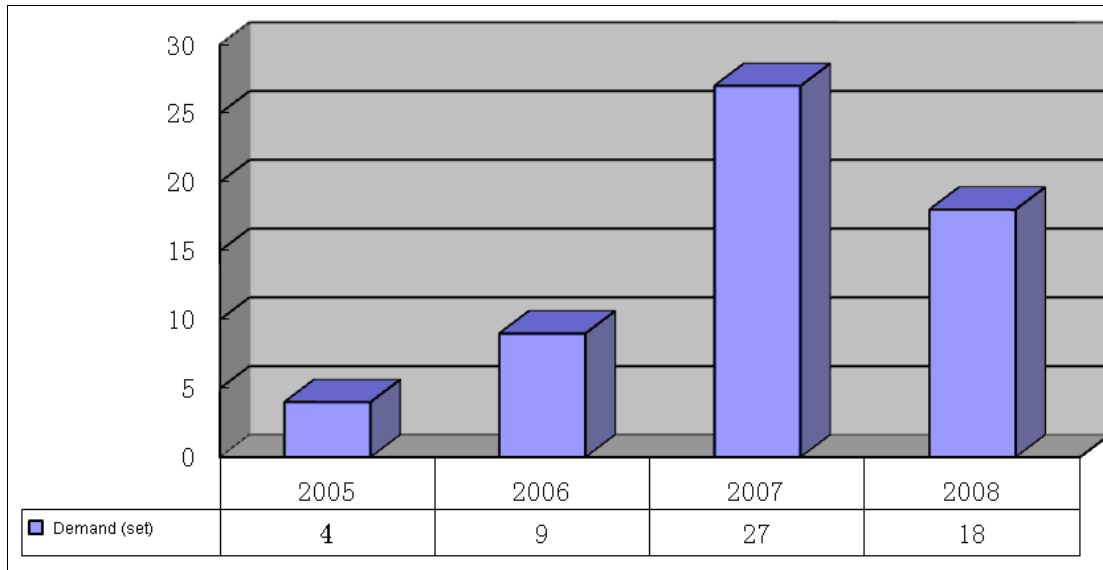
Phase II: in 2009, 360 prefecture-level city territorial digital TV systems will be constructed; standard-definition programs broadcast will started; meanwhile, 360 territorial digital TV monitoring nets will be built.

Phase III: up to 2010, 2077 county-level digital TV systems will be finished; meanwhile standard-definition programs broadcast will start.

Until 2010, China will fundamentally realize digital TV broadcasting, and analog TV broadcasting will be halted as to 2015.

Thanks to holding of Olympic Games, sales of digital TV transmitters surged quickly in China since 2005; demand for digital TV transmitters reached 27 driven by Olympic Games. Although the demand dropped to 18 in 2008, it is predicted that demand for digital TV transmitters will maintain growing status before 2015.

**China's Demand for Digital TV Transmitters, 2005-2008**



Source:

Electronic Information Industry Journal

Just as urban coverage is considered, the estimated demand for TV transmitters and gap fillers are as follows:

**Forecast of Urban terrestrial TV Network Configuration in China, 2015E**

Total (population)	city number (set)	High-power transmitters	Small -power transmitters	Digital TV stations (Gap Filler)
Above 4 million	10	4	20	50
2-4 million	***	***	***	***
1-2 million	***	***	***	***
500,000-1 million	***	***	***	***
200,000-500,000	***	***	***	***
Below 200,000	***	***	***	***
	***	***	***	***

Source: Ministry of Industry and Information

Note: based on the experiences on current TV network construction, it is estimated that a population of one million needs at least one set of high-power transmitter, 3-5 sets of small-power transmitters; along with the city development and digital TV applications, demand for gap fillers will improve gradually. Fully coverage of digital TV signals will need 10-15 gap fillers per population of one million.

The above table shows that 4, 108 small-power transmitters, 10,283 gap fillers will be demanded just involving reconstruction of county-level TV broadcast system. As to shutdown of analog TV in 2015, 410 small-power transmitters and 1,000 gap fillers will be needed each year.

### 3.3 In-depth Market Analysis

In 2008, China had 33,446 TV transmitters, of which 450 sets were provincial level, accounting for 1.37% of total number. 100-plus digital TV transmitters accounted less than 0.5% of total number, and accounting for 25% of total provincial level quantity.

***China's TV Transmitter Distribution, 2007***

Index	Number	Proportion (%)
National TV transmitter	33,446	100.00
Provincial TV transmitter	***	***
City-level TV transmitter	***	***
County-level TV transmitter	***	***

Source: SARFT

Provincial level TV transmission power accounted for 28.73% of the total with 1.37% of the total transmitters; meanwhile, high-power transmitter occupied the major province markets.

***Distribution of TV Transmission Power in China, 2007***

Index	KW	Proportion (%)
National TV transmission power	9,771.565	100.00
Provincial TV transmission power	***	***
City-level TV transmission power	***	***
County-level TV transmission power	***	***

Source: SARFT

***Overview of Broadcasting TV Transmission Devices in China, 2007***

Index	Unit:	Quantity
Medium & short wave radio transmitting stations	Set	802
Above 10KW	Set	434
Medium wave transmitters	Unit	***
Transmitting central TV programs	Unit	***
Transmitting provincial TV programs	Unit	***
Power of medium wave transmitters	KW	***
Transmitting central TV programs	KW	***
Transmitting provincial TV programs	KW	***
Short wave transmitters	Unit	***
Power of short wave transmitters	KW	***
FM transmitting stations	Set	***
FM transmitters	Unit	***
power of FM transmitters	KW	***
Transmitting number of central TV programs	Unit	***
Transmitting power of central TV programs	KW	***
TV rebroadcast stations	Set	***
Number of TV transmitters	Unit	***
Power of TV transmitters	KW	***
Transmitting number of central TV programs	Unit	***
Transmitting power of central TV programs	KW	***
Satellite earth station	Set	***
Mobile satellite rebroadcast vehicles	set	***
Satellite rebroadcast stations	Set	***
Length of microwave transmission	Kilometer	***
Length of digital microwave	Kilometer	***

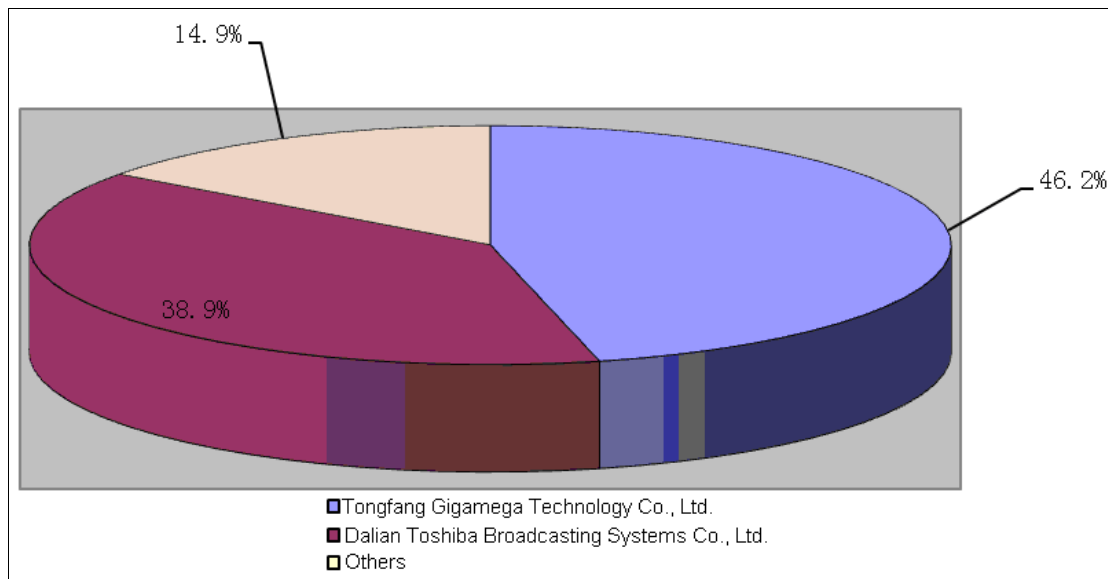
Source: SARFT

## 5. Key Players

### 5.1 Industrial Concentration Degree

From the view of the global market, NEC's digital TV transmitter accounts for more than half of the world market shares. Chinese digital TV transmitter manufacturing technology is backward compared with that of foreign countries, but China has a higher level in the market concentration. Tongfang Gigamega Technology Co., Ltd. and Dalian Toshiba Broadcasting Systems Co., Ltd. occupy more than 80% market shares jointly in China.

**Market Share Distribution of Key Digital TV Transmitter Producers in China, 2008**



Source: Key Digital TV Transmitter Producers



**China's Key TV Transmitter Producers and Their Products**

Dalian Toshiba Broadcasting Systems Co., Ltd.	3kW, 5kW, 20kW, 30W UHF TV Transmitter	Sehn Bo, Cheng Jingyan	13387873093
Rohde & Schwarz Corporation Beijing Representative Office	800W, 30kW UHFTV Transmitter	Wang Junsheng	010-64312828-8710
Anshan General Broadcasting Equipment Co., Ltd.	5kW VHF/UHFTV Transmitter	Sun Yin	0412-5829081
Anshan Jiehv Broadcasting & Electronic Technology Co., Ltd.	3Kw UHF TV Transmitter	Zhao Zhenhong	0412-8223666
Chengdu Chengguang TV Equipment Co.,Ltd.	1kW UHF TV Transmitter	Shang Li	028-83342749 13683485142
Beijing BBEF Science & Technology Co., Ltd.	3KW VHF/UHFTV Transmitter	Peng Yanjuan	010-64357188
Chengdu Kingtype Digital Tv Equipment Co.,Ltd.	1k, 3K, 5KWUHF/1KW, 10KW VHFTV Transmitter	Yu Yidong	028-85370857 13032899667
Chengdu Kaiteng Sifang Digital Broadcasting & TV Equipment	1kW, 5kW, 10kW UHF/3kW VHFTV Transmitter	Liu Yi	028-85175031
Hangzhou Hangchun Broadcasting and Television Equipment Co., Ltd.	3kW, 5kW UHF/3kW VHF TV Transmitter	Mao Jinfeng, Ni Jianming	0571-85334737 13306523063
Chengdu Chengguang TV Equipment Co.,Ltd.	3kW UHF TV Transmitter	Shang Li	028-83342749 13683485142
Chengdu Sunbeam Microwave Engineering Co., Ltd.	1kW, 3kW UHF TV Transmitter	Song Peikang	028-85190452
Zhejiang Chun An Radio Co.,	300W UHFTV Transmitter	Liu Yueping	0571-88911846 13706719050
Chengdu Chengguang TV Equipment Co.,Ltd.	300W UHF TV Transmitter	Shang Li	028-83342749 13683485142
Zhejiang Xin Hongyuan Electronics Co., Ltd	1kW, 3kW VHFTV Transmitter	Xu Yuqin	0571-56311615 13858090310
Liaoning Digital Radio and TV Equipment Group Co., Ltd.	5kW, 10kW UHFTV Transmitter	Zhang Xiaoxia	0412-6695158
Harris	10KW UHF TV Transmitter	Wang Zheng	021-52925660
Tongfang Gigamega Technology Co., Ltd.	20kW, 30kW UHF TV Transmitter	Shang Yuan	010-82399645
Hebei Yuandong Communication System Engineering Co., Ltd.	1kW UHF TV Transmitter	Zhang Zifang	0311-82177208
Anshan Jiehv Broadcasting & Electronic Technology Co., Ltd.	100W VHF TV Transmitter(10W~100W,including 100W, excluding 10W)	Zhao Zhenhong	0412-8223666

Source: www.okokok.com.cn

### 5.3 Key Companies in China

#### 5.3.1 Beijing Tongfang Gigamega Technology Co., Ltd.

Beijing Tongfang Gigamega Technology Co., Ltd. (Tongfang Gigamega) is a high-tech company held by Tongfang Co., Ltd. in the field of digital television, responsible for research, development, manufacturing and marketing of system equipment, supplying diversified products and solutions (including transmitters, receiving terminals). Tongfang Gigamega has a number of self-developed proprietary products and standards. It helps Tongfang promote education and entertainment resources in digital TV industry. It also assists Tongfang to invest and operate in digital television. It takes the responsibilities for promoting the digitization process of Chinese radio and television industry.

The current products of Tongfang Gigamega are divided into two categories ----- terrestrial transmission products and cable transmission products. The former includes terrestrial digital TV transmitters, analog TV transmitters, FM transmitters, terrestrial DMB-T digital TV set-top boxes and related products, digital TV single frequency network, FM radio synchronization network, intelligent multi-channel transmitters, design and system integration solutions in network monitoring. The latter includes modulators, encoders, multiplexers, DVB-C digital TV set-top boxes, two-way set-top boxes, PVR set-top box, HD set-top boxes, value-added digital television service.

Since 2006, supported by Tongfang, Tongfang Gigamega has increased its transmitter production capacity. It makes Liaoning Anshan as the production base, and sets up key component production lines in Miyun, Beijing.

The following TV transmitters have been put into operation: 5 sets complying with ADTB-T standards have been mainly used in Henan; 11 sets complying with DMB-T standards have been mainly used in Hebei, Liaoning, Jiangxi, Inner Mongolia, Heilongjiang, Jilin, Shaanxi , Guangdong and Fujian respectively; 9 sets complying with DVB-T standards have been mainly used in Fujian, Tianjin, Shanxi and Hunan respectively; 51 sets complying with international standards (non-full modes) have been used in Heilongjiang, Henan, Hubei, Sichuan, Heilongjiang and Hunan respectively besides, Tongfang Gigamega has developed 2 transmitters in line with DAB standards for MCCTV's trials. ADTB-T, DMB-T and international non-full mode products can be transferred to international full modes with low cost smoothly. Other standardized products can be transferred to international modes by replacing actuators.

### 5.3.2 Output

Tongfang Gigamega is the largest terrestrial digital TV transmitter manufacturing enterprise in China with 45% market share and the annual output of 15 terrestrial digital TV transmitters, of which about half is exported.

#### *Financial Results of Beijing Tongfang Gigamega Technology Co., 2007*

Item	Total Assets	Operating Revenue	Total Industrial Output Value	Total Profit
Value (RMB: 10000)	24575.2	26088.6	21554.7	1149.9

Source: www.okokok.com.cn

### 5.3.3 Technology Features

Terrestrial digital TV transmitters (100W-5kW) made by Beijing Gigamega Technology Co., Ltd. can be applied to MFN and SFN terrestrial television broadcasting. The RF bandwidth can be 6, 7 or 8MHz. DMB-T or DVB-T coded modulator is optional. Double-excitation auto-switching. High linearity LDMOS hot-swappable high-gain power amplifier module. Hot-swap parallel switching power supply. High efficiency.

## → Related Reports

- **China Digital TV Market Operation Report, 2008-2009**  
*<http://www.researchinchina.com/Htmls/Report/2009/5728.html>*
- **Global and China FPTV Industry Report, 2008-2009**  
*<http://www.researchinchina.com/htmls/Report/2009/5658.html>*
- **Global and China Digital STB (Set-top Box) Market Report, 2008**  
*<http://www.researchinchina.com/htmls/Report/2008/5600.html>*
- **Global and China Consumer Electronics Cases and Structure Industry Report, 2008-2009**  
*<http://www.researchinchina.com/htmls/Report/2009/5675.html>*
- **China Mini Projector Market Report, 2008-2009**  
*<http://www.researchinchina.com/htmls/Report/2009/5670.html>*
- **Global and China Netbook Industry Report, 2008-2009**  
*<http://www.researchinchina.com/htmls/Report/2009/5652.html>*
- **China PMP Industry and Market Report, 2007-2008**  
*<http://www.researchinchina.com/htmls/Report/2008/5373.html>*
- **China TV Shopping Market Report, 2007-2008**  
*<http://www.researchinchina.com/Htmls/Report/2008/5598.html>*

### **About ResearchInChina**

ResearchInChina ([www.researchinchina.com](http://www.researchinchina.com)) is a leading independent provider of China business intelligence. Our research is designed to meet the diverse planning and information needs of businesses, institutions, and professional investors worldwide. Our services are used in a variety of ways, including strategic planning, product and sales forecasting, risk and sensitivity management, and as investment research.

We have over 500 clients worldwide, including the largest commercial and investment banks; insurance companies; research institutions; financial services firms; mutual funds; manufacturers; utilities; and industrial and technology clients.

### **About InvestToChina**

As a connection between global investors and China's fast-growing enterprises, InvestToChina.com provides the latest and overall market news about China, as well as a full range of professional services, including Research, Consulting, Due Diligence, and other investment services.

InvestToChina.com offers subscription products for investors, including the China Investment Press, Market Weekly, Market Monthly and Market Quarterly on various industries. China Investment Press describes timely investment trends in China. Market Weekly (Monthly and Quarterly) is the important step to understand the investment potential in China market.

**Address: Room 1008, A2, Tower A, Changyuan  
Tiandi Building, No. 18, Suzhou Street, Haidian  
District, Beijing, China 100080**

**Tel: 0086-10-82600828, 82600893**

**Fax: 00-86-10-82601570**

**Mail: [report@researchinchina.com](mailto:report@researchinchina.com)**