



**Global and China Crystal Device Industry
Report, 2011-2012**

Jul. 2012

STUDY GOAL AND OBJECTIVES

This report provides the industry executives with strategically significant competitor information, analysis, insight and projection on the competitive pattern and key companies in the industry, crucial to the development and implementation of effective business, marketing and R&D programs.

REPORT OBJECTIVES

- ◆ To establish a comprehensive, factual, annually updated and cost-effective information base on market size, competition patterns, market segments, goals and strategies of the leading players in the market, reviews and forecasts.
- ◆ To assist potential market entrants in evaluating prospective acquisition and joint venture candidates.
- ◆ To complement the organizations' internal competitor information gathering efforts with strategic analysis, data interpretation and insight.
- ◆ To suggest for concerned investors in line with the current development of this industry as well as the development tendency.
- ◆ To help company to succeed in a competitive market, and

METHODOLOGY

Both primary and secondary research methodologies were used in preparing this study. Initially, a comprehensive and exhaustive search of the literature on this industry was conducted. These sources included related books and journals, trade literature, marketing literature, other product/promotional literature, annual reports, security analyst reports, and other publications.

Subsequently, telephone interviews or email correspondence was conducted with marketing executives etc. Other sources included related magazines, academics, and consulting companies.

INFORMATION SOURCES

The primary information sources include Ministry of Industry and Information Technology of the People's Republic of China, WIND data base and China Custom etc.

Abstract

The report highlights the followings:

- brief introduction to crystal device
- analysis on crystal device downstream market
- study of crystal device industry
- 21 leading crystal device vendors around the globe

In general , a smartphone requires 4-8 crystal devices while an ordinary handset needs 2-5 ones, a laptop wants 3-4 crystal devices, a FPTV 4-7 ones, a digital camera 2-4 ones. A limousine demands 70-110 crystal devices while an economical vehicle requires 20-40 crystal devices. In 2011, the shipment of crystal devices worldwide approximated 17 billion units, up roughly 9.7% from 2010.

As the crystal device industry has been exceedingly developed, the crystal device price is declining year by year. By 2011, the average price decreased to JPY20 from JPY34 in 2005. In terms of market scale, the crystal device industry slightly contracted by 0.7% in 2011 compared to 2010. The market in 2012 will be more depressed, down 2.7% as expected. In 2011, the crystal device price fell by roughly 4%, while the price fall in 2012 is expected to be 6-10%.

Many years of market development shows that MEMS and silicon crystal devices can only make some progress in fields requiring low level of performance. Thus it is no way for the two to replace the position of traditional crystal devices.

Revenue of Top 21 Crystal Device Manufacturers, 2010-2012

(USD mln)

	Region	2010	2011	2012E
Epson Toyocom	Japan	949	876	839
NDK	Japan	626	635	688
KDS	Japan	415	439	450
Kyocera Kinseki	Japan	358	310	295
TXC	Taiwan, China	301	327	350
Vectron	USA	205	196	180
Rakon	New Zealand	180	189	178
HELE	Taiwan	165	170	134
HOSONIC	Taiwan	109	101	88
TEW	Japan	108	103	90
River	Japan	65	67	86
TAITIEN	Taiwan	75	79	60
Pericom	USA	56	52	48
Micro Crystal	Switzerland	57	63	60
SIWARD	Taiwan	70	74	70
TAISAW	Taiwan	60	63	58
JINGYUAN YUFENG	Mainland China	50	45	40
EASTCRYSTAL	Mainland China	44	39	35
CONNER-WINFIELD	USA	39	41	36
FOX	USA	38	30	25
AKER	Taiwan	19	18	21

Source : RIC < Global and China Crystal Device Industry Report, 2011-2012 >

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Nearly all the crystal device manufacturers suffered setback in 2011 and 2012, especially those veteran in X'TAL and CXO. But there was an exception: the players engaged in TCXO with high requirement on precision saw meager growth, such as NDK.

As the first largest crystal device manufacturer in Taiwan, TXC is expected to see more growth potential because of large-scale effect. A majority of Taiwan-based electronics manufacturers employ crystal devices made by TXC which has indirectly become the major provider of Apple, Amazon, Google and Microsoft. Therefore, the shipment of TXC is increasingly growing.

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2. Crystal Device Market

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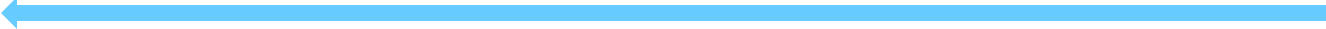
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