

China Fiber Optic Network System

Fiber infrastructure opportunity

to summarize...

- CFONS largest fiber optic patch cord producer with 21.4% share in China
- Solid direct sales to the 3 major telecom operators in China up to 70% income
- CFONS overtook international players as domestic market leader with price competitiveness and central procurement procedure
- Increasing telecom CAPEX on broadband and internet businesses in China
- Infrastructure investment of FTTX part of the 12th Five-Year-Plan
- We expect capacity expansion to continue with financial leverage-free mode
- Valuation at 3.5x and 0.8x P/E and P/B FY12/12F on preliminary estimates

Largest fiber optic patch cord producer in China with 21.4% market share.

China Fiber Optic Network System (CFONS) was listed in HK in Jul last year at HK\$1.20 per share. Through processing soft optical cables and ceramic ferrules, the company offers 100+ models of fiber optic patch cords to communication industry since "Network Access License for Telecommunications Equipment" (电信设备进网许可证) was granted in 2001. Fiber optic patch cords are devices consist of soft optical cables with each of their ends connected to one or more connectors for light signal transmission purpose. In terms of sales volume, according to CCID, CFONS market share in 2011 was 21.4% in China, which was larger than sum of its 2 largest competitors Sunsea and Centuryman. By end of 2011 production capacity of fiber optic patch cords was 12m sets a year, which contributed to 12.9m units self-produced in addition to 5m outsourced units in 2011. In 2011A, the company recorded RMB1,257m revenue with 31.2% gross margin and 20.1% net margin.

Solid direct sales to the 3 major telecom operators in China up to 70% income.

In the past 3 years, CFONS earned 65% to 70% revenue directly from the 3 key telecom network operators in China, while there were 15% to 25% overseas sales through distributors. In January 2001, CFONS FC fiber optic patch cords were granted the Network Access License for Telecommunications Equipment and the company began to supply fiber optic patch cords to one of the major telecommunications network operators in China in 2001. Since 2006, the 3 network operators in China have gradually implemented a centralized procurement policy. Based on recommendations of provincial-level subsidiaries, the national offices determine the qualification of equipment suppliers. Once approved, the company can enter into sales contract with the specific local subsidiary. In fact, with massive order from centralized procurement, leading domestic players actually began to achieve scalability and became increasing competitive.

CFONS overtook international players as domestic market leader with price competitiveness and central procurement procedure.

Fiber optic patch cords are broadly used in a variety of applications, including telecom networks, broadcast networks, television networks and specialized communication networks. On international scale, top-five producers are Amphenol, 3M, Sumitomo, Tyco and LEMO, which collectively captured 50%+ global market share in 2011. In China, market growth between 1998A and 2006A was slower at 14.0% CAGR, while it accelerated to 39.7% CAGR between 2006A and 2010A largely on 3G network expansion in China. International players dominated Chinese market in previously years due to technical barrier. However, in 2000 Chinese producers began to gain exposure and benefitted from large-scale procurement by telecom operators, foreign manufacturers with higher production cost, especially for those with full automation, exit Chinese market. CFONS, a Hebei based domestic producer, achieved 15%+ market share in 2008 and continued to be the largest producer in China.

Please refer to important disclosures at the end of this report

Ticker	3777 HK
Rating	Not Rated
Price (HK\$)	1.02
Target Price (HK\$)	n.a.
12m Price Range (HK\$)	0.50 - 1.61
Market cap. (US\$m)	159.2
Daily t/o (US\$m)	0.6
Free float (%)	33.4

Financial summary

Year to Dec	10A	11A	12F
Turnover (RMBm)	838	1,257	1,471
Net Profit (RMBm)	182	253	288
EPS (RMB)	0.202	0.242	0.237
P/E (x)	4.2	3.5	3.6
P/B (x)	1.87	1.04	0.84
EV/EBITDA (x)	4.6	2.6	1.9
Yield (%)	0.0	0.0	4.5
ROE (%)	29.7	26.7	21.1
ROCE (%)	28.9	22.8	18.9
N. Gear. (%)	21.4	Cash	Cash

Source: SBI/Bloomberg

	12F	13F	14F
Consensus EPS (RMB)	0.26	0.32	0.37
Previous earnings (RMBm)	--	--	--
Previous EPS (RMB)	--	--	--

Price performance

Year to Dec	1m	3m	12m
Relative to HSI (%)	(4.2)	(14.5)	(1.4)
Actual price changes (%)	(2.9)	(12.1)	(5.6)



Source: Bloomberg

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Increasing telecom CAPEX on broadband and internet businesses in China. While total CAPEX spent by 3 major telecom operators in China was slightly down from RMB279.9b in 2009 to RMB254.7b in 2011, the number is expected to go up again in 2012F to RMB289.9b. In general, telecom equipment and components suppliers should be better off in near-term. Taking into account allocation of the CAPEX, in fact proportion of spending on broadband and data was increasing generally on the rise in the past 3 years. This year, China Telecom launched a “Broadband China, Fiber Cities” campaign. For 2012F, according to our channel checks, CAPEX on broadband and data business by China Telecom and China Unicom were together up to RMB65.8m in 2012, up from RMB48.2m in 2009, which we believe would support fiber demand. As for China Mobile, while it is yet to receive broadband license from MIIT, its actual spending on the area is not precisely disclosed. Table 1 shows CAPEX and breakdown by 3 major telecom operators in China.

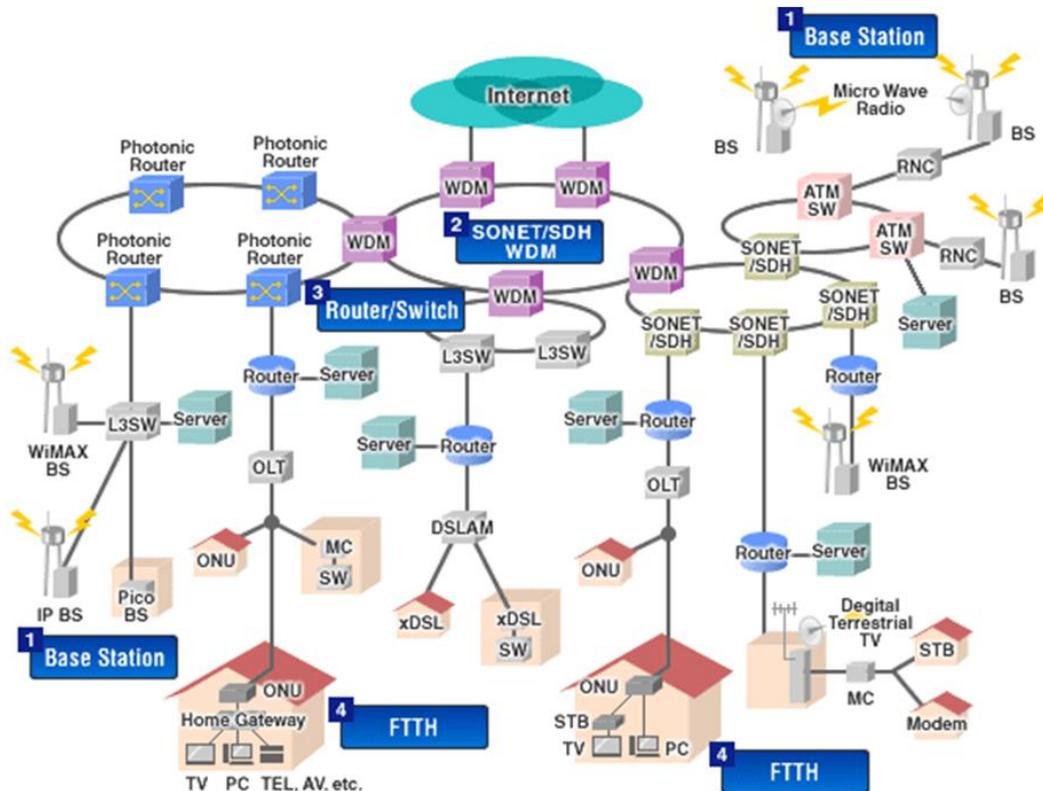
Table 1. CAPEX and breakdown by 3 major telecom operators in China

	FY12/09A	FY12/10A	FY12/11A	FY12/12F
China Telecom (0728 HK)	38.0	43.0	49.6	58.0
(including) Broadband and internet services	20.6	27.6	33.1	40.0
China Mobile (0941 HK)	129.4	124.3	128.5	131.9
(including) Broadband and data business	n.a.	n.a.	n.a.	n.a.
China Unicom (0762 HK)	112.5	70.2	76.7	100.0
(including) Broadband and data business	27.6	22.5	25.7	25.8
Total CAPEX	279.9	237.5	254.7	289.9
Known CAPEX on broadband and data	48.2	50.1	58.8	65.8

Source: SBI E2-Capital

A matter of CAPEX cycle – from expensive base stations towards end-user base expansion. Illustration 1 shows fiber optic network backbone. In the past years, telecom operators had much heavier emphasis on mobile services. Much of the CAPEX went to expensive base station construction. With improved base station coverage, the telecom operators slightly shift their focus towards fiber infrastructure construction and fiber applications such as fiber-to-the-home (FTTH) or fiber-to-the-building (FTTB). Demand for CFONS products is expected to be on the rise in near-to-mid term. As for telecom operators, we believe it absolutely makes sense to improve fiber infrastructure so as to 1) cope with heavy-bandwidth drainage of profitable mobile data business; 2) to raise competitiveness by offering full range of fixed and wireless broadband services.

Illustration 1. Fiber optic network backbone illustration

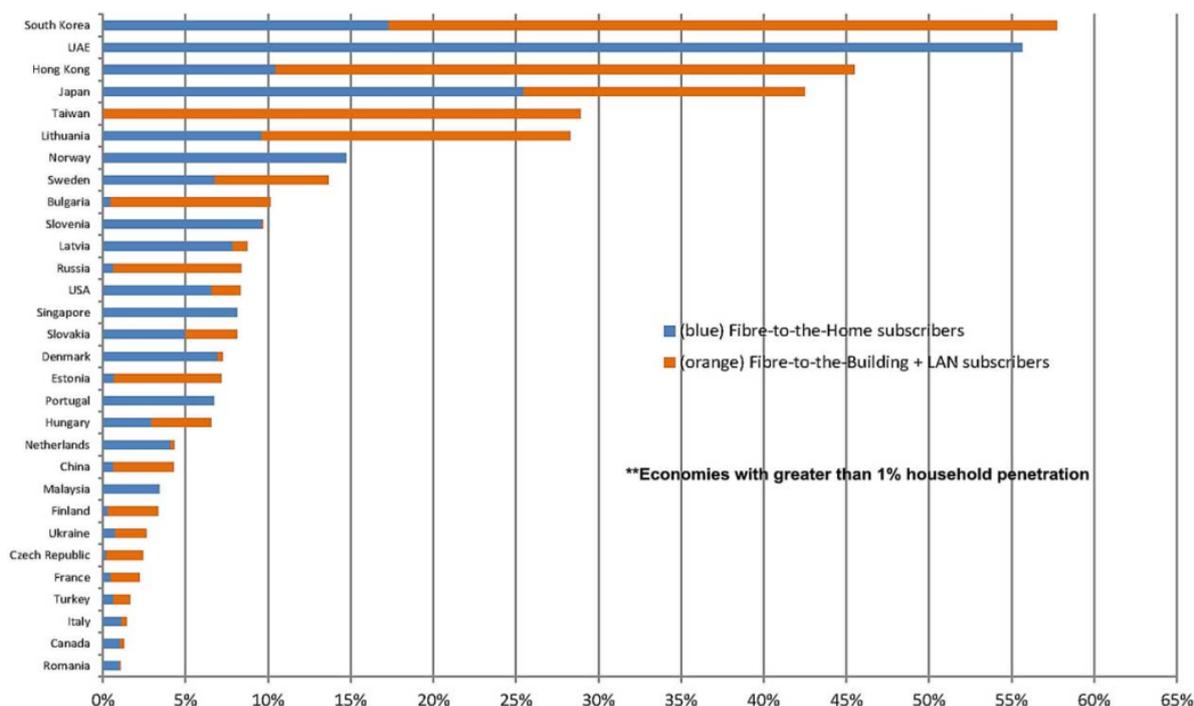


BS : Base Station
 RNC : Radio Network Controller
 ATM SW : Asynchronous Transfer Mode Switch
 Pico BS : Pico-cell Base Station
 SONET : Synchronous Optical Network
 SDH : Synchronous Digital Hierarchy
 WDM : Dense Wavelength Division Multiplexing
 L3 SW : Layer 3 Switch
 FTTH : Fiber To The Home
 IP BS : Internet Protocol Base Station
 OLT : Optical Line Terminal
 ONU : Optical Network Unit
 STB : Set Top Box
 MC : Media Converter

Source: EPSON

Fiber network could support increasing wireless demand in form of Wi-Fi. Earlier emphasis of telecom operators in China was on 3G mobile connectivity. It required substantial investment in base stations. Nevertheless, with increasing demand and thus limitation in bandwidth, Wi-Fi connection is increasing well-received wireless solution, in our view. In public spaces such as shopping malls, office buildings, hotels, school campus and various stations, Wi-Fi solution is increasingly common. To achieve this, we believe substantial FTTB and FTTH are essential to provide sufficient bandwidth to support the usage. Illustration 2 below shows FTTH + FTTB penetration of world economies, according to the findings of Fiber-to-the-Home Council. China was of very low penetration of 5% according to their data yet FTTB was the major option. We believe optic fiber fixed-line plus Wi-Fi wireless last mile access could be a solution to China in the next few years. In fact, in Feb this year, MIIT and several ministerial-level departments initiated joint strategy research on “Broadband China” under the framework of 12th Five-Year Plan. CFONS product is mainly for connection in-and-out of optical distribution network (OND), which would largely benefit from acceleration of FTTX installation.

Illustration 2. World economies Fiber-to-the-home and Fiber-to-the-building penetration



Source: Fiber-to-the-Home Council 2011 ranking

Capacity expansion in process and outlook of 2012. By the end of 2011, capacity of fiber optic patch cords was 9-12m sets, which may be possibly raised to 16m this year. As there is lately general difficulty in China to recruit manufacturing staff, the company may have to raise payment to keep workforce with its expansion plan. Since company capacity bases on three 8-hour shifts a day for 22 days a month, potential over drive to 140% utilization rate is possible. As such, with 16m sets capacity by end of this year, our projection estimates for will be up to 20m sets 2012F and 25m sets in 2013F, compared to 15-20% market CAGR by CCID between 2011A and 2014F. Noted that, however, there was 5m units outsourced products which boosted sales to 17.9m sets in 2011A. Assuming conservatively outsourced products yield lower net margin of 5 pcp, bottom-line growth may be largely capped this year, in our view. Table 2 shows capacity and output expectation. For 2012F, nameplate capacity may go up to 16m sets by end of the year. Without outsourcing volume as much as 5m sets in 2011A, sales volume may be slightly up 15.6% to 20.7m sets this year. Table 3 and 4 on the next page shows P&L and balance sheet summary for 2010A to 2012F. On preliminary estimates, if domestic ASP is to increase very slightly by 2.4%, revenue is expected to increase by 17.0% YoY to RMB1,471m for FY12/12F with net profit increased by 13.7% YoY to RMB283.7m on higher SG&A cost after listing.

Table 2. CFONS output capacity and utilization expectation

	FY12/08A	FY12/09A	FY12/10A	FY12/11A	FY12/12F
Nameplate capacity (m sets)	4.0	9.0	9.0	9.0	16.0
Output potential (m sets)	5.6	12.6	12.6	12.6	22.4
Expected utilization	37.5%	73.0%	93.7%	102.4%	92.5%
Total output (m sets)	2.1	9.2	11.8	12.9	20.7
Outsourcing volume (m sets)		0.4		5.0	0.0
Unsold volume (m sets)	0.3		1.0		0.0

Source: SBI E2-Capital

Table 3. Profit and loss forecast (Full-year)

RMB m	FY12/10A	FY12/11A	FY12/12F
Revenue	838.1	1,257.0	1,470.6
Cost of goods sold	(570.2)	(857.5)	(1,006.9)
Gross profit	268.0	399.5	463.7
Operating expenses	(40.3)	(73.2)	(125.0)
Operating profit	227.7	326.3	338.7
Finance costs	(15.9)	(27.5)	(0)
Profit before tax	211.9	298.8	338.7
Income tax expense	(30.0)	(45.6)	(50.8)
Net profit	181.9	253.3	287.9
Reported EPS (HK\$)	0.202	0.242	0.237

Table 4. Balance sheet items

RMB m	FY12/10A	FY12/11A	FY12/12F
Non-current assets	538.1	813.9	753.3
Property, plant and equipment	471.9	665.2	710.8
Payment in advance	23.2	105.4	0.0
Goodwill	15.6	15.6	15.6
Deferred tax assets	27.4	27.7	27.0
Current assets	728.4	1,384.4	1,292.1
Inventories	25.0	28.4	40.5
Trade receivables	563.7	751.1	941.1
Pledged deposits	1.2	31.2	0.0
Cash and cash equivalents	127.6	550.4	273.3
Other current assets	10.9	23.3	37.2
Non-current liabilities	7.8	11.4	11.4
Current liabilities	581.2	966.8	526.0
Trade and notes payables	19.5	105.2	115.4
Other payables and accruals	189.4	280.2	326.7
Interest-bearing bank loans	273.5	497.5	0.0
Other current liabilities	98.8	83.9	83.9
Total equity	677.4	1,220.0	1,507.9

Source: SBI E2-Capital

Shareholding background and current valuation. Currently Chairman Zhao Bing, Individual Ou Shujin and Cathay Capital hold 43.22%, 8.16% and 6.98% shares in the company. Chairman Zhao Bing worked at Gaocheng Post and Telecommunications Bureau, a state-owned enterprise in Hebei Province, now known as the Gaocheng Branch of China Unicom (0762 HK). Ou Shujin is the owner of Wakee, an investment group in China. Based on Bloomberg consensus, the counter is trading at 3.2x and 2.6x P/E for FY12/12F and FY12/13F, which represented as much as 26.6% YoY bottom-line growth for 2012, which is much more optimistic than ours. In longer-terms, we believe CFONS should enjoy reasonable market growth and have marginal gain in market share in China.

Clarification on identity of Ms Ou Shujin. In our previous briefing, we have mistaken the identity of Ms Ou Shujin and her husband Mr Song Zhiping. According to the management, CFONS has no relationship with another Mr Song Zhiping, the President of China National Building Material Group (3323 HK) and former Chairman of Sinopharm (1099 HK). Ms Ou Shujin and her husband Mr Song Zhiping have economic interest in an investment company that holds shares of CFONS.

Table 5. Major shareholders

	Shareholding
Chairman Zhao Bing	43.2%
Ou Shujin	8.2%
Cathay Capital	7.0%
Public	41.7%
Total	100%

Source: HKEx

Pre-listing corporate governance issues priced in and pressured on near-term valuation, in our view. Chairman Zhao Bing and the company was involved in a US lawsuit amounted to US\$0.311m in 2010 as US\$0.311m was wired to company's forex account from a third party (arranger) in 2009. While it was related to RMB-to-US\$ conversion restriction for an intended donation to a school in Canada for the purpose of Mr Zhao's personal matters, the arranger was separately sued for setting up ponzi scheme. As such, the company was also named relief defendant. At end of 2010, the company was ordered to disgorge US\$0.311m together with an interest of US\$7,951. Before listing, the company was also found non-compliant with companies ordinance with respect to account preparation and non-compliant with the Inland Revenue Ordinance. We agree that corporate governance has to be improved and may somewhat pressured on valuation in at least near-term. O-net Communications (0877 HK), which manufactures optical networking components, is currently trading at 8.2x and 6.7x FY12/12F and FY12/13F P/E according to Bloomberg consensus. Table 6 shows some HK-listed small-to-mid cap peers in telecom optic / cable equipment segment. CFONS is trading at general discount to its peers. Noted that, however, CFONS employ various experienced ED and INED and provides training courses to improve corporate governance. For instance, Mr Shi Cuiming, the ex-Chairman of CITIC Telecom (1883 HK), ex-ED of China Unicom (0762 HK) and ex-CEO of China Mobile (0941 HK), served as CFONS INED since Jun 2011. We tend to believe that CFONS is in a capital intensive business with certain extent of technical barrier. Its financial figures generally match with its business model and industry norms, in our view. Auditor of CFONS is Ernst & Young.

Table 6. Peers comparison

Company name	Ticker	Fiscal year	Mkt cap (US\$m)	His P/E (x)	1-Yr P/E (x)	2-Yr P/E (x)	PB (x)	ROE (%)
<u>Optical components mfg</u>								
China Fiber Optic	3777 HK Equity	12/2011	162.4	3.6	3.3	2.7	0.9	26.7
O-Net Communication	877 HK Equity	12/2011	171.9	10.8	8.4	6.9	1.0	10.2
<u>RF coaxial cable mfg</u>								
Trigiant Group	1300 HK Equity	12/2011	134.7	n.a.	3.1	2.5	n.a.	49.9
Hengxin Technology	1085 HK Equity	12/2011	50.8	3.1	n.a.	n.a.	0.4	11.4
<u>Information network</u>								
CITIC Guoan	000839 CH Equity	12/2011	1,709.8	70.0	25.4	15.6	1.8	2.5

Source: Bloomberg / HKEx

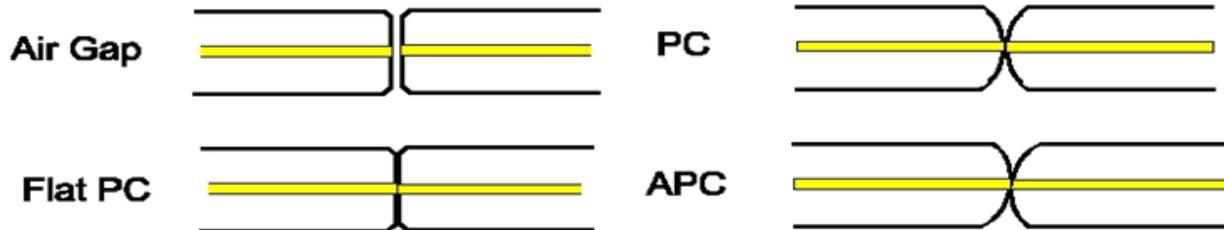
Application of fiber optic cables and key issues in producing fiber optic patch cords. Fiber optic cable has many advantages over competing technologies in signal transmission. These include more information capacity, reduced ancillary equipment requirements in key applications, immense scalability and expandability with the same infrastructure, and electromagnetic noise immunity. As such, fiber optic cable installations are increasingly common. While soft optical cables (fibers) and ceramic ferrules (connectors) are generally available in the market, termination process is required to put them together. Especially for single-mode terminations, extreme care is required especially in polishing to achieve good performance of low losses and reflectance. The process therefore is usually done in a clean manufacturing facility using heat-cured epoxy and machine polishing. Typical field termination process that adhere connectors to cable, generally takes longer time during network installation with connector loss subject to the crew. Illustration 3 shows various pre-polished fiber optic patch cords with factory class polish by CFONS. Nevertheless, with full automation production cost will be very high. With semi-automation, while cost is lowered, considerable technique and experience is demanded for quality and consistency in mass production. Only with approved quality, components providers will be granted "Network Access License for Telecommunications Equipment" (电信设备进网许可证) and permitted to sell equipments to telecom operators for establishment of communication network.

Illustration 3. Pre-terminated / polished products offered by CFONSFC fiber
optic patch cordSC fiber
optic patch cordLC fiber
optic patch cordSheathed fiber
optic patch cord

Source: The Fiber Optic Association, CFONS prospectus

More on polishing – one of the entry barrier to the industry. Along transmission, connection losses and back reflections are major causes of poor fiber performance. To reduce the negative effect, connectors especially single-mode connectors are best done in factory environment. Single-mode termination requires special connectors with much tighter tolerances on the ferrule, especially the hole for the fiber. Most connectors use epoxies or other adhesives to hold the fiber in the connector ferrule and polish the end of the fiber to a smooth finish. Polishing requires special diamond polishing film on a soft rubber pad and polishing slurry to get low reflectance. Illustration 4 shows various polishing techniques with different perform results. Typical PC connector losses are generally less than 0.3 dB for factory-polished single-mode or multi-mode connectors using adhesive/polish techniques. By end of 2011, CFONS owned 46 patents, 9 of which are related to closure, termination, connector and joint.

Illustration 4. Connector ferrule shape and polishes



Source: The Fiber Optic Association

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