

**For discussion on
11 December 2017**

**Legislative Council Panel
on Information Technology and Broadcasting**

**An Update on the Implementation of
Digital Terrestrial Television Broadcasting**

Purpose

This paper updates Members on the latest progress of the implementation of digital terrestrial television (DTT) services in Hong Kong.

Current Coverage of Free Digital Television Services

Domestic free television programme service licensees

2. Domestic free television programme service (free TV) licensees have to establish their own transmission networks or engage other network services to transmit their free TV services. Under the technology neutral regime enshrined in the Broadcasting Ordinance (Cap. 562), free TV licensees are free to make their own transmission arrangements to deliver their licensed services throughout Hong Kong.

3. Currently, among the three free TV licensees in Hong Kong, HK Television Entertainment Company Limited (HKTVE) and Television Broadcasts Limited (TVB) make use of television broadcasting spectrum (broadcasting spectrum) to provide DTT services. Another free TV licensee, Fantastic Television Limited (Fantastic TV), has since 14 May

2017 provided its digital television service by using a fixed network. The current coverage of these free TV licensees is as follows:

Free TV Licensees	Coverage of Domestic Free TV Services (Percentage of Hong Kong Population/Households)
Fantastic TV	About 93% (via fixed network)
HKTVE	About 99% (via broadcasting spectrum)
TVB	About 99% (via broadcasting spectrum)

Radio Television Hong Kong

4. In respect of public service broadcaster, the Radio Television Hong Kong (RTHK) is now expanding its DTT network. To date, RTHK has established 19 transmitting stations¹, and its DTT coverage has reached about 90% of the Hong Kong population. RTHK will continue to establish more transmitting stations aiming to achieve an overall DTT coverage of 99% of the Hong Kong population in 2019, on a par with TVB and HKTVE which also make use of broadcasting spectrum to transmit their DTT services.

Reception of DTT

5. DTT signals are mainly transmitted by transmitting stations established on hilltops. Since the launch of DTT services in 2007, a total of 29 transmitting stations² have been established to transmit DTT signals

¹ The 19 transmitting stations that RTHK uses to broadcast its DTT signals are located at Temple Hill, Kowloon Peak, Golden Hill, Castle Peak, Cloudy Hill, Lamma Island, Mount Nicholson, Stanley Hill, Brick Hill, Sai Wan Shan, Hill 374 (Yuen Long), Pottinger Peak, Beacon Hill, Tai Po Tsai, Hill 275 (Lantau Island), Hill 297 (Yuen Long), Chiu Keng Wan Shan, Tung Chung and Piper's Hill.

² The 29 transmitting stations that transmit DTT signals throughout Hong Kong are located at Temple Hill, Kowloon Peak, Golden Hill, Castle Peak, Cloudy Hill, Lamma Island, Mount Nicholson, Sheung Yeung Shan, Sai Wan Shan, Piper's Hill, Brick Hill, Beacon Hill, Hill 374 (Yuen Long), Pottinger Peak, Stanley Hill, Cheung Chau, Hill 141 (Tai Lam Chung), Tai Po Tsai, Robin's Nest, Tai O, Hill 297 (Yuen

throughout Hong Kong. Transmission of radio waves may be affected by topographical features and other barriers, resulting in unsatisfactory DTT reception in some areas. Taking into account the hilly landscape in Hong Kong, achieving the coverage of 99% is considered very satisfactory. Based on the results of computer simulation, areas with unsatisfactory DTT reception are mainly scattered in some remote areas in Sai Kung, North District, South Lantau and other outlying islands, etc.

6. There are practical difficulties for demanding broadcasting networks to reach 100% coverage. Nevertheless, the Office of the Communications Authority (OFCA) and free TV licensees have been exploring feasible and cost-effective ways to extend the coverage of their DTT networks as far as possible and where circumstances permit. In this regard, free TV licensees increased the transmitting power of the Tai O Transmitting Station and Hill 297 (Yuen Long) Transmitting Station in 2015 to improve the DTT reception in Tai O, Lung Kwu Tan and Shap Pat Heung in Yuen Long. To further improve the DTT reception in some areas on Cheung Chau and Lantau Island, free TV licensees increased the transmitting power of Cheung Chau Transmitting Station and Hill 275 (Lantau Island) Transmitting Station in 2017.

7. In addition to improving DTT transmission networks, the television reception systems used by the public (including the reception characteristics of receiving television antennae, the locations and directions of antennae, the quality of television signal cables and connection arrangements, the sensitivity of digital television receivers, etc.) will also have an impact on the quality of television signals received. At present, OFCA provides technical advice on improving DTT reception to affected residents, e.g. suggesting them to install antenna signal amplifiers, or re-position the receiving antennae to suitable locations and directions.

Long), Hill 275 (Lantau Island), Chiu Keng Wan Shan, Aberdeen, Kau Wa Keng, Ying Pun, Sham Tseng, Tung Chung and Pok Fu Lam.

Free Digital Television Programme Channels

8. The three commercial free TV licensees, together with the public service broadcaster, RTHK, are broadcasting a total of 11 digital television programme channels, all in high definition television format, whilst five of the channels simulcast in both digital and analogue formats.

Digital Television Receivers

9. Currently, all flat panel television sets available in the retail market are integrated digital television (iDTV) sets with built-in digital decoders. They are capable of receiving digital television services without separate digital decoders/set-top boxes. Regarding the price level, the average selling price of an iDTV set with screen size less than 21 inches was about \$1,100 in 2015, while that of a basic-type set-top box dropped to about \$460 in 2016.

Digital Television Take-up Rate and Analogue Switch-off

Digital Television Take-up Rate

10. The Government commissioned a consultant to conduct a public survey on the digital television take-up rate in Hong Kong from August to October 2017. The survey has just been completed, and the consultant is consolidating the survey findings. According to the preliminary findings of the survey, about 88% (i.e. more than 2.2 million) of the households in Hong Kong have been receiving digital television services. Of the remaining 12% of the households not receiving digital television services, about 7% still relied on analogue television services and about 5% did not install television sets at home.

11. Regarding the 7% of the households who still relied on analogue television services, the preliminary data analysis shows that about half of

them had not switched to digital television because they “rarely had or had no time to watch television”, about 20% replied that “they did not want to replace their television sets as their analogue television sets were still working well” or “sufficient programmes were provided on current analogue television channels ”, some 10% replied that they were “not familiar with the operation of audio-visual equipment”, and about 10% replied that they “watched television with computers, mobile phones or network television set-top boxes, etc.” or “had subscribed to pay TV”³.

12. The preliminary data analysis also indicates the reasons why the remaining 5% of the households did not install television sets at home. About half of them replied that they “rarely had or had no time to watch television”, about 40% replied that “there were other entertainment and leisure activities”, about 30% replied that “they were not interested in watching television or television programmes were not attractive”, and about some 10% replied that they “did not buy television sets because of economic reasons”⁴.

Analogue Switch-off

13. The Government is now reviewing the working target date of switching off analogue television broadcasting services. In the review, the Government will take full account of all factors, including the digital television take-up rate, the progress of discussion on frequency co-ordination with the Mainland authorities, etc. It plans to complete the review in 2017-18 and thereafter report the outcome to the Panel.

Way Forward

14. In general, we consider that the digital television take-up rate has been increasing steadily. Now that only digital television products are

³ The respondents may give more than one reason.

⁴ Same as footnote 3

available in the market, and RTHK will continue to establish more transmitting stations such that its DTT service will cover 99% of the Hong Kong population in 2019, we believe the take-up rate will continue to increase. The Government will continue to monitor the take-up rate and keep in view the respective market development.

15. For the above reasons, we propose that it is no longer necessary to take up the discussion sessions of this Panel in future to brief Members on the latest progress of the implementation of digital television services.

Advice Sought

16. Members are invited to note the content of this paper and provide views.

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Office of the Communications Authority
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