

Terrestrial Digital TV receivers for Chile

Panasonic

Panasonic Latest models of TV Receiver for Terrestrial Digital

PDP TV



VIERA TH-103PZ600



VIERA TH-50PZ750



VIERA TH-65PZ750



VIERA TH-42PZ750



VIERA TH-58PZ750



VIERA TH-37PX80

LCD TV



VIERA TH-37LX75



VIERA TH-20LX70



VIERA TH-32LX80



VIERA TH-17LX8



VIERA TH-26LX80



VIERA TH-23LX80

SDTV model



VIERA TH-15LD70

Panasonic Latest models of DVD Recorder for Terrestrial Digital

HDD/DVD Recorder

XW320 **NEW**

オープン価格※ 3月下旬発売予定



500GB

ハードディスク内蔵

XW120 **NEW**

オープン価格※ 3月下旬発売予定



250GB

ハードディスク内蔵

XW200V

オープン価格※



250GB

ハードディスク内蔵

XP22V **NEW**

オープン価格※



250GB

ハードディスク内蔵

XP12 **NEW**

オープン価格※



250GB

ハードディスク内蔵

Blu-ray

BW900

オープン価格※



1TB

ハードディスク内蔵

BW800

オープン価格※



500GB

ハードディスク内蔵

BW700

オープン価格※



250GB

ハードディスク内蔵

BR500 **NEW**

オープン価格※ 3月下旬発売予定



250GB

ハードディスク内蔵

STB



TU-MHD600

Panasonic CAR TV, Cellular Phone and DVD Player for Terrestrial Digital

CAR TV (both HDTV and One-Seg)

CAR Digital Tuner



TU-DTV300



TU-DTV30



TU-DTV200

CAR Monitor



TR-T110WV1



TR-T90W7



TR-T70W7

combination free

Cellular Phone with One-Seg Tuner



P905i



P905iTV



DVD Player with One-Seg Tuner



DVD-LX88

Answer to Question 4

Use of compression of MPEG-4

1. As the video compression efficiency of MPEG4 is approximately 2 times of MPEG2, the MPEG4 is very effective for frequency usage.
2. MPEG4 has already been adopted for some digital systems such as satellite broadcasting, terrestrial broadcasting, blue ray recorders, home video cameras, etc.
3. As LSI of MPEG4 video encoder/decoder includes MPEG2, the price of LSI is expected to go down rapidly.
4. If Japan start terrestrial broadcasting now, we would adopt MPEG4.

Answer to Question 8

HDTV , STB/Integrated Receiver, Mixed model receiver

1. Absolutely, HDTV is the most major driving force for DTTB services.
2. Picture quality of SDTV is few different from conventional analog TV. HDTV on the large screen display has dynamic power, feeling of being at a live performance, and high resolution.
3. HDTV has been popular even in the consumer market.
4. HDTV has been already introduced to broadcasting medias , recording media, home video cameras, etc., and HDTV becomes very popular in the world.
5. As the flat panel display (FPD) technology has been developed, and the price is going down extremely, the future receiver for DTTB will be integrated TV (FPD).

Answer to Question 8 (continued)

Price at 2010, min. vol. of production, Coexist, availability

6. The price of the basic model STB will be US\$50 in Japan in 2009.
7. The price of STB does not depend on the difference of the standards.
8. In the case of small markets, you have to make a special evaluation.
9. The population of Taiwan (DVB-T, 6MHz) is 22.8 million. The population of Japan and Brazil (ISDB-T, 6MHz) is totally 305.5 million.

Answer to Question 10

Demand for low-cost STB

1. By the end of 2011, it is predicted that 35 million analog television sets will be remained in Japan.
2. In Japan, low price STBs less than US\$50 is supposed to be on the market in 2009 before analog TV broadcasting is switched off.
3. In Brazil, cheap STBs will be on the market before 2016.
4. Analog switched off have been promoted as national policies all over the world. So, you can refer them.
5. In the case of a small market (NTSC, DVB-T, 6MHz), you should take a special consideration.

Answer to Question 11

Compatibility with legacy analog NTSC - 6 MHz

1. As analog TV receiver technology is fully matured, the price of analog TV devices is very low. So any combination of analog broadcasting system and digital broadcasting system is possible and not so difficult.
2. It may be said in this connection, ATSC/6MHz and ISDB-T/6MHz are easier to have a function of NTSC/6MHz.

Answer to Question 12

Compatibility with legacy analog NTSC - 6 MHz

1. In South American countries, analog TV receivers are different from each country and each manufacturer.
2. It's the matter of the business judgment by each manufacturer whether the Multi-system is to be used or not.
3. The cost difference can be ignored between Multi decode and Single decode system because of matured analog TV technology and its LSI.

Answer to Question 13

Compatibility with legacy analog NTSC - 6 MHz

1. Adequate Intermediate frequency can be selected respectively due to the difference of Channel plan.
(NTSC Japan: 57MHz, NTSC US/South America 44MHz)
2. There is no problem with the change to Chilean IF. Because Japanese manufacturers are exporting analog NTSC TV with Chilean IF to the Southern American countries.
3. The change from PAL-M to NTSC is easy and the cost of the change would be rather small.

Our Opinions for your letter dated 8th February (No. 06 / PRE No. 03)

1. Digital Television Production

At present, we are manufacturing and supplying finished products based on different Digital TV formats to the markets as follows.

- *ATSC

- *DVB (MPEG2)

- *ISDB-T (MPEG2)

2. Difference of the Cost

There is very few difference of the cost of TV sets depending on the modulation format.

The difference of the cost of receiving sets is mainly affected by the broadcasting service (High-Definition or Standard Definition), or varies by the functions of receiving sets.

3. Coexistence of Digital and Analog Broadcasting

The Chilean Analog TV Broadcasting System (NTSC-M = 6 MHz band width) may bring very little impact on the Digital TV receiver. If we dare to compare the systems, ISDB-T and ATSC have a better affinity due to the situation that both systems are developed in the same 6 MHz band width regions.

Our Opinions for your letter dated 8th February (No. 06 / PRE No. 03)

Based on these points, we would like to make following comments regarding the Co-existence of the Chilean Analog Bandwidth (6 MHz) and the High Definition Broadcasting System.

- * With the High Definition broadcast in the 6 MHz Bandwidth, only ATSC and ISDB-T have realized its production and application.
- * Multi-channel Broadcasting can be possible by ISDB-T and DVB.
- * ISDB-T has more capabilities in expanding the functions of Data Transmission and Mobile communications such as One Segment Mobile Phone Reception.
- * ISDB-T High Definition Broadcasting is more easily received in moving vehicles.
- * MPEG4 has more clarity than MPEG2 under the same bit rate condition in terms of Image quality of High Definition Broadcasting.

Thank you for your attentions

reference

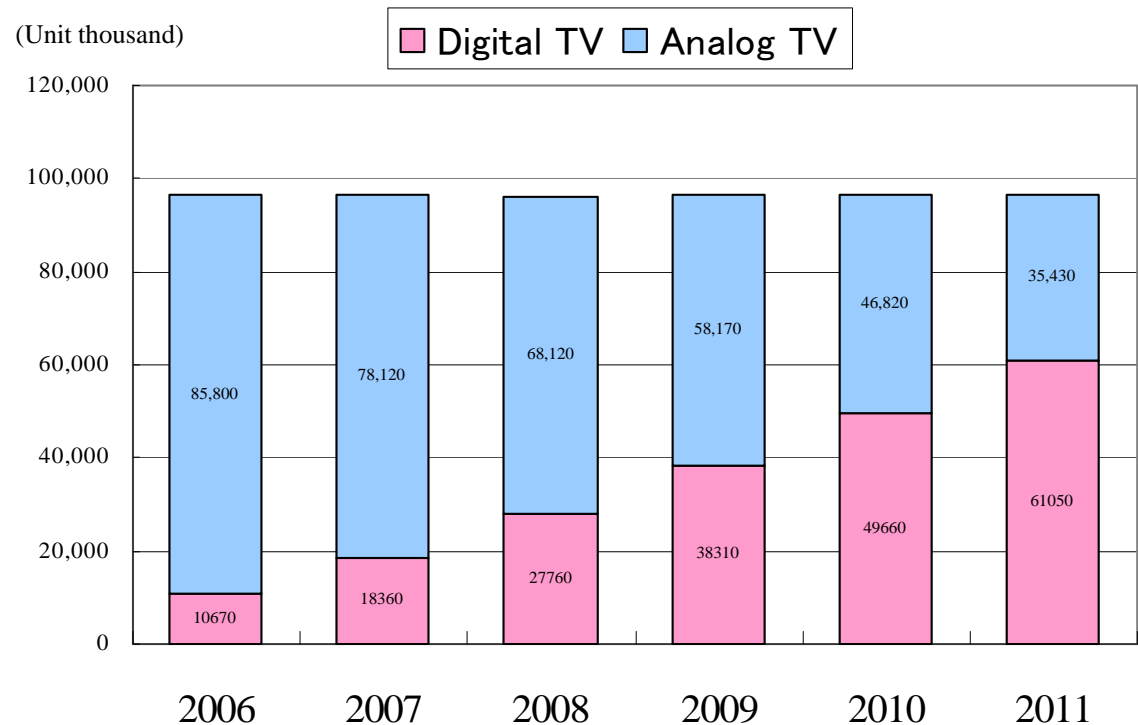
Answer to Question 10

Demand for low-cost STB

There is no difference of digital TV cost based on difference of digital TV systems.

In Japan analog and digital broadcasting are served simultaneously to enable people to watch TV using existing analog televisions now.

By the end of 2011, it is expected that 35 million analog televisions will be remained; therefore demand for low-cost STB will be increasing and more STB will be shipped in Japan.



Reference data of question 13

Modification for Chilean TV application from Japanese ISDB-T tuner

To obtain Chilean ISDB-T from Japanese application, just minor modification is required such as discrete parts change and alignments.
This derivative block can be produced at the same production line.

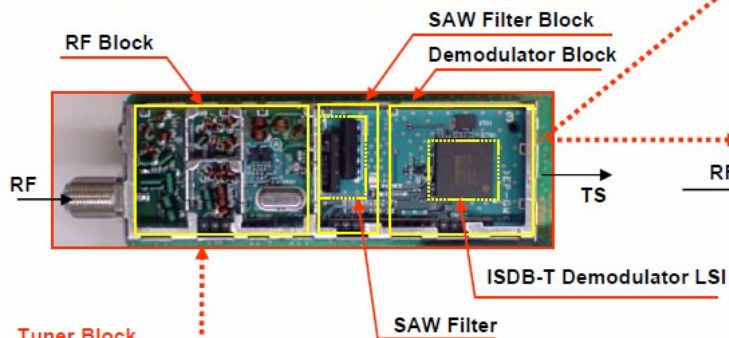
<Modification items>

- Replace SAW Filter mount :
SAWF (Surface Acoustic Wave Filter)



- IF Setting change at Demodulation LSI

(Current ISDB-T Demod. LSI allows IF selection, 57MHz or 44MHz)



Tuner Block



TV assembly board

