

Presentation 4

ISDB-T
Applications

25th. July. 2007

Caracas, Venezuela

DiBEG JAPAN

Toshihiro Kojima

(Fuji Television Network, Inc.)

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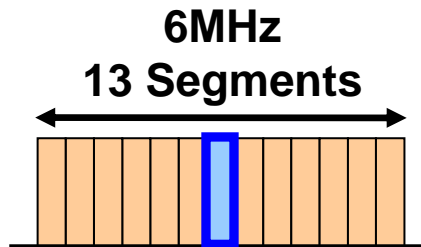
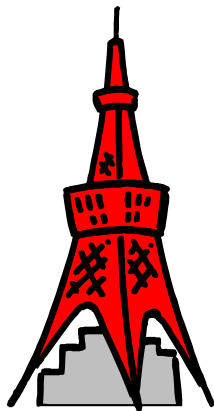
Contents

- *Features of ISDB-T*
- *Applications for Stationary Reception*
 - *HDTV or Multi Channel SDTV Program*
 - *Data Broadcasting*
 - *Advanced Caption*
 - *EPG(Electric Program Guide)*
 - *Interactive service*
- *Applications for Mobile Reception*
 - *One-Seg Service*
 - *HDTV Mobile Reception*

Features of ISDB-T system

TV station

Support three reception types within one channel



Mobile Reception

1 segment



Handheld terminal

HD Mobile Reception

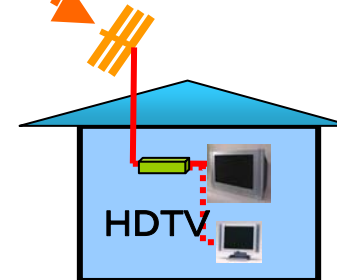
12 or 1 segment



Receiver in Vehicle
(diversity reception)

Stationary Reception

12 segments



Home Receiver

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Powerful applications

HDTV



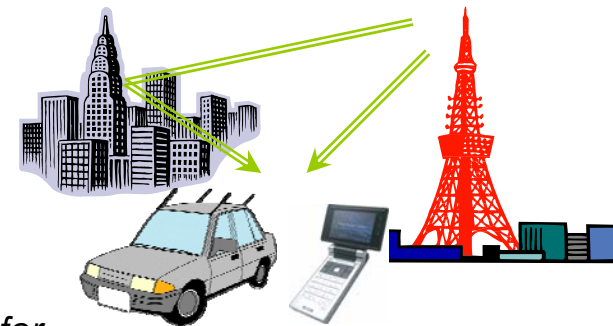
- High quality image on wide screen and CD quality sound.

Data broadcasting



- Local news and weather forecast for viewers at any time.

Mobile accesses



- Transmission service to Mobile accesses

Multi-channel program

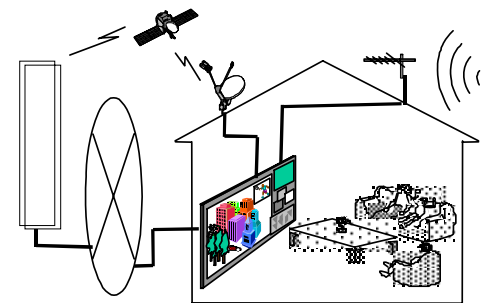


- Standard quality multi-channel service

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Interactive TV



- Offers Interactive service

Stationary Reception

- *HDTV*
- *Multi-Channel Programs*
- *Data Broadcasting*
- *Interactive Services*
- *Advanced Caption*
- *EPG (Electric Program Guide)*

HDTV

□ *High Definition Television Program*

- ✓ The high quality images on a 16x9 wide screen and CD-quality sound make you feel as if you were at the theater. 5.1 multi channel audio can be transmitted.*
- ✓ European broadcasters have opted for “multi-channel” strategy, but Japanese broadcasters have chosen to take advantages of “high definition” pictures.*
- ✓ HDTV is a killer application.*



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Multi channel program

□ ISDB-T can transmit multiple SDTV programs simultaneously on a single digital spectrum.



SD-1



SD-2

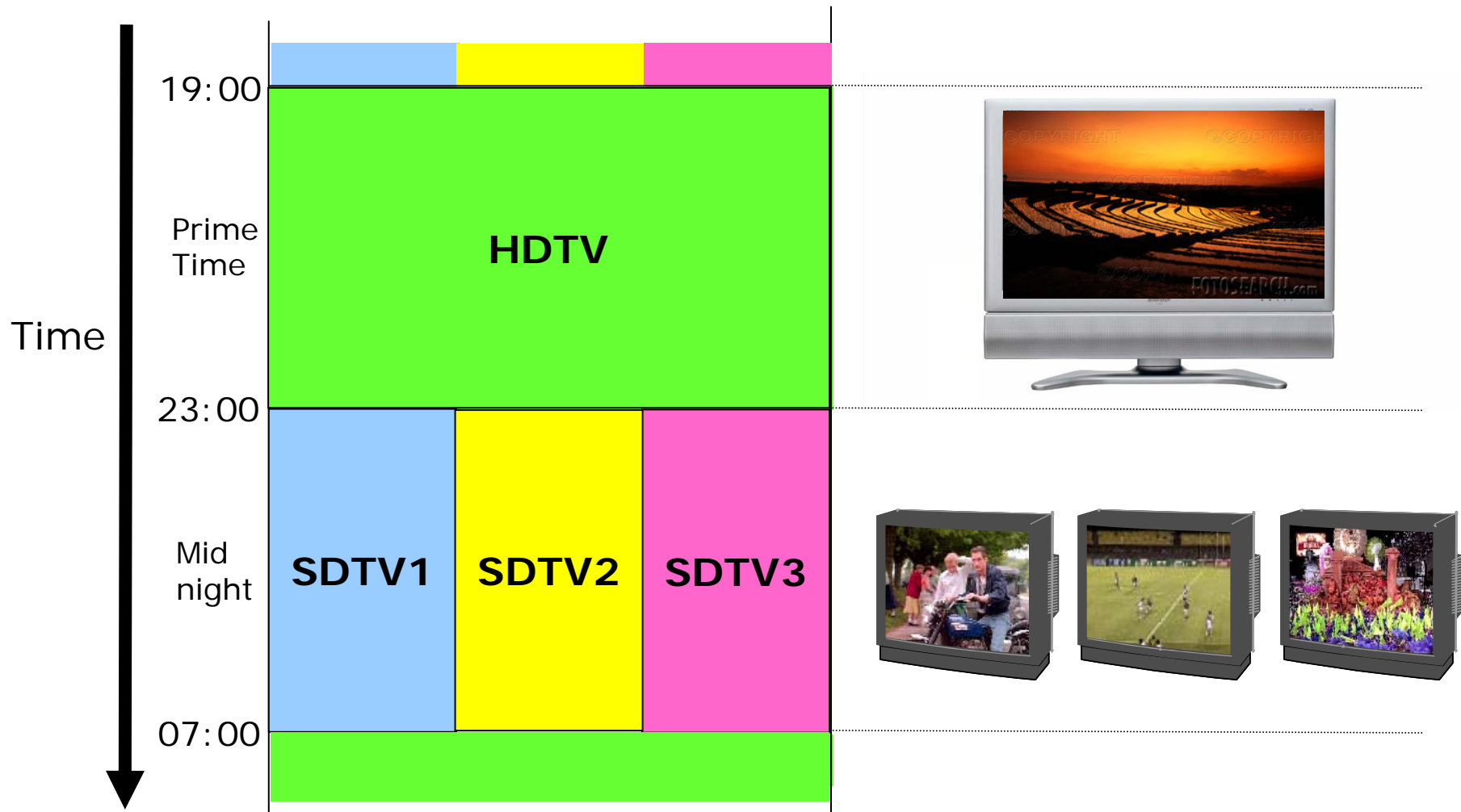


SD-3

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Flexible Programming



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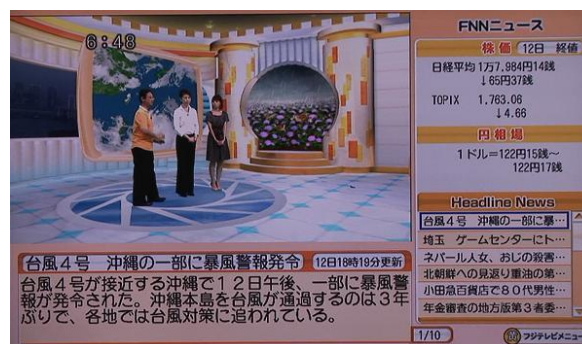
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Data broadcasting (1)

- **Data broadcasting - additional service.**
 - **By clicking on d-button of a remote control unit, you can access your requested information such as local weather forecast, 24H news and traffic information, etc.**



Local weather forecast



Local news



Traffic Information

Data broadcasting (2)

Basic page format



Present time and date

Buttons to select contents

Local weather information

TV station ad banner

News banner

Traffic Information banner

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Data broadcasting (3)

- *2 types of data services:*
 - *Program-linked contents*
 - *Information service linked to on-air programs*
 - *Accessible during on-air*
 - *Non-linked contents*
 - *Information service not linked to on-air programs*
 - *Accessible any time*

Data broadcasting (4)

Program-linked data contents

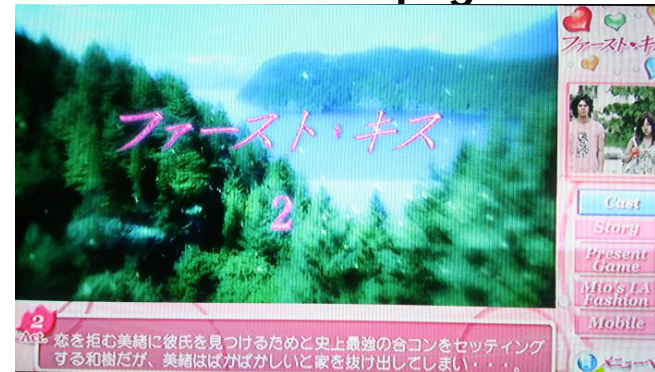
On-air program



Click on
d-button



Linked data page format



Contents
Menu

Click on
Menu button



Basic page format

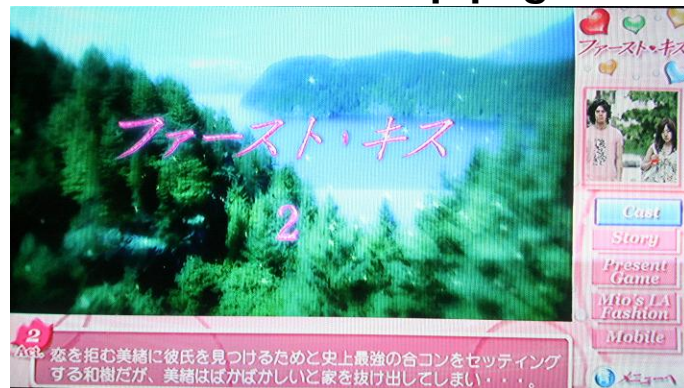
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Data broadcasting (5)

Program-linked data contents

Linked data top page



Cast



Story



Data broadcasting (6)

□ Non-linked contents

7月19日(火) 23:07 TBS

東京都町田市 のお天気 設定

24時 6時 12時

25°C 24°C 24°C 25°C 26°C

降水 24-06時 10% 06-12時 10%

ニュース10

小泉首相は在任中に日朝国交正常化を実現したいと改めて意欲示す

女系家族 毎週木曜 10時

世界陸上 ヘルシンキ

ヘルシンキ大会開催まであと 18 日! 8月6日開幕! TBS系列独占放送

便利メニュー: 交通情報, 地震情報, イベント情報, ショッピング

エンタメ: 利用ガイド, B.B.メニュー, 映画ソフト情報

番組: おすすめ, ドラマ, パラエディ, 情報etc.

天気・ニュース: 天気, ニュース, スポーツ

黄 終了

Today's recommendation

7月19日(火) 23:14 TBS

世界陸上2005ヘルシンキ大会

8月6日よりTBS系列で独占放送!!

大会概要

キャスター紹介

出場選手紹介 (日本人男子)

出場選手紹介 (日本人女子)

「世陸」が出した世界記録

1 / 2

IAAF WORLD CHAMPIONSHIPS IN ATHLETICS 2005

世界陸上 ヘルシンキ

HELSINKI, FINLAND 開催まであと 18 日

K-1 WORLD MAX2005

7月20日(水) 23:00放送

7月24日(日) 23:10 TBS

ごちら本地上番

幸せになりたい!

女系家族

金曜ドラマ ドラゴン桜

ウルトラマンマックス

日曜劇場 いま、会いにゆきます

ごちら本地上番

毎週月曜よる8:00~8:54

みどころ

第5シリーズとなる『ごちら本地上』、今シリーズも笑えて泣ける人情ドラマをお送りします。

キャスト

【出演者】高島政伸 松本明子 金子真 金子昇 佐藤藍子 知念里奈 経緯白作 ベンガル 田口正正 紺野理

大情陸熱

Every Sunday 11:00PM

Program Information

12月25日(土) 12:00 TBS

今日の天気・降水確率

降水確率 (%)

上段: 06-12時

下段: 12-24時

全国の天気

今日の天気

明日の天気

週間天気予報

雲の様子

降水予想

関東の天気

あなたの街の天気

New 23

PICK UP! NEWS23

Weather forecast

12月13日(火) 12:00 TBS

TOP NEWS

熱通い走り母親が7歳男を絞殺

小泉首相、私的参拜との認識示す

イラク各地で戦闘さらに激化

小泉首相、議員年金廃止を今国会で

「大1」大阪市の公営駐車場、大赤字

T.G戦より板野ダイナ

小泉首相、議員年金廃止を今国会で

これは小泉総理が総理官邸で記者団に明らかにしたもので、やった方がいいと述べ、今の国会での法案成立を図るべきだとの考えを明らかにしました。小泉総理は自民党議員との会合で、議員年金の廃止を支持する考えを示していましたが、7日、さらに法

New 23

PICK UP! NEWS23

News

Data broadcasting (7)

Program-linked interactive contents

On-air program: Interactive Quiz Program



Linked data page

remote

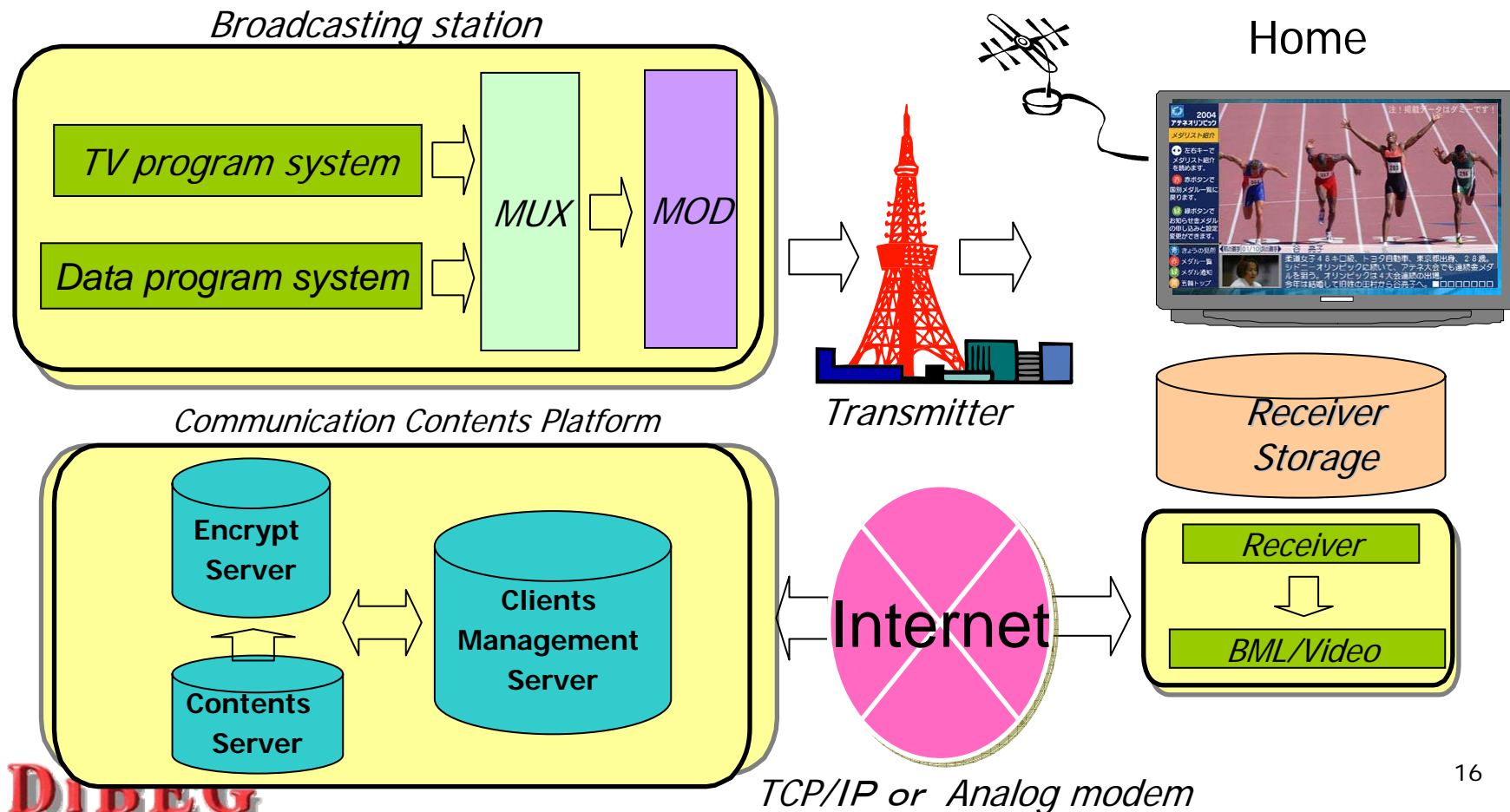


DiBEG Answering Button

Click a correct answer with these colored button!!

Interactive Services

□ *Interactive services is to realize the interactive communications via internet line.*



Interactive internet contents(1)

Interactive Shopping Contents

On-air program

data broadcasting content



The button to connect to the internet contents

Interactive internet contents(2)

Interactive Shopping Contents

On-air program



Internet Contents







おすすめ

- 

BooBo／クリップマーカ

○○○○○○○○○○●○○○○

¥1,260 (税込)
- 

BooBo／ゴルフカバー

○○○○○○○○○○●○○○○

¥1,100 (税込)
- 

アスリートBooBo／タオル

○○○○○○○○○○●○○○○

¥1,900 (税込)
- 

BooBo／メガホンTシャツ

○○○○○○○○○○●○○○○

¥1,900 (税込)

1 / 5 次のページ

オススメ!



BooBo
ハンドパペット
¥1,470 (税込)

大人気TBSキャラクター「BooBo」
 の新オリジナルグッズ新登場!
 大きな鼻にくるっとした目で
 愛嬌をふりまく楽しい人形です!

カートの中身

番組グッズトップ

利用規約

黄：終了

goods



Advanced Caption

- *Closed Caption can be realized more flexible manner.*
Caption of several languages can be sent to receiver.



Caption

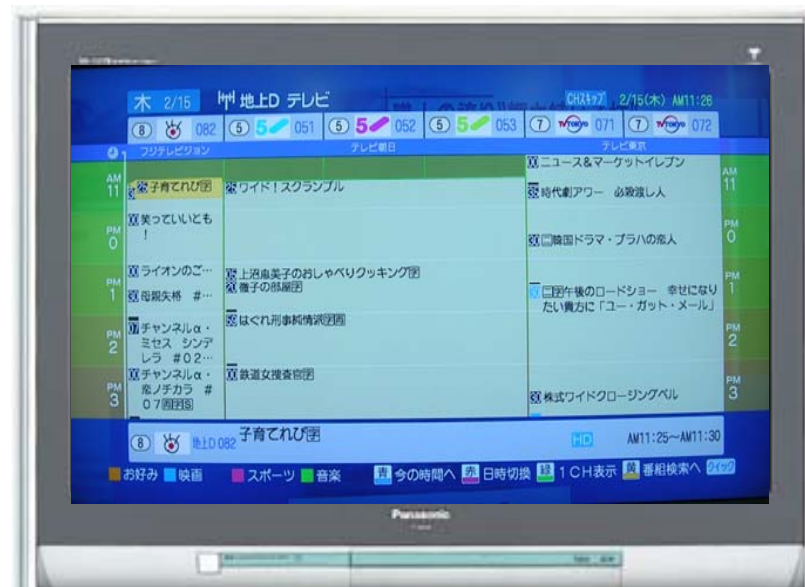
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EPG(1)

□ EPG (Electronic Program Guide)

■ An Electronic Program Guide (EPG) is an interactive schedule of current and upcoming programs that a viewer can display on-screen simply by pressing a button on his remote control unit.

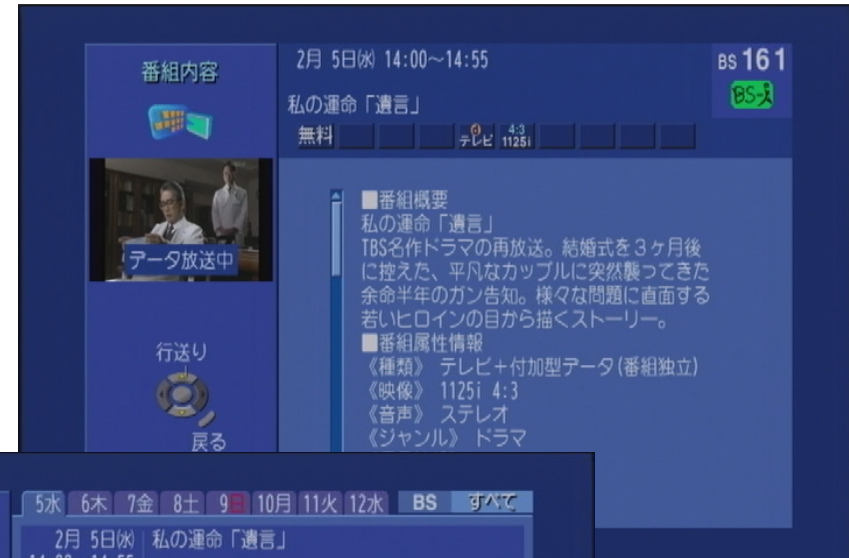


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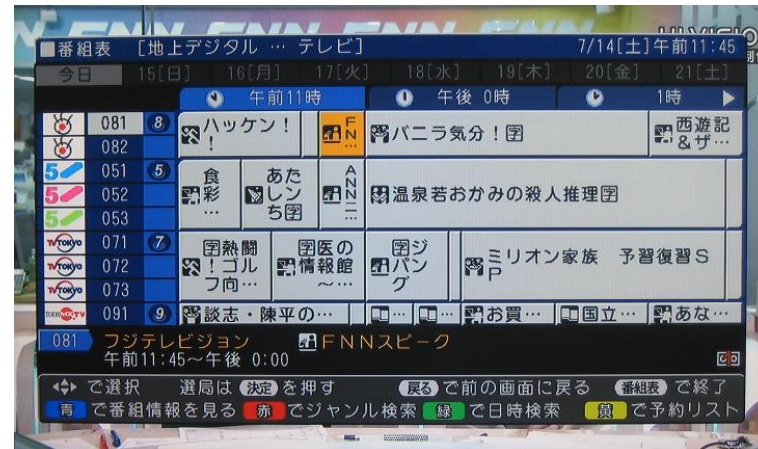
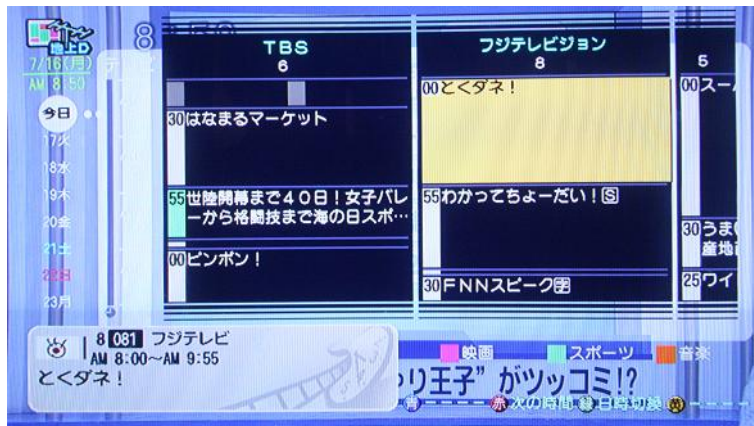
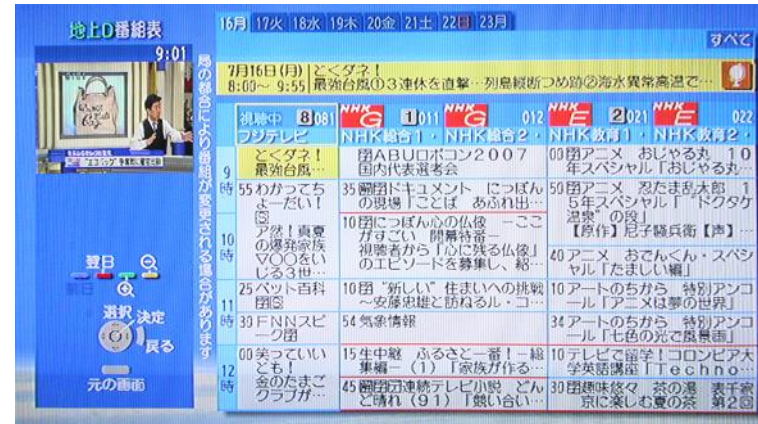
EPG(2)

□ EPG provides a lot of program information, and you can book recording programs with remote easily.



EPG(3)

- Broadcaster sends program-info data as SI (Service Information) data.
- How to display program data is up to receivers.



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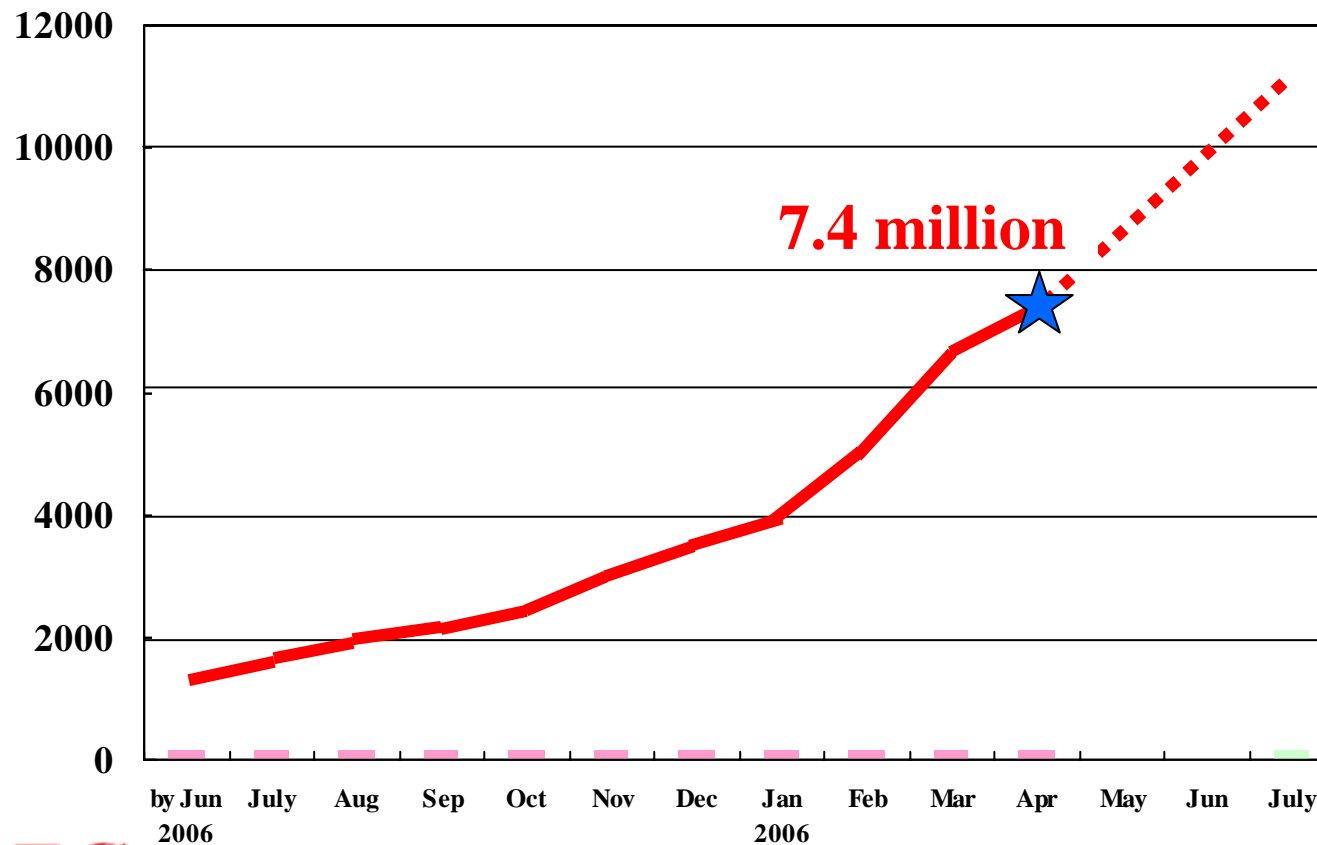
Mobile Reception

- *One-Seg Services*
- *HDTV Mobile Reception*

One-Seg service (1)

7.4 million One-Seg Mobile Phones were Shipped (by the end of Apr. 2007).

(Unit: thousand)



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One-Seg Service (2)

- *The One-Seg service is transmitting moving images to cell phones, car TVs, personal computers etc , so that you can enjoy One-Seg programs anytime anywhere.*
- *Merits*
 - ✓ *Stable reception in a mobile environment.*
 - ✓ *High quality video & audio in a mobile environment.*
 - ✓ *Robustness against noise and multi-pass.*

One-Seg Service (3)



On-air program

Display Image



Data service

Example parameter

Modulation	QPSK
Code Ratio	2/3
Guard Interval	1/8
Bit Rate	416 Kb/s

One-Seg Service (4)



- Video (H.264)
approx. 180-256kbps
- Audio (AAC-SBR)
approx. 32-64kbps
- Data-cast (BML)
approx. 20-80kbps

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One-Seg service (5)

Example of Applications

□ TV shopping

The service enables viewers to purchase commercial goods shown on shopping program.

□ Local service

The service can provide local information such as emergency alerts, local events, notice from local government or hospital.

□ Coupon ticket

Service enables to get coupon tickets such as grommet ,movie, book.

□ Additional information service

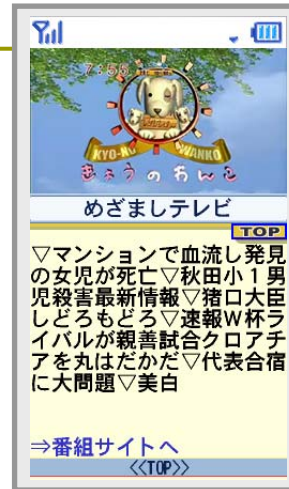
The additional information linked to on-air programs are supplement service such as information on athletes and celebrities, recipes, questionnaire and answer to a quiz.

One-Seg service (6)

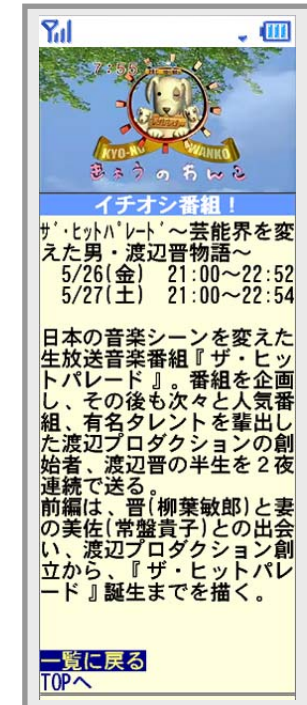
<TOP>



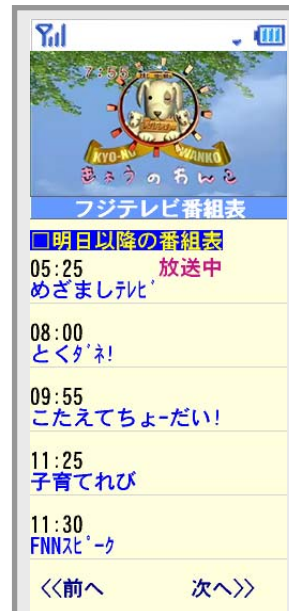
<Current Program Information>



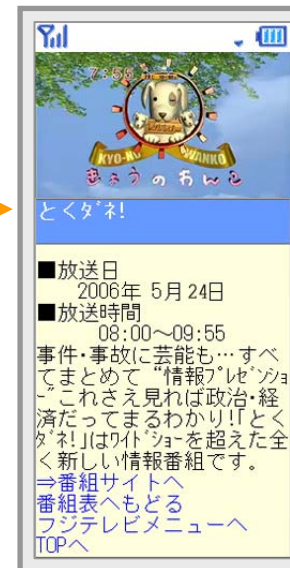
<Top Recommendation>



<Fuji TV EPG>



<Program Information>



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One-Seg Service (7)

< Fountain of trivia TOP >



Contribution a seed of Trivia in secondary link web site

< Voting of "Hee" >



Voting the number of "Hee"

< Voting done >

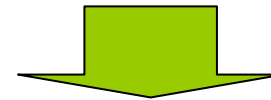


To see Voting result in secondary link web server

One-Seg Service (8)



***No subscription fee
and
Powerful terrestrial
television contents***

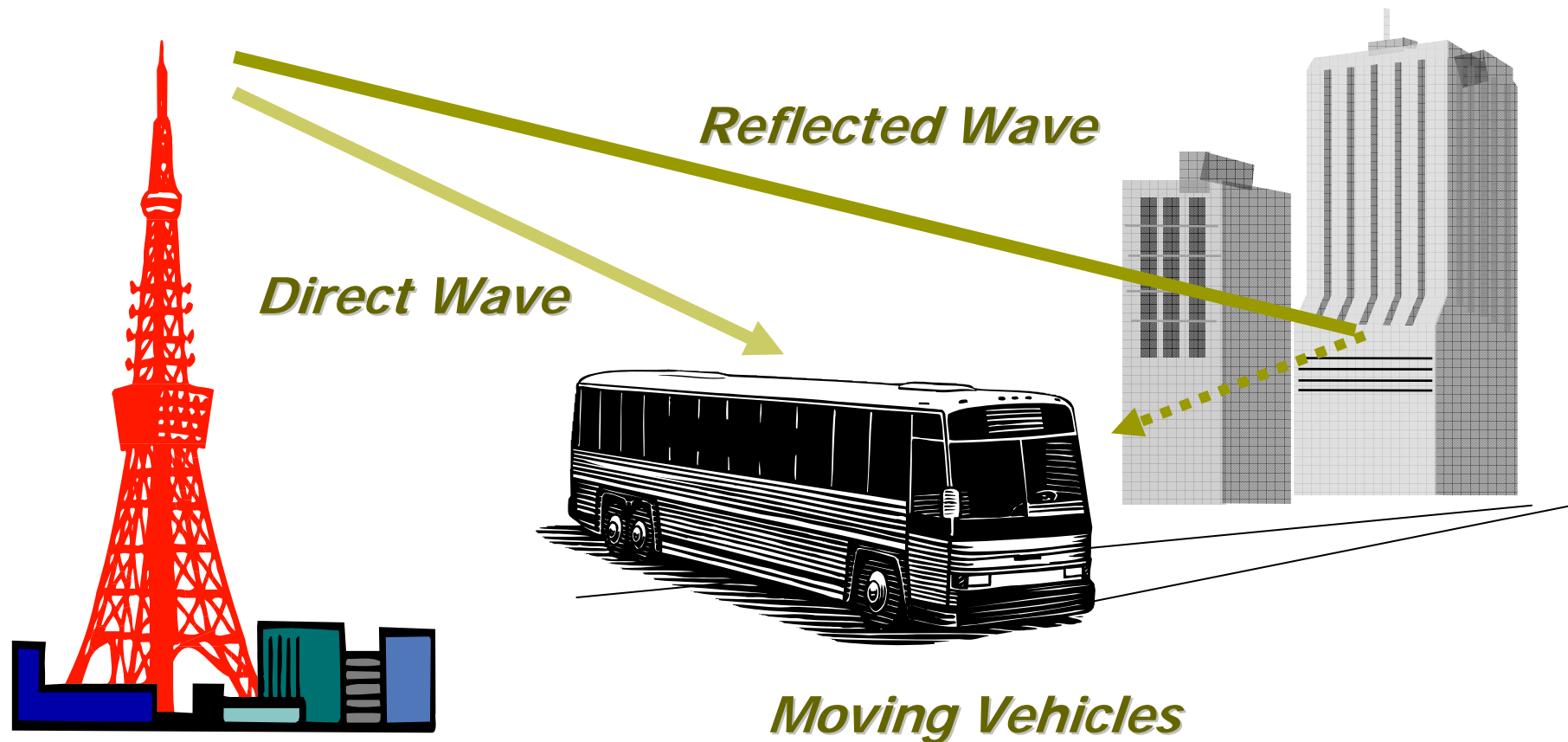


***Unique & Unparalleled
Feature in the world !***

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HDTV Mobile Reception



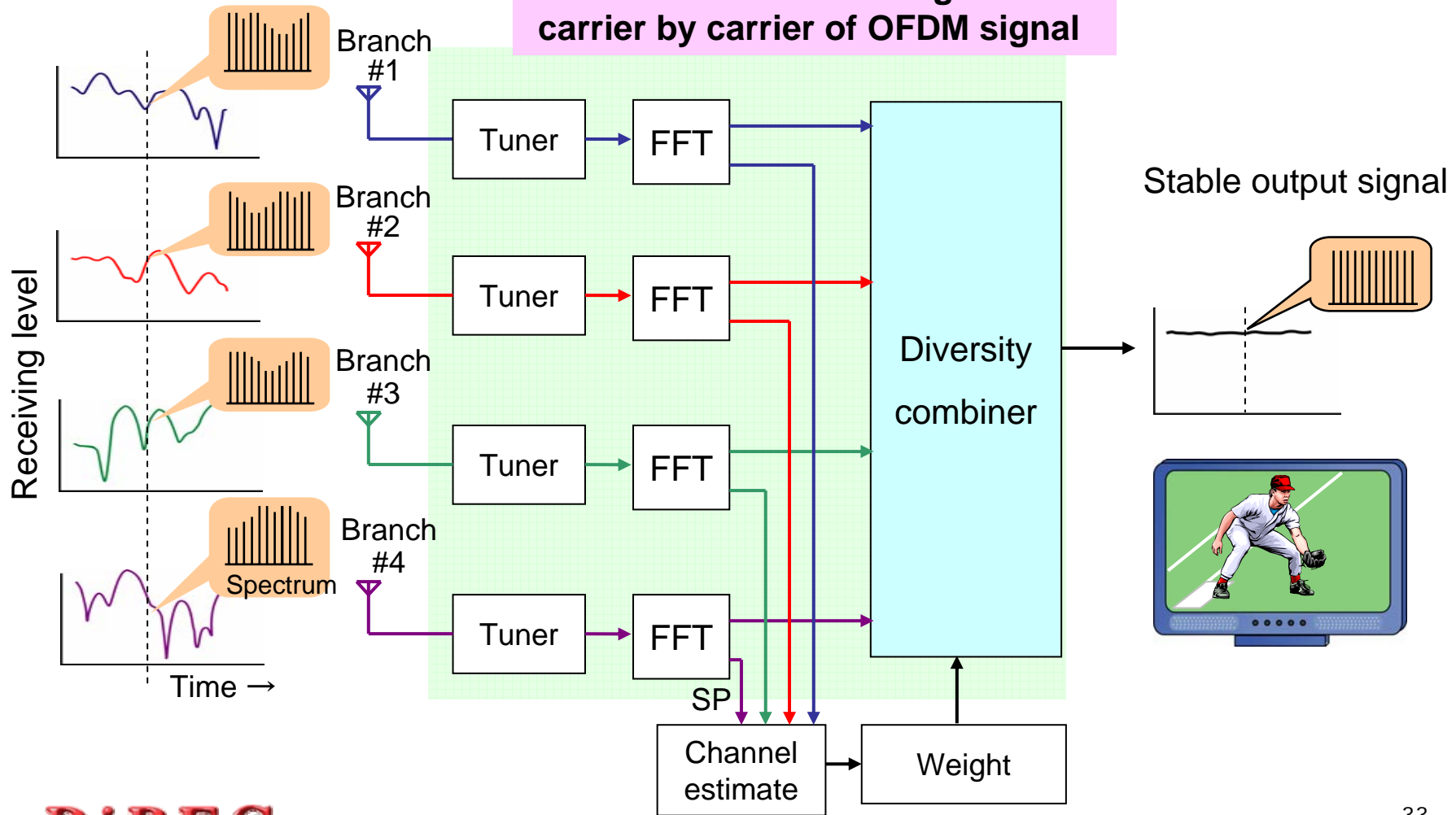
*HDTV can be watched even in a moving vehicle
by using space diversity technology.*

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Diversity reception system

Maximal Ratio Combining with carrier by carrier of OFDM signal



Comparison between Digital and Analog

Comparison experiment between digital and analog TV on a mobile environment.

Digital Broadcasting

Analog Broadcasting



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Conclusion

**ISDB-T
is filled with
leading-edge technologies
to make your dreams
come true !**

ISDB-T seminar in Venezuela



*Thank you
for your attention !*

END

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Digital Broadcasting Expert Group

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mail: info@dibeg.org

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