

Mobile-TV in Japan ~One-seg / ISDB-T~

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Forcast of the future Mobile TV



·ISDB-Tmm is the new comer as ISTB-T family

Easy Delivery for enrich contents

One-seg / ISDB-T



ISDB-T One-Seg Services

- A channel slot divided into 13 segments
- 12 segments for HDTV services
- 1 segment for mobile / portable services
- Both services are simulcast today





Various types of services can be realized using functionalities combining 1-segment service reception and mobile communications



One-Seg Mobile Phones in Japanese Market



•••• One-Seg Mobile Phones in Japanese Market



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ISDB-T One-Seg OtherTerminals





Lap Top PC : 26 types (5 manufactures) 136,000





One-Seg Penetration

• Prediction Number for One-Seg Receivers

(mobile phone only)

Cost for one-seg chip will be reduced rapidly.

Near future, one-seg function will attach like a camera function.





One-Seg Use Area

- Survey Result of use area for One-Seg (Mobile TV)
- The intention to use One-Seg is very strong at the underground shopping center and subway stations.



Web questionnaire survey result



Emergency Warning Broadcasting System

- Remote activation of Radio & TV ready for EWS
- EWS has been operated since September 1985



Mobile TV Progress in Japan

Schedule for Digital Terrestrial Broadcasting



One-seg Widespread



New Frequency Allocation Plan







New Comer : Media FLO

- MediaFLO receivers will contain One-Seg function.
- One-Seg Data Service(BML) is able to have API for starting up MediaFLO application
- Eg. We will be able to watch latest program with One-Seg on Free-to-Air service. And we will be able to watch missed or related programming with MediaFLO by Subscription.







New Comer: Digital Radio

- Launch of test broadcasting using VHF ch7 in Tokyo and Osaka area started from Oct. 2003.
- Various Broadcast Services will be available
 - High Quality Sound- CD quality
 - Data Service

EPG, Text information (News...), Pictures,

• Down Load Services (Music files, Movie clips)



Digital Radio W44S Sony/Ericcson Mid.Dec 2006 One-Seg

- Digital Radio broadcasting system is very similar to One-Seg system.
 - In one terminal, it can provide service suitable for viewer needs together with One-seg and Digital Radio (Receivers are around 2 millions).
 - Digital Radio is able to use 1 segment or 3 segments.











New Comer : ISDB-Tmm

- Multimedia broadcast planning Corp.(LLC) established in Dec. 2006.
- 74 Companies join to ISDB-T Multimedia Forum.
 - As ISDB-T family, developing new services.
 - Promote the efficiency of the multimedia broadcast after analog TV
- Real Time Services and Download Services by broadcast waves



Mobile Market in Japan (Data offered by KDDI)



Mobile Phone in Japan





Mobile TV in the World



Comparison of Mobile broadcasting systems

	One-Seg ISDB-T	MediaFLO		DVB-H		T-DMB
Source Coding	MPEG4 (Video) AAC (Audio)	MPEG4 (Video) AAC (Audio)		MPEG4 / WM9 (Video) AAC / WM (Audio)		MPEG4 (Video) BSAC (Audio)
Channel Coding	Convolution & Reed Solomon FEC	Turbo & Reed Solomon FEC		Convolution & Reed Solomon FEC		Convolution & Reed Solomon FEC
Transport Stream	MPEG2 TS	Similar to MPEG2-TS (depending on the type of content)		IP		MPEG2 TS
Modulation	QPSK or 16QAM COFDM	QPSK/16QAM/Layered Modulation COFDM		QPSK or 16QAM COFDM		DQPSK COFDM
RF Channel BW	433kHz	5/6/7/8 MHz		5/6/7/8 MHz		1,5MHz
Channel Capacity	QPSK 2/3 416kbits/s	QPSK 1/2 4,2Mb/s	16QAM 2/3 11,2Mb/s	QPSK 1/2 3,74Mb/s	16QAM 2/3 9,95Mb/s	DQPSK 1/2 1,15Mb/s
Power Reduction Method	Bandwidth Shrinking	Partial Signal Demodulation (Time/Frequency Domain)		Time Slicing		Bandwidth Shrinking



Thank you for your attention

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