Advanced Digital Multimedia Broadcasting For New Applications
先进数字多媒体传播应用技术

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Self introduction

- Bachelor, Southeast University, 1982
- Master, Tsinghua University, 1984
- PhD, Edinburgh University, 1993
- Professor, CQUPT, since 2004
- Rank Prize, 2008, for outstanding contribution to CMOS image sensors
- now focus on digital multimedia broadcasting for public Applications
Rank Prize 2008 London
DAB chip and receiver

- DAB baseband decoder chip with low power consumption & high integration
- Personal DAB radio distinguished by its performance, good looking, supporting all UK, European standards
- Switchover from FM to digital radio will take place in Europe
- Good performance and cheap receivers are needed
- We provide competitive solutions
DAB chip and receiver
DAB new applications

- People now tend to rely on mobile phone and internet too much, ignoring their deficiencies.
- In many situations they can fail when needed most.
- Broadcasting always works well.
- It is worth exploring new directions other than radios, for which digital broadcasting can work, where other technologies may fail.
Broadcasting is not just radio, it is a technical definition Vs communication

Communication: bidirectional
   one to one

Broadcasting: unidirectional
   one to all

Lots of data should be transmitted by unidirectional channel to ensure authority, data security & coverage
opportunities

• A new outlook on broadcasting will take its place
• Note the importance of radio has been declining. Changes needed
• Make broadcasting another network of releasing information to all sorts terminals, as a complimentary addition to existing communication systems
• This will rebirth broadcasting, to be a “tripod” with internet & mobile phone
demonstrations

- CQUPT has implemented the first DAB network for educational use
- Has become a teaching facility, has benefited teaching and administration
- Other 10 universities/schools copied us
- This leads us to think positively about extension of DAB in this direction
- Another application example is alarm and rescue response
教学和教务管理实例

to 500 classrooms for loudspeaker & projector

to building halls & entrances for LCD & LED display

to 60 outdoor DAB loudspeaker for campus broadcasting

to students using radio & USB Dongle for courses
DAB campus network

- For teaching and examinations in classrooms
- Student union radio program outside
- Music rings to start and end lectures
- Bluetooth microphone
- Alarm and emergency response
- Information release & administration
- Digital photo frame to show off
图文宣传（Digital photo frame）

"我要当学霸"
学霸学霸，你去哪里呀？学霸都来带你上自习啦！快来

"我要当学霸"，这里还有学霸陪你上自习，更有学长学姐为你现场答疑。科技、数模、高数、大物、C语言，so easy让我们一起相约自习室，学霸的世界，你也可以拥有。

图文并茂
Welcome to CHINA
Welcome to CQUT
DAB campus network

- Each above function can be done by other techniques, but not as good as DAB does
- Shows that broadcasting can be better for some situations
- Internet and mobile phone have negative effect to students
- DAB system only have positive effects, it makes campus “live”
- We do not reject communication
Alarm and rescue response

• Broadcasting is the only possible solution to deliver alarm messages to all terminals simultaneously
• all terminals will be woken up within one minute to deliver sound + text + picture + flush, shock effect!
• to ensure as much people as possible to get alarm messages at the first time.
• Only network to survive in serious disasters
Alarm with LED & LCD, together with loudspeakers and other terminals.
DAB for weather and alarm

BLUE WARNING
Another cool day with a scattering of blustery and heavy rainfall blown in by a strong wind

Alarm
By Met office
DAB for emergency communication
2013年10月
DMB国际研讨会
2014年6月亚太广播联盟高峰会

与亚广联主席、广电总局、中央台代表合影
联合国亚太经社会（ ESCAP ）
利用信息技术提高减灾能力国际研讨会
王国裕主题发言
DMB expert from Fraunhofer visited us
泰州海陵应急产业园DAB展示厅
TAIZHOU HAILING EMERGENCY PARK DAB EXHIBITION HALL
激情孵化梦想，创新缔造辉煌。
Foshan broadcasting transmitter tower

Popular science on nature disaster and safety guidance
conclusion

- We can offer the best personal DAB receiver solution which will help the switchover to digital radio in Europe
- We found Digital broadcasting can be complimentary addition to existing communication systems
- This means big opportunity & market
- CQUPT is the source of the new tech and new applications
- Look forward to co-operating with you
Thank you very much

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