

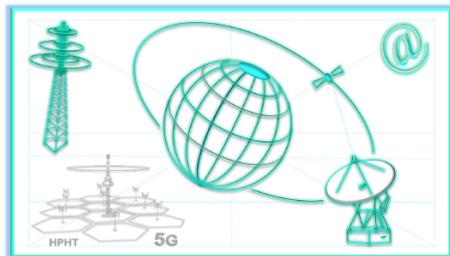
UHD Book: “day after tomorrow”

G. Alberico

UHD Book 2.0: what's new?

UHD Book

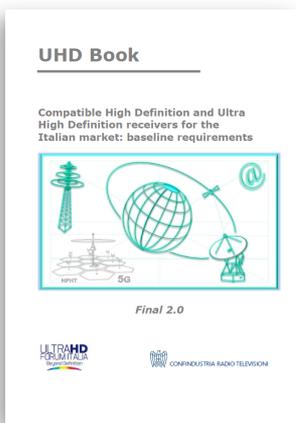
Compatible High Definition and Ultra High Definition receivers for the Italian market: baseline requirements



Final 2.0

- HbbTV
- DVB-I
- Content Protection

UHD Book 2.0: what's new?



HbbTV

- **TARGETED ADVERTISING**

References to the existing standards added in Chapter 1.2 (Technology outlook)

- **Usage of HbbTV in a DVB-I context**

Reference to next work in DVB and HbbTV Association added in Chapter 1.2 (Technology outlook)

- **Annex K revised**

- HTML5 video element **updated**
- **Companion Screen App**: launch from HbbTV app **removed**
- Coexistence between Privileged Op-App and Regular HbbTV App
- Mapping HDR and AC-4 broadcast requirements also on DVB DASH

- **HbbTV/NGA**

implementation of UX/UI via HbbTV NGA API **removed**
(dropped in the HbbTV core release 2.0.3)



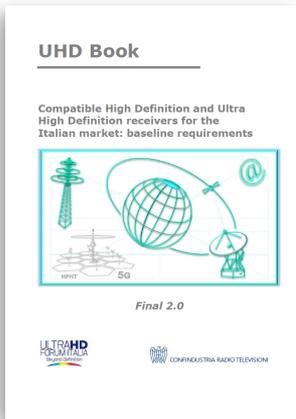
UHD Book 2.0: what's new?

Linear IP Services (1/2)

DVB-I is adopted to support linear IP services

Subject to conditions indicated in the foreword:

1. *the DVB-I specification has been ratified by ETSI*
2. *DVB-I PoC/trials completed by major Italian Broadcasters (showing the real interoperability of an end-to-end system between TV services, network services and receivers)*
3. *Results of the trials used to develop the conditions for a new reference “bollino”*
4. *The conditions for a new “bollino” requiring DVB-I are published with 18 months advance notice of the launch (“sunrise” period)*



UHD Book 2.0: what's new?

Linear IP Services (2/2)

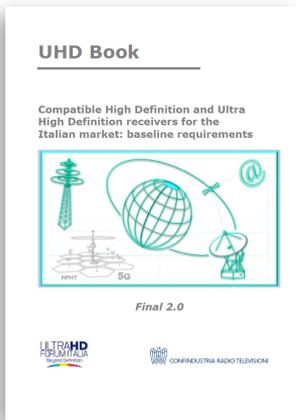
- **DVB-I**

a) *Minimum receiver requirements: support of the “IP1 hybrid receiver” profile of DVB-I (this avoids receivers supporting specific requirements for the Italian market only)*

b) *DVB-I service list discovery: enabling usage of **official national list** (where available) according to DVB-I spec*

- **Low Latency DASH**

a) *optional support introduced*



UHD Book 2.0: what's new?

UHD Book

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Final 2.0

ULTRAHD
FORUM ITALIA

CONFERENZA
INDUSTRIA RADIO TELEVISIONE



Content Protection

- **CICAM (Common Interface CAM)**
CICAM Player mode and other features deprecated
- **CI+ ECP**
updated references
- **CI Plus 2.0 USB**
added OPTIONAL support

Miscellanea

- **Tivùsat Backup Home Channel**
Parameters added in Annex E providing an evolution path for the usage of DVB-S2 technology and allowing the **switch-off of DVB-S** transponders in the future

The day after tomorrow

- 
- **Distribution platforms**
 - **Multiple devices**
 - **Users & Contents**

What challenges will we face in the future

Multiple distribution platforms



- **Traditional Broadcast**
DTT, SAT, ...
- **DVB-I**

DYNAMIC FORMAT SWITCHING
changing content format within the
same service



- **5G-Broadcast**
- **Native IP**
- **Home Broadcast**
- **Cooperative Intelligent Networks**

Full-IP

The day after tomorrow

Multiple devices

- Smart TV
- PC
- Tablet, Smartphones

Issues

- Homogeneous loudness
- Service discovery
- Service «hand-over»



The day after tomorrow

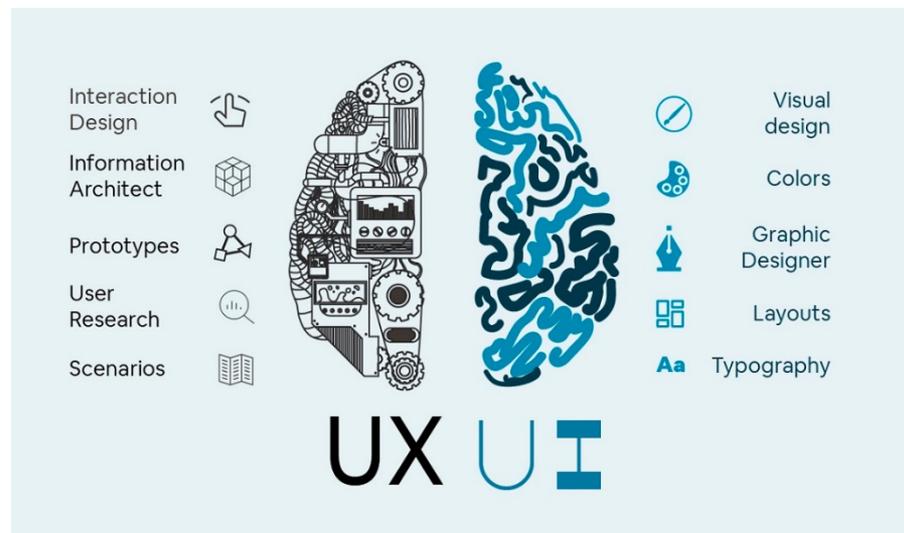
Users & Contents

- **UX/UI**

Smart Remote Control
Voice Assistants
Accessibility services

- **Too many contents ?**

Personalized contents
Recommendation systems



THANK YOU FOR YOUR
gino_alberico@rai.it
ATTENTION!