

Potholes on the Road to DTV

ATSC Recommended Practice

■ Program and System Information Protocol (PSIP)

- Overall PSIP Structure
- Basic PSIP Requirements
- Format and Structure of PSIP tables





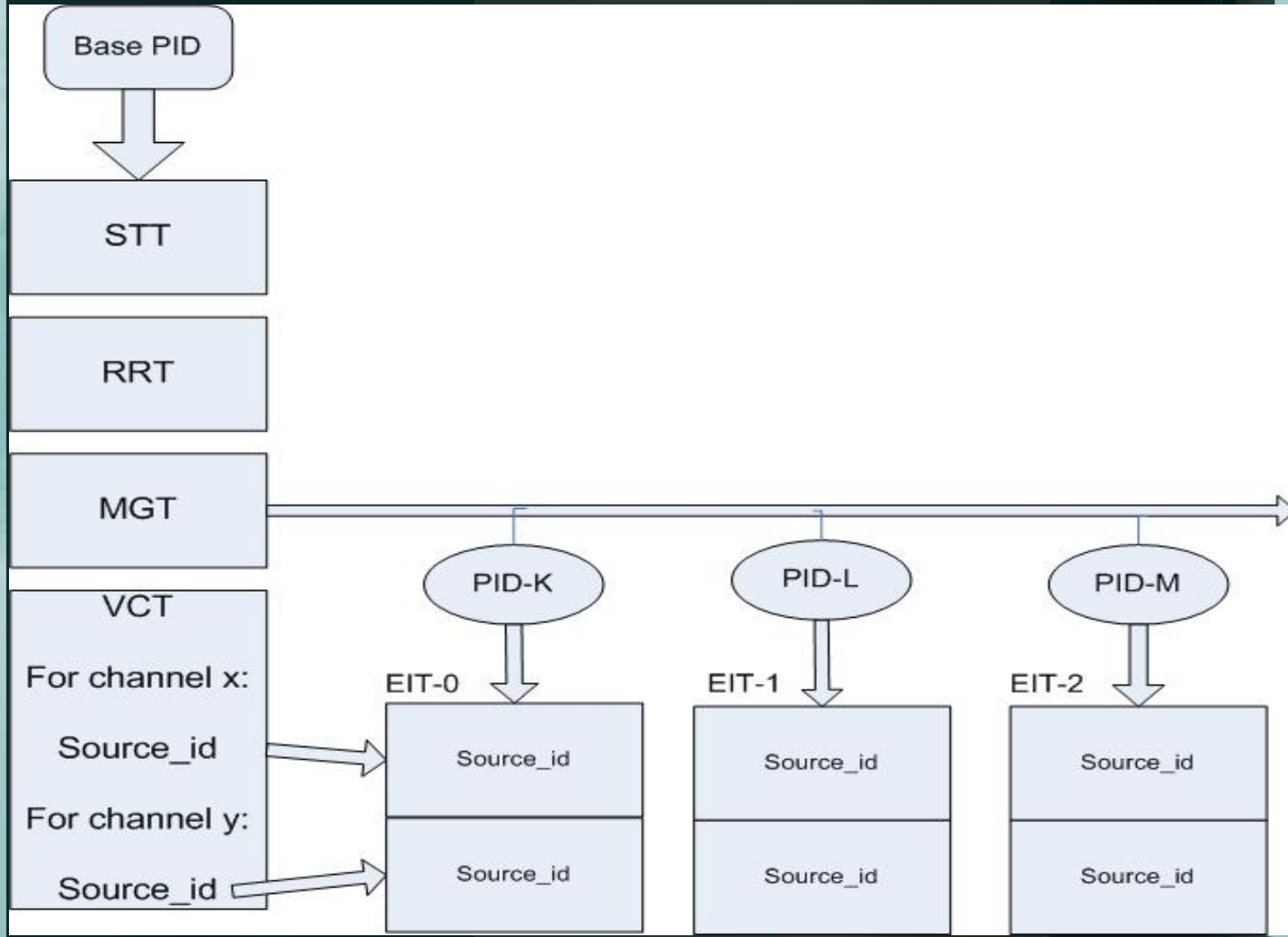
PSIP Structure

- System Time Table (STT)
- Rating Region Table (RRT)
- Master Guide Table (MGT)
- Virtual Channel Table (VCT)



PSIP Structure

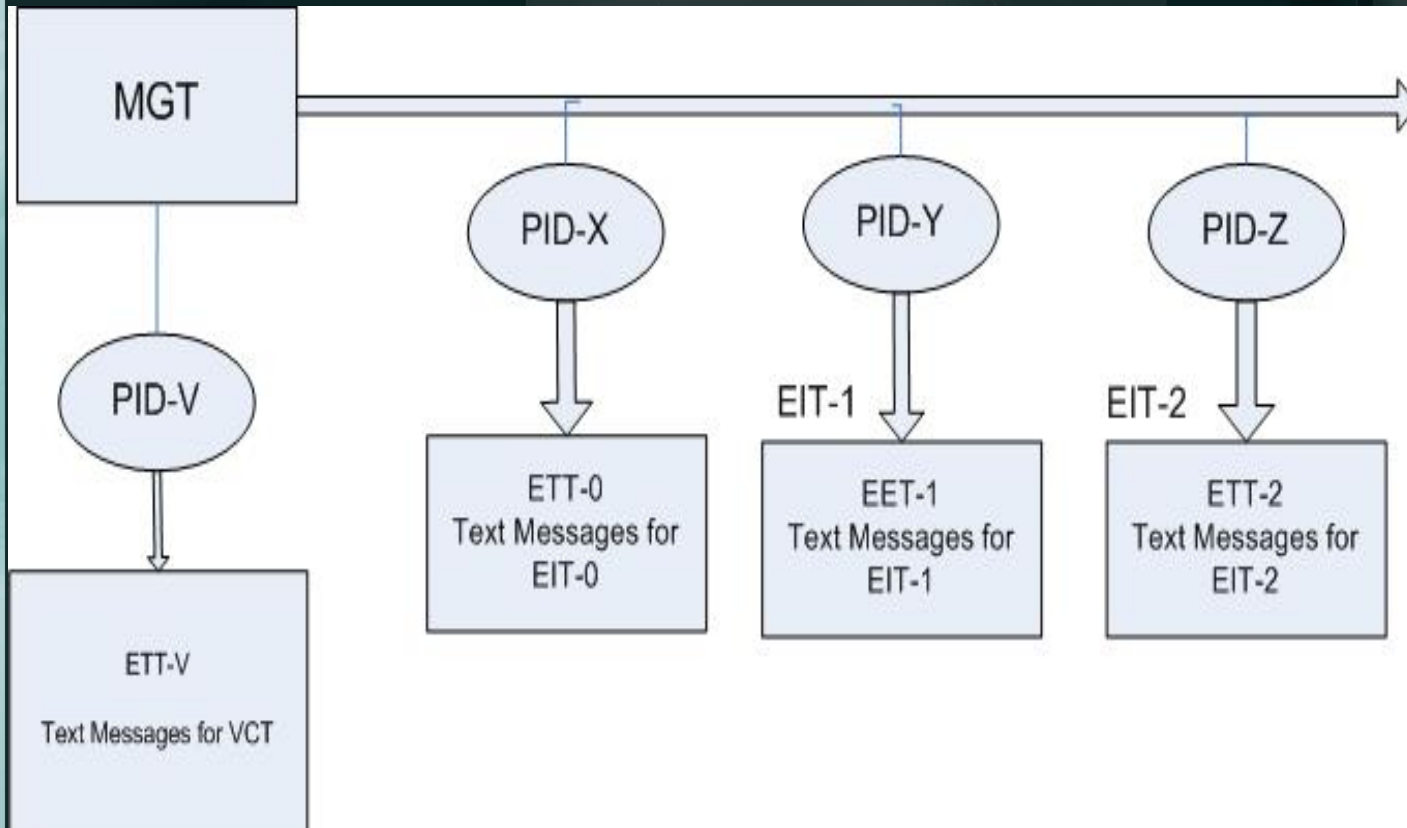
- Overall structure of the PSIP Tables





PSIP Structure

- Extended text tables in PSIP





Basic PSIP Requirements

- Three Main Tables
- VCT
- EIT
- STT





The Basics

- Transport Stream Identification (TSID)
- System Time Table (SST)
- Short Channel Name
- Major Channel
- Service type
- Modulation Mode
- Source ID
- Service Location Descriptor (SLD)



Common Mistakes

- Missing tables, particularly the STT and EIT.
- Major channel number set to the DTV RF channel number, rather than the associated (legacy) NTSC channel number.
- TSID set to 0 or 1, the NTSC TSID, or another station's TSID; or not set the same in the
 - three required places.
 - System time missing or set to 00:00:00 on 1/6/1980

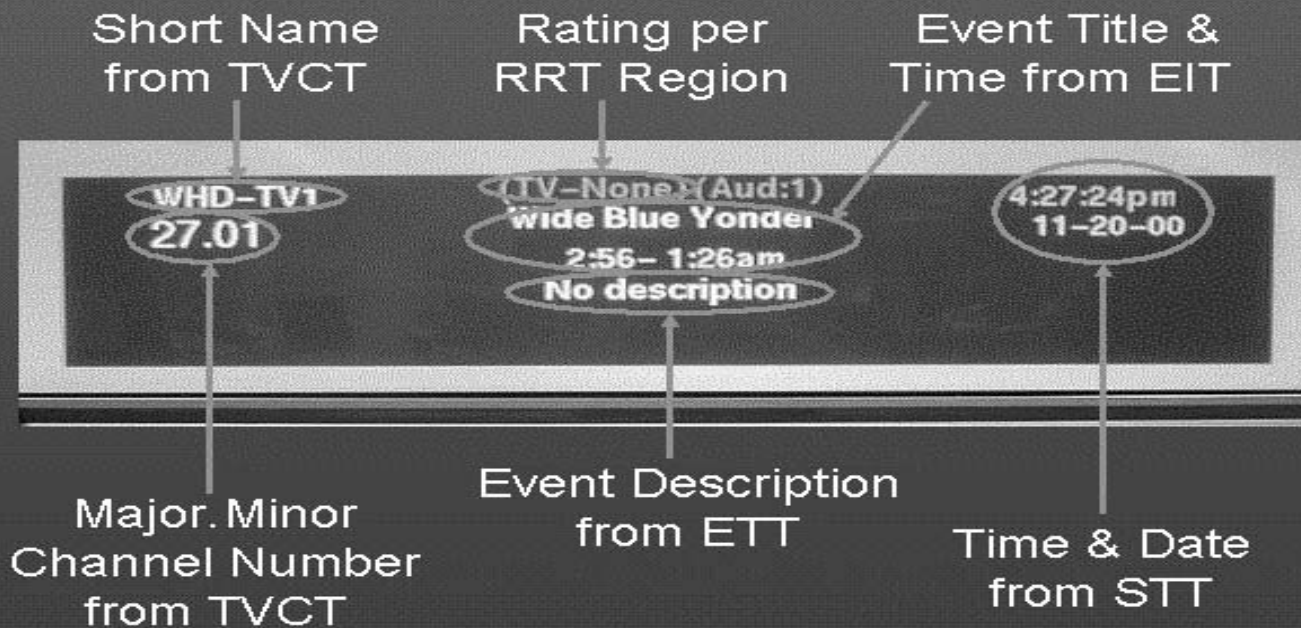




Program Guide

- Support for an Electronic Program Guide (EPG)
- Interactive Program Guide (IPG)

Sources of "Info"





PSIP Tables

- Provided by the broadcast station as input to the PSIP system user software; this is
- station-specific information (for example, the major and minor channel numbers).
- Set as default in PSIP software; this information is usually MPEG-2 data that is ATSC-specific
- (for example, all table IDs).
- • Calculated by the PSIP generator (for example, the descriptor length).





PSIP Tables

- Provided from or to the audio or video encoder
- Provided from or to the Closed Captioning system





PSIP Tables

- Master Guide Table, repeated at a minimum rate of once every 150 ms.
- System Time Table, repeated at a minimum rate of once per second.
- Rating Region Table, repeated at a minimum rate of once each minute if present.
- Terrestrial Virtual Channel Table, repeated at a minimum rate of once each 400 ms.





ATSC Recommended Practice



Program and System Information Protocol (PSIP)

Thank You