1. Lamedb format

File format of lamedb explained.  
Taken from **/lib/dvb/db.cpp** and **Tools/Transponder.py**.  
File is basically a fixed format file where some fields contain multiple values separated by commas of colons. Lines may not exceed 256 characters.  
It contains two sections.

* + Transponders started by a line **transponders**. Contains transponder frequencies, symbol rates, polarization and satellite position.
  + Services started by a line **services**. Contains SSID, Card ID for channels on a particular transponder.

Header Line

The file starts with a line **eDVB services /%d/**, where %d is format version.

**eDVB services /4/**

Transponders section

Section starts with a line **transponders**.  
Followed by a DVB line and transponder data line tuples. The DVB data line starts at col 0, the transponder data line immediatly follows and starts with a <TAB>.  
Lines starting at col0 contains three fields encoded in hexadecimal:

* + DVB namespace
  + Transport stream id
  + Original network id

Lines starting with a <TAB> character and contain DVB transponder data such as frequency and symbol rate. Three types of DVB transponders can be encoded here:

* + Satellite DVB
  + Terestrial DVB
  + Cable DVB

Satellite lines start with <TAB>s like: **s 10773250:22000000:0:2:192:2:0:1:2:0:2** fields for version 3 and 4. All fields are separated by colons, values in decimal.

* + Frequency in Hertz.
  + Symbol rate in bits per second.
  + Polarization: 0=Horizontal, 1=Vertical, 2=Circular Left, 3=Circular right.
  + Forward Error Control (FEC): 0=None , 1=Auto, 2=1/2, 3=2/3, 4=3/4 5=5/6, 6=7/8, 7=3/5, 8=4/5, 9=8/9, 10=9/10.
  + Orbital Position: in degrees East: 130 is 13.0E, 192 is 19.2E. Negative values are West -123 is 12.3West.
  + Inversion: 0=Auto, 1=On, 2=Off
  + Flags (Only in version 4): Field is absent in version 3.
  + System: 0=DVB-S 1=DVB-S2.
  + Modulation: 0=Auto, 1=QPSK, 2=QAM16, 3=8PSK.
  + Rolloff (Only used in DVB-S2): 0=0.35, 1=0.25, 3=0.20
  + Pilot (Only used in DVB-S2): 0=Auto, 1=Off, 1=On.

Terrestrial lines start with <TAB>t:

* + frequency in Hertz.
  + Bandwidth: 0=Auto, 1=8Mhz, 2=7Mhz, 3=6Mhz.
  + Code rate High Pass FEC: 0=Auto, 1=1/2, 2=2/3, 3=3/4, 4=5/6, 5=7/8.
  + Code rate Low Pass FEC: 0=Auto, 1=1/2, 2=2/3, 3=3/4, 4=5/6, 5=7/8.
  + Modulation: 0=Auto, 1=QPSK, 2=QAM16, 3=QAM64.
  + Transmission mode: 0=Auto, 1=2k, 3=8k
  + Guard Interval: 0=Auto, 1=1/32, 2=1/16, 3=1/8, 4=1/4
  + Hierarchy: 0=Auto, 1=None, 2=1, 3=2, 4=4
  + Inversion: 0=Auto, 1=On, 2=Off.
  + Flags

Cable lines start with <TAB>c:

* + Frequency in Hertz.
  + Symbol rate.
  + Inversion: 0=Auto, 1=On, 2=Off.
  + Modulation: 0=Auto, 1=QAM16, 2=QAM32, 3=QAM64, 4=QAM128, 5=QAM256.
  + Forward Error Control innert (FEC\_inner): 0=None, 1=Auto, 2=1/2, 3=2/3, 4=3/4, 5=5/6, 6=7/8, 7=8/9.
  + Flags

services section

The section starts with the word **services** on a line by itself.  
Followed by a three line tuple: DVB stream data, Channel name, Provider data line.  
The DVB stream data line contains six fields:

* + Service id (SSID value from stream) in Hex
  + DVB namespace in Hex.
  + Transport stream id in Hex
  + Original network id in Hex
  + Service type in Decimal: 1=TV, 2=Radio
  + Service number in Decimal.

The Channel name is on a line by itself in some character encoding (to be investigated)  
The last line contains Provider Service data. Variable number of fields, separated by commas. Fields formed like <tag>:value. For example **p:Sky Digital,c:000202,c:010282,c:020242,c:030202,c:0500 01,C:0963,C:0961,C:0960**.

* + Provider name field. Field tag p: Name of provider.
  + Cached data. Field tag **c:** followed by two decimal digits and four hexadecimal digits. For example **c:010282** is composed of **01** decimal cache id, **0282** hexadecimal value to cache.
  + Card ID (CIAD). Field tag **C:** follwed by four hexadecimal digits: Card ID. For example **C:0100**.
  + Flag data: Field tag f: followed by hexadecimal digits.