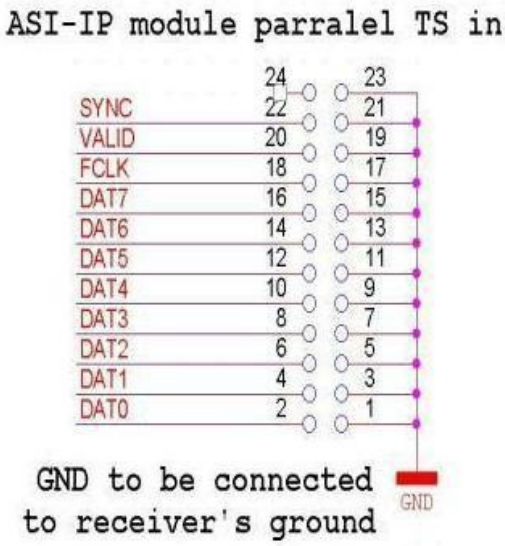
Mounting the ASI + IP output board into STB

First it is necessary to consider if there is enough space to mount the board into the STB housing. Also please remember about holes for the output connectors. The board should be placed so that the connecting wires will be as short as possible, all wires should be of the same length (approximately).



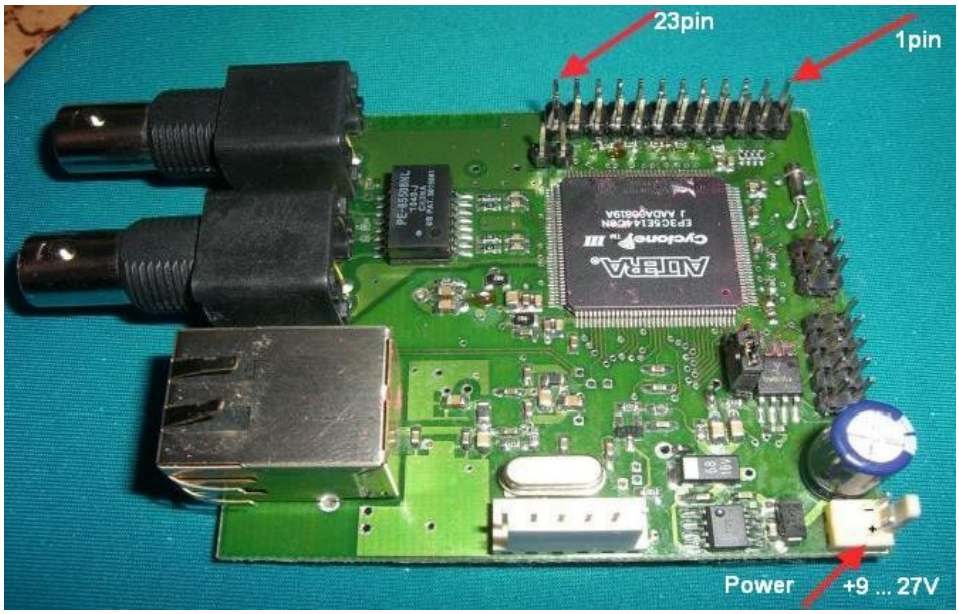


Fig.1. Numbering of ASI + IP output board connector pins.
First pin has square pad, other pads are circles (see bottom side)

After locating the place for the board, you can start soldering. To reduce the noise influence it is necessary to place ground wires of 1 to 23 contacts between the signal wires of 2 to 24 contacts, and ground wires must be connected together at one point to a ground at the STB board as shown at Fig.2. Choice of the connection point to the ground of the STB depends on the particular STB. Preferably, the connection point should be near a receiver's tuner. If you have

chosen a wrong point, a lot of errors can appear in the stream. In this case it is necessary to choose other point checking quality of output signal.

Fig.2.

ASI + IP output board is powered by STB power supply (9...27V), see Fig. 3.

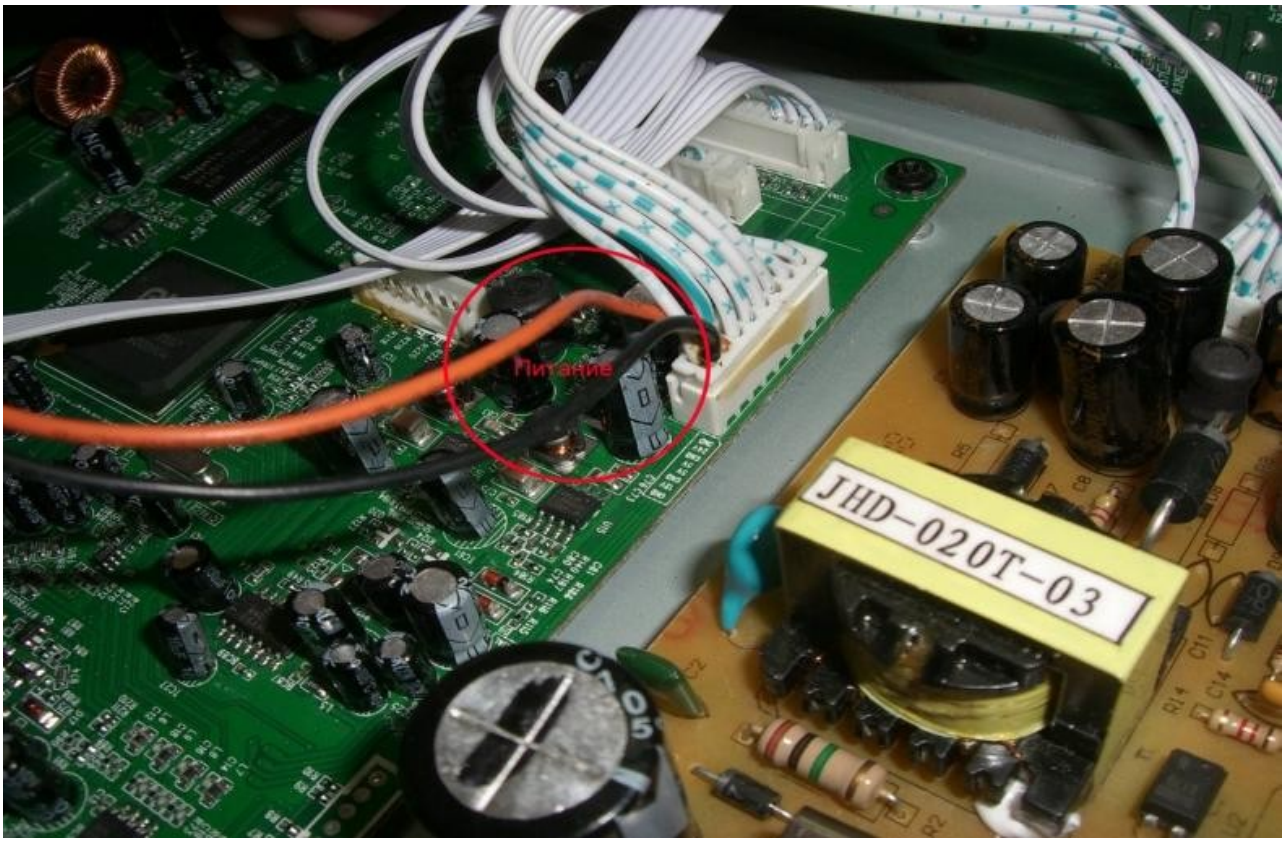
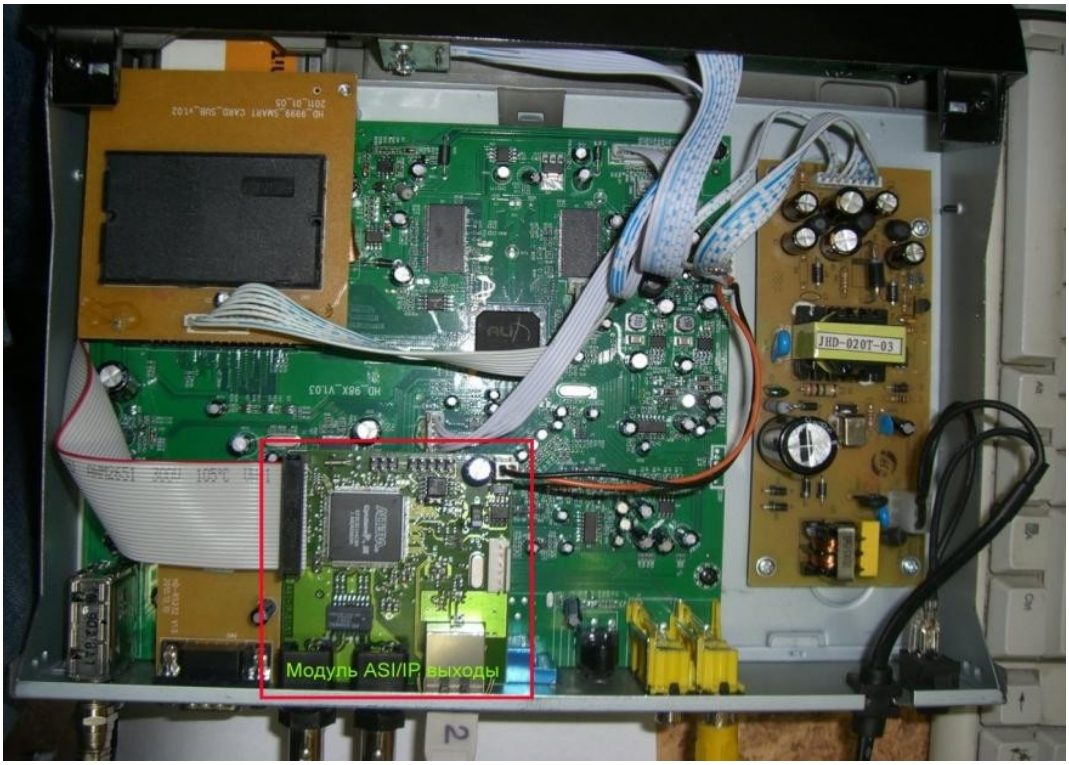


Fig. 3.

If ASI+IP board is mounted properly, it starts outputting the ASI stream right away.



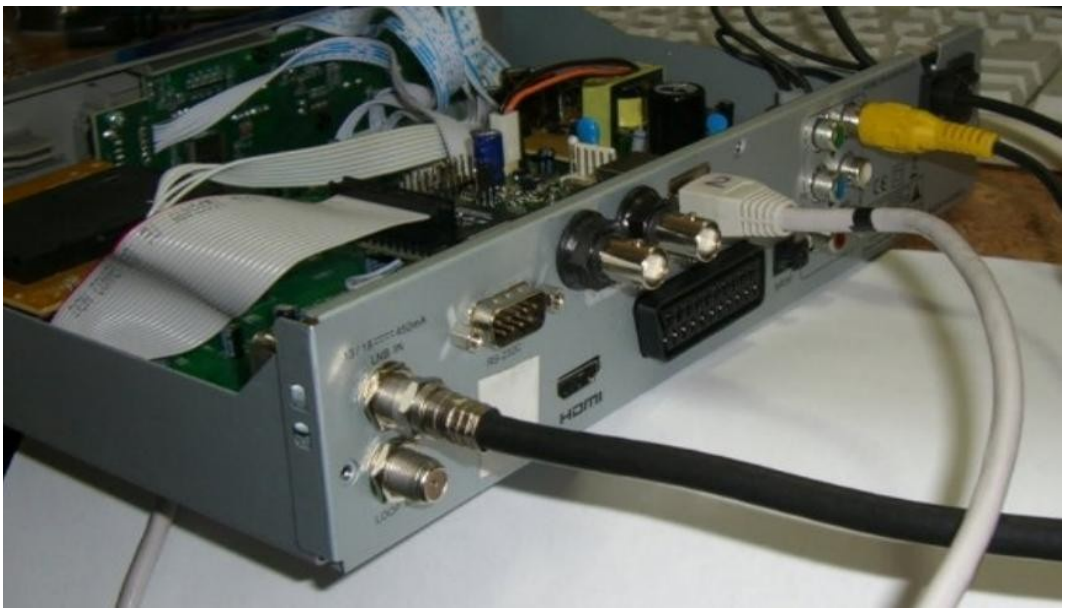


Fig. 4. ASI+IP board is mounted into STB

Connecting the ASI+IP output board to STB can be done in two ways depending on what program (FTA or encrypted) need to be converted in ASI/IP format:

1. In case if FTA program is received, ASI+IP output board should be connected to the STB's demodulator (tuner) contacts.
2. When encrypted program is received, ASI+IP output board should be connected to the CAM module contacts (Common Interface).

Connecting the ASI+IP output board to the STB's tuner

Different tuners can have different output connector pin assignment. The pins assignment can be found in the tuner documentation or identified by means of an oscilloscope.

If you need to identify pins assignment by means of an oscilloscope, follow the steps below:

- Use a two-channel oscilloscope;
- Check the tuner output connector pins and find SYNC signal (periodic single pulse);
- Synchronize to SYNC signal;
- Look signals at other tuner output pins:
  Beginning of VALID signal coincides with beginning of SYNC.
  Data signals value should be as indicated at Fig.5 (when SYNC=1). First byte of data should be equal 47hex or 71 decimal or 01000111 binary. Other bytes are in random order.

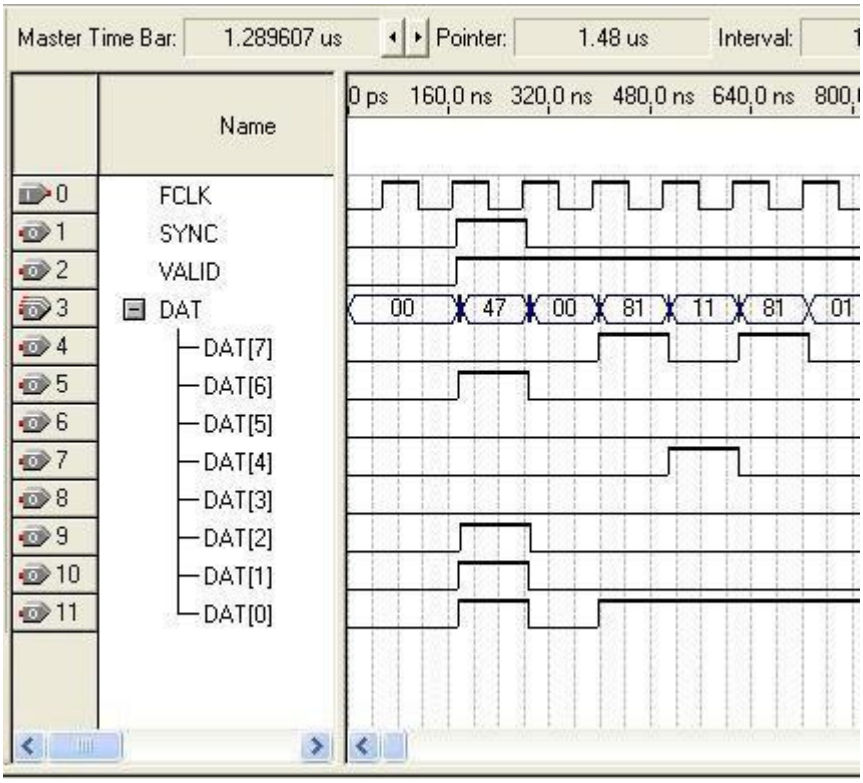


Fig. 5.

Connecting the ASI+IP output board to Common Interface (CI).

Mounting the ASI +IP output board should be done in accordance with the schematics (see Fig 6) by skilled technician.

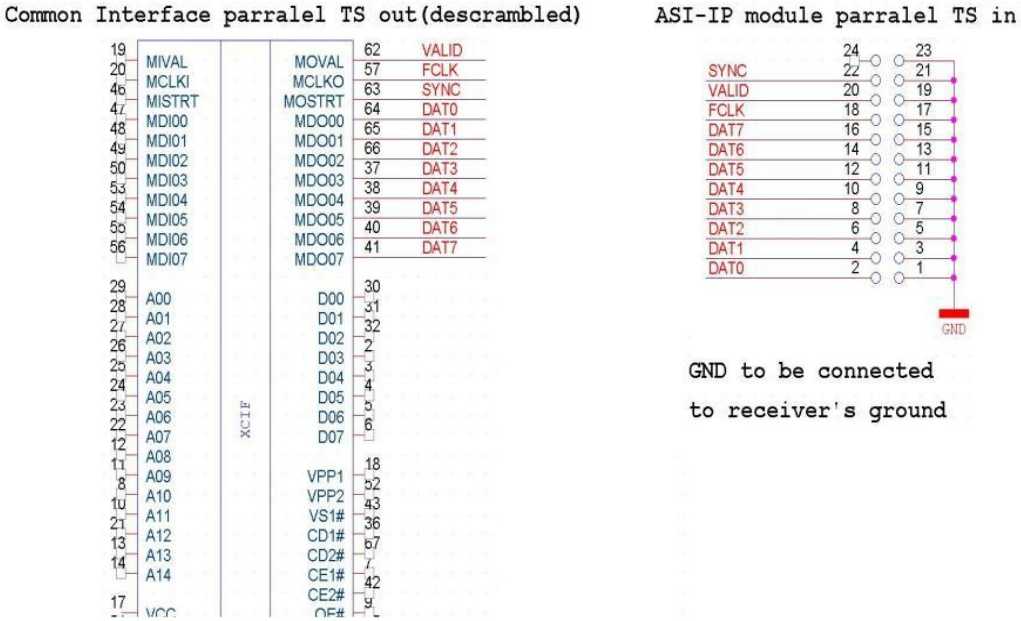


Fig. 6

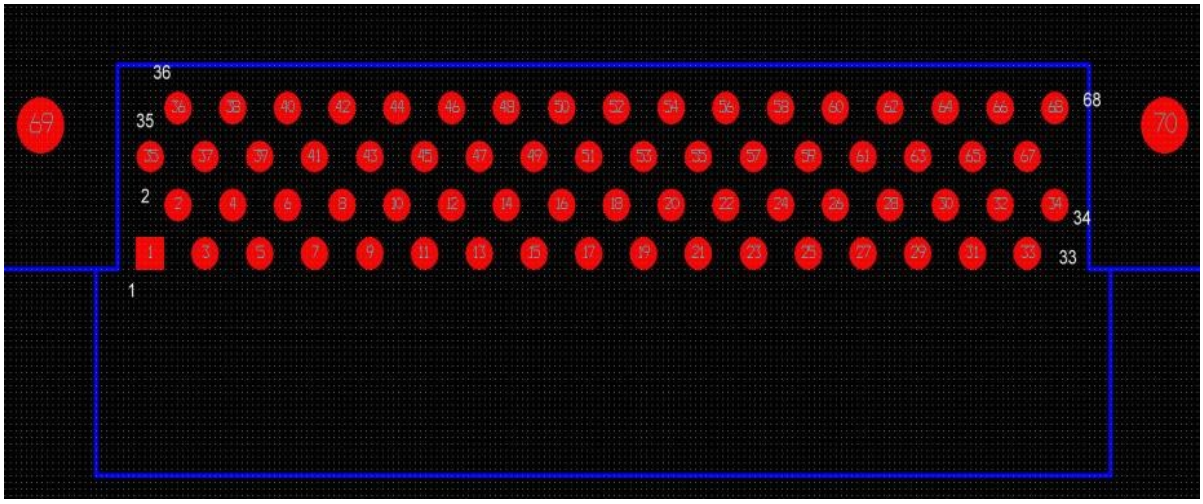


Fig.7. Numbering of CAM Connector pins (bottom side)

It is necessary to pay attention that in some STB ASI +IP Out board will output ASI stream if a smart card is inserted in CAM and encrypted program is selected. In this case there will be decrypted by CAM programs as well as all other programs including FTA in the ASI stream. In case if FTA program is selected, streams will not appear at ASI and IP outputs.