# Modifications List

## TDA9321H N1 to N2 version

**IF:**
- Video ident bit **IFI**: frequency detection range at low temperature has been optimised.

**Chroma:**
- Improved identification sensitivity for all standards.
- Improved SECAM identification with VCR tapes.
- Improved hysteresis at SECAM.
- Optimised SECAM black level offset.
- New IIC bit **FCO** (Forced Colour On), disables killer at forced modes to ensure maximal colour sensitivity under abnormal conditions (e.g. trick modes of VCR); see software below.
- Extra auto mode: PAL/NTSC at all Xtals; see software below.

**RGB:**
- Removed influence of RGB2 content on black level of RGB1 even if **IE2** = 0.

**Sync:**
- Improved Phi1 catching for slow mode.

**Supply:**
- Power supply rise time no longer restricted to >10ms.

**Software information for N2:**
- The new **FCO** bit is located at subaddress 01, byte D3.
  **FCO** = 0 normal operation of colour killers
  **FCO** = 1 active, unkills colour at forced standard modes.
- Extra auto mode: **CM3,CM2,CM1,CM0** = 1100 (PAL/NTSC at all Xtals).
- To prevent false SECAM 60Hz identification at bad NTSC input signal conditions it is advised to skip SECAM 60Hz identification via software.
  An example for sofware flow:
  CM3...0=1000 (auto mode PAL/NTSC/SECAM at all Xtals). If SECAM 60Hz is detected, (CD3...0=1001, FSI=1), then set CM3...0=1100 (PAL/NTSC at all Xtals). When no colour standard is detected, then go back to CM3...0=1000.

**Hardware information for N1/N2:**
- Bandgap decoupling at pin 35: for optimal horizontal jitter performance it is recommended to use 100nF in parallel with 2u2.