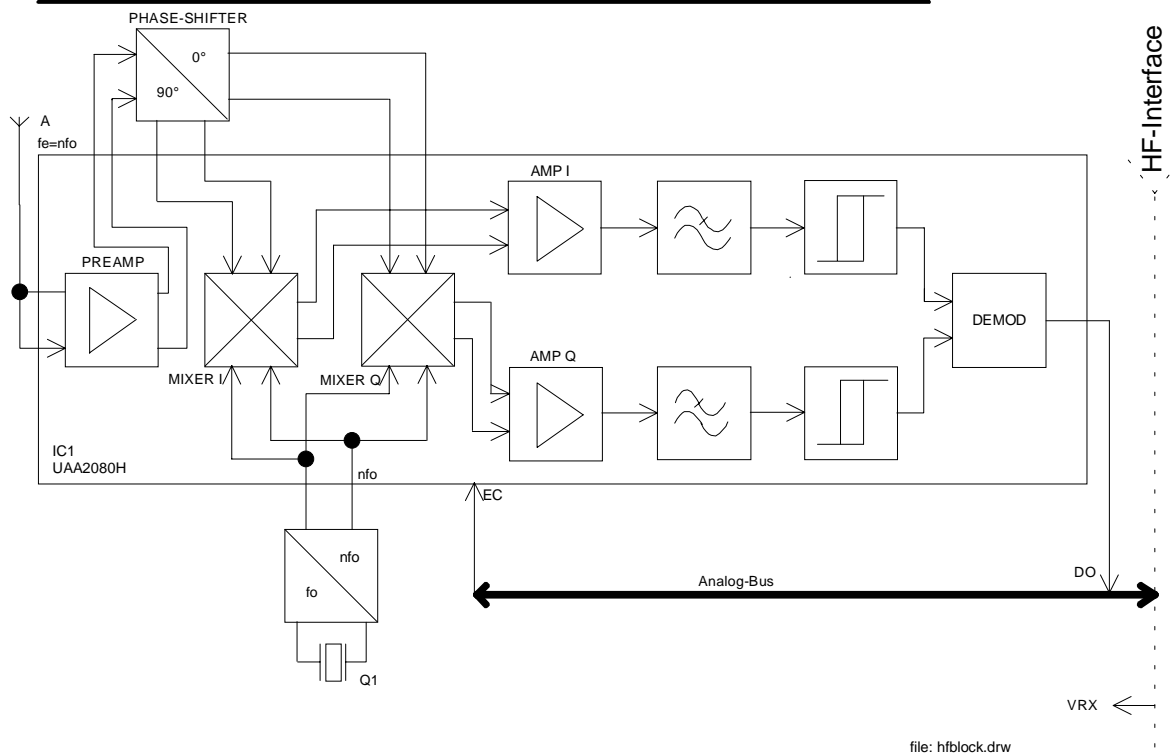# 3   HF Stage

3.1   Block Diagram

Blockdiagramm DE 516 Ex, Mainmodul Analogteil

file: hfblock.drw

3.1.1   Summary

The HF stage is implemented by a direct conversion chip from Philips. This chip converts the HF signal directly into a digital stream of data.

3.1.2   Aerial / Preamplifier (LNA)

Two alternative aerial types can be fitted, depending on the pager. The ferrite aerial can receive frequencies up to 200 MHz. A frame aerial is necessary for higher frequencies.
The components C4, C5 and C6 are used to adapt the aerial properties to the IC UAA2080H. A coupling using C1, L1 and C3 has been provided to enable the attachment of an external aerial to the pager.
L2, L3 and C22 form the output tuned circuit of the LNA. The necessary supply voltage for the LNA is fed via L2 and L3.
The gain of the LNA is adjusted with R1.

3.1.3   Phase Shifter with Adaptation

The output signal of the LNA is picked symmetrically off the C22 and decoupled via C23, C24 and C27. C27 assists in the impedance transformation. The signal is then split into two paths that are shifted by +45° and -45° respectively to the signal received. Because of the balancing, these splits are present in duplicate (C26 / L4 and C25 / L5).