

Operational Description

Functionality

The NU2V-2500 is the box, which is placed between the satellite dish and the TV set or other electronic home equipment.

It decodes the incoming signals, verifies the access rights and outputs clear picture, sound or other services in the appropriate format.

Description

The decoder is functionally organized as indicated in the following figure.

NIM(Network Interface Module)

NIM(BS0054) consists of TUNER and QPSK Demodulator.

The signal received by Antenna and LNB will be transmitted to TUNER. TUNER is designed to select one transponder and convert to I & Q signal. The I & Q signal from TUNER will be transmitted to QPSK Demodulator which is designed to demodulation and FEC(Forward Error Correction) decoding. The output of QPSK Demodulator is parallel format of TS (Transport Stream) signal.

Integrated STB Controller

Integrated STB Controller(U101) consists of Demultiplexer, MPEG Decoder, Video Encoder and Microprocessor. The TS signal from NIM will be transmitted to Demultiplexer. Demultiplexer is designed to select wanted Video PES (Packetized Elementary Stream) and Audio PES. These signal will be transmitted MPEG Decoder to make decompressed digital Video and Audio signal. Digital Video signal will be transmitted Video Encoder to convert analog Video output. Digital Audio signal will be transmitted to external Digital-to-Analog converter. The Microprocessor is designed to control all other devices.

Flash Memory

Flash memory(U201) is used to store main software and default Satellite Information. Main software and Satellite Information can be up-dated by PC through serial communication. And also the Satellite Information can be up-dated by customer when he changes some data.

SDRAM

SDRAM(U202) is temporary memory, and it is used for main software, demultiplexing and MPEG decoding.

VCXO

The VCXO(Y401) is designed to generate system clock signal. The system clock is used for demultiplexing, MPEG decoding and to work of Microprocessor. It has DC voltage input port which is used to adjust output frequency.

Video Filter

The Video Filter(L601, L602, L603) is designed to remove high-frequency noise on Video signal.

Audio DAC

The Audio DAC(U501) is designed to convert the digital audio signal(I2S format). The output signal is amplified 6dB by audio amp(U502). The final outputs are stereo audio(Left, Right).

Video Output

The video outputs are CVBS and luminance Y signal.