The SFN Adapter by Neetra is a compact high performance DVB-T/H and DMB MIP/SIP inserter. As highlighted by name it is part of a terrestrial DTV network when Single Frequency Network operations are required. It is generally located just after the DVB multiplexer. It performs the computation and the insertion of the Mega frame Information Packet (MIP) in the MPEG-TS flow according to the ETSI recommendation TS 101 191 v1.4.1 (2004-06).

The SFN Adapter from Neetra supports all DVB-T and DVB-H modes, hierarchical or non-hierarchical, and all channel bandwidths (5, 6, 7, 8MHz) in a single unit. The SFN Adapter processes the reference signals (IPPS and 10MHz) coming from a GPS receiver in order to compute the time stamp information that is part of the MIP packet.

The equipment offers 2 ASI inputs and 2 ASI outputs. In non-hierarchical modes: the 2 ASI inputs could be used for redundancy, and the 2 ASI outputs generate the same signal. In hierarchical modes: the 2 ASI inputs receive the 2 transport stream flows (HP & LP) coming from 2 DVB multiplexers, and the 2 ASI outputs generate the HP and LP flows, ready to feed the modulator through a transport network. This means that a single equipment is able to perform the MIP insertion in non-hierarchical modes as well as in hierarchical modes. Powerful management of the synchronisation signals (10MHz, IPPS) allows reliable operations even in case of a loss of reference signals and minimises the resulting disturbances.

A display on front panel helps the user to program the working modes and to read the equipment status. Leds on front panel give to the operator a quick view of the status. The SFN Adapter can be controlled by remote by a USB connector on front panel or RS485 on rear panel. For DMB operation the operating mode is exactly the same, apart from SIP insertion which replaces MIP insertion.

Main characteristics
- Compact high performance MIP inserter
- Perfect choice for DVB SFN network
- 2 ASI Inputs: redundancy in non-hierarchical mode, HP & LP in hierarchical mode
- 2 ASI Outputs: same signal in non-hierarchical mode, HP & LP in hierarchical mode
- IPPS and 10MHz sync signals on BNC connectors
- Front panel Display and LEDs indication
- Remote Control by USB or Rs485
- Universal Power Supply
- SIP insertion for DMB
# SFN ADAPTER

## Technical characteristics

### ASI INPUT SECTION
- **Connector**: BNC
- **Impedance**: 75 Ohm
- **Packet Size**: 188 or 204 bytes, with or without RS coding
- **Bit-rate**: From 0.2Mb/s to 32Mb/s (depends on the mode)

### ASI OUTPUT SECTION
- **Connector**: BNC
- **Impedance**: 75 Ohm
- **Packet Size**: 188 bytes without RS coding or 204 bytes with RS coding
- **Bit-rate**: From 5Mb/s to 32Mb/s (depends on the mode)
- **Transfer Time**: < 50µs (from ASI Input to ASI Output)

### 10MHz REFERENCE INPUT SECTION
- **Connector**: BNC
- **Impedance**: 50 Ohm
- **Level**: -5dBm to +10dBm

### IPPS REFERENCE INPUT SECTION
- **Connector**: BNC
- **Impedance**: 50Ω
- **Level**: TTL
- **Minimum Pulse Width**: 1μs
- **Time Stamp Computation Accuracy**: ±100ns

### DVB-T/H MODES SECTION
- **Modes**: All DVB-T & DVB-H modes
- **FFT Size**: 2kHz, 4kHz, 8kHz
- **Code Rate**: 1/2, 2/3, 3/4, 5/6, 7/8
- **Guard Interval**: 1/32, 1/16, 1/8, 1/4
- **Constellation**: QPSK, 16 QAM, 64 QAM
- **Hierarchical Parameter**: α = 1, 2, 4
- **Inner Interleaver**: Native / In Depth

### DTMB MODES SECTION
- **Modes**: All DTMB modes
- **Code Rate**: 4/9, 2/3, 8/9
- **Guard Interval**: 1/4, 1/7, 1/9
- **Constellation**: 4 QAM, 16 QAM, 32 QAM, 64 QAM
- **Interleaver**: OFF, 48, 240, 270

### GENERAL
- **Physical**
- **Local Control Port**: Case 19"-1U, 4kg
- **Remote Control Port**: USB
- **User Interface on Front Panel**: RS485
- **Power Supply Voltage**: LCD Display + Keyboard + Status LEDs
- **Power Consumption**: 90 - 250VAC
- **Operating Temperature**: < 15W
- **0 - 45°C**

Specifications and characteristics are subject to change without notice.