



NDS33XX-N Series

Multi-Protocol IP-Input Modulator



Product Outline

NDS33XX-N Series support multi-protocol IP inputs over UDP/RTP/RTSP/HLS/HTTP/SRT. It is flexible to choose different modulator cards to support different modulation output, such as DVB-C, DVB-T, ATSC and ISDB-T. NDS33XX-N Series bring a new level of intelligence and high performance to the CATV system at a cost-effective price offer.

Key Features

- Support multi-protocol IP inputs over UDP/RTP/RTSP/HLS/HTTP/SRT
- * SPTS input over UDP/RTP/RTSP/HLS/HTTP/SRT via the IPTV1 IN port in the front panel
- * MPTS/SPTS input over UDP and RTP via the 2 DATA ports in the modulator board
- Support multi-type order options for modulator cards, DVB-C, DVB-T, ATSC and ISDB-T
- Support about 100Mbps-300Mbps data processing (IPTV1IN port in the front panel, up to the



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actual protocols etc) and max 840Mbps data processing(2 DATA ports in the modulator card)

- Support MPTS output over UDP/RTP via 2 DATA ports in the modulator card as mirror of carriers output

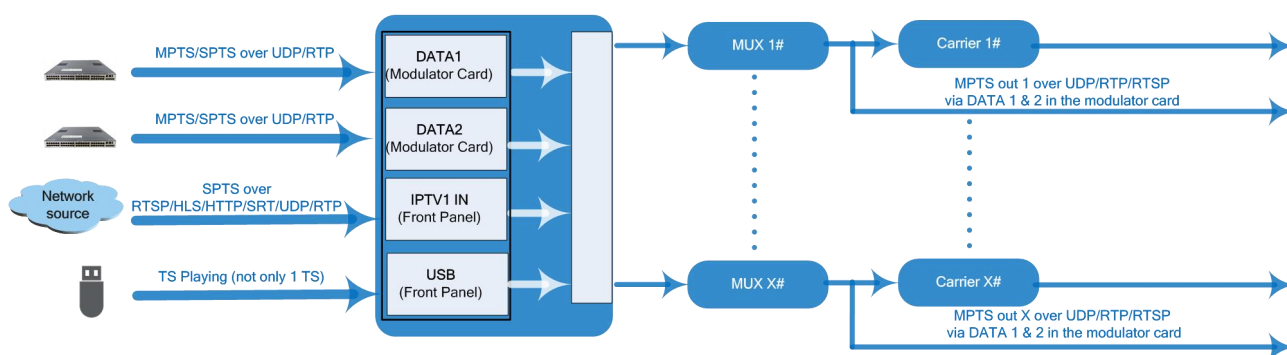
- IPTV1 IN port in the front panel is an unidirectional IP-input port; 2 DATA ports in the modulator card are the bidirectional IP-input/output ports.

- Support TS playing via USB Disk, USB 3.0

- Support the remote reboot in Web GUI

- Support Web management, Update via web

Principle Chart



Modulation Specifications:

Order option 1: NDS3316-N & NDS3332-N DVB-C Modulator

Data input: Max 512/1024 IP inputs over UDP/RTP via 2 DATA Ports (RJ45/SFP) in the modulator card and over UDP/RTP/RTSP/HLS/HTTP/SRT via IPTV1 IN port in the front panel, unicast/multicast

Data output: 16 or 32 IP outputs over UDP/RTP/RTSP, unicast/multicast, 2 DATA Ports (RJ45/SFP) in the modulator card

RF output (F type): 16/32 channels of multiplexing, scrambling and modulation

Multiplexing:

Maximum PID Remapping: 180/256 per channel

Function: PID remapping (automatically or manually), Accurate PCR adjusting, generate PSI/SI table automatically

Scrambling:

Maximum simulcrypt CA: 6

Standard: ETR289, ETSI 101 197, ETSI 103 197

Connection: Local/remote connection

Modulation:

Standard: EN300 429/ITU-T J.83A/B

MER: $\geq 40\text{dB}$

RF frequency: 50~960MHz, 1KHz step

RF output level: -20~+10dBm (87~117 dB μ V), 0.1dB step for all carriers

Symbol Rate: 3600~7200Ksps, 1ksps stepping

5057Ksps (J.83B, 64QAM), 5361Ksps (J.83B, 256QAM)

Constellation/Bandwidth: J.83A: 16/32/64/128/256QAM, 8M

J.83B: 64/256QAM, 6M

J.83C: 64/256QAM, 8M

NDS3316-N Output: 16 non-adjacent carrier outputs within 192M bandwidth

NDS3332-N Output: 32 non-adjacent carrier outputs within 384M bandwidth



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Order option 2: NDS3332D-N & NDS3348D-N DVB-C Modulator

Data input: Max 1024/1536 IP inputs over UDP/RTP via 2 DATA Ports (RJ45/SFP) in the modulator card and over UDP/RTP/RTSP/HLS/HTTP/SRT via IPTV1 IN port in the front panel, unicast/multicast

Data output: 32/48 IP output over UDP/RTP/RTSP, unicast/multicast, 2 DATA Ports (RJ45/SFP), DATA1 for IP #1-#16/24, DATA2 for IP #17/25-#32/48 in the modulator board

Multiplexing:

Maximum PID Remapping: 256/512 per channel

Function: PID remapping (automatically or manually), Accurate PCR adjusting, generate PSI/SI table automatically

Scrambling:

Maximum simulcrypt CA: 6

Standard: ETR289, ETSI 101 197, ETSI 103 197

Connection: Local/remote connection

Modulation:

Standard: EN300 429/ITU-T J.83A/B

MER: $\geq 40\text{dB}$

RF frequency: 50~960MHz, 1KHz step

RF output level: $-20\sim+10\text{dBm}$ ($87\sim117\text{ dB}\mu\text{V}$), 0.1dB step for all carriers

Symbol Rate: 3600~7200Ksps, 1ksps stepping

5057Ksps (J.83B, 64QAM), 5361Ksps (J.83B, 256QAM)

Constellation/Bandwidth: J.83A: 16/32/64/128/256QAM, 8M

J.83B: 64/256QAM, 6M

RF output: 2 F type output ports for 32/48 non-adjacent carriers, 75 Ω

Order Guide:

NDS3332D-N: Carrier 1~16 out thru RF1, 17~32 thru RF2, each RF supports 384M bandwidth

NDS3348D-N: Carrier 1~24 out thru RF1, 25~48 thru RF2, each RF supports 384M bandwidth



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Order option 3: NDS3308T-N DVB-T Modulator

Data input: Max 256/512 IP inputs over UDP/RTP via 2 DATA Ports (RJ45/SFP) in the modulator card and over UDP/RTP/RTSP/HLS/HTTP/SRT via IPTV1 IN port in the front panel, unicast/multicast

Data output: 8/16 IP output over UDP/RTP/RTSP, unicast/multicast, 2 GE Ports (RJ45/SFP) in the modulator card

Multiplexing:

Channel Number: 8/16 multiplexing channels

Maximum PID Remapping: 180/256 per channel

Function: PID remapping (automatically or manually), Accurate PCR adjusting, generate PSI/ SI table automatically

Modulation:

Standard: ETSI EN300 744

MER: $\geq 40\text{db}$

RF Frequency: 50~960MHz, 1KHz step

Constellation: QPSK/16QAM/64QAM

Bandwidth: 6/7/8 MHz

Trans mode: 2K/4K/8K

FEC: 1/2, 2/3, 3/4, 5/6, 7/8

RF Output Level: -20~+10dbm (for all carriers), 0.1dB stepping

RF Output (F type): 8/16 non-adjacent carrier outputs

Order Guide:

NDS3308T-N-8: 8 non-adjacent DVB-T carrier output within 192M bandwidth

NDS3308T-N-16: 16 non-adjacent DVB-T carrier output within 384M bandwidth



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Order option 4: NDS3306I-N ISDB-T Modulator

Data input: Max 256/512 IP inputs over UDP/RTP via 2 GE Ports (RJ45/SFP) in the modulator card and over

UDP/RTP/RTSP/HLS/HTTP/SRT via IPTV1 IN port in the front panel, unicast/multicast

Data output: 8/16 IP output over UDP/RTP/RTSP, unicast/multicast, 2 GE Ports (RJ45/SFP) in the modulator card

RF output (F type): 8/16 channels of multiplexing and modulation.

Multiplexing:

Maximum PID Remapping: 180/256 per channel

Function: PID remapping (automatically or manually), Accurate PCR adjusting, generate PSI/ SI table automatically

Modulation:

Standard: ARIB STD-B31

Bandwidth: 6M

Constellation: QPSK, 16QAM, 64QAM

Guard Interval: 1/32, 1/16, 1/8, 1/4

Transmission Mode: 2K, 4K, 8K

Code rate: 1/2, 2/3, 3/4, 5/6, 7/8

MER: $\geq 40\text{dB}$

RF frequency: 50~960MHz, 1KHz step

RF output level: -20dBm~+10dBm (87~117db μ V), 0.1dB stepping

RF Output: 8/16 non-adjacent carrier outputs

Order Guide:

NDS3306I-N-8: 8 non-adjacent ISDB-T carrier output within 192M bandwidth

NDS3306I-N-16: 16 non-adjacent ISDB-T carrier output within 384M bandwidth



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Order option 5: NDS3308AT-N ATSC Modulator

Data input: Max 256 IP inputs over UDP/RTP via 2 DATA Ports (RJ45/SFP) in the modulator card and over UDP/RTP/RTSP/HLS/HTTP/SRT via IPTV1 IN port in the front panel, unicast/multicast

Data output: 8 IP output over UDP/RTP/RTSP, unicast/multicast, 2 GE Ports (RJ45/SFP) in the modulator card

Multiplexing:

Channel Number: 8 multiplexing channels

Maximum PID Remapping: 180 per channel

Function: PID remapping (automatically or manually), Accurate PCR adjusting, generate PSI/ SI table automatically

Modulation:

Standard: ATSC A/53

MER: $\geq 40\text{db}$

RF Frequency: 50~960MHz, 1KHz step

Constellation: 8VSB

Bandwidth: 6MHz

FEC: RS(208 188)+Trellis

RF Output Level: -20~+10dbm (for all carriers), 0.1db stepping

RF Output (F Type) : 8 non-adjacent carrier outputs within 192M bandwidth

Equipment Specifications:

Dimension(W×L×H): 368mm×482mm×44mm

Environment: 0~45°C(work); -20~80°C(Storage)

Power requirements: AC 110V $\pm$ 10%, 50/60Hz, AC 220 $\pm$ 10%, 50/60Hz



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