NOVRA GROUP

MAP PRO AUDIO

MAP PRO AUDIO RECEIVER DECODER
Multi-channel Receiver Decoder for Broadcast Radio

APPLICATIONS

- Professional radio networks
- Live audio broadcasting via satellite and/or internet
- Copy split programming
- On-demand broadcast
- Program and commercial insertion

FEATURES

- Internet Broadcasting
- IP and PES audio decoding
- Audio file playback
- Two or Four built-in high quality stereo audio decoders
- MPEG-1 Layer II and III
- MPEC-2 AAC
- MPEG-4 AAC-LC
- SSD for local storage of audio
- Playlist support
- 10 Form-A solid-state GPOs/decoder
- 1 AES output/decoder
- 1 PAD/ASYNC output/decoder
- Remotely manageable over satellite & terrestrial internet
- **Production Manager** support
- **Datacast XD** Built-in
- **Event Manager** support
- **Net Manager** support
- Livewire Audio over IP
- **MISTiQ** compatible

COMING SOON

- Time scheduled programming
- Event scheduled programming
- AES-67 Support
- Record and Playback
- Professional Media Recorder (PMR)
- Time shifting

Satellite and IP distribution of radio programing with local playout of programs and ads.

The **MAP Pro Audio** Series of receiver decoders are professional are designed for satellite and IP implementations. MAP receiver decoders are fully compatible with DVB-S, DVB-S2 and DVB-S2X as well as **MISTiQ Cloud™** internet distribution. All MAP receiver decoders include IDC's **Datacast XD™** for secure addressable delivery of program and ad files.

Audio Flexibility

The **MAP PA-2CH Pro Audio** Series features two models: MAP PA-2CH with two audio decoders and MAP PA-4CH with four audio decoders. All the decoders have associated relays sufficient for an AM/FM co-location or AM/FM transmitter pair. Each audio decoder is independent of the other allowing maximum flexibility in data rates, codecs and sample rates: MPEG Layer II for existing DVB compatibility or MPEG Layer III or new High-Efficiency Advanced Audio Coding (HE-AAC) for the best audio performance at the lowest bit rate.

Commercial/Program Insertion

The **MAP Pro Audio** Series is specially designed to allow commercial/program insertion on any channel. **Datacast XD** client is used to download advertisement files or programs into the decoder via internet. **Copy Split** permits real-time triggering of commercials/programming overlays on a receiver by receiver basis and can be done in an event or time scheduled manner.

Enhanced Monitoring and Control

A browser-based status and control GUI allows satellite carrier frequency, data rates, port authorization, audio configuration and other operating functions to be set locally or remotely. Receivers can also be remotely controlled using IDC's **Net Manager™** and/or IDC's **Production Manager™** via satellite or the internet, individually, in groups or globally. Remote monitor and control is provided by SNMP.

Integrated Hard Drive

A SS hard drive comes built-in to each **MAP** decoder. The SSD provides for store & forward data storage plus enables the addition of a full suite of standard software modules as well as customer-specific applications.

Headend Management

The **MAP Pro Audio** Series can be managed at the headend by various IDC products: **Production Manager** for content management, **Datacast XD** Server for file transmission, **Event Manager™** for synchronized trigger insertion, and **Net Manager** for network management.

Front Panel

Rear Panel: Series-D connector configuration

Rear Panel: XLR connector configuration

MODEL	DESCRIPTION	INPUTS	ETHERNET INTERFACES	IP NETWORKING
MAP PA with 2 audio channels	• 2 Audio Decoders • Series-D audio outputs (XLR opt)	• Satellite DVB-S/S2/S2X • Series-D audio outputs	2 x Ethernet GbE	• MISTiQ • Zixi • ST 2022-7 Seamless Protection switching
MAP PA with 4 audio channels	• 4 Audio Decoders • Series-D audio outputs			

RF INPUT

Frequency Range	950 to 2150 MHz
Frequency Tuning Steps	Synthesized 1 Hz steps
AFC Range (drift tracking)	± 10% Symbol Rate up to ± 2 MHz
Maximum Input Level	-35 to –65 dBm
Connector	Type-F, female
Impedance	75 ohms, unbalanced
LNB DC Power	+ 18 VDC maximum (horizontal polarity), or + 13 VDC at 500 mA (vertical polarity) center conductor positive, short circuit protected
LNB Requirement	• DRO type for high symbol rates, stability ± 2 MHz max • PLL type for low symbol rates, stability ± 25 kHz max
Diagnostics	RF input signal level, Es/No (C/N), Margin to threshold, Modulation, and FEC.

DVB-S

FEC Type	DVB concatenated, Viterbi and Reed-Solomon
MODCOD	QPSK 1/2, 2/3, 3/4, 5/6, 7/8
Roll-off	35%
Symbol Rate	0.2-45 MBaud

DVB-S2

MODCOD	Concatenated, LDPC and BCH QPSK 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 8PSK 3/5, 2/3, 3/4, 5/6, 8/9, 9/10 16APSK 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 32APSK 3/4, 4/5, 5/6, 8/9, 9/10
Roll-off	20%, 25%, 35%
Symbol Rate	0.2 - 45 MBaud
Gold Code - PLS	0 to 262143

DVB-S2X Compatibility

MODCOD (CCM & VCM only)	Concatenated, LDPC and BCH QPSK 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 8PSK 3/5, 2/3, 3/4, 5/6, 8/9, 9/10 16APSK 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 32APSK 3/4, 4/5, 5/6, 8/9, 9/10
Roll-off	5%, 10%, 15%, 20%, 25%, 35%
Symbol Rate	0.128-67.5 MBaud

Internet / MISTiQ

Error and data loss protection	ST2022-1 Rows & Columns FEC, ST2022-7 Seamless Protection Switching, Secure Reliable Transport (SRT)
Cloud compatibility	MISTiQ, Amazon Web Services (AWS), Microsoft Azure, Anexia, etc.

BISS

BISS	BISS MODE 1 decryption capability. May be configured via Net Manager (optional head-end management system).

AUDIO —TWO OR FOUR DECODERS

Audio Decoding Types	MPEG-1 Layers II and III MPEG-2 AAC MPEG-4 AAC MPEG-4 AAC LC MPEG-4 AAC-HE v1 & v2
Audio Transport Formats	MPEG-TS/RTP/UDP/IP
Audio Sample Rates	32, 44.1, 48 kHz
MPEG Layer 2	32, 48, 56, 64, 80, 96, 112, 128, 160, 192, 224, 256, 320, 384 kb/s
MPEG Layer 3	32, 40, 48, 56, 64, 80, 96, 112, 128, 160, 192, 224, 256, 320 kb/s
AAC (LC and HE)	24-320 kb/s in 8 kb/s steps
Decoding Formats	Discrete stereo, intensity coded stereo (joint stereo), single mono, dual mono
GPO	10x Form-A solid-state per decoder
Program Associated Data	1x RS-232 per decoder
Audio Output-Analog	Maximum output +24 dBu
Audio Output-Digital	AES3 (AES/EBU) on XLR
Impedance (Analog)	<100 ohms (into a high impedance load)
Frequency Response	+/- 0.5 dB (20 Hz to 20 kHz)
THD + N	Better than –70 dB @ 1 kHz
Crosstalk	Better than 85 dB, between decoders
Dynamic Range	Better than 80 dB (A-weighted)
Signal to Noise	Better than 90 dB

POWER REQUIREMENTS

Supply Voltage	100 to 240 VAC, +6%, -10%, 50 or 60 Hz
Power Consumption	180 Watts maximum

PHYSICAL PARAMETERS

Chassis	EIA - 1RU
Dimensions (H, W, D)	4.5/9.0 cm x 48 cm x 36cm (1.75/3.5 " x 19" x 14")
Weight	5.4 - 6.8 kg (12 - 15 lbs.)

ENVIRONMENTAL CONDITIONS

Operating Temperature	0° to 45° C (32° to 113° F)
Storage Temperature	-20° to 70° C (-4° to 158° F)
Humidity	Maximum 90% relative, non-condensing

INTERNATIONAL DATACASTING

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