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NETSTAR & ROADSTAR

On the road or in the studio, deliver perfect stereo via IP or ISDN*

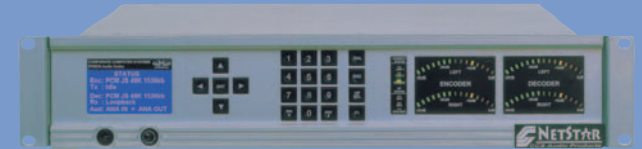
(*optional)



1991



2001



1987



1994



2002

Corporate Computer Systems, Inc., better known as CCS, d/b/a MUSICAM USA, shipped the world's first professional broadcast audio codecs in 1987. Since then, we have led the industry with innovative codec products that have connected tens of thousands of broadcasters and audio professionals worldwide.

Long the standard of those who test and measure audio, CCS codecs were first to offer multiple algorithms, multiple data rates, Prima™ Logic Language, in-band SMPTE Time Code, remote relay contact closures, ISDN BONDING, ISDN Speed Dial Addressing, Quick Configurations, MUSICAM®-enhanced MPEG Layer 2 Encoding, and a host of useful features designed to make your job easier. Our TEAM™ and SuperLink™ offer multi-channel Web Streaming and direct connection to multiple E1 and T1 transmission lines.

In 2002, CCS innovated again with the amazing NetStar™. While maintaining compatibility with existing codecs, NetStar opened a new realm of connection capabilities. NetStar can send and receive full fidelity, real-time stereo audio, contact closures and ancillary data not only via ISDN(optional) and dedicated data lines(optional), but also via IP(Standard). NetStar contains not only standard coding algorithms like G.711, G.722, MPEG 1 & 2 Layer 2 and MPEG 1 & 2 Layer 3, but also the latest MPEG 2 Advanced Audio Coding (AAC) and MPEG 4 AAC-Low Delay. NetStar can even connect bi-directionally via IP with uncompressed linear audio and near-zero delay.

Now, NetStar steps out. The new RoadStar™ gives you all the benefits of NetStar in a rugged, road-tough case complete with a 4-channel mixer, 48 VDC phantom power, analog and AES/EBU inputs and outputs and a flexible headphone monitoring system. NetStar changed your studio. Now RoadStar rules the road.



Easy to read, easy to navigate menu makes setup a snap. All NetStar functions and operational modes can be accessed from the front panel. NetStar includes all popular algorithms, plus MPEG 2 & 4 AAC and uncompressed linear operation via IP.

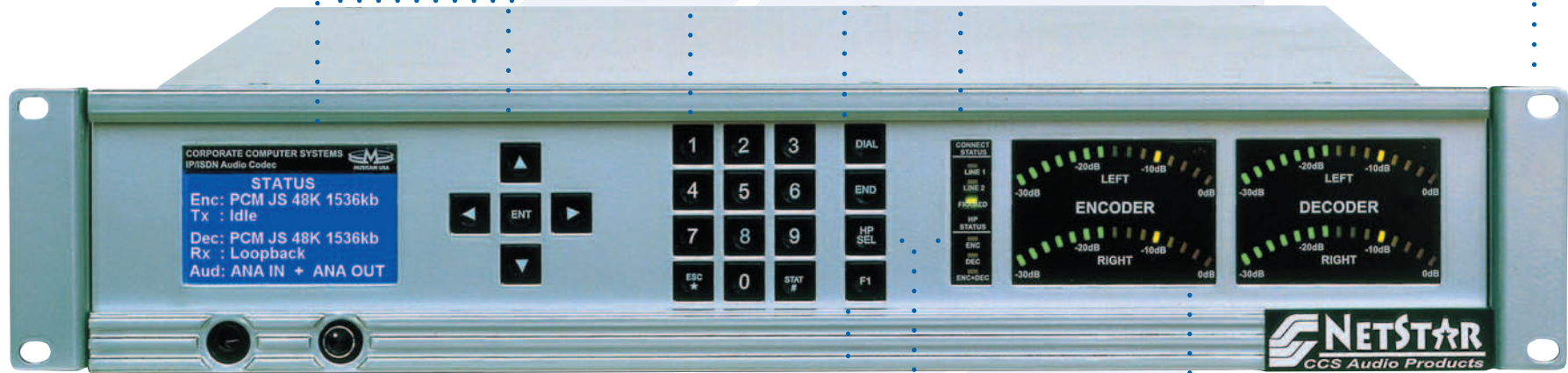
Dial Keypad for IP and ISDN entry. Massive Speed Dial Directory stores all IP and/or ISDN connection and configuration info for everyone on your calling list. Flexible Auto-Fallback System to keep you connected.

Manual dial and hang-up buttons. NetStar automatically detects the calling codec and instantly synchronizes to it.

Front panel displays tell you at a glance that your connection is working.

Removable Rack Ears for desk mounting or portable operation.

NetStar 500 shown



Front panel headphone monitor jack and pop-out level control.

Programmable Function Key for instant access to repetitive tasks.

Headphone Monitor Select Switch and Status Display. You can monitor Send Audio, Return Audio, or a blend of each. Perfect for monitoring bi-directional feeds.

Bright LED VU Meters for Encode and Decode levels, with variable peak-hold. NetStar is bi-directional in all connection modes, including IP. AES/EBU and S/PDIF I/O is included as standard equipment.

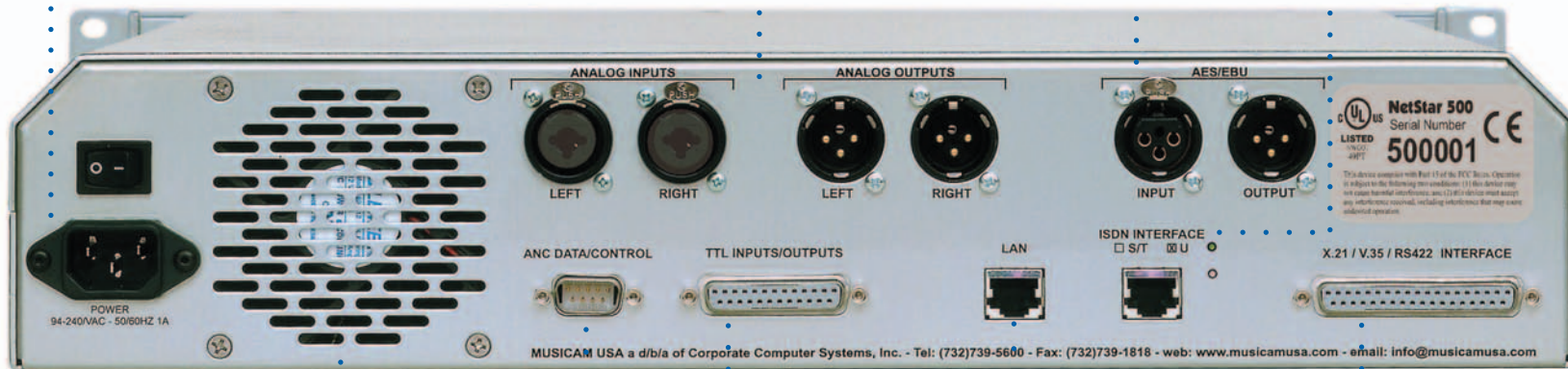
NetStar is an advanced 19-inch rack mount codec offering full compatibility with legacy based systems plus new features for today and the future. Full, bi-directional stereo audio via IP is supported through an Ethernet port. Built-in ISDN is optional, as is V.35, X.21 and RS422 interfaces are available. And the full compliment of standard coding algorithms, as well as MPEG 2 AAC and MPEG 4 AAC-LD are included as standard equipment. NetStar supports RS232 Ancillary Data and eight end-to-end contact closures. An on-board Web Server lets you control NetStar from any Web browser.

• Universal Power
• Supply works on
• all voltages from
• 94 to 240 VAC.

• Balanced analog inputs and
• outputs with 24 bit / 96 kHz
• resolution, signal-to-noise ratio
• better than 95 dB, and total
• harmonic distortion less than
• 0.005%. Gold plated Neutrik®
• connectors insure long term
• signal integrity.

• AES/EBU digital
• audio input and output
• up to 24 bit / 96 kHz
• is standard.

• **Optional 1-BRI ISDN**
• Terminal Adapter connects
• directly with U or S/T
• interfaces worldwide.



• Ultra-quiet, no
• maintenance
• whisper fan
• assures long
• component life.

• Multifunction Ancillary Data port
• supports full RS232 Ancillary
• data at rates up to 38,400 bps.
• Also supports wired RS232 local
• remote control and operating
• system downloads.

• Multi-function LAN connector. Ethernet interface
• supports full bi-directional audio via IP. IGMP
• multicast. Contains integrated Web Server for
• easy remote control from any Web browser.
• Supports operating system downloads.

• NetStar provides eight TTL Inputs and
• Outputs for command and control of
• far-end equipment; compatible with
• CDQPrima codecs.

• **Optional X.21, V.35 and**
• RS422 dual-port interface
• connects to synchronous
• data transmission links.

NetStar is easy to use and easy to afford. Simple and familiar interfaces support a host of features to get you connected today and keep you connected in the future. Full ISDN compatibility and full IP compatibility with automatic recognition of the calling codec. Automatic Fallback keeps you connected if your primary network becomes unreliable. MPEG 2 & 4 AAC modes for superior audio quality at low bit rates. And CCS quality throughout.

ROADSTAR — A Full Stereo Studio, at Home or On the Road



RoadStar gives you features, benefits and specifications identical to NetStar, and includes a 4-channel mixer with selectable input level, 48 VDC phantom power, level and pan controls for each input. The AES/EBU input bypasses the mixer for direct feeds from larger mixing desks. Dual headphone monitors accommodate two announcers, and the heavy duty enclosure protects operating controls and connectors.

NETSTAR & ROADSTAR

SPECIFICATIONS



Audio

Stereo Analog I/O 24 bit / 96 kHz
 Stereo Digital I/O up to 24 bit / 96 kHz, automatic rate adaptation
 Frequency Response (+0/-1 dB, swept sine wave)
 AAC and MPEG
 1 & 2 Layer 3, all modes: G.722:
 20-20 kHz @ 48 kHz 20-7000 Hz @ 16kHz
 20-15 kHz @ 32 kHz G.711:
 300-3300 Hz @ 8kHz
 MPEG 1 & 2 Layer 2:
 20-20 kHz @ 48 kHz
 20-15 kHz @ 32 kHz

Signal-to-Noise Ratio: >95 dB
 Total Harmonic Distortion: <0.005%
 L/R Phase Difference: <0.5 degrees
 Clipping Level: >18 dBu
 All connectors: Neutrik® XLR, gold plated

Headphone Monitor Modes

Encoder to both ears
 Decoder to both ears
 Encoder & Decoder mix to both ears

Coding Algorithms

For ISDN and dedicated data connections:

G.711	G.722
G.722	MPEG 1 & 2 Layer II
MPEG 1 & 2 Layer II	MPEG 1 & 2 Layer III
MPEG 1 & 2 Layer III	MPEG 2 AAC-LC
MPEG 2 AAC-LC	MPEG 4 AAC-Low Delay
MPEG 4 AAC-Low Delay	Linear Audio (uncompressed)

For IP Network Transport:

Codec Compatibility and Auto Detect

NetStar is compatible with most G.722 and MPEG codecs.
 NetStar can auto-detect the calling codec and automatically synchronize to it.
 NetStar can automatically set its Encoder to match the Encoder of the calling codec.

Transmission Data Rates

For Dedicated Data connections: 8, 16, 24, 32, 40, 48, 56, 64, 80, 96, 112, 128, 144, 160, 192, 224, 256, 320 and 384 kb/s
 For ISDN: 64 & 128 kb/s
 For IP: 8, 16, 24, 32, 40, 48, 56, 64, 80, 96, 112, 128, 144, 160, 192, 224, 256, 320, 384 kb/s and linear rates to 1536kb/s
 Notes: Some algorithms do not support all data and sampling rates; i.e., G.722 is limited to 64 kb/s at 16 kHz sampling rate.

ISDN Interface (Optional)

Supports U or S/T, all switch types
 ISDN Voice Telephone Mode via G.711
 Connector type: RJ-45

LAN Interface

10-100 Base-T Ethernet port, supports full bi-directional stereo audio with embedded ancillary data and contact closures, IGMP Multicast, included Web Server for browser based remote control, and download of operating code upgrades.
 Connector type: RJ-45

Synchronous Data Interface (NetStar option only)

Provides X.21, V.35 or RS422 dual-port synchronous data for use with dedicated data lines or satellite uplink modulators.

Ancillary Data

Multi-function port for RS232 bi-directional asynchronous data, compatible with all CCS codecs and others. Supports data rates to 38.4 kb/s. Also supports wired Remote Control from a local PC and local operating code upgrades.
 Connector type: DB9F

Remote Contact Closures

8 TTL inputs and outputs for end-to-end contact closures
 Compatible with CCS codecs and others
 Inputs: Open collector, closure to ground
 Outputs: Sink up to 150 mA to ground
 Contact closures operate bi-directionally in all MPEG and Linear modes

Software Upgrades

Downloadable from MUSICAM USA.

Power Supply

Universal Power Supply
 Operating voltage: 94-240 VAC
 Operating line frequency: 47-65 Hertz

Dimensions & Weight

NETSTAR
 2 U Rack Mount: 19 W x 3.47 H x 12 D inches (48.26 x 8.81 x 30.48 cm)
 Desktop mounting: 17.1 W x 3.6 H x 12 D inches (43.43 x 9.14 x 30.48 cm)
 Shipping Weight: 16 pounds (7.3 kg)
 ROADSTAR
 13.25 W x 4.5 H x 13 D (33.66 x 11.43 x 33.02 cm)
 Shipping Weight: 14 pounds (6.4 kg)

NetStar 300 is ideal for use in unattended locations. The onboard Web Server provides full remote control from any connected Web browser.

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STATUS
Enc: AAC St 48K 128kb
Tx : IP 205.197.242.26

Dec: AAC St 48K 128kb
Rx : IP 205.197.242.26
Aud: ANA IN + ANA OUT
  
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Direct Connect
1. Transmit IP
2. ISDN Call
3. Voice Call
4. Back
  
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IP RX OPTIONS
1. Accept IP [Yes]
2. Accept Mcast [No]
3. IP two-way [No]
4. Rx Port [5000]
5. Multicast Addr
6. Back
  
```

NetStar menus make setup a snap.

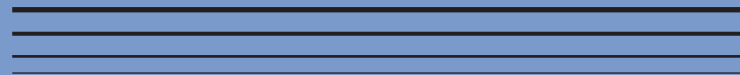


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Crystal Clear Digital Audio



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