

DIGITAL CONFERENCE SYSTEM

# Full-Digital Networked DSP Conference Processor

Technical reference for the BR-DCU-CU2000-D — the central DSP controller for Bronx wired dialogue systems. One CAT5e cable carries up to 64 audio channels, the platform expands to 5200 discussion units, and a built-in DANTE module, 4-zone output and PELCO/VISCA camera tracking make it the brain of the conference room.

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## 01 • CONFERENCE PROCESSOR

# Full-Digital Networked DSP Conference Processor

1U central controller and DSP for wired Bronx dialogue systems — with DANTE output, 4-zone sound and camera auto-tracking.

The heart of the wired conference room. A single CAT5e cable transmits up to 64 channels of full-digital audio over the hand-in-hand ring network, the platform scales to 5200 discussion units, and on-board DSP delivers 16-segment EQ, AGC, AFC, auto-mix and four-zone separated output — with USB recording, DANTE and PELCO / VISCA camera tracking.



BR-DCU-CU2000-D — front control panel (top) and rear I/O panel (bottom).

| AUDIO CHANNELS      | SYSTEM CAPACITY   | ZONE OUTPUTS   | DANTE                  |
|---------------------|-------------------|----------------|------------------------|
| <b>64</b> per CAT5e | <b>5200</b> units | <b>4</b> zones | <b>Built-in</b> output |

## HEADLINE CAPABILITIES

- 64 channels on one CAT5e cable
- Built-in DANTE output module
- 4-zone separated sound output
- Expands to 5200 discussion units
- 16-segment EQ · AGC · AFC · auto-mix
- Hand-in-Hand loop redundancy

**01.1 Features**

DSP · NETWORK · AUDIO

- Digital ring network — full-digital signal transmission and processing.
- One CAT5e cable transmits up to 64 channels of audio and other signals.
- All microphone units carry audio with ID-independent output; works with voice recognition for role separation.
- Lossless high-fidelity audio — 48 kHz sampling, 20 Hz – 20 kHz response.
- A single controller manages and merges 4 conference rooms; cascade controllers for larger merge / split (optional).
- “Hand-in-Hand-Loop-Network” keeps the system working through unit changes or failures.
- Per-unit microphone sensitivity and 8-segment EQ adjusted independently.
- Controller outputs 16-segment EQ for sound-field adjustment, with pressure limit and human-voice noise gate.
- AGC automatic gain, AFC feedback suppression and auto-mix.
- Four-zone separated sound output, auto-adjusted by microphone position for longer pickup without whistle.
- Built-in audio routing, diagnostics and real-time monitoring; integrates with third-party video-conferencing terminals.
- USB recording with advanced noise cancellation for clearer recordings.
- System date / time management and count-down speech.
- Inbuilt DANTE output module to work with other DANTE equipment.
- Drives 2× 120 W POE speakers; up to 16 POE speakers via the extension main unit.
- Loop cabling for redundancy in case of unit failure.

**01.2 Functions**

NETWORKING · AUDIO · CONTROL · CAMERA

- Connects with the Bronx full-digital extension main unit; expands to 5200 discussion units.
- Hand-in-Hand loop with automatic per-unit ID assignment to avoid ID conflicts.
- Wired discussion units connect directly to the controller for fast delegate expansion.
- 2-channel audio input (XLR or RCA) for local audio or remote video-conferencing input.
- Up to 8-channel audio output (XLR / RCA / Phoenix) for interpretation or partitioned output.
- Optional audio input box adds condenser or dynamic microphone connections.
- Built-in multi-way internal communication.
- TCP/IP connection between controller and PC.
- RS232 central control for microphone switch, priority and volume.
- RS232 / RS485 sends PELCO / VISCA for camera auto-tracking.
- Hot plug-and-play with auto-recovery.
- Wide operating voltage, 100 V – 240 V AC.
- Standalone: speaker limit 1/2/4/6 (up to 32 mics full-on); modes OPEN / VOICE / OVERRIDE / APPLY / ALL; voting & chairman priority.
- With PC software: extended voting (Level 1–5, Ranking), RFID name voting and simultaneous interpretation.

**01.3 Control & Indicators**

## FRONT PANEL

- LCD display shows all operations and results.
- 4-way button for menu operation.
- One-button press to start recording.
- Light indicator.
- Master volume control knob.

**01.4 Interfaces**

## REAR I/O · CONNECTIVITY

- Front-panel USB recording interface
- 3.5 mm headphone monitoring jack
- 1× RCA audio input
- 1× XLR audio input
- 1× RCA audio output
- 1× XLR audio output
- 6× Phoenix audio output
- 2× RJ45 digital audio (AUDIO-LINK)
- 2× RJ45 for chairman / delegate / translator units
- 1× RJ45 for wireless AP or router
- 1× DP9 male for external control
- 1× DP9 female for camera
- 1× 3-pin Phoenix for camera-control keyboard
- 1× RJ45 for computer / network switcher
- 1× grounding screw
- 1× 100 – 240 V AC power inlet

## 01.5 Technical Parameters

## SYSTEM · AUDIO PERFORMANCE

|                           |                              |
|---------------------------|------------------------------|
| Power                     | 100 V / 240 V AC             |
| Static power consumption  | 150 W                        |
| Frequency response        | 20 Hz ~ 20 kHz               |
| Noise ratio (S/N)         | > 96 dBA                     |
| Total harmonic distortion | < 0.05%                      |
| Channel crosstalk         | > 85 dB                      |
| Dynamic range             | > 94 dB                      |
| Output impedance          | > 1 k $\Omega$               |
| Recording file size       | 0.8 M / min                  |
| Limit on speakers         | 1 / 2 / 4 / 6, max 8 persons |
| Display                   | LCD1602                      |
| Camera tracking protocol  | PELCO-P / PELCO-D / VISCA    |

## 01.6 Max Audio Levels

## INPUTS &amp; OUTPUTS

LINE IN 1 +10 dBu

LINE IN 2 +10 dBu

LINE OUT 1 +12 dBu BAL.

LINE OUT 2 +12 dBu BAL.

LINE OUT 3 +12 dBu BAL.

LINE OUT 4 +12 dBu BAL.

## 01.7 Control, Physical &amp; Environmental

## INTERFACES · MECHANICAL

|                            |                                               |
|----------------------------|-----------------------------------------------|
| RS-232 control             | 1× 9-pole Sub-D female + 1× 9-pole Sub-D male |
| Ethernet control           | RJ45 to PC                                    |
| PC communication           | TCP/IP                                        |
| Camera control             | RS-232 / UDP                                  |
| Network interface          | RJ45                                          |
| Mounting                   | 19" standard rack (1U)                        |
| Dimensions                 | 483 (L) × 260 (W) × 43.6 (H) mm               |
| Weight                     | 3 kg                                          |
| Color                      | Black                                         |
| Operating temperature      | 0 ~ 45 °C                                     |
| Storage temperature        | -20 ~ 50 °C                                   |
| Master-slave configuration | Master-slave redundancy supported             |

*Disclaimer: due to continuous product development and upgradation, the specifications and image of the product may change without prior intimation.*

## 05 · MEETING MANAGEMENT

# Bronx Dialogue Software

Digital discussion central and meeting-management software for the CU2000-D conference platform.

## 05.1 Technical Description

## CAPABILITIES

|                                |                                                                                                      |
|--------------------------------|------------------------------------------------------------------------------------------------------|
| <b>Network Interface</b>       | Intuitive network interface for seamless microphone control, request handling and voting management. |
| <b>Role Control</b>            | Define and customise control privileges by user role — chairperson, delegate, observer.              |
| <b>Role Protection</b>         | Secure role assignment with password / permission protection.                                        |
| <b>Meeting Template</b>        | Pre-defined templates including meeting title, delegate list and seating.                            |
| <b>Meeting Start</b>           | Start meetings from templates or as new sessions instantly.                                          |
| <b>Unit Management</b>         | Manage all units via a room-layout view — mute / unmute, speaker activation.                         |
| <b>Request List Management</b> | Manage delegate speaking requests — accept, prioritise or remove.                                    |
| <b>Voting Facility</b>         | Integrated electronic voting with real-time result display.                                          |
| <b>Name Display</b>            | Show participant names on units per the seating plan.                                                |

## 05.2 Key Advantages

## WHY IT MATTERS

- Simplifies meeting setup with reusable templates.
- Ensures secure role-based access control.
- Real-time management of delegates and requests.
- Enhances decision-making with built-in voting tools.
- Improves transparency through name display and structured seating.

# BRONX

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*Engineered for Indian boardrooms, ministries, courtrooms and broadcast halls – the digital DIALOGUE conference platform.*

## ABOUT BRONX SYSTEMS

An Indian Original Equipment Manufacturer. ISO certified · MSME · Make in India · NSIC. Bronx Systems supplies professional audio-visual, conference, control-room and signage solutions to government, defence, broadcast and enterprise customers across India.

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### SALES

[sales@bronx.co.in](mailto:sales@bronx.co.in)

### WEB

[www.bronx.co.in](http://www.bronx.co.in)

### DOCUMENT

Conference Processor  
Datasheet · 2026 · V1.2

### REVISION

Rev. A · 8 pages