

## HCS-8300MAD/FS/20 Congress Main Unit



### Features

- Based on ingenious CongressMatrix™ technology, integrated n×8 audio matrix processor
- Integrated 8 channels group output function, easy to combine/split conference rooms
- Connectable to multi channel audio input or output devices for versatile expansion of the system
- High system reliability guaranteed by “Closed Loop - Daisy Chain” connection topology
- Perfect sound quality on all 64 simultaneous interpretation channels: frequency response 30 Hz to 20 kHz
- Supports Dante, an uncompressed, multi-channel digital media networking technology, with near-zero latency and synchronization
- Equipped with optical fiber interface to combine two widely separated conference rooms to form one unique coherent system
- Dual connection backup via optical fiber and Cat.5 cable between Congress Main Unit and Congress Extension Main Unit
- Connection facility for an additional condenser or dynamic microphone, expanding user's application spectrum
- Integrated USB interfaces for system upgrading and saving system parameters. Convenient for system maintenance
- TCP/IP communication protocol in PC control
- Remote control, remote diagnosis and remote update
- Voting facilities without PC intervention
- Built-in multi-channel intercom facility
- Plug and play for all units
- Excellent immunity to RF interferences from mobile phones and comparable devices
- System power controllable by central control system

The Congress Main Unit includes features for controlling delegate microphones, distributing simultaneous interpretation and conducting voting sessions, without an operator.

In combination with a PC, the Congress Main Unit brings greater sophistication to conference control. Users are able to access an extensive range of software modules, each with a specific function in controlling and monitoring a conference, greatly expanding the capacity to manage a conference. In the event of PC failure, the Congress Main Unit will revert to its stand-alone operation mode, enabling the conference to proceed.

The Congress Main Unit also provides power supply to the Congress units (except for HCS-8338 and HCS-8348 series which are powered by HCS-8300PM or HCS-8300PM2).

### Functions

- Compliant to IEC 60914
- Based on ingenious CongressMatrix™ technology, integrated n×8 audio matrix processor (n is the number of microphones connected in the system)
  - ◆ 8 discrete audio outputs, including:
    - Line 1 output: 15 band graphical EQ + 8 band parameterized EQ + DRC (dynamic range compressor)
    - Line 2 output: 5 band graphical EQ + DRC (dynamic range compressor)
    - Group output 1~6: 5 band graphical EQ + DRC (dynamic range compressor) + time delay (maximum delay time for 32 kHz sampling rate is 1.5 s, maximum delay time for 48 kHz sampling rate is 1 s)
  - ◆ Connectable to a multi channel independent PA system (up to 8 channels). Each channel is supplied with its proper audio signal. The audio signal of each microphone can be routed to any speaker at any ratio, thus “N-1” function can be realized easily: when the microphone in one area is turned on, its audio signal is only routed to all areas except to its own, avoiding acoustic feedback (howl) when audio transmission gain is increased
  - ◆ 8 channels group output function
  - ◆ Supports combining/separating meeting rooms by split/merge function
  - ◆ Recording by group function
  - ◆ Gain and EQ (5 band) of each microphone adjustable separately, fitting the individual orator's voice to achieve perfect speech pickup any time
  - ◆ Displays audio signal spectrum to determine howling frequency which can be suppressed by adjusting EQ parameters
  - ◆ 2 audio line in (analog, digital, Dante) or 1 audio line in (analog, Dante) + 1 microphone input, gain and EQ for each input adjustable separately. +24 V phantom power supply at microphone input, condenser microphone can be connected directly
  - ◆ Connectable to multi channel audio input or output devices for versatile expansion of the system

- “Closed Loop - Daisy Chain” connection topology for a high operational system reliability: breakdown or replacement of a Congress Unit and connection failure of a cable will not influence other Congress Units
- Embedded high performance DSP for audio signal processing, supporting 48 kHz and 32 kHz audio sampling rate. All 64 channels feature perfect sound quality with a frequency response of 30 Hz to 20 kHz
- Based on TAIDEN originated MCA-STREAM digital audio processing and transmitting technology
- Every delegate unit is assigned an individual ID for convenient setup and to avoid double ID allocation forever
- Set any delegate unit to be VIP unit, VIP unit can be activated as long as the total of active microphones is not beyond 6
- Built-in multi-channel intercom facility
- Connection facility for additional condenser or dynamic microphones, expanding user’s application spectrum (HCS-8300MI series audio input interface required)
- If additional contribution units are connected for system expansion, additional Congress Extension Main Units HCS-8300ME or HCS-8300ME/FS are required:
  - ◆ 4096 discussion or voting units
  - ◆ 378 interpreter units (with maximum 63 booths, each booth with maximum 6 interpreter units)
  - ◆ Any quantity of channel selectors
- With the 8 channel digital/analog audio output device (several units cascable), multi-channel digital/analog audio signals are available as output signals for infrared language distribution system or recording
- Automatic video tracking implementation when cooperating with cameras and video switcher unit; preset positions on PC
- Implemented features in stand-alone mode:
  - ◆ Set the number (1/2/3/4) of delegates permitted to speak at the same time
  - ◆ Set-up of speaking time limitation (1~240 minutes)
  - ◆ Speak mode: OPEN/OVERRIDE/VOICE/APPLY/PTT
    - “OPEN” mode, microphone On/Off button with request-to-speak registration (AUTO)
    - “OVERRIDE” mode, microphone On/Off button control with override of the active microphones (FIFO)
    - “VOICE” mode, acoustic active sensitivity and automatic switch-off time can be adjusted continuously, built-in “flash-on” technology, immediate microphone activation on speaking
    - “APPLY” mode, delegate applies to speak by pressing microphone On/Off button, delegate can speak only when operator or chairman approved his application
    - “PTT” mode, press microphone On/Off button to talk
  - ◆ Parliamentary voting (YES/NO/ABSTAIN)
  - ◆ 64 (1+63) channels simultaneous interpretation function. Cooperates with channel selector or infrared language distribution system enabling a larger audience to follow the conference
- In combination with the corresponding software modules, more functions can be implemented:
  - ◆ Centralized microphone management
  - ◆ Multifunction voting:
    - For/Against
    - Parliamentary: YES/NO/ABSTAIN
    - Questionnaire: 1/2/3/4/5
    - Audience response: --/0/+/>++
    - Parliamentary (NPPV): Yes/No/ABSTAIN/NPPV
    - Appraisal:
      - ◇ Satisfied (four keys voting: perfectly satisfied/satisfied/basically satisfied/unsatisfied) (three keys voting: satisfied/basically satisfied/unsatisfied) (two keys voting: satisfied/unsatisfied)
      - ◇ Qualified (four/three/two keys voting)
      - ◇ Competent (four/three/two keys voting)
  - ◆ Several sign-in modes: entrance sign-in/seat sign-in
  - ◆ Depending on the purchased HCS-8300 software modules, user gains access to additional conference control & management functions
- Advanced TCP/IP communication protocol in PC controlled mode, easy to carry out remote control, remote diagnosis and remote update
- Supports Dante, an uncompressed, multi-channel digital media networking technology, with near-zero latency and synchronization
- Dual connection backup between Congress Main Unit and Congress Extension Main Unit via optical fiber and Cat.5 cable
- Hot spare dual server structure: another Congress Main Unit is set up as backup Congress Main Unit and connected to the system and takes over automatically if the main Congress Main Unit fails
- Multi-room configuration: Congress Main Unit(s) can be used as Congress Extension Main Unit(s) to carry out multi-room configuration flexibly. Multiple Congress Main Unit configuration allows all connected multiple rooms to be operated either as one unique system or as independent systems
- Integrated real-time clock displays time on the LCD of the interpreter unit to inform interpreter to stay on schedule
- Fully compatible with TAIDEN HCS-4100/50 Fully Digital Congress System: HCS-4100/50 series Congress Units can be connected to the HCS-8300 system (exclusive functions only available with HCS-8300 series contribution units)
- Built-in unit detection facilities: detect the unit’s microphone, speaker, LEDs and voting keys prior to start of the meeting
- Automatic recovery facility, supporting “PnP” (plug and play)
- If the PC is broken down, Congress Main Unit enters the stand-alone state automatically, carrying out basic conference control, ensuring the consistency of the conference
- System power controllable by central control system

## Controls and Indicators

- Graphic LCD with back-lighting displays status and menu of the system configuration, supporting multi-language menu
- Four buttons for configuration
- Power switch
- Standby switch with indicator
- Operation mode indicators
- LINE IN electric level adjust knob
- Congress Unit floor audio channel master volume adjust knob

## Interconnections

- Multiple audio in/out interfaces:
  - ◆ One balanced XLR-F for microphone input or audio LINE IN
  - ◆ Two symmetrical RCA input interfaces for audio LINE IN
  - ◆ One balanced XLR-M for audio LINE OUT
  - ◆ Two symmetrical RCA output interfaces for audio LINE OUT
  - ◆ 6 channels group output on 3-pin 3.81 mm Phoenix connectors
  - ◆ One headphone output socket (Ø 3.5 mm) for monitoring channel languages
- 2 × RS232 port for connection to central control system and system diagnosis each
- AES/EBU digital input/output
- Duplex SC single-mode optical fiber interface to combine two widely separated conference rooms and to operate as one unique coherent system
- Dante interface to connect to peripheral digital devices without losing any sound quality
- 1 × RJ45 standard socket for connection to Ethernet interface (LAN)
- 1 × RJ45 standard socket (output) for connection with a Congress Extension Main Unit (EXTENSION)
- 2 × outlet (6P-DIN) trunk-line cable outlet
- Video switcher interface
- Emergency signal interface: for connection to public emergency system. Pauses the conference automatically if the system is switched on and sends alarm signals to Congress Units
- Mixer interface: for connection to HCS-8301MD Digital Audio Mixer for Conference
- 2 × USB interface at front panel to upgrade system and to save system parameters.

## Max. audio inputs

LINE IN 1 .....+10 dBu, BAL.  
 LINE IN 2 .....+10 dBu, UNBAL.  
 AES/EBU IN .....1 FFS

## Max. audio outputs

LINE OUT 1 .....+20 dBu, BAL.  
 LINE OUT 2 .....+20 dBu, UNBAL.  
 GROUP OUT (1...6) .....+20 dBu, BAL.  
 AES/EBU OUT .....1 FFS

## Mechanical

Mounting .....Tabletop or mounted in a 19" rack  
 Dimensions (h × w × d)  
     For table use, with feet .....99 × 430 × 325 mm  
     For 19" rack use, with brackets .....89 × 478 × 350 mm  
 Weight .....7.8 kg  
 Color .....White (PANTONE 420 C)

## Ordering Information

HCS-8300MAD/FS/20 .....Fully Digital Congress System Main Unit  
 (discussion, voting, 64 CHs,  
 single-mode optical fiber interface,  
 AES/EBU digital input/output, Dante  
 interface, Mixer interface, Mic. group  
 output)

## Technical Specifications

### Electrical

Frequency response .....30 Hz to 20 kHz  
 SNR .....>96 dBA  
 Dynamic range .....>94 dB  
 Isolation .....>85 dB  
 THD .....<0.05%  
 Power supply .....AC 100 V-120 V 60 Hz or AC 220 V-240 V 50 Hz  
 Power consumption .....200 W  
 Total supply power .....120 W  
 RS232 connection .....2 × 9-pole Sub-D female socket

## HCS-8300MB/20 Congress Main Unit



### Features

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- Perfect sound quality on all 64 simultaneous interpretation channels: frequency response 30 Hz to 20 kHz
- Dual connection backup via optical fiber and Cat.5 cable between Congress Main Unit and Congress Extension Main Unit
- Connection facility for an additional condenser or dynamic microphone, expanding user’s application spectrum
- Integrated USB interfaces for system upgrading and saving system parameters. Convenient for system maintenance
- TCP/IP communication protocol in PC control
- Remote control, remote diagnosis and remote update
- Voting facilities without PC intervention
- Built-in multi-channel intercom facility
- Plug and play for all units
- Excellent immunity to RF interferences from mobile phones and comparable devices
- System power controllable by central control system

The Conference Main Unit includes features for controlling delegate microphones, distributing simultaneous interpretation and conducting voting sessions, without an operator.

In combination with a PC, the Congress Main Unit brings greater sophistication to conference control. Users are able to access an extensive range of software modules, each with a specific function in controlling and monitoring a conference, greatly expanding the capacity to manage a conference. In the event of PC failure, the Congress Main Unit will revert to its stand-alone operation mode, enabling the conference to proceed.

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  - ♦ Connectable to a multi channel independent PA system (up to 8 channels). Each channel is supplied with its proper audio signal. The audio signal of each microphone can be routed to any speaker at any ratio, thus “N-1” function can be realized easily: when the microphone in one area is turned on, its audio signal is only routed to all areas except to its own, avoiding acoustic feedback (howl) when audio transmission gain is increased
  - ♦ 8 channels group output function
  - ♦ Supports combining/separating meeting rooms by split/merge function
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  - ◆ Any quantity of channel selectors
- With the 8 channel digital/analog audio output device (several units cascable), multi-channel digital/analog audio signals are available as output signals for infrared language distribution system or recording
- Automatic video tracking implementation when cooperating with cameras and video switcher unit; preset positions on PC
- Implemented features in stand-alone mode:
  - ◆ Set the number (1/2/3/4) of delegates permitted to speak at the same time
  - ◆ Set-up of speaking time limitation (1~240 minutes)
  - ◆ Speak mode: OPEN/OVERRIDE/VOICE/APPLY/PTT
    - “OPEN” mode, microphone On/Off button with request-to-speak registration (AUTO)
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  - ◆ Several sign-in modes: entrance sign-in/seat sign-in
  - ◆ Depending on the purchased HCS-8300 software modules, user gains access to additional conference control & management functions
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- Multi-room configuration: Congress Main Unit(s) can be used as Congress Extension Main Unit(s) to carry out multi-room configuration flexibly. Multiple Congress Main Unit configuration allows all connected multiple rooms to be operated either as one unique system or as independent systems
- Integrated real-time clock displays time on the LCD of the interpreter unit to inform interpreter to stay on schedule
- Fully compatible with TAIDEN HCS-4100/50 Fully Digital Congress System: HCS-4100/50 series Congress Units can be connected to the HCS-8300 system (exclusive functions only available with HCS-8300 series contribution units)
- Built-in unit detection facilities: detect the unit's microphone, speaker, LEDs and voting keys prior to start of the meeting
- Automatic recovery facility, supporting “PnP” (plug and play)
- If the PC is broken down, Congress Main Unit enters the stand-alone state automatically, carrying out basic conference control, ensuring the consistency of the conference
- System power controllable by central control system

### Controls and Indicators

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- 1 × RJ45 standard socket for connection to Ethernet interface (LAN)

- 1 × RJ45 standard socket (output) for connection with a Congress Extension Main Unit (EXTENSION)
- 2 × outlet (6P-DIN) trunk-line cable outlet
- Video switcher interface
- Emergency signal interface: for connection to public emergency system. Pauses the conference automatically if the system is switched on and sends alarm signals to Congress Units
- 2 × USB interface at front panel to upgrade system and to save system parameters.

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## Technical Specifications

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 Dynamic range.....>94 dB  
 Isolation.....>85 dB  
 THD.....<0.05%  
 Power supply.....AC 100 V-120 V 60 Hz or AC 220 V-240 V 50 Hz  
 Power consumption.....200 W  
 Total supply power.....120 W  
 RS232 connection.....2 × 9-pole Sub-D female socket

### Max. audio inputs

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 LINE IN 2.....+10 dBu, UNBAL.

### Max. audio outputs

LINE OUT 1.....+20 dBu, BAL.  
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 GROUP OUT (1...6).....+20 dBu, BAL.

### Mechanical

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 Dimensions (h × w × d)  
 For table use, with feet.....99 × 430 × 325 mm  
 For 19" rack use, with brackets.....89 × 478 × 350 mm  
 Weight.....7.8 kg  
 Color.....White (PANTONE 420 C)

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## Ordering Information

HCS-8300MB/20....Fully Digital Congress System Main Unit  
 (discussion, voting, 64 CHs, Mic. group output)



## HCS-8300 and HCS-4100/50 Series Congress Main Units Function list

Type No.	Speech	Voting	Graphic LCD	64CHs SI	Mic. group output	Optical fiber interface	Dante interface	Mixer interface	AES/EBU interface
HCS-8300MAD/FS/20	√	√	√	√	√	√	√	√	√
HCS-8300MB/20	√	√	√	√	√				
HCS-4100MA/FS/50	√	√	√	√		√			
HCS-4100MB/50	√	√	√	√					
HCS-4100MC/50	√	√	√						

## System Connection [discussion+ group output]

