

HCS-4100MA/50 Congress Main Unit



Features

- Connectable to HCS-8300 series 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
- Connection facility for an additional condenser or dynamic microphone, expanding user's application spectrum
- Dual connection backup via Cat.5 cable between congress main unit and extension main unit
- 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 interference 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 main unit brings greater sophistication to conference control. Users can 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 main unit will revert to its stand-alone operation mode, enabling the conference to proceed.

Functions

- Compliant to IEC 60914
- "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

- Multi-room configuration: congress main unit(s) can be used as extension main unit(s) to carry out multi-room configuration flexibly. Multiple main unit configuration allows all connected multiple rooms to be operated either as one unique system or as independent systems
- 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 or 1 audio line in + 1 microphone input: gain and EQ for each input adjustable separately, +24 V phantom power available at microphone input, a condenser microphone can be connected directly
- Unit offers connection facilities to HCS-8300 series multi channel audio input or output devices for versatile expansion of the system
- Based on TAIDEN originated MCA-STREAM digital audio processing and transmitting technologies
- 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 (incl. chairman/delegate/VIP unit)
- Built-in multi-channel intercom facility
- Connection facility for additional condenser or dynamic microphones, expanding users application spectrum (HCS-8300MI series audio input interface required)
- Dual connection backup between congress main unit and extension main unit via optical fiber and Cat.5 cable
- If additional contribution units are connected for system expansion, additional extension main units HCS-8300ME or HCS-8300ME/F 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 HCS-8300 series 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, 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 adjustable continuously, built-in "flash-on" technology, immediate microphone activation on speaking
 - "APPLY" mode, delegate applies to speak by pressing microphone On/Off button, delegate only speaks 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
 - ◆ Multiform 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-4100/50 software modules, user has 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
- Hot spare dual server structure: another congress main unit is set up as backup main unit and connected to the system, takes over automatically if the main congress main unit fails
- Fully compatible with TAIDEN HCS-4100/20 Fully Digital Conference System: HCS-4100/20 series conference units can be connected to the HCS-4100/50 system, and HCS-4100/50 series congress units can be connected to the HCS-4100/20 system (exclusive functions only available with HCS-4100/50 contribution units)
- Fully compatible with TAIDEN HCS-8300 Series Paperless Multi-media Congress System: HCS-8300 series congress units can be connected to the HCS-4100/50 system, and HCS-4100/50 series congress units can be connected to the HCS-8300 system (exclusive functions only available with HCS-8300 contribution units).
- Built-in unit detection facilities: detect the unit's microphone, loudspeaker, 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
- Integrated real-time clock displays time on the LCD of the interpretation unit to inform interpreter to stay on schedule

Controls and Indicators

- Graphic 256x32 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-type connector for microphone input or audio line in
 - ◆ Two symmetrical RCA input interfaces for audio line in
 - ◆ One balanced XLRM-type connector for audio line out
 - ◆ Two symmetrical RCA output interfaces for audio line out
- 2 x RS-232 port for connection to intelligent central control system and system diagnosis each
- Optical fiber interface to combine two widely separated conference rooms and to operate as one unique coherent system
- 1 x RJ45 standard socket for connection to Ethernet interface (LAN)
- 1 x RJ45 standard socket (output) for connection with a congress extension main unit (EXTENSION)
- 2 x 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 x USB interface at front panel to upgrade system and to save system parameters

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.....	America, Japan: AC 110 V~120 V 60 Hz Asia, Europe: AC 220 V~240 V 50 Hz
Power consumption.....	200 W
Total supply power.....	120 W
RS-232 connection.....	2 x 9-pole Sub-D female socket

Max. audio inputs

LINE IN 1.....	+10 dBu, BAL.
LINE IN 2.....	+10 dBu, UNBAL.

Max. audio outputs

LINE OUT 1.....	+20 dBu, BAL.
LINE OUT 2.....	+20 dBu, UNBAL.

Mechanical

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

Ordering Information

HCS-4100MA/50.....Fully Digital Congress System Main Unit
(discussion, voting, 64 CHs, optical fiber
interface)

HCS-4100MB/50 Congress Main Unit



Features

- Connectable to HCS-8300 series 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
 - Connection facility for an additional condenser or dynamic microphone, expanding user's application spectrum
 - Dual connection backup via Cat.5 cable between congress main unit and extension main unit
 - 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 interference 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 main unit brings greater sophistication to conference control. Users can 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 main unit will revert to its stand-alone operation mode, enabling the conference to proceed.
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- Compliant to IEC 60914
 - "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
- 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 or 1 audio line in + 1 microphone input: gain and EQ for each input adjustable separately, +24 V phantom power available at microphone input, a condenser microphone can be connected directly
 - Unit offers connection facilities to HCS-8300 series multi channel audio input or output devices for versatile expansion of the system
 - Based on TAIDEN originated MCA-STREAM digital audio processing and transmitting technologies
 - Dual connection backup between congress main unit and extension main unit via Cat.5 cable
 - 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 (incl. chairman/delegate/VIP unit)
 - Built-in multi-channel intercom facility
 - Connection facility for additional condenser or dynamic microphones, expanding users application spectrum (HCS-8300MI series audio input interface required)
 - If additional contribution units are connected for system expansion, additional extension main units HCS-8300ME or HCS-8300ME/F 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 HCS-8300 series 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, 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 adjustable continuously, built-in "flash-on" technology, immediate microphone activation on speaking
 - "APPLY" mode, delegate applies to speak by pressing microphone On/Off button, delegate only speaks when operator or chairman approved his application
 - "PTT" mode, press microphone On/Off button to talk
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 - ◆ Centralized microphone management
 - ◆ Multiform voting:
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 - ◆ Several sign-in modes: entrance sign-in/seat sign-in
 - ◆ Depending on the purchased HCS-4100/50 software modules, user has 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
- Hot spare dual server structure: another congress main unit is set up as backup main unit and connected to the system, takes over automatically if the main congress main unit fails
- Multi-room configuration: congress main unit(s) can be used as extension main unit(s) to carry out multi-room configuration flexibly. Multiple main unit configuration allows all connected multiple rooms to be operated either as one unique system or as independent systems
- Fully compatible with TAIDEN HCS-4100/20 Fully Digital Conference System: HCS-4100/20 series conference units can be connected to the HCS-4100/50 system, and HCS-4100/50 series congress units can be connected to the HCS-4100/20 system (exclusive functions only available with HCS-4100/50 contribution units)
- Fully compatible with TAIDEN HCS-8300 Series Paperless Multi-media Congress System: HCS-8300 series congress units can be connected to the HCS-4100/50 system, and HCS-4100/50 series congress units can be connected to the HCS-8300 system (exclusive functions only available with HCS-8300 contribution units).
- Built-in unit detection facilities: detect the unit's microphone, loudspeaker, 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
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Controls and Indicators

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Interconnections

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 - ◆ Two symmetrical RCA input interfaces for audio line in
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Dynamic range>94 dB
Isolation>85 dB
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Power supplyAmerica, Japan: AC 110 V~120 V 60 Hz Asia, Europe: AC 220 V~240 V 50 Hz
Power consumption200 W
Total supply power120 W
RS-232 connection2 x 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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Mechanical

MountingTabletop or mounted in a 19" rack
Dimensions (h x w x d)	
For table use, with feet99 x 430 x 325 mm
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HCS-4100MB/50Fully Digital Congress System Main Unit (discussion, voting, 64 CHs)
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HCS-4100MC/50 Congress main unit



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- Supporting 48 kHz and 32 kHz audio sampling rate
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 - ◇ Competent (four/three/two keys voting)

Low power consumption design

All congress units of HCS-8300 and HCS-4100/50 series (except HCS-8318 series) are supplied by the main unit's 6P-DIN interface. Since the power capacity of the 6P-DIN interface is limited, it must be ensured during installation that the added up values of a) the total power consumption of all congress units connected in each path and b) the power loss in extension cables do in no case exceed the maximum possible value delivered by each 6P-DIN interface. Otherwise the system will not work properly or automatic protection will be triggered.

(1). The output power of each 6P-DIN interface of control main unit or backup main unit is 60 W; the output power of each 6P-DIN interface of extension main unit is 80 W.

(2). Refer to the following table for the power consumption of each type of congress units:

Table 1 Power consumption

Type	Type No.	Max. power consumption
Equipped with 7" LCD and built-in loudspeaker	HCS-8307	7.5 W
Equipped with 256×32 LCD and built-in loudspeaker	HCS-4886/50、HCS-4887/50、HCS-4380/50、HCS-4382/50、HCS-4365/50	2.3 W
Equipped with 256×32 LCD and without built-in loudspeaker	HCS-4368/50	1.8 W
Equipped with built-in loudspeaker and without 256×32 LCD	HCS-4888/50、HCS-4370/50、HCS-4371/50、HCS-4366/50、HCS-4360/50、HCS-4361/50、HCS-4362/50、HCS-4363/50、HCS-4330/50、HCS-4331/50、HCS-4332/50、HCS-4333/50、HCS-4335/50	
Without 256×32 LCD and built-in loudspeaker	HCS-8313、HCS-8314、HCS-8315、HCS-4320/50、HCS-4321/50、HCS-4322/50、HCS-4368N/50、HCS-4843F/50	1.3 W
Interpreter Unit	HCS-4385K2/50	2.8 W
Multi-function Connector	HCS-4340/50	2.1 W
Cable Splitter (relay facility)	HCS-4352	1.0 W

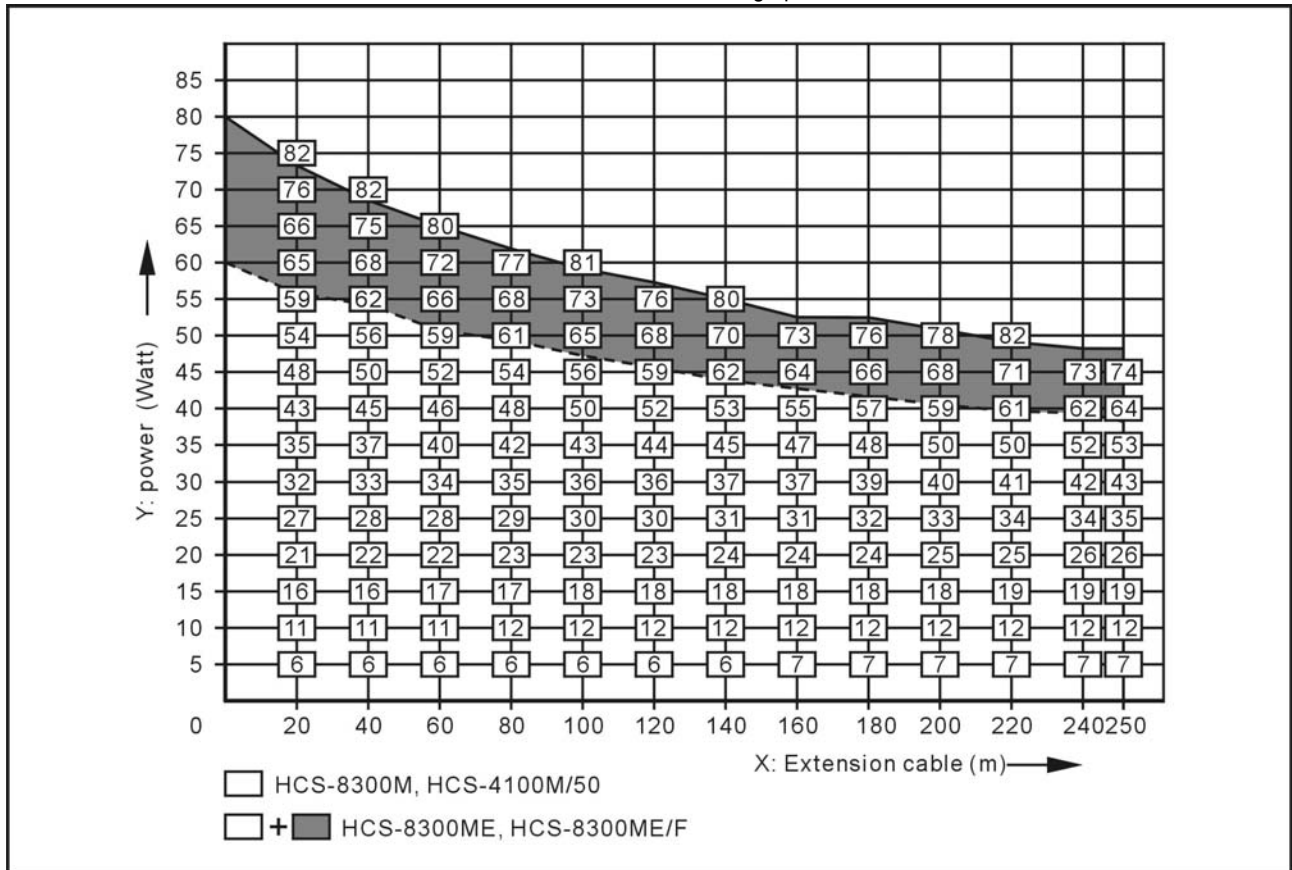
(3). Lengths of extension cables

- The total added up cable length from the main unit to the furthest congress unit shall not exceed 250 m.
- Any connection cable length should be less than 100 meters (including the cable between the main unit and the next congress unit and the cable between any two sequential congress units), otherwise it will affect the signal quality. In case the length exceeds 100m, cable splitter HCS-4352 are needed.
- The connection cable between the main unit and the first congress unit is always carrying the maximum current, induced by the totality of the congress units connected to the dedicated socket. Due to Ohm's law the available supply voltage at the opposite end of this cable is lower than on the socket. This voltage drop is dependent on the cable length and the current. The number of overall connectable congress units to the main unit is therefore a function of the cable length and vice versa. However, when the cable is connected between the last two congress units, the influence is insignificant.

(4). The necessary power (the total power consumption of the units and the connection cables connected to the socket)

- a. Find the power consumption of each unit from the consumption table (refer to table 1), add up the power of all units. The result is the total power consumption of the units connected to the socket;
- b. Add up the lengths of all connection cables related to the socket;
- c. Find the total power consumption calculated according to a) on the vertical axis (Y) of the power correction graph (for example, 50 W); find the overall length of the connection cables calculated according to b) on the horizontal axis (X) of the power correction graph (for example, 60 m). The intersection of both values gives the necessary power from the socket (in this example 59 W).

Table 2 Power correction graph



In this graph:

- HCS-8300M or HCS-4100M/50 can be operated only in the white marked area
- HCS-8300ME and/or HCS8300ME/F can be operated both in the white and in the grey marked areas