



Full-Digital Conference System

User Manual

TS-3402

Please read this manual carefully before usage.

Notification



WARNING

To ensure the reliability of the equipment and the safety of personnel, please observe the following when installing, using and maintaining:

- If any of the following conditions are found, please immediately turn off the power, plug out and quickly contact your nearest dealer. Do not continue using this unit, which may cause a fire or electric shock.
 - If you find smoke or have a strange taste from the machine.
 - If water or metal falls into the machine.
 - If the unit is dropped or the case is damaged.
 - If the wire is damaged (wire core exposure, broken wire, etc.).
- If the machine contains high-pressure parts, in order to avoid the fire or electric shock, absolutely don't open the case, if any questions please inform your nearest dealer.
- Do not place cups, bowls, vases or metal and other water-filled substances on the unit. Serious spilled liquid may cause a fire or electric shock.
- Never expose the unit to rain and any moisture or water, which may cause electric shock or fire.
- Do not place metal objects or flammable materials from the vents on the machine cover, nor place coins, which may cause fire or electric shock.
- Do not place heavy objects on the unit to avoid personal injury or property damage when the unit is slipping.
- Make sure that the volume is turned on at the beginning of the boot, and the high volume of the boot may cause hearing problems.
- For long-term accumulation of dust to be cleaned, please inform your dealer to regularly clean the machine, so as to avoid damage to the machine or cause a fire.
- The battery must be replaced with the same type of product and the correct installation should be made in order to avoid electrical damage and explosion hazard.
- The product is a Class III device. The device must be well connected to ground. The power plug must be connected to a power outlet with a grounding device to ensure that the equipment is fully grounded.
- This product uses a power plug or appliance input socket as a disconnecting device with the power supply, and must be disconnected if necessary for safety reasons.



- This equipment is only suitable for safe use at altitudes under 2000 meters.

Precautions

1. The installation environment

When installing the unit, in order to ensure the normal cooling of the host, should avoid the poor ventilation of the place or high temperature environment, to avoid direct sunlight.

Recommend to install cabinet or other well-ventilated place indoor. If you use the machine in the outdoors, please pay attention to waterproof, moisture, lightning protection measures.

Avoid installing in a violent place of vibration; do not place other equipment on the machine.

2. To avoid electric shock and fire

Do not touch the hands and the source with wet hands

Do not spill liquid on the machine, so as to avoid short-circuit or fire inside the machine.

Do not place other equipment directly on the top of the unit.

Non-professional service personnel Do not disassemble the unit yourself to avoid damage and electric shock.

3. Transport and handling

The packaging of the machine is designed and tested to ensure that the host will not be accidentally damaged during transport. It is best to use the original packaging when handling the unit.

Do not move the host device between the place or cold or over hot to avoid condensation inside the machine, affecting equipment life.

4. Please follow the warning instructions on this product, the warning signs on behalf of:

	Applicable to 2000 meters above sea level and below safe use
	Safe use only in non-tropical climates

5. Agreement

Please strictly follow the instructions in this manual. The software, hardware and appearance of this product will be upgraded and updated continually. The above changes will be made without notice.

Non-professional maintenance personnel, do not remove the product, to avoid damage and electric shock.

Content

1. Product Introduction.....	- 1 -
2. Product Description.....	- 1 -
2.1. PRODUCT FEATURES.....	- 1 -
2.2. INTERFACE FUNCTION.....	- 2 -
2.3. SPECIFICATION.....	- 2 -
3. Connection Diagram.....	- 4 -
4. Operating Instruction.....	- 5 -
4.1. UNIT TYPE.....	- 5 -
4.2. MEETING MANAGEMENT.....	- 5 -
4.3. SIGN IN.....	- 5 -
4.4. VOTE.....	- 5 -
4.5. FIRE ALARM.....	- 5 -
4.6. SPEECH COUNTDOWN AND SPEECH TIMEKEEPING.....	- 6 -
4.7. AUDIO ADJUSTMENT.....	- 6 -
4.8. UNIT ID NUMBER AND RELATED IP ADDRESS.....	- 6 -
4.9. SUPPORT ICMP PROTOCOL FOR PING PACKETS.....	- 6 -
4.10. UNIT WEB PAGE LOGIN.....	- 6 -
4.11. UNIT ID NUMBER SETTING IN WEB.....	- 7 -
4.12. VOICE CONTROL FUNCTION SETTING IN WEB PAGE.....	- 7 -
4.13. LANGUAGE SWITCHING FUNCTION SETTING IN WEB PAGE.....	- 8 -
4.14. ENABLE SIGN-IN FUNCTION IN WEB PAGE.....	- 8 -
4.15. UNIT AUDIO PARAMETER SETTING IN WEB PAGE.....	- 8 -
4.16. UNIT BASIC INFORMATION VIEWING IN WEB PAGE.....	- 9 -
5. Conference PC software.....	- 10 -
Appendix.....	- 11 -

1.Product Introduction

The product adopts unique, novel and professional appearance design, and can realize one-way long-distance sound pickup. This product requires a digital-analog conversion box to connect to the third-generation full-digital conference controller TS-3400MIX through the network.

2.Product Description

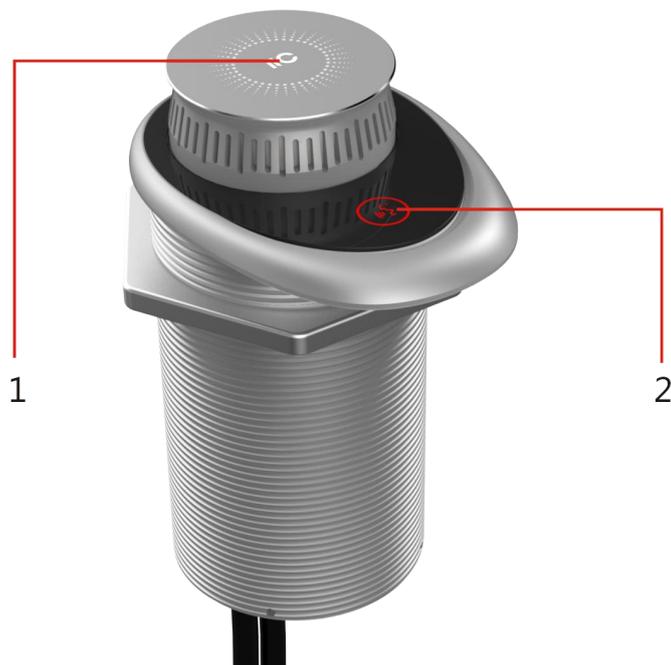
TS-3402 Embedded Pop-up Conference Microphone



2.1.Product Features

1. Adopt capacitive touch buttons to effectively eliminate button tapping noise and ensure a good venue environment.
2. Adopt uncompressed audio transmission technology, 48K sampling rate, 100Hz-16kHz bandwidth, perfect sound quality.
3. Adopt an embedded pop-up structure, and one-way long-distance pickup function.
4. Support microphone control through PC software, support voice control function and adjustable voice control sensitivity.
5. With a built-in independent web server, it supports parameter adjustment of microphone ID number, microphone sensitivity, microphone EQ, etc.
6. With 5-band EQ adjustment function, it can adjust sound effects according to different speakers' voice characteristics to achieve the perfect effect.
7. Support the sign-in function, and support functions such as prohibiting unit sign-in and controlling unit sign-in through PC software.
8. Support IP address sniffing function; the ID number, IP address, MAC address and other parameters of unknown units can be found through PC tools.

2.2.Interface Function



1.Popup button

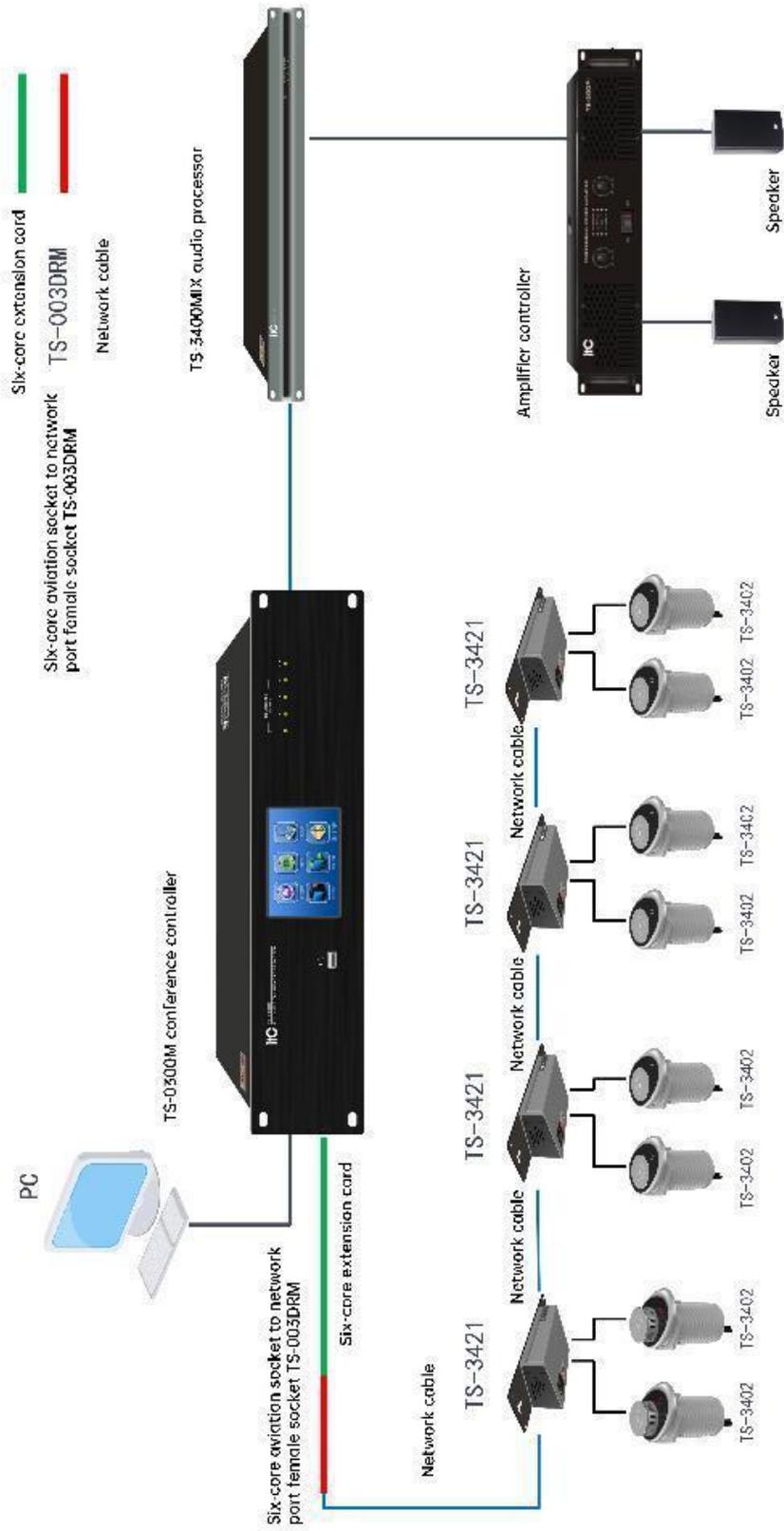
2.Power switch

2.3.Specification

Model	TS-3402
Microphone type	Electret Condenser Microphone
Microphone directivity	Hypercardioid
Frequency response	100Hz~16KHz
Input impedance	1K Ω
Sensitivity	-40 \pm 2dB (0dB=1V/Pa,at 1KHz)
Max SPL	120dB (THD>3%)
SNR	>80dB(A)
Crosstalk	>70dB
Dynamic range	>80dB
THD	<0.1%

Max power consumption	1W
Power supply	Powered by digital-analog smart box
Color	Silver
Sign-in function	Button sign in
Product size when popped up	71*98*132.6mm (L×W×H)
Product size when pressed	71*98*115.3mm (L×W×H)
Installation method	Embedded installation
Weight	0.78Kg

3.Connection Diagram



4.Operating Instruction

4.1.Unit type

(1) The chairman unit has switch button and priority button (long press the switch button for 2S), which can switch the microphone, and perform priority, sign-in and other operations.

(2) The delegate unit has switch button and no priority button, which can switch the microphone and sign in.

4.2.Meeting management

(1) Microphone switching is controlled by the conference management, and its authority is configured by the conference controller. Refer to the conference mode description of controller for use logic.

(2) Press the priority button of chairman unit to turn off the microphone of all delegate units, and this chairman unit turns on the microphone.

4.3.Sign in

(1) Initiate sign-in through PC software. At this time, you can press the switch button of the unit to sign in, and the result will be displayed on the PC software after signing in.

(2) The sign-in function of unit can be disabled or enabled through PC software.

4.4.Vote

No screen, so voting mode is not supported.

4.5.Fire alarm

When the controller sends fire alarm, the red light on the microphone will flash until the controller cancels the fire alarm. And the unit returns to the state before the alarm.

4.6.Speech countdown and speech timekeeping

This function needs to be controlled by the conference PC software. Please refer to the PC instructions for details. For speech countdown, the PC will issue the time for the speech, the unit will count down and display the remaining speech time, and when the time is up, the microphone will be automatically turned off. The speech countdown is only valid for delegate unit; For speech timekeeping, the PC specifies the unit to perform the speech timekeeping, and the speaking time will be displayed on the PC.

4.7.Audio adjustment

This function needs to be controlled by the conference PC software. Please refer to the PC instructions for details.

4.8.Unit ID number and related IP address

(1) Use the current unit ID number as the unit IP address. The first two bytes of the IP address are fixed at 172.16; the last two bytes are the high 8 bits and the low 8 bits of the ID number.

(2) For example: if the ID number is 1, the IP address is 172.16.0.1; if the ID number is 100, the IP address is 172.16.0.100; if the ID number is 300, the IP address is 172.16.1.44; if the ID number is 4090, then the IP address is 172.16.15.250;

(3) If you forget the ID number, you can find the ID number and IP address of the current microphone through provided IP address view tool in PC.

4.9.Support ICMP protocol for PING packets

PC calls out CMD to ping the IP address of the corresponding unit.

4.10.Unit web page login

(1) Set PC to the same network segment as the unit;

(2) Please refer to 4.8 for unit IP address;

(3) The subnet mask is 255.255.0.0;

(4) All settings in the webpage are effective after "submit information".

UNIT BASIC SETTING ▼

ID number - 11 +

Voice mode sensitivity - 60 +

Voice mode mute interval - 30 +

Language

Sign

UNIT AUDIO SETTING ▼

Mic sensitivity 0dB ▼

UNIT EQUALIZER SETTING ▼

80 ~ 175 HZ	105 HZ ▼	0 dB ▼
230 ~ 500 HZ	385 HZ ▼	2 dB ▼
650 ~ 1400 HZ	850 HZ ▼	1 dB ▼
1.8 ~ 4.1 KHZ	2400 HZ ▼	0 dB ▼
5.3 ~ 11.7 KHZ	6900 HZ ▼	0 dB ▼

4.11. Unit ID number setting in web

- (1) Set the unit ID, **the IP address of the unit will change** after setting.
- (2) After setting, if parameter setting of the web page is required, the login setting need to be set according to the IP address bound to the new ID.

4.12. Voice control function setting in web page

- (1) Set the microphone-on sensitivity of the voice control mode.
- (2) Set auto shutdown time when there is no signal under voice control mode (**chairman unit will**

not be affected).

4.13. Language switching function setting in web page

No screen display; web page setting supports switching between Chinese, English, Russian and French on the web page interface.

4.14. Enable sign-in function in web page

This function needs to be set in **non-sign-in mode**, which is usually set up before the meeting.

The screenshot shows a web page titled "UNIT BASIC SETTING" with a blue header bar. Below the header, there are several settings:

- ID number:** A numeric input field with a value of 11, flanked by minus and plus buttons.
- Voice mode sensitivity:** A numeric input field with a value of 60, flanked by minus and plus buttons.
- Voice mode mute interval:** A numeric input field with a value of 30, flanked by minus and plus buttons.
- Language:** A selection menu with four options: 中文, English (highlighted in blue), Русский, and Français.
- Sign:** A selection menu with two options: Disable and Enable (highlighted in blue).

At the bottom of the settings area, there are two buttons: "Submit" (highlighted in blue) and "Reset".

4.15. Unit audio parameter setting in web page

- (1) Microphone sensitivity.
- (2) Microphone EQ.

UNIT AUDIO SETTING

Mic sensitivity

UNIT EQUALIZER SETTING

80 ~ 175 HZ	<input type="text" value="105 HZ"/>	<input type="text" value="0 dB"/>
230 ~ 500 HZ	<input type="text" value="385 HZ"/>	<input type="text" value="2 dB"/>
650 ~ 1400 HZ	<input type="text" value="850 HZ"/>	<input type="text" value="1 dB"/>
1.8 ~ 4.1 KHZ	<input type="text" value="2400 HZ"/>	<input type="text" value="0 dB"/>
5.3 ~ 11.7 KHZ	<input type="text" value="6900 HZ"/>	<input type="text" value="0 dB"/>

4.16. Unit basic information viewing in web page

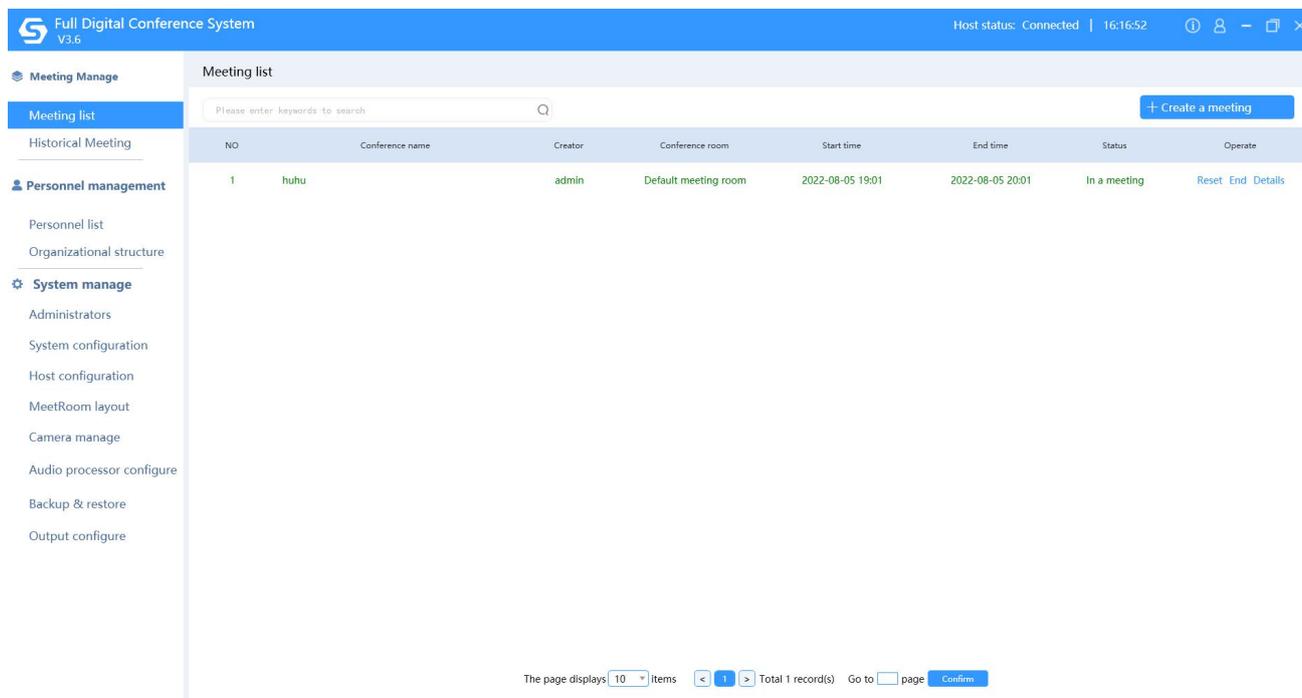
- (1) Version number.
- (2) MAC address.
- (3) Unit type.

UNIT BASIC INFORMATION

Kernel version	V1.1.0 H1110BA03
Application version	V1.4 M0908BAH3
MAC address	9C:9C:1F:1E:CC:DF
Unit type	Delegate

5.Conference PC software

The PC control software supporting the new conference system is powerful and easy to operate. It includes most of the functions required for a meeting, and is designed according to the sequence of the meeting procedure. Users only need to follow the usage order from top to bottom on the left sidebar.



Introduction to the system management interface: The left side of the system management interface displays the three functional modules of the system: Conference management, Personnel management, and System management.

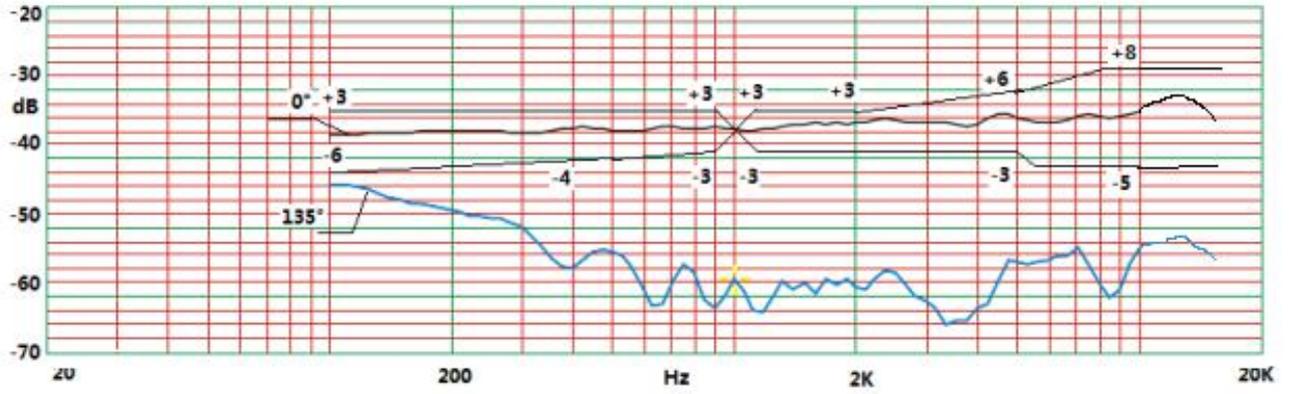
Each of these modules contains several sub-modules.

Conference management includes sub-modules: conference list and historical conference; Personnel management includes sub-modules: personnel list and organizational structure; System management includes sub-modules: administrator, system configuration, host configuration, conference room layout, backup and recovery, and output configuration, etc.

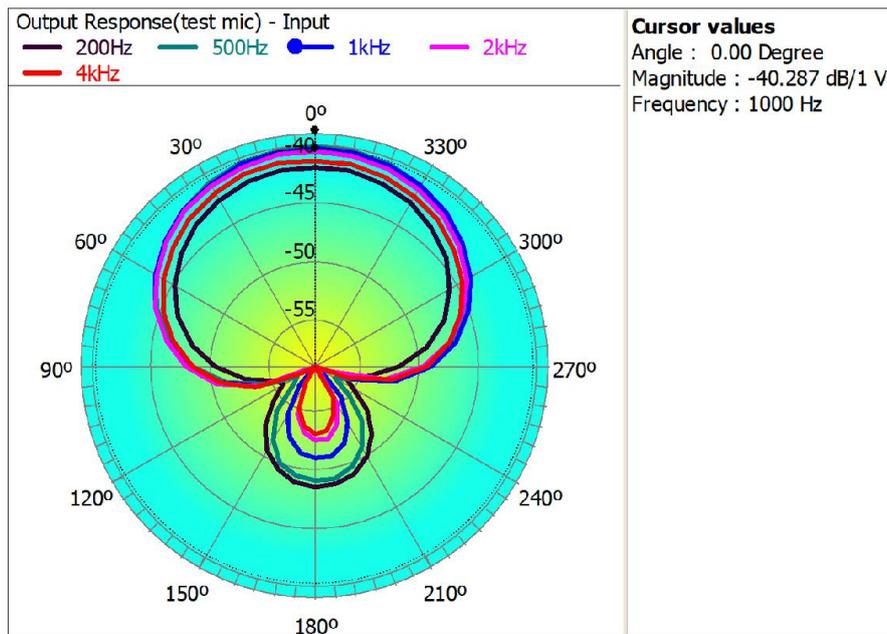
Due to the limited space of this user manual, the specific operation instructions of the new conference system software will not be introduced in detail here. For details, please refer to the "New Conference System Software User Manual".

Appendix

1. Frequency Response Diagram:



2. Hypercardioid diagram:



Full-Digital Conference System

