AUDIOACCESS®
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Doorbell Module DBM21

For Whole-House Entertainment System

SOFTWARE PROGRAMMING AND HARDWARE CONNECTION GUIDE

JULY 2008

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Features

- Provides doorbell chimes for the W.H.E.N. system
- Allows two-way communication to a Panasonic compatible door phone station with or without a Panasonic phone system
- Compatible with Channel Vision™ DP Series door stations including video from built-in cameras
- Allows any custom chime to be programmed (ring tones)
- Each AVH21 supports two DBM21
- Half size allows two units to be mounted side by side in a Leviton or a Channel Vision structured wiring panels
- Supplies power to door station and door-station camera (if needed) over a single RJ-11 connection

Included Accessories

- 2 WECO, screw-down Phoenix Connectors (Power In and Power Out),
- 6 plastic overlays to select HUB/Door
- 4 Mounting hardware (RICHCO snap in rivets), which are the same pieces used in AVH21 and WPS21 for mounting to Leviton and Channel Vision structured wiring panels

W.H.E.N.™ Minimum System Requirements

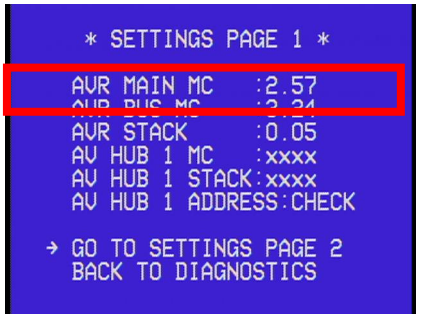
The DBM21 doorbell module requires that the system have the following software ***as a minimum***. Before installing the DBM21, it will be necessary to check the currently installed firmware of all your components. If you need to update the firmware it will be necessary to contact Audioaccess Technical Support at 888.691.4171 (USA only) or 516.496.3400 (Outside USA) or through email at websupport@harman.com.

Component	Firmware	Version	Found In
AVR21EN	AVR MAIN MC	Version 2.57 or later	AVR21EN Diagnostics
AVR21EN	AVR BUS MC	Version 3.24 or later	AVR21EN Diagnostics
KP21	KP MSP	Version 3.18 or later	KP21 Settings

Identifying Installed Firmware

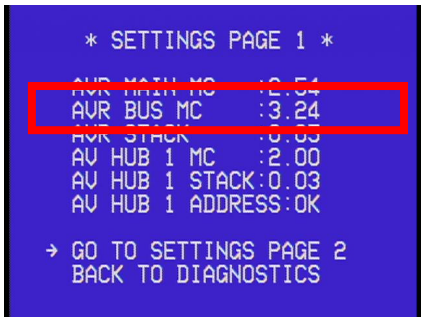
Identifying the AVR21EN Main CPU version

To verify the AVR21EN main CPU version, turn ON the avr and go to the OSD menu under Diagnostics >Settings page 1, version can be read under AVR MAIN MC. In this example, main CPU version is 2.57.



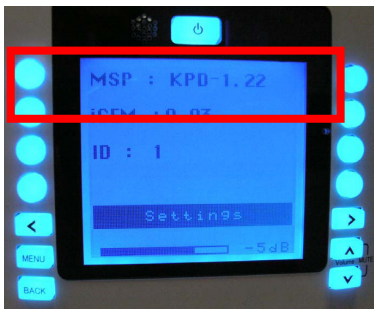
Identifying the AVR1394 BUS version

To verify the AVR1394 version, turn the AVR on and go to the OSD menu under Diagnostics > Settings Page 1, version can be read under AVR BUS MC. In this example AVR1394 Bus version is 3.24.

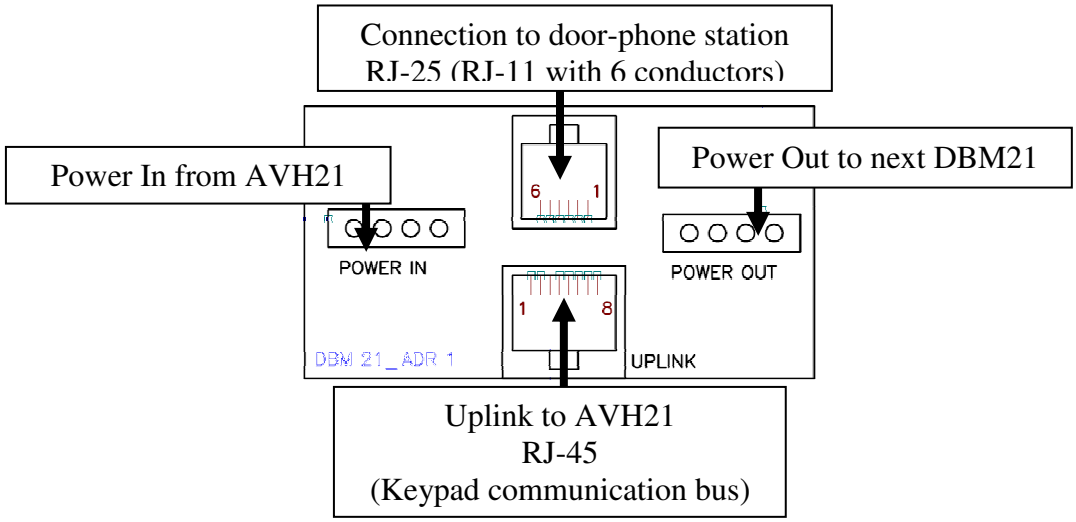


Identifying the KP21 Firmware Version

The KP21 firmware version is displayed on the keypad display and not in the receiver's on screen menu. On the KP21, go to SETUP, press the right arrow on the keypad four times, press SETTINGS, the display will show MSP, ICEM and ID for that particular keypad. In this example the KP21 version is 1.22.



Detailed Wiring Connection Diagram



Hardware Connection and Configuration

Door ID Configuration Switch

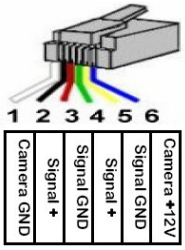
Two 2-position switches determine the door number as identified on the appropriate status panel label. The individual labels are screened and "keyed" to match the two-position switch that sets the door number. There are six keyed overlays for each combination of Door 1 and Door 2 options connected to up to three (3) AVH21. The system allows a maximum of six doors, two per AVH21.

DBM21 Connection to W.H.E.N. System

The DBM21 needs to have two connections to the system, similar to a KP21. Power is supplied to the first DBM21 (if there are more then one) from the WPS21 using up to a maximum14 gauge, 4 conductor, unshielded wire, and a minimum 16-gauge, 2-conductor unshielded wire. This supplies 24v DC power to the DBM21. Multiple DBM21 can be daisy chained for power. The second connection will use a standard CAT5e cable with RJ45 termination as is used in standard Ethernet connections. **Note, these are not Ethernet connections and cannot be connected to an internet port.** Connect the each DBM21 to an open keypad connection on the AVH21. The DBM21 takes the place of one of the active zones in the system.

DBM21 Connection to Door-Phone Directly (Without Complete Phone System)

Using CAT3, CAT4 or CAT5 wire, terminate the RJ-25 (RJ-11 with 6 conductors) connection according to the diagram shown here and the chart below. Refer to the door phone instructions for proper connections at the door phone.

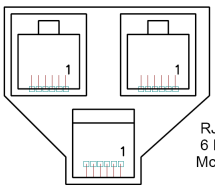


DBM21 Door Panel output, RJ11

Pin #	Description	Connect To:	Note
1	Camera power Ground	Door-Station Camera Power Ground	Optional Camera
2	Door-Panel Signal Out	Phone Signal +	internally Connected to Pin 4
3	Door-Panel Ground	Phone Signal Ground	Internally Connected to Pin 5
4	Door-Panel Signal Out	Phone Signal +	Internally Connected to Pin 2
5	Door-Panel Ground	Phone Signal Ground	Internally Connected to Pin 3
6	Camera Power 12 Volt DC	Door-Station Camera Power DC +	Optional Camera

DBM21 Connection to Door-Phone System

Terminate the RJ-25 (RJ-11 6 conductor) connection as in the chart above on both ends. Connect the DBM 21 to a standard 3-way phone splitter. Connect the door-phone station, the Panasonic phone system and the DBM21 to the splitter.



Door-Phone Camera Connection to W.H.E.N. System

The camera can be located inside the door-phone station (optional on Panasonic and Channel Vision models) or can be a standard security camera located near the front door. The DBM21 will supply power for the internal camera in the door station (if equipped). Using standard coaxial (RG-6 or RG-59) cables connect the output of the camera to an input on the AVH21. In the AVR21EN camera setup, be sure to assign the camera input used to the appropriate DBM21.

AVR21EN Setup

Please see the AVR21EN installation manual for details. The AVR21EN can control how the doorbell chimes are played through each zone, how the zones can interact with the door-phone station and if a security camera is associated with a door-phone station.

Assign Doors and Cameras

To access the door setup go to the on-screen menu of the AVR21EN. From the main menu, select Zone Setup, and then select Assign Services. From the Assign Services menu select the Door Setup menu. Select the doors that are in use and the cameras (if any) assigned to them.

Name Doors

From Zone Setup Page 1, select Name Doors. All doors in the system can be renamed.

Door Ring

From Zone Setup Page 2, select Setup By Number Page 2 and enable or disable door bell chimes for each zone. The default is for all zones to ring always.

Door Answer

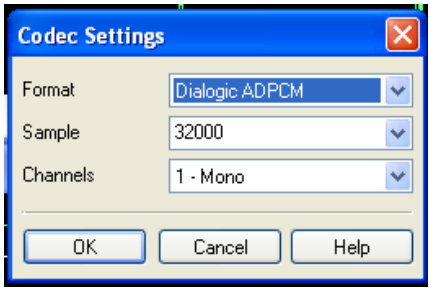
From Zone Setup Page 2, select Setup By Number page 2 and enable or disable door bell answer for each zone. This will allow or block specific keypads from talking to the door station. The default is for all zones to answer all doors.

Door Open

From Zone Setup page 2, select Setup By Number page 3 and enable or disable door bell open for each zone. This will allow or block specific keypads from opening the door locks if the system is using the electronic door locks on the AVH21. The default is for all zones to open all doors.

Custom Doorbell Chime

Using Wave Pad Sound Editor (freeware which can be downloaded from http://nch.com.au/wavepad/index.html), create desired doorbell sound file. The doorbell sound starts approximately 0.5 seconds after the door button is pushed, so insert a 0.5 second silence at the beginning of sound. Save file as: Dialogic vox file; 32000K sample rate; mono.



After file is saved change extension from ".vox" to ".bin". For example: "sound.vox" to "sound.bin". Use this file with W.H.E.N. Multi-Room Components Software Upgrade (HK Upgrader.exe). This software package can be requested from Audioaccess Technical Support at 888.691.4171 (U.S.A. Only), or by email at websupport@harman.com. Sound files can be loaded to all six DBM21 at once or to each DBM21 individually. Upgrade procedure is the same as Keypad or A/V Hub upgrade; details are included with the upgrade software when received from Technical Support.

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