



# **beyertone® multiLAN**

**Announcement and Music-on-hold system  
with LAN interface**

## **Installation guide**

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- ***What's included:***

- **beyertone® multiLAN appliance**
- 2x RJ12 to RJ12 cable (for Announcement and MOH-LINE connection to analogue ports)
- RJ11 to phone plug cable (alternative for MOH 3,5mm jack sockets)
- 3,5mm jack to RCA adapter (for MOH RCA ports)
- RJ45-RJ45 LAN cable (grey)
- LAN crossover cable (coloured, for direct configuration)
- 6,0 volt mains adapter

- ***Safety precautions:***

Set up the appliance in a dry location, never in damp or wet rooms.  
The ambient temperature must not fall below 5°C or exceed 45°C.

To power the appliance, use only the mains adapter provided.

BEYERTONE provides no warranty for any damage to the appliance, or outages of PBX and IT systems connected to it, arising from improper operation, incorrect connection or the use of non-specified data.

When passing the appliance to a third party, always include full documentation.

The systems supplied are under constant development and improvement. Please note, therefore, that the programming interface on the appliance may exhibit changes compared with the information provided in this document. Such changes represent an improvement in functionality and do not constitute grounds for complaint.

- ***CE declaration of conformity:***

The beyertone® multiLAN complies with the EU directives 2004/108/EC and 2006/95/EC by fulfilling the requirements of the relevant provisions of EN 55022 / EN 55024 and EN 60950 (power supply).

- This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment under FCC rules.



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## 1. Functions

The **beyertone® multiLAN** is a maintenance-free digital appliance for adding high-quality announcements and music on hold to telephone systems that can easily and reliably be updated via the integrated LAN interface using a web browser or by automatic http download from a server.

'Announcement before answering' (ABA) is the name we give to a facility enabling callers to be greeted automatically by a friendly welcome message. Callers are then forwarded to the switchboard or an alternative telephone set. This helps to avoid lost calls and gives your company a professional audio image.

Time-controlled automatic or manual switchover between four available operating modes (Day/ Break / Night / Holiday) guarantees, that also outside normal business hours callers will hear appropriate messages, e.g. telling opening hours etc.

The music-on-hold function (MOH) enables an on-hold loop to be added to the telephone system for callers to listen to during the call-routing process (e.g. call hold / forwarding). This takes the form of asynchronous audio and is heard simultaneously by all callers on hold at any one time.

In basic configuration, the beyertone® multiLAN provides one MOH- and one ABA-port. By simply plugging in an optional extension module, two more ABA-ports can be added, which results in 3 announcement ports being provided by the appliance.

The beyertone® multiLAN can be connected to any PBX with an audio port for external music on hold (MOH, audio-in or analogue port) and analogue ports or E&M-ports (e.g. TIEL, TMOM, TMEW2) for the connection of announcements. For adding audio files the beyertone® multiLAN makes use of the widely known and accepted MP3 audio format.

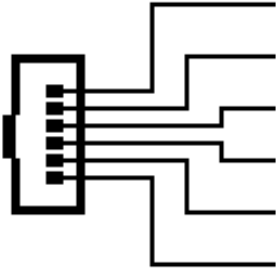


## 2. Installation

The beyertone® multiLAN should be installed by authorised telephone system service only. Proceed as follows:

### 2.1 MoH port

- Set up the external port for music on hold on the PBX. Connect the PBX's MOH port to the MOH port on the beyertone® multiLAN using one of the cables supplied. The pin assignment on the beyertone® appliance is as follows:



UAE 6/6 RJ 11/12	UAE 8/8 RJ 45	a/b or audio			function
1	2	-			a-wire HIC *
2	3	-			
3	4	a			a-wire / audio
4	5	b			b-wire / audio
5	6	-			
6	7	-			b-wire HIC *

\* HIC = connection MoH to HiPath 4000 / Hicom 300 („SSC“-port)

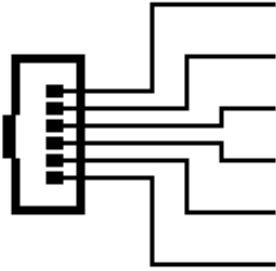
The MOH input on the PBX can either be a voltage-free audio input (jack/RCA) or an analogue a/b port (with feed). Both options can be catered for by the beyertone® multiLAN without the need to switch.

- When connecting the music on hold to a HiPath 4000 (Hicom 300), please note the different pin configuration (see table). Depending on the sensitivity of the system's MOH port, it may also be necessary to switch the wires.
- Never use the RJ11 cable to connect the PHONE output on the beyertone® multiLAN to an a/b port. BEYERTONE accepts *no* liability for any damage caused to the appliance as a result!
- You can also connect headphones to the PHONE port to check the music playback. Unlike the RJ output, however, the PHONE output is *not* galvanically isolated and can *not* be changed regarding volume setting.
- MoH playback starts automatically on power up as long as the appliance contains valid MP3 audio files. The appliance is shipped with a royalty-free default track. The yellow 'MOH' LED flashes evenly on playback of music. You should then check the music playback using the call hold function of the telephone system.
- To set the volume level of the music on hold, load own music files and make all other settings, you have to use a browser via LAN (see Section 3, 4 and 5.1).



## 2.2 Announcement ports

- For each announcement port set up one port on the PBX as analogue port or E&M port (e.g. TIEL, TMOM or TMEW2). Connect these ports with each one LINE port of the beyertone® multiLAN using a RJ12/RJ12 cable supplied. Plug this cable into a RJ12 socket - the pin assignment will be as follows:

	6-way RJ 11/12	8-way RJ 45	a/b	TIEL	TMEW2	TMOM	function
	1	2	-	SG	SG	C	stop-signal*
	2	3	-	E	E	D	stop-signal*
	3	4	a	a	a	a	a-wire
	4	5	b	b	b	b	b-wire
	5	6	-	Earth (= SG)	SB	P	start-signal*
	6	7	-	M	M	Earth	start-signal*

\* start-/stop-contacts only with E&M ports or PA mode

- When connecting announcement ports of the beyertone® multiLAN to E&M ports (like TIEL, TMOM or TMEW2), one must check if the start contact from the PBX will be given by a voltage-pulse or via a dry contact. According to the following table, for each corresponding announcement port of the appliance an internal setting of a pair of jumpers may have to be carried out.

Port interface	Jumper
Settings on delivery	ext.
analogue port	(ext.) <sup>1</sup>
E&M / PA, start by voltage pulse (e.g. TIEL <sup>2</sup> )	ext.
E&M / PA, start by dry contact (e.g. TMEW2/TMOM)	int.

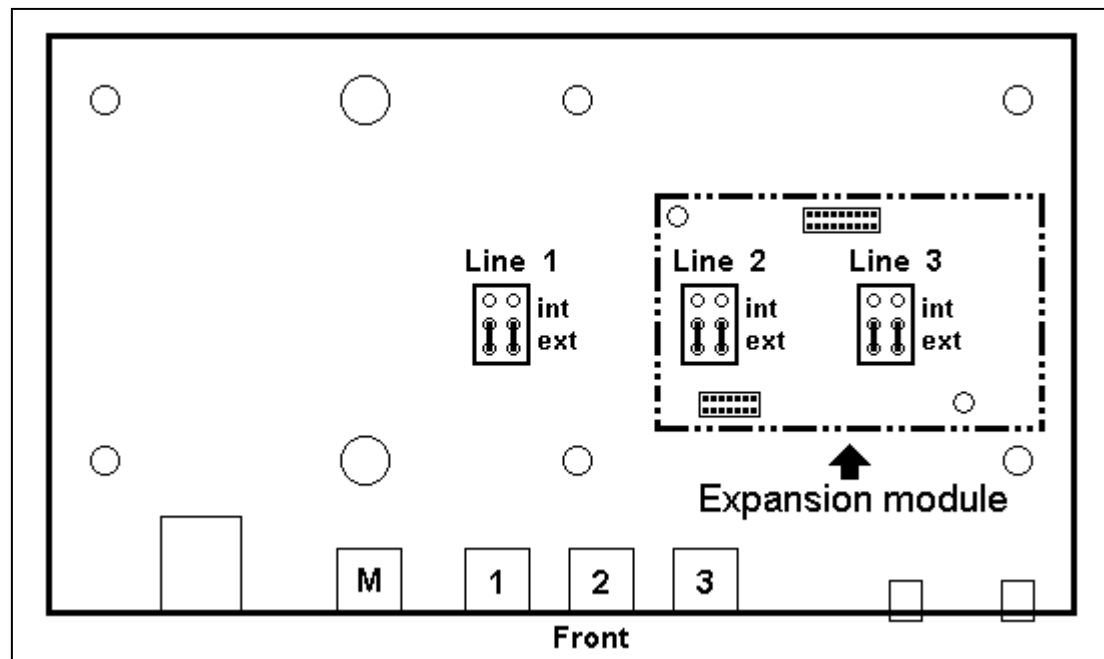
<sup>1</sup> Setting doesn't matter  
<sup>2</sup> Setting applies to TIEL connection „Type 1A“

**NOTE:** When connecting the announcement ports of the beyertone® multiLAN to analogue ports, jumper settings may be disregarded.

- Before installing the port expansion module, switch off power and remove all connections from the device. Open the unit and plug in the module on the main board, securing it by two locking pins. After that, close the device completely again before reconnecting cables and power. The module will be recognised automatically when the unit is turned on.
- If the beyertone® multiLAN is equipped with an expansion module, a different port interface may be selected for each announcement port (LINE 1 to LINE 3), e.g. LINE 1 for connection to TMOM, LINE 2 and 3 for analogue ports. (The MoH port however can not be configured other than for music-on-hold.)



The following drawing shows the position of the module and the jumpers:



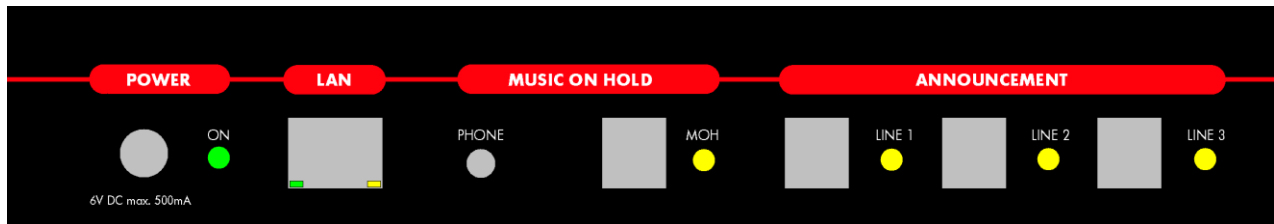
- The ports of the PBX have to be programmed correctly to obtain the desired announcement functions.
- To set the volume level of the announcements, load announcement files and make all other settings e.g. the call transfer numbers, you have to use a browser via LAN (see Section 3, 4 and 5.2).

## 2.3 Network and power supply

- Connect the LAN port of the beyertone® multiLAN to a free 10 Mbps port in the network that will be used to access the appliance and download audio updates. The green LAN socket LED means "connected", the yellow LED "data".
- Configuration and transfer/download of audio files is done exclusively via the LAN interface. When taking the appliance into operation you can assign a static IP address or you can have the network parameters (IP address, gateway address, plus, if applicable, DNS and NTP address) assigned automatically via DHCP (factory setting).
- Connect the mains adapter to the POWER socket on the appliance and then plug the mains adapter into a socket outlet. The (green) 'POWER' LED lights up, indicating that the appliance is ready for use. Use only the mains adapter supplied. Alternatively the unit can be powered by PoE.
- For information on the status indications via the LEDs on the front panel - e.g. regarding the network status -, please refer to Section 8.5.



Front view left part **beyertone® multiLAN**



Front view right part **beyertone® multiLAN**







### 3. Basic Setup

The beyertone® multiLAN is set up using a web browser on a PC with access to the network to which the multiLAN appliance is attached. This is done by entering the IP address or the device name of the beyertone® multiLAN in the address bar of a suitable internet browser in order to access the device configuration and MP3 upload pages. DHCP is activated by default on shipment. If no DHCP server is found on power up (e.g. if the appliance is being configured straight from a PC/laptop using a LAN crossover cable), after a delay of about ten seconds the appliance will use a default IP address and subnet mask (see Section 9). The DHCP function remains active, however, and continues to make DHCP requests. Please see Section 8.1 for additional access options.

**NOTE:** The **default password** for entering the web configuration menu is '**multilan**'. Unless a custom device name has been entered, the **default device name** (required for entering the menu if an IP address was assigned automatically by DHCP and a DNS is available) is the same as the appliance **device id** ('Ser.-No.'), which is to be found on the rear of the appliance, e.g. '2011-1800-12345'.

#### 3.1 General

On entering the correct password in the browser login screen, you will be taken to the main configuration screen. Here you can access the various configuration sections for the beyertone® multiLAN via the left-hand menu bar.

The main appliance data and settings, e.g. the device id, the device name (relevant for DHCP), the firmware and hardware versions, any optional licences that have been activated, and the current network settings, are listed under the menu item 'System / Info'. The 'System / Status' section shows the current operation mode of the unit, which ports are active at the time and the status of the network and result of the latest download.

**NOTE:** In general, settings are being stored by clicking the disk symbol in the corresponding headline.

#### 3.2 Network

In the 'Network' section (see screenshot on following page), you can edit the IP addresses to be used by the appliance, the name of the appliance, and its location. The name of the appliance is used for the DHCP function, if this is active. If no name has been allocated (empty field), the device id indicated on the 'System' screen is used for DHCP.

The entry of a DNS server (and optionally a proxy server) is required in order to access the URL entered in the 'Download' settings for the server to be used for downloading audio data. The use of an NTP server also permits automatic setting of the appliance's internal clock, which is e.g. used to perform automatic switching of operation modes. Activating the NTP function or alternatively setting the internal clock manually is done in the 'Settings / Info' section.



**NOTE:** Please note that the appliance has a power reserve of approx. 24 hours for the internal clock.

**IMPORTANT:** Changes made to settings in the 'Network' section do not become effective until the system has been rebooted. To do so, use the menu item 'Restart' and then log in again, using a different IP address if necessary.

### Network configuration screen

multiLAN - Network - Microsoft Internet Explorer

Datei Bearbeiten Ansicht Favoriten Extras ?

Adresse http://192.168.1.3/netcfg.htm

**BEYERTONE**  
multiLAN

Service Help Contact Logout

System  
Settings  
**Network**  
Memory  
Ports  
Mode  
Download

**Connection**

Device name:

Location:

DHCP: ☒ enabled ☐ disabled

IP address:

Subnet mask:

Default gateway:

DNS server:

NTP server:

Proxy server: ☐ enabled ☒ disabled

IP address:

HTTP-Port:

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## 3.3 System Settings

In the 'Settings' menu (see screenshot on following page) you can enter various settings for the appliance, such as the global flash time used for enquiry function on LINE ports when connected to analogue PBX ports, the internal clock time and date setting or the



activation of the NTP functionality, a new password for the browser configuration, and the time after which an automatic logout from the browser configuration is performed without the need for further user intervention (you can also log out manually at any time using the 'Logout' link in the top menu bar). Please note that changes to settings do not become effective until the save symbol for the relevant item has been clicked.

### Settings configuration screen

## 4. Loading MP3 audio data

Once you have entered the basic configuration settings, you can start loading your own MP3 audio files for music and announcements into the system. This can be done straight from a browser or via automatic download from a URL (from a subfolder on a web server, see Section 7).



Audio data upload using a browser is done via the 'Memory / Music' respectively 'Memory / Announcements' menu (see screenshot for 'Music').

### Memory Music configuration screen (Announcements similar)

**Statistics**

Files uploaded: 4/100      Memory available: 98%

**Memory location**

No.:       upload      delete

No.	File name
1	Down the waterline
2	Holiday today
3	On top
4	Sunglider
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	

Of its total capacity the appliance has 100 memory locations that can be used for music on hold and another 100 memory locations for announcements. Twenty memory locations are displayed per configuration screen. Files that have been loaded onto the appliance can also be disabled and then reactivated later. For details regarding music configuration see Section 5.1, for announcement configuration see 5.2.

To upload an audio file, select the number of the memory location to be used and then transfer the desired MP3 file. On completion of the transfer the current memory location list is redisplayed automatically. To delete a memory location, select the number of the relevant location first.



**NOTE:** The appliance supports MP3 data rates from 96 to 192 Kbps, stereo or mono, at sampling rates up to 44.1 kHz. For optimum playback quality we recommend a data rate of 128 or 160 Kbps.

The beyertone® multiLAN can also play back encoded audio files with the extension 'mpm' or 'MPM'. These may be created only by authorised service providers. MPM files are transferred to the appliance in the same way as MP3 files (see description above).

## 5. Configuring music and announcements

After loading MP3 audio data for announcements and music into the system, you have to configure the file playback as described below.

Doing so, you can independently set up a music programme for the MOH port and operation mode dependant announcements for each announcement ("LINE") port.

### 5.1 Configuring music playback (MOH port)

In the top area of the „Ports / MOH“ screen (see screenshot below) you can set the playback volume level of the MOH port. In addition, you can take notes about the name you give to this port and to which analogue port extension number of the PBX (if so) it is being connected. Name and number are only for your information.

In the list on the bottom part of this screen you finally can determine, if the max. 100 MP3 files uploaded to the music memory locations of the beyertone multiLAN shall run permanently in a loop or shall only be played back at certain dates and times. By this, you can e.g. set up a basic music programme and additionally have special music programs only running at certain times.

Moreover, this list view shows how the memory locations are currently being configured, which memory locations are being in the actual playlist and which memory location is running right now:

Symbol	Meaning
● green	memory location in actual playlist
● yellow	memory location playing right now
● red	playback scheduled for future point of time
● grey	playback scheduled in the past / disabled
II / ►	interrupt current playback yes / no
1x / ↺	playback single / as long as interval valid
(none)	memory location empty

To configure the memory locations, please select the location number first and then click on "edit". You now have the following options for each of the memory locations:



- mode „deactivated“ ► this memory location will not be played back (but the MP3 data is being kept in the device)
- mode „activated“ ► this memory location will be played back as long as no other memory location being in the “interval” mode is currently active
- mode „interval“ ► this memory location will only be played back at certain times:
  - determine, if you wish to playback this memory location on certain weekdays or at a certain date or range of dates
  - in addition, select options and determine the start/end time
  - you can omit either start or end date/time, if you wish to playback this memory location from a certain or until a certain point of time
  - determine, if you wish to playback this memory location only once at the certain point of time and if it shall stop other memories immediately from playing then

After saving the settings you will automatically be taken back to the memory configuration list.

### Configuration Ports MOH screen

multiLAN - Ports - Microsoft Internet Explorer

Adresse: http://192.168.1.3/port\_0\_1.htm

**BEYERTONE**  
multiLAN

Service Help Contact Logout

System

Settings

Network

Memory

Ports

**MOH**

LINE 1

LINE 2

LINE 3

Mode

Download

**Parameter**

Name:  Extension:

Volume:  %

**Memory location**

No.:  edit

[1-20] [21-40] [41-60] [61-80] [81-100]

No.	File name	Playback	Start	End	Status
1	Down the waterline	Enabled ►			
2	Holiday today	Disabled ►			
3	On top	Disabled ►			
4	Sunglider	Disabled ►			
5		Disabled ►			
6		Disabled ►			
7		Disabled ►			
8		Disabled ►			
9		Disabled ►			
10		Disabled ►			
11		Disabled ►			
12		Disabled ►			

Fertig



## Configuration Memory Location MOH screen

The screenshot shows a web browser window titled "multiLAN - MoH - Microsoft Internet Explorer". The address bar shows "http://192.168.1.3/moh\_cfg.htm". The page header includes the Beyertone logo and the text "BEYERTONE multiLAN". A navigation bar contains links for "Service", "Help", "Contact", and "Logout". A left sidebar menu lists "System", "Settings", "Network", "Memory", "Ports", "MOH", "LINE 1", "LINE 2", "LINE 3", "Mode", and "Download". The main content area is titled "Memory location No. 1" and contains the following configuration options:

- Playback:** ☒ enabled ☐ disabled ☐ Interval
- Interval:** ☒ Day ☒ Date
- Options:** ☐ Interrupt current playback ☐ Single playback
- Time:**
  - Start:**  (hh:mm)
  - End:**  (hh:mm)
- Day of week:**
  - ☐ Monday ☐ Friday
  - ☐ Tuesday ☐ Saturday
  - ☐ Wednesday ☐ Sunday
  - ☐ Thursday
- Date:**
  - Start:**  (dd.mm.yyyy)
  - End:**  (dd.mm.yyyy)

The browser status bar at the bottom shows "Fertig".

**NOTE:** The playback works as follows: As soon as there's at least one memory location in "interval" mode and the interval is currently active, only memory locations set to the "interval" mode and their interval being valid at this time will be played back. All other "activated" memory locations will not be played back for this time. If no interval is programmed or valid any longer, all "activated" memory locations will be played again.

By this, you can define a standard music programme and at the same time pre-configure a different programme e.g. for holidays, campaigns etc., which will be running automatically in the determined time range and replace the standard programme for this time range.

When loading MP3 audio data to the music memory locations (see Section 4), the mode of the locations will be set to "activated" by default.



## 5.2 Configuring LINE ports (announcements)

Via the screens „Ports / LINE1“ (and „LINE2“ / „LINE3“ - if extension module is installed) the announcement ports of the beyertone multiLAN are being configured (see also screenshot below).

In the top area of the screens first select the interface function which shall be operated on the regarding ports. Please also note the different port connections as described in section 2.2. After that, adjust the desired playback volume of each announcement port. When running the port as analogue interface, also determine, after how many rings signals of the PABX the incoming call shall be answered with the announcement by the multiLAN unit.

In addition, you can take notes about the name you give to each announcement port and to which analogue port number of the PBX (if so) it is being connected. Name and number are only for your information.

In the bottom part of these screens you can - independently for each announcement port - define a list of announcement files that will be played back for each operating mode of the unit (see Section 6). When analogue interface is selected, you can moreover define, to which number the call will be forwarded after the announcement files have been played:

- **Announcements:** Per port and per operation mode (Day / Break / Night / Holiday - see Section 6) up to 5 announcement memory locations can be selected, which will be played back in sequence, before the whole announcement is terminated and the call is being forwarded.  
To do so, first select the announcement position number, then click 'edit'. Now you can select each one of the announcement memory locations from the list. After that, you will be taken back to the announcements configuration page.  
To delete a memory location from the list, click 'delete' after selecting the number. The memory location itself (MP3 file) will not be deleted, however.
- **Call destination number:** The number to which the call shall be forwarded at the end of the announcement can be entered using up to 20 digits 0...9. Moreover, the DTMFs \* and # can be used for dialling. If necessary, use a "P" for each approx. 2 seconds of dial pause.

### Technical information about the different interface types:

Interface	Start Criteria ► Acknowledgement
a/b (default)	Start by ring voltage ► Loop current during announcement
TMOM	Start by permanent contact ► Open pulses at announcement's begin/end
TMEW2	Start by permanent contact ► Close pulses at announcement's begin/end
TIEL	Start by pulse contact ► Close pulses at announcement's begin/end
PA	Start by pulse contact ► Permanent contact during announcement





## Configuration Ports LINE screen

multiLAN - Ports - Microsoft Internet Explorer

Adresse http://192.168.1.3/port\_1\_1.htm

**BEYERTONE**  
multiLAN

Service Help Contact Logout

System  
Settings  
Network  
Memory  
Ports  
MOH  
**LINE 1**  
LINE 2  
LINE 3  
Mode  
Download

**Parameter**

Name: LINE 1 Extension:

Volume: 80 %

Ringtones: 1 x

Interface: ☒ analogue ☐ TMOM ☐ TIEL ☐ TMEW2 ☐ PA

Day Break Night Holiday

**Call forwarding**

Destination: 11

**Announcement**

No.: 01 select delete

No.	File name
1	Announcement Day EN
2	
3	
4	
5	

Fertig

**NOTE:** By programming holiday dates you can also determine each one individual announcement memory location per holiday and port to be played back (see Section 6.2). These will be handled with priority towards holiday announcements programmed according to this section.



## 6. Operating modes and time control

To control playback of different announcements on the 'LINE' ports, the beyertone multiLAN provides four operating modes: Day, Break, Night, Holiday. Switching of operating modes can be done manually and/or automatically by schedule. The configuration of the corresponding default announcement files is described in Section 5.2.

### 6.1 Switching and time schedule

Switching the operating modes can be done manually on the device by pressing the 'MODE' button. The modes will be selected successively:

Nr.	MODE-LEDs	Operation mode
1	   green	Day
2	   green + red	Break
3	   red	Night
4	   yellow	Holiday

**NOTE:** The mode switching by 'MODE'-Button can be deactivated by configuration.

Via the top area of the „Mode“ screen (screenshot see next page) manual switching of operation modes can also be done by the web configuration. The change will take effect on saving the settings. Below that, the MODE button can be deactivated, and finally the automatic switching by time schedule can be activated.

In the „Schedule“ area, you can determine for each day of the week the time, from when until when the device shall work in Day mode and which part of the day shall be Break mode. The rest of the day will be run in Night mode.

If no Break mode shall be effective, just set start and end time to the same value. The same can be done with the daytime settings for days without Day mode.

**NOTE:** If a time schedule is programmed and activated, additional manual switching of the operating mode can be done by the MODE button. In this case the manually set mode will only be valid until the next automatic switching according to the schedule. The automatic mode can not be deactivated by the button.




## Configuration Mode screen

multiLAN - Mode - Microsoft Internet Explorer

Datei Bearbeiten Ansicht Favoriten Extras ?

Adresse http://192.168.1.3/md\_time.htm



**BEYERTONE**  
multiLAN

Service Help Contact Logout

System

Settings

Network

Memory

Ports

**Mode**

Download

**Settings**

Active mode: ☒ Day ☐ Break ☐ Night ☐ Holiday

Button: ☒ enabled ☐ disabled

Automatic mode: ☐ enabled ☒ disabled

**Schedule** **Calendar**

Mode Day of week / Time	Day		Break	
	from	to	from	to
Monday	08:00	18:00	12:00	12:00
Tuesday	08:00	18:00	12:00	12:00
Wednesday	08:00	18:00	12:00	12:00
Thursday	08:00	18:00	12:00	12:00
Friday	08:00	18:00	12:00	12:00
Saturday	00:00	00:00	00:00	00:00
Sunday	00:00	00:00	00:00	00:00

Fertig

## 6.2 Holiday calendar

In the bottom area of the „Mode“ configuration screen under “Calendar”, additional periods can be defined with date and time, during which the device shall run in Holiday mode. To set a holiday entry, first select a number of the holiday list and then click ‘edit’. To delete a list entry, also first select the list entry number.

For each of the up to 50 holiday entries you can give a name and set the start and end date as well as a start and end time. By the option ‘Interval’ you can define, if this date will take effect every year or only in the year specified. Finally, for each holiday entry you can optionally define separately for each announcement port of the device a specific announcement memory location to be played back. After saving the settings you will be taken back to the holiday list.



**NOTE:** If you don't select individual announcement files with a holiday date, the predefined announcements according to the announcement port programming as described in Section 5.2 will take effect for the port. You can also use the individual programming only for some of the holiday dates and use the settings made by the port programming for all other holiday dates and additionally for manual activations of the Holiday mode.

### Configuration Holiday screen

multiLAN - Holiday - Microsoft Internet Explorer

Datei Bearbeiten Ansicht Favoriten Extras ?

Adresse http://192.168.1.3/holiday.htm

---

**BEYERTONE**

multiLAN

---

Service
Help
Contact
Logout

---

System

Settings

Network

Memory

Ports

Mode

Download

#### Entry 📄

---

**Name:**

---

**Date:**      **Start:**  (dd.mm.yyyy)

**End:**       (dd.mm.yyyy)

---

**Time:**      **Start:**  (hh:mm)

**End:**       (hh:mm)

---

**Interval:**      ☐ Year      ☒ disabled

---

**Individual audio file**

LINE 1:	<input style="width: 100%;" type="text"/>	🎧	select	✗	delete
LINE 2:	<input style="width: 100%;" type="text"/>	🎧	select	✗	delete
LINE 3:	<input style="width: 100%;" type="text"/>	🎧	select	✗	delete

---

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## 7. Automatic downloads

The beyertone® multiLAN has an integrated download function which the system uses to download current audio files from a web server, either manually at the push of a button on the front panel or automatically according to a schedule entered by the user. To this end, the new audio files (MP3 and/or MPM, see 'NOTE' at the end of Section 4) must be made available in a named folder on a web server. They will be downloaded as specified via http protocol. If the same music and announcement selection is to be transferred to more than one appliance, the same folder on the web server can be specified on all these appliances. Otherwise create different folders on the web server for different selections.

**IMPORTANT:** On the Download configuration screen you can select separately for announcement and music, if on a successful download of at least each one new file all files stored before in the announcement resp. music memory locations shall be deleted. In case of deleting, after successful download the content of the memory locations will be identically with the folder content of the web server. Otherwise, down-loaded files with pre-determined memory location numbers (see Section 7.1) will replace existing files on the same locations or - without number prescription - they will be stored in the next free locations.

**NOTE:** Downloaded files are not deleted from the web server.

Download settings can be entered in the 'Download' menu (see screenshot on following page). Start by entering the 'URL' corresponding to the folder on the web server from which audio files are to be downloaded (e.g. www.myserver.com/folder). Then select, if all music or announcement memory locations shall be deleted on a successful download of new files (see also remark above).

Next, specify how the download is to be started: manually via the 'UPDATE' button on the front panel of the appliance (is otherwise locked) and/or automatically according to a set schedule.

For the schedule, you can either specify an interval in minutes for your automatic downloads or select specific weekdays for a download, which then takes place at the time set under 'Time'.



## Download configuration screen

The green/red 'STATUS' LED on the front panel of the appliance indicates the current download and the status of the network connection (essential for downloading):

STATUS LED	Meaning
● Green	Last download OK
● Red	Last download not OK
●/● Flashing	Downloading
LED flashes	Network connection not OK / no IP address, With DHCP: obtaining IP address
LED off	No network



## 7.1 Download details

Please note the following additional **INFORMATION** on using the download function:

- When downloading audio files you can, if you wish, assign files to a particular memory location simply by starting the name of the MP3 files to be downloaded with a three-digit number followed by an underscore, e.g. '005\_music.mp3' for music memory location No 5 or '103\_Announcement.mp3' for announcement memory location No 3; all other files will then be assigned to free or unused music memory locations in sequence
  - announcement files must be provided with leading memory location number
  - for music memory locations 1 to 100 use name prefix '001\_' ... '100\_', and for announcement memory locations 1 to 100 use name prefix '101\_' ... '200\_'
  - the filename prefixes as described above will be truncated from the filename when storing the filenames in the memory location lists after the download
- To download files, the beyertone® multiLAN makes exclusive use of the hypertext transfer protocol (HTTP) commonly used for displaying websites; no FTP access is required, i.e. no data is used for user login, etc.
- The beyertone® multiLAN downloads files only from the URL entered in the download settings (e.g. 'www.myserver.com/folder'); it will *not* access any other addresses nor, in particular, will it transfer any files from the appliance to the URL or delete files under the URL.
- For the download function to work the web server used must be able to perform a directory listing on request, at least for the directory entered under 'URL'. Please check these web server settings. A simple way of activating this function is to create a file called '.htaccess' (with nothing in front of the dot!) in this folder and using a text editor add a line containing the text 'Options +Indexes'.
- The download function of the beyertone® multiLAN can be used to transfer not only audio files but also updates for the appliance, e.g. \*.bin files for updating the firmware on the appliance (files of this type and information on their availability can be obtained on the website indicated in Section 11) or \*.cfg- and \*.tpl files for global preconfiguration of the units. Please note that for updates where several files are made available as a zip archive, for example, this archive must first be unzipped and the files it contains then made available for download under the URL. (Note: after downloading updates the unit will restart automatically to install the updates.)
- Please note that apart from the '.htaccess' file, the folder specified under 'URL' may contain only mp3 or mpm files plus any update files made available by BEYERTONE. In particular, the folder may *not* contain any files with the names 'index.htm', 'start.htm' or 'default.htm', etc.



## 8. Service functions

### 8.1 Default IP

To gain access to the multiLAN web configuration menu, in particular if an unknown static IP address has been assigned, switch off the appliance and hold down the 'UPDATE' button for approx. 5 seconds when you switch it back on (until the LEDs 'STATUS' and 'MOH' flash once). The appliance will then be reachable under the default IP specified in Section 9 and *no* DHCP requests will be sent for the time being, even if 'DHCP' is active. Once the appliance has been switched off and back on again (without holding down the button), the specified IP address and DHCP (if active) will be back in use.

### 8.2 Help and Log file

If questions or problems should occur when installing the unit, you may as a first step make use of the integrated help features::

- via the web configuration 'Help' screen (to which the link is in the top navigation bar) you get a link to the complete installation manual as PDF file (downloading the file from the device may take approx. 1 minute)
- via the 'Service' screen you can activate writing a log file, which can be displayed afterwards via the corresponding link on the same screen
- additionally, the 'Service' screen provides links to the main configuration files of the device, which can be used to show the files

**NOTE:** If you are being asked by the BEYERTONE support to send the configuration and/or log files (after writing), please use the links mentioned above and save the files e.g. by right clicking with the mouse on the links and using the 'Save as...' menu.

### 8.3 System reset

If necessary, the appliance can be rebooted via the 'System / Restart' menu. Here, you have the choice between rebooting the appliance using the current configuration data or resetting it to the default factory settings (see Section 9). On restarting, the appliance will be reachable again under the entered IP address after approx. ten seconds. You will then have to log back into the browser configuration menu. With restarting the unit, also the language of the configuration menu screens can be changed.

You can also reset the appliance to the factory settings (see Section 9) without using a browser by first switching it off and then back on, holding down the 'UPDATE' button on the front panel for approx. 15 seconds as you do so (until the LEDs 'STATUS' and 'MOH' flash once and then three times). The LEDs on the front panel flashing three times indicate a successful reset.





**NOTE:** If you change the network parameters, you have to reboot the appliance for the new settings to become effective. To access the appliance via a browser after rebooting, you will, of course, have to use the new IP address, where this has changed. If you choose to reset all your settings when rebooting, the appliance will return to the factory settings (see Section 9).

**NOTE:** When resetting the appliance to the factory settings, the date/time settings, the user password and any licence codes stored will NOT be reset. The contents of the memory also remain intact. You should therefore erase the memory locations in use separately, if necessary.

## 8.4 Updates and licence code

You can load new firmware on the appliance from the 'System / Update' menu. Please use only files released by BEYERTONE for the beyertone® multiLAN. Where updates are provided in the form of several files in a zip archive, please be sure to unzip the archive and then transfer the files to the appliance one by one. In special cases, also CFG and/or TPL files provided from the BEYERTONE support can be transferred via this firmware upload dialogue.

An update of the firmware can also be done via download from a separate URL. To do this, just enter the URL under 'Server' in the 'Update' tab and start the update directly from here or - if enabled here - by pressing the 'UPDATE' button for 10 seconds during normal operation of the device. Information on the availability of updates can be found in Section 11.

Some optional appliance functions may not be available as standard and need to be enabled via a licence code. If you have purchased or received such a licence code, you can enter and activate it on the 'Update' page. The appliance and all its basic functions are fully operational without a licence code.

## 8.5 LED status indications

The LEDs 'STATUS' and 'MOH' on the front panel of the beyertone® multiLAN indicate the following statuses (see Section 7 for details with respect to downloads):

LED indications	Meaning
MOH LED is flashing	MoH audio playback is in progress
STATUS LED is lit	Network connection OK
STATUS LED is flashing	Network connection not OK / no IP address
STATUS LED is off	No network
LEDs flash once alternately	Appliance is reachable under default IP (below)
LEDs flash three times alt.	Appliance has been reset to factory status
LEDs flash simultaneously	Internal device error



## 9. Factory settings

Unless agreed otherwise, the beyertone® multiLAN is shipped with the following basic settings:

<b>Password:</b>	"multilan"
<b>Location:</b>	- blank -
<b>Device name:</b>	- blank -
<b>DHCP name:</b>	= device id (e.g. "2011-1800-12345")
<b>DHCP:</b>	enabled (see *)
<b>IP address:</b>	* DHCP (otherwise <b>default: 192.168.1.3</b> )
<b>Subnet mask:</b>	* DHCP (otherwise default: 255.255.255.0)
<b>Standard gateway:</b>	* DHCP (default: - blank -)
<b>DNS server:</b>	* DHCP (default: - blank -)
<b>Proxy:</b>	disabled
<b>Proxy server:</b>	- blank -
<b>Proxy port:</b>	80
<b>NTP:</b>	enabled
<b>NTP server:</b>	* DHCP (default: - blank -)
<b>Time zone:</b>	CET (GMT + 01:00), automatic daylight saving enabled
<b>Auto logout:</b>	15 minutes
<b>Volume MoH:</b>	70 %
<b>Volume Announc.:</b>	80 %
<b>Interface Ann.:</b>	analogue (a/b)
<b>Flash time:</b>	90 ms
<b>Transfer No. Day:</b>	11
<b>Operation mode:</b>	day / manual
<b>Download:</b>	disabled / no URL entered
<b>Licence code:</b>	- blank - (= default appliance functionality active)



## 10. Troubleshooting and support

If the appliance shows signs of a malfunction, please check the LED indication (see Section 8.5) and run through the following points:

- Has everything been connected according to the installation instructions?
- Have the ports on the PBX been set up correctly?
- Is the MOH / LINE port pin assignment correct?
- Is the volume on the appliance set high enough?
- Are the interface and operation mode settings correct?
- Have valid MP3 audio files been loaded on the appliance (see Sect. 4)?
- Have valid IP addresses been entered/is DHCP supported?
- Have you tried to connect to the LAN using the default IP address (see Sect. 8.1)?
- Is Java-script activated in the browser used for configuration?

Should you require any technical assistance when taking your beyertone® multiLAN into operation, please contact the BEYERTONE customer service hotline:

**Customer service hotline: +49 (0)2103 24 80 20**

or **support@beyertone.com**

Mon - Thu: 0800 - 1700 CET

Friday: 0800 - 1500 CET

## 11. Updates and royalty-free music files

BEYERTONE have a selection of royalty-free music tracks available for the beyertone® multiLAN. You can also download installation guides in various languages and software updates, where available. To do so, please go to the following website:

**[www.beyertone.com/multilan](http://www.beyertone.com/multilan)**

**NOTE:** Should you add any non-royalty-free tracks of your own, please note any charges that may apply.



## 12. Specifications

- Appliance

Operating voltage	DC 6.0 V, alternatively supply via PoE (Class 0)
Power consumption	max. 500 mA (max. 3 W with PoE)
Internal fuse	500 mA (self-clearing)
MOH output	Impedance 600 ohms, galvanically isolated nominal level - 6dBm at 300 - 3400 Hz
PHONE output	3.5mm stereo jack socket, for headphones from 30 ohms
Control input E&M / PA	6V (1,5 mA) - 60V (15 mA) with ext. voltage pulse 3V (1 mA) with internal contact supply
Control output E&M / PA	zero potential semiconductor switch, max. 60V / 50 mA
Memory capacity	Internal capacity approx. 10 hours (with 128 Kbps stereo MP3 files)
MP3 data formats	MPEG 2-Layer 3 compression (files with no additional header data only) 96 to 192 Kbps, stereo/mono, up to 44.1 kHz
LAN port	Ethernet 10 Mbps
Supported protocols	DHCP, DNS, HTTP, NTP, PoE (IEEE 802.3af Mode A & B)
Power reserve of int. clock	24 hours
Ambient temperature	5° to 45°C
Dimensions	436 (480) x 210 x 44 mm
Weight	Approx. 1200 g

- Mains adapter

Input voltage	100-240V AC, 50/60 Hz
Output voltage	6.0 V DC / max. 500 mA
Weight	Approx. 120 g

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