

Bellcommander application note

This document should give you a short overview about Bellcommander and how to use the software together with Barix products like Exstreamer and Annuncicoms. At the end it shows also configuration examples for some Barix special applications.

Bellcommander is a very powerful scheduling software to schedule bell sounds for schools or universities or companies, but it can be also used e.g. for automated (repeated) advertisements and live announcements in shopping malls or to schedule any UDP commands for Barix products/devices. Acrovista Software, the developer of the software, offers different licenses for different installation sizes (controlled devices).

The installation of the software should not make any problems, it is compatible with the very most Windows operating systems.

A trial version you can download from: http://www.acrovista.com/bellcommander/

			IX 🕄 Calend	lar Schedi							_
Sound Device Type:	Barix Network Av	udio Devices 🗾	** *			Jul 2007			* *	Set Dela	ult Weekly Schedule
Sound Device:	Barix Network Av	udio Devices 💌	So	Mo	Di	мі	Do	Fr	Sa	Set Ex	ception Schedule
Enable Barix D	evices		1	2	3	- 4	- 9	6	7	Remove	Exception Schedule
Known Clients:			8		10	11	12	13	14	Bemove Exc	eption Schedule Ra
Name	Active	Device List									
Annuncicom 1	True	Add Device Edit Device Remove Devic	0 15	16	37	18	19	20	21	Selected Date	
Annuncicom2	False	Baix Setting:		_	-					Zone: "ALL 2	ONES**
Exstreamer 1	False	-	22	23	- 24	25	26	27	28	Time	Zone
Exstreamer 2	True	Use TCP Port: 2020 (Default: 2020) Apply			-					09:00:00 AM	All Exstreamers
Exstreamer3	True	C Use UDP Port 3030 [Default 3030]	29	30	31	1	2	3	4	09:14:40 AM	All Exstreamers
										09:15:00 AM	All
		Send UDP Test For Ping	5	6	7	8	9	10	11	10:00:00 AM	Zone A
		Test Device	1							10:15:00 AM	Zone B
		Play File: + Increase Volume - Decrease Volum File Name:	E Day Se								E
		Browse									
		Play Audio File Stop Playing Audio	Day Sche	dule: Drean	n school		•	Add.	Rename	Delete	Copy To New Sch
			Zone: "%	LL ZONES	**	•	Copy Schedu	le To Zone	1		Add Bell
Zone Manager			Time	Zor	ne Name	So	ound File/Se	equence		1	Add beit
Zone List:		Devices in Zone:	09:00:00	AM AILE	exstreamers	BA	RDICOMMAN	D:S=http:/	/194.97.151.	140:80	Edit Bell
Zone		Device	09:14:40	09:14:40 AM AI Exstreamers BARD/COMMA		RDICOMMAN				Delete Bell	
41		Annundcom1	09:15:00	09:15:00 AM AI		C:	C:\Programme\BellCommander\sounds\schoo			chool.mp3	Delote Del
All Exstreamers		Annundcom2	10:00:00	10:00:00 AM Zone A C:\Programme\BellCommander\sou		der\sounds\s	chool.mp3	Print Schedule			
Zone A Exstreamer 1		10:15:00	M Zon	e B	C:	Programme	BellComman	der\sounds\s	chool.mp3		
Zone B		Exstreamer2	_								
Joine D		Exstreamer3									

Software overview and configuration

If you start Bellcommander then usually it adds an icon in the system tray and opens the empty Bellcommander window.

From the empty Bellcommander select your desired control section. In the picture on the right side is the Device Manager selected. There you can define your output devices, like local soundcards, client PC's or also Barix Exstreamer/Annuncicoms . If the units are in the LAN available (and support the Barix discovering), then it is marked with "True", otherwise with "False". If they are available then you can also test these audio output devices. You can here define also IP addresses for other network devices like the Barix Barionet for command scheduling (over UDP port 12301, not changeable).



	Device Manag		
	Sound Device Typ	e: Barix Netw	ork Audio Devices 🗾
	Sound Device:	Barix Netw	ork Audio Devices
	🔽 Enable Barix	Devices	
	Known Clients:		
	Name	Active	Device List:
	Annuncicom 1	True	Add Device Edit Device Remove Device
	Annuncicom2	False	Barix Settings:
	Exstreamer 1	True	
	Exstreamer2	True	Use TCP Port: 2020 (Default: 2020) Apply
	Exstreamer3	True	C Use UDP Port: 3030 (Default: 3030)
ld Barix Device			× (*******
evice Name: (Enter a nan	ne to identify device by for	BellCommande	r) Send UDP Test For Ping
xstreamer1			est Device
			Hay File: + Increase Volume · Decrease Volume

Sound Sequences gives you the possibility to combine existing single sound files to sound sequences. That feature is not really necessary for the setup.



In the Zone Manager you can assign the defined devices to zones (groups).

The Day Scheduler allows you to schedule the sound files or UDP commands. Here you can create, copy, edit and audio schedules for the zones. If the schedule for Monday looks different then Tuesday, no problems - create a second schedule for Tuesday. In the Calendar Scheduler you can join them to the right day.

As UDP command can be sent any character string exceptional the ";". Also delaying two commands for few milliseconds is possible: e.g. *setio*, *1*,999;*sleep=250*;*setio*, *1*,999 UDP commands are sent always on port 12301!

Day Sched	Dream school	Add Rename Delete	Copy To New Schedule
Zene: [**ALL 2 Time 09:00:00 AM 09:14:40 AM 09:15:00 AM 10:00:00 AM 10:15:00 AM	20NES** Zone Hane Al Exstreamers All Exstreamers All Zone A Zone B	Cópy Schedule To Zone Sound File J Sequence Bant ConteMuch S-High (194.97.15.1.40.80 C (Programme BellCommander (sound lpdood.mp3 C (Programme BellCommander (sound lpdood.mp3	Add Bell. Exit Se Efficiency Series S

On the Calendar Scheduler you can assign your created "day schedules" to the calendar. If you different schedules or exceptions then they will be displayed in different colours or with different signs. Also exceptions you can set (e.g. for vacations).

Set Exception		×
Selected Date	Date Range	
Start Date:	01.08.2006	
End Date:	31.08.2006	
Bell Schedule:	**No Bells**	⊡
	OK X Cancel	

A	Zones			ac Day	CLIP Schedul	er Caler	dar Intercom					
	idar Sch		rocquerie	.c3 00;	7 30 10001	er obier	ada antercont					
"			Jul 2007			+ ++	Set Defa	ult Weekly Schedul		chedule		[
So	Мо	Di	Mi	Do	Fr	Sa	-	ception Schedule	How many wee	eks are in the schedule? Idule everv week		
1	- 2	3		5	6	7		Exception Schedule	C Schedule i	duie every week s a two week cycle s a three week cycle		
8	9	10	11	12	13	14	Remove Exc	eption Schedule Ra	Schedule Start	Date: 01.02.2007	-	
15	16	17	18	19	20	21	Selected Date		Select Week M	lumber: 1 💌		
22	23	24	25	26	27	28	Time	Zone	Sunday:	Weekend	•	
-							09:00:00 AM	All Exstreamers	Monday:	Dream school	•	
29	30	31	1	2	3	4	09:14:40 AM	All Exstreamers	Tuesdav:	Dream school	•	
							09:15:00 AM	All Zone A				
5	6	7	8	9	10	11	10:00:00 AM	Zone B	Wednesday:	Dream school	-	
							10.13.00 AM	Zone b	Thursday:	Dream school	•	
									Friday:	Dream school	•	
									Saturday:	Weekend	•	

With the Intercom feature you could play pre-recorded messages (e.g. alarms) or live announcements outside of the normal schedules to the zones.



Barix device configuration

Annuncicom with standard firmware

NETWORK		STREAMING	•	<u>1/0</u>		SERIAL	<u>SECURI</u>
Own Name							
Streaming mo	ode		send o	n TALK	•		
Trigger Level			1000	only f	or mode "send	l on Level"	
Pre Trigger S	tart		0	msec			
Post Trigger F	Play		0	msec			
Buffer Underr	un Mode (TCP)		discon	nect 💌			
Background S	Stream TCP Flo	w Control	throw a	way dat	ta 💌		
Stream Packe	et Strategy (MP	3 only)	lowest	atency	-		
Non MP3 Pac	ket Size		1200	Bytes			
Play Buffer			4096	Bytes	5		
Receive Time	out		200	msec			
TCP Priority F	x Port		0				
UDP Priority F	Rx Port		0				
Minimum Pric	ority Message V	/olume	50 💌	%			
UDP Receiver	Port		3030		-	_	
UDP Tx Sourc	e Port		0				
Radio Path			/xstrear	n			
Relay While A	Audio		OFF -	I			

Per default the Annuncicom listens on UDP port 3030 for incoming streams. Bellcommander can stream over UDP (port 3030) to the Annuncicom's UDP Receive Port as also over the "UDP Priority Rx Port". Note, when using the "UDP Priority Rx Port" then make sure the same port number is not used twice in the Annuncicom configuration.

When TCP streaming is selected in Bellcommander, then configure in the Annuncicom setup the "TCP Priority Rx Port" to the same port number as configured in Bellcommander.

Note, in the Annuncicom configuration under Audio you have to select the same codec as defined in the Bellcommander configuration.

The Annuncicom with Annuncicom standard firmware supports only RAW UDP or RAW TCP streaming, no RTP!

Exstreamer with Streaming Client firmware

For Bellcommander announcements use the Streaming Client's Priority Port. This Priority port supports only RTP but all audio formats (MP3, PCM, G.711).

Define here also the same port number as defined in the Bellcommander "Advanced Settings".

The use of the "normal" URLs from the Bellcommander is not recommended, these are equiped with a soft-fade-in feature, means the volume is ramping up slowly and you will probably loose the first seconds of the audio there.

🜈 Barix Streaming Client - Window	vs Internet Explorer		
	179/	X Google	
Datei Bearbeiten Ansicht Fav	oriten Extras ?		
🚖 Favoriten 🛛 🄏 Barix Streaming C	lient		
HOME CONFIGURATION	STATUS DEFAULTS UPD	ATE REBOOT	Exstreamer 100 MAC: 00:
STREAMING CI	IENT		
Basic Settings			
Advanced Settings	PRIORITY STREAM SETTIN	GS	
Network	RTP Port	11001	
Streaming	RTP delay	500 ms	
Audio & Playback	Priority Message Volume	50 %	
Priority	, ,	50 %	
Serial & Control	Triggered Playlist		
1/0			
Remote Management			
Security			
Apply Cancel			

When the normal URL is used with an RTP Listen port then the following STREAMING settings are recommended :

Streaming Settings:

URL 1: rtp://0.0.0.0:4444 Stream Check Period: 1 s Check Period Limit: 1 s RTP Latency: 300 ms Fade-in period: None

The Streaming Client firmware can be only used with the RTP format from Bellcommander software!

Configuration with other Barix firmwares / applications

The Bellcommander can be used also with some other firmwares on the Barix devices, e.g. :

- the ABCL SIP software
- the ABCL BARP Paging software

These softwares offer beside their normal functionality often a "Priority port", a "Notification port" or a "BGM port" to receive streams from other applications. In all mentioned softwares the additional audio network ports require a RTP stream. Here are some configuration examples.

In the Bellcommander Device configuration

Not all Barix firmwares/application have the typically Barix discovering implemented, see firmware/applications mentioned on next pages. When no Barix Discovery feature is existing then uncheck in the "Send UDP Test for Ping" box and click on "Apply".

To set the right streaming settings click on "Advanced Settings", there select the desired Audio and RTP parameter and click on "Ok". In the example on the right picture the RTP port 11001 is configured with MP3 audio format.

SellCommander		>
File Devices Scheduler Options Window Help		
Devices Zones Sound Sequences Day Scheduler C	alendar In	tercom Notifications
Stop Active Bells Current Time: 10:04:23 AM Next	Bell: 6/7/11	10:19:00
C Device Manager		
Sound Device Type: Barix Network Devices	-	
Sound Device: Barix Network Devices	•	
🔽 Enable Barix Devices		
Known Clients:		
Name	Active	Device List
Broadcast	True	Add Device Edit Device Remove Device
SIP Annuncicom	True	Discover Devices
Streaming Client	True	
Advanced Barix Settings Audio Format C MP3 (default) U Law C a Law C PCM Bit Rate (uLaw, aLaw, or PCM) C 8 KHz C 24 KHz FIP V Use RTP V Use RTP V Use RTP F Lush Buffer (Required for Exstr. 8.20 firmware Packet Size UDP/RTP Packet Data Length: 450 (In Bytes, 160 - 960; Default 480) C 0K Cancel		Baix Settings: Use TCP Port: 2020 (Default: 2020) Apply Use UDP Port: 3030 (Default: 3030) Live Paging Port (UDP): 4444 (Default: 3030) Use UDP Test For Ping Advanced Settings Device Settings Advanced Settings Device Settings (Default: 12302) Enable BairNet Notification Monitoring Apply BairNet TCP Status Port: 12302 (Default: 12302) Test Device Play File: File Name: Browse Play Audio File Stop Audio Send Command String: Command: Close Relay For Duration and Open (Normal Bell Ring) T
Dealer Demo Version		Duration: 5 (1-300 seconds)

Barix ABCL SIP Client firmware

The SIP Client offers under "Streaming" settings for the BGM port and the Notification port. For occasional announcements the Notification port is the better choice. Define there the port number and set the Notification Priority. "High" will stop current SIP calls when incoming announcement are received. "Low" will play the announcement only when there is no current SIP call. The Notification port number should be the same as defined in the Bellcommander "Advanced Settings".



Barix ABCL Paging software

This firmware allows to select a channel for BGM (Background Music). Such BGM channel can also be used for occasional announcements from Bellcommander. For that make the settings similar to the picture on the right side. It will open the BGM Port 11001 after startup. This port can be switched with the ICgraph-BARP application if needed.



Bellcommander offers a SIP-Call - forwarding function, this should also work together with Barix products.

Using the Barionet inputs for Bellcommander notification

Bellcommander allows also to monitor the Barix Barionet inputs or to control the Barionet relays. Following is a example for the Barionet triggering a autmatic Bellcommander notification.

In the example the input 1 of a Barionet50 is used to trigger the notification.

The Barionet configuration the **"TCP command port"** and the TCP initial I/O state subscription" must be set like on the right picture.

The TCP command port should be set e.g. to port 12302.

The TCP initial I/O state subscription is per default on "**Local I/O**", but make sure this is correctly configured..

First open Bellcommander's device manager and add the Barionet.

For that click **"Add Device"**, there define a device name and the IP address of the Barionet and click "OK".

Thereafter check in the "Device Settings" the **"BarioNet TCP Status Port"** is matching with the **"TCP command port"** in the Barionet settings.

As last here, mark the box "Enable Barionet Notification Monitoring" and click on "Apply".

BARIX Barionet configuration - Wi	ndows Internet Explorer		_ 🗆 ×
	9/uiconfig.html	🔽 👉 🗙 🕻 Google	₽ -
🔆 Favoriten 🏾 🏉 BARIX Barionet confi	guration		
BAR X B	ARIONET CONF	E IGURATION	
SETTINGS DEFAULTS REB	OOT UPDATE	APPLICATION SETUP	IOME
SETTINGS			
NETWORK SERIAL I/O	CONTROL SNMP		SECURITY
GENERAL			
WEB server port	80		
BCL Program Name			
Lockdown mode	0		
Modbus/TCP timeout	0 seconds		
COMMAND API			
UDP command port	0		
TCP command port	12302 Timeout 0	seconds	
I/O STATE INFO			
UDP info send to	0.0.0.	0 (0.0.0.0 for no info)	
UDP destination port	0		
UDP interval	0 seconds		
TCP initial I/O state subscriptions	Local I/O 💌 🔶 🗕		
TCP add I/O state subscriptions	With getio/setio 💌		
SYSLOG			
Syslog Server	0.0.	0	
Syslog Debug Level	1 Flags 0		
OK Cancel			



After the configuration in the device manager you have to configure the "Notification". After selecting "**Notification**" from the Menu button bar click on "ADD" and enter a name for the notification. The notification should be also enabled /active and a picture should be assigned.

S Notifications	
Notifications:	Add Edit Delete Settings
Notification Steps Post-No	tification Steps
Notification Steps:	S Add Notification
Step Zone	General Settings BarioNet Triggers
	Notification Name: Tornado
	Enabled:
	Show Confirmation: 🔽
	SIP Code:
	Notification Image: tornado.bmp Browse
	ewn
	OK Cancel

Assign now a Barionet input to the notification, for that select the tab "**BarioNet Triggers**" and choose there the Barionet and the desired input on the Barionet. To save the settings and close the window click "OK".

• Notifications	_ _ _ _
Notifications:	Add Edit Delete Settings
Notification Steps Post-Not	ification Steps
Notification Steps:	🖗 Add Notification
Step Zone	General Settings BarioNet Triggers ion
	Device Input
	S Add BarioNet Input
	BarioNet Device: Barionet50
	te
	Input Number: 1
	Þwn
	OK Cancel
	💙 OK 🛛 😳 Cancel

As next define the Bellcommander action when the Barionet input is triggered. Click "**Add Action**" and define in the opened window what should be done and finish the process by clicking "OK".

Ready, now you will see the created notification as icon in the notification bar on the left Bellcommander side. As soon the Barionet input is triggered Bellcommander will start the assigned action, e.g. send a sound file to a selected audio zone or send a command to a Barix device.

0	lotifications		<u>- 🗆 ×</u>
Noti	fications: To	rnado 🗾 Add Edit Delete	Settings
Not	ification Step	Post-Notification Steps	
	🔞 Add Not	ification Action	
St	Zone:	Sound Card	Add Action
	Command:	Play Sound File	Edit Action
			Delete Action
	Sound File:	C:\Programme\BellCommander\sounds\tornado.mp3 Browse	
	Vait for	sound to finish playing before next action	Move Up
			Move Down
		OK Cancel	
نكا			