

## Release Note

### Digital Message Streamer V00.06

<b>Firmware name:</b>	Digital Message Streamer V00.06		
<b>Released:</b>	24. Feb. 2011		
<b>Package name:</b>	abcl_msg_streamer_va006_20110224		
<b>Version overview:</b>	<b>Type</b>	<b>File name</b>	<b>Version Date</b>
	Firmware	abclw.rom	VA0.36_20110215
	WEB UI	abclapp.cob	V01.14_20100903
	FW Ext. 1	sg.bin	V08.18_20110222
	FW Ext. 2	fs.bin	VA2.05_20100113
	FW Ext. 3	bclio.bin	V01.18_20101110
	Bootloader	exfull.rom	V99.22_20110124

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# 1 Hardware Compatibility

This firmware is intended to run on the following devices:

- Exstreamer 100, 110, 200, 1000
- IPAM 100, 300

Note: The firmware can run on any other Barix audio devices (e.g. Annunicom, Exstreamer Digital), however the functionality is not guaranteed.

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## 2 New Features and Improvements

This is a beta SW.

The following features have been added in the Digital Message Streamer V00.06 compared to Digital Message Streamer V00.04:

- Updated to BCL 1.5 for more memory and better performance;
- Set **ch.pool.ntp.org** as default NTP server;
- Set 1 hour as default NTP update interval;
- Set as default GMT+1 as default time zone.

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### **3 Fixed Bugs**

The following bugs have been fixed:

- Bug 095.04: Time and FTP download hang-up on NTP update failure.

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## 4 Configuring and using Digital Message Streamer

### 4.1 Configuring the message playlists

Digital Message Streamer SW can play 8 playlists, each one associated with one X8, or web UI message button. The name of the playlists must be in the format:

pl+Message No.M3U

For example:

pl1.M3U for message 1 playlist, pl2.m3u for message 2, etc. The names are not case sensitive.

Each playlist can be up to 49 characters long. The MP3 files listed in the playlist file can have up to 99 characters long names, and will be played one after another. Here is an example of USB stick contents:

```
-rwxrwxrwx@ 1 testuser staff 58611 Feb 19 2010 M1P1.mp3
-rwxrwxrwx@ 1 testuser staff 61119 Feb 19 2010 M1P2.mp3
-rwxrwxrwx@ 1 testuser staff 86614 Feb 19 2010 M1P3.mp3
-rwxrwxrwx@ 1 testuser staff 53177 Feb 19 2010 M2P1.mp3
-rwxrwxrwx@ 1 testuser staff 53595 Feb 19 2010 M2P2.mp3
-rwxrwxrwx@ 1 testuser staff 64880 Feb 19 2010 M2P3.mp3
-rwxrwxrwx 1 testuser staff 0 Jan 1 1970 dlistfiles.txt
-rwxrwxrwx 1 testuser staff 27 Feb 19 2010 pl1.m3u
-rwxrwxrwx 1 testuser staff 27 Feb 19 2010 pl2.m3u
```

Here pl1.m3u and pl2.m3u are the two playlists associated with button 1 and 2 respectively.

M1P1.mp3 stands for "Message 1, Part 1", M1P2.mp3 stands for "message 1, Part 2", and so on.

The names are selected such for brevity, but can be any name as long as listed in the playlist, ex.:

```
tuser-imac:Untitled testuser$ cat pl1.m3u
```

```
M1P1.mp3
```

```
M1P2.mp3
```

```
M1P3.mp3
```

dlistfiles.txt is a temporary file file created by the application to store a list of the files to be downloaded from the FTP server.

The needed MP3 files and the updated playlists must be uploaded to the FTP server directory, specified in the DMStreamer Settings Page.

### 4.2 Programming the X8

The X8 device provided by Barix must be configured for a special mode in order to be used for the needs of this application. Follow the procedure below to do this:

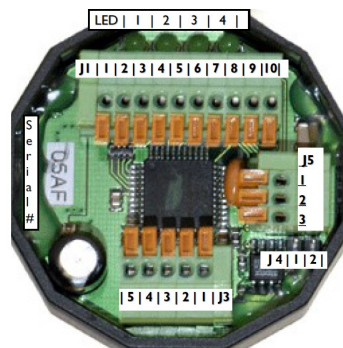


Illustration 1: X8 Connector pinout

- Connect inputs I0 and I1 together (pins 9 and 8 of J1)
- Connect inputs I7 and I4 to ground (pins 2 and 5 of J1 to pin 1 of J1)

Pin	Function	Pin	Function
1	Signal GND	6	I/O 3
2	I/O 7	7	I/O 2
3	I/O 6	8	I/O 1
4	I/O 5	9	I/O 0
5	I/O 4	10	VCC (5VDC)

- Power up the X8. The device will reconfigure itself for the special „Digital Message Repeater“ mode. All LEDs will be illuminated, LED 3 will blink
- Remove the power, then remove the connections. The X8 is now ready for use.

After the restart of the X8 the left LED will be permanently on and LED 2 will blink every second. If the device does NOT blink as expected, it may be loaded with an old firmware version. In this case contact the Barix technical support for more information.

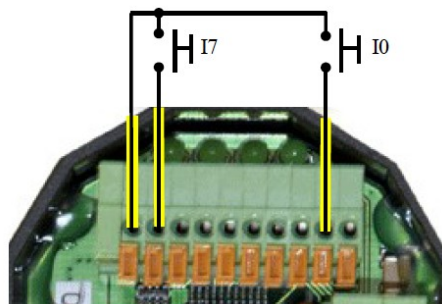
### 4.3 Connecting the X8 to the Exstreamer

Next, you need to connect the X8 to the Exstreamer. To do so, connect the following pins:

PIN 5 of J3 of X8 to PIN 5 of RS-232 connector on device  
 PIN 4 of J3 of X8 to PIN 4 of RS-232 connector on device  
 PIN 3 of J3 of X8 to PIN 2 of RS-232 connector on device

### 4.4 Connecting buttons to the X8 unit

For the purpose of this application, the most simple configuration is used. Connect your buttons or contact closures between each input and signal ground as shown in the picture below.



However, up to 70 buttons and a volume control may be connected if desired. The application also needs to be modified to support more buttons.

### 4.5 Configuring the serial port

In order the X8 to function properly, open the application Settings page, and configure the following settings for COM port 1:

Serial 1  
 Baud rate = 19200

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Data bits = 8  
Parity = no  
Stop bits = 1  
Handshake = none

## 4.6 Remote monitoring

Sometimes it is necessary to check the activity of the device. The device is sending information to the network (either as a broadcast or to a specific server IP address, configurable from the device settings page) using the **syslog** protocol. The messages may be viewed either with the Wireshark tool, KIWI syslog daemon, or any other utility that is able to read syslog messages. Below is an example how to do it with Wireshark.

### Using Wireshark

The Wireshark an open source network sniffing tool available for multiple platforms (Windows, Linux, Mac OSX, etc.), and can be downloaded from [Wireshark download page](#). Once downloaded, and installed on your PC, start the application and do the following configuration steps:

- Click Capture → Interfaces. A dialog box showing the available network interfaces on your computer will appear. Click on the corresponding “Start” button to force Wireshark to start capturing network traffic on the interface. You will see network packets info appearing on the display window of the application;
- Next, click on the “Filter” field, and type:

`ip.addr==your.device.ip && syslog`

Like that, only the syslog messages from this device will be shown:

Protocol	Info
Syslog	BCL V1.4 Start
Syslog	Barix USB to RTP message streamer, Version: 0.05 14.10.2010
Syslog	NTP Server Name: swisstime.ethz.ch
Syslog	FTP Server Name: 192.168.11.27
Syslog	FTP User Name: asimeonov
Syslog	FTP Server directory: ftpfiles/msg_repeater_short
Syslog	RTP send address: 224.1.2.3
Syslog	RTP send port: 9999
Syslog	FTP download time 1: 0:0h = 0
Syslog	FTP download time 2: 0:0h = 0
Syslog	FTP download time 3: 0:0h = 0
Syslog	NTP update every 60 minutes
Syslog	Using default volume = 50%
Syslog	Resolving 192.168.11.27...
Syslog	Resolving swisstime.ethz.ch...
Syslog	Done, got FTP server IP: 192.168.11.27
Syslog	Done, got NTP server IP: 129.132.2.21
Syslog	Opened COM:19200,N,8,1,NON:1
Syslog	Entering in state 1 (Idle) ...
Syslog	Entering in state 6 (get NTP) ...
Syslog	NTPS: 1287150767:48 (20101015135247)
Syslog	Entering in state 1 (Idle) ...
Syslog	Entering in state 3 (message playback)...
Syslog	pl6.m3u
Syslog	Opening C R:usb:///pl6.m3u
Syslog	Opening file C R:usb:///Jan2June.mp3
Syslog	128 kbit/s, 44100 Hz
Syslog	Entering in state 1 (Idle) ...

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## 5 Other remarks and known issues

### 5.1 Digital Message Streamer V00.02

- If the NTP server is not responding, the application may stay blocked for 20 seconds until the connection times out. However, in this case the FTP download will not work correctly due to the wrong NTP time. The only way to perform FTP update is to click on the **“Force download”** link from the web UI.
- The FTP password is shown in open text on the web UI. However, a password to access the web page may be configured to protect the device settings page;
- Files are never deleted, just being overwritten. A specific file deletion behavior may be implemented at customer request ;
- The user name is max 19 characters long;
- The password can be up to 24 characters;
- The FTP directory name may be up to 63 characters long;
- The NTP and FTP server names can be max 49 characters;
- The playlist and MP3 file names cannot be more than 100 characters;
- HTTP download not supported;
- FTP port is fixed to 21;
- Only FTP download in passive mode is supported.

### 5.2 Digital Message Streamer V00.03

In addition to the known issues in v00.02, the following limitations are also valid:

- The directory listing shows only the contents of the root directory of the USB stick;
- Hidden files (starting with “.”) and any directories other than the root are not shown;
- Filenames are displayed in 8.3 format;

### 5.3 Digital Message Streamer V00.04

#### **Limitations:**

In addition to the known issues for digital streamer v00.02 and 00.03, the following are also valid:

#### **Message queue implementation:**

- The event queue can handle up to 8 events (one event per button).
- When a command to play a certain message is received, the corresponding message playlist is flagged as “active”. Multiple messages may be activated from multiple sources (X8 button press, WebUI button click, or CGI command send directly from the terminal or shell script);



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- The application scans the message queue to search for flagged messages, and plays them in their order of appearance. After the end of the current message, the application starts searching in the queue from the next message position. For example, if the following message commands have been sent – 5,6,1, they will be played in order 5,6,1 (assuming that the playback of message 5 starts immediately, and that it is already playing at the time of the reception of commands 6,1).

The application starts playing message 5, then starts searching the queue from position 6, find that message 6 is flagged, play it and continue searching from position 7. Once position 8 reached, the application will restart from 1, find that it is flagged, and will play it.

Another example – message commands received in this order – 4,3,2,1 will be played like 4,1,2,3. Played messages are flagged as “nonactive”;

- Message that is currently being played cannot be scheduled (flagged) again.
- There is a timeout of 1500 ms during which the same X8 button cannot be pressed. Any other key may be immediately activated.

## 5.4 Digital Message Streamer V00.05

### Limitations:

In addition to the known issues for digital streamer v00.02, 00.03, and 00.04, the following remarks are also valid:

### Change of playlist file names:

Starting from v00.05, the names of the playlist file names changed from playlist+Message No.M3U to pl+Message No.M3U

For example:

playlist1.M3U → pl1.M3U

playlist2.M3U → pl2.M3U, etc.

Please take care to update your playlist files accordingly.

### Sometimes files may be downloaded twice:

The application checks for FTP download timers every 15 seconds. If the playlist and MP3 files are not big in size, and the FTP download speed allows downloading all of them within one minute, a second download of the same files may be started again.

This behaviour is also valid for the previous versions of the Digital Message Streamer.

## 5.5 Digital Message Streamer V00.06

### Restoring the Factory defaults:

V0.06 comes with the following new default settings:

- NTP server: → ch.pool.ntp.ch
- NTP Update Interval: → 1 hour
- Time zone: → GMT+1
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Make sure that you do a Factory Defaults after uploading the FW in order the new default settings to be loaded.

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## 6 Release generating details<sup>1</sup>

### 6.1 CVS release tag

abcl\_msg\_streamer\_v006\_20110224

### 6-2 Compile commands:

make ab\_msgstreamer

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<sup>1</sup> This information is intended for BARIX developers only

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## 7 Legal Information

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