

The **Broadcasters' Desktop Resource**

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... edited by Barry Mishkind – the Eclectic Engineer

Checking it Out **The DEVA DB8008** **A Backup Audio Player – and More**



By Alex Hartman

[November 2013] Murphy makes sure that when something happens, everything happens. So the more depth you have in backing up your programming against interruptions, the less likely your station will be a silent spot on the dial. Alex Hartman looks at a product to help keep the station “alive”

On the workbench today is the DEVA Broadcast DB8008 Backup Audio Player – a nice little one rack-unit backup fail-over and fail-back audio switcher with some bells and whistles that I think most will enjoy and appreciate.

However, the DB8008 is not only designed for broadcasters. With its IP-enabled monitoring, it is well-suited towards Internet broadcasters and streaming hosts as well.

FROM BULGARIA WITH INNOVATION

[DEVA Broadcast](#) is relatively young in the broadcast industry, having been established in 1997 in Bulgaria. As such, they have “young eyes” on the industry at large, primarily focusing on the European markets but, in the

past year or so, have branched out into the North American markets as well. I am sure you have seen a few other reviews of their other products on **The BDR**; they have garnered some good marks, and the DEVA Broadcast DB8008 Backup Audio Player is no exception.

The DEVA DB8008 is a very well thought out solution to a very interesting problem a lot of people face. How do you deal with off-air events such as STL failure, studio failure, or even IP stream failure for the Internet radio guys out there?

That said, the unit was designed to be in harsh environments such as transmission sites and studios alike. The lid is sealed with several screws to keep RFI at bay while still being able to get inside and calibrate the unit. The unit also comes with a 2GB SD card for you to use.

The unit also has an interesting side-feature: It is a hardware streaming decoder. It has a settable buffer, so you have a known time delay on the unit. These could serve nicely in an Internet-distributed network system. A PC with Shout-

cast/Icecast running on it as a server station and your client stations can use the DB8008 as a decoder in their rack.

PEEKING UNDER THE HOOD

First, the nitty gritty. Every engineer does one thing well, voiding warranties. So, let us take a look around and inside the unit.



The DEVA Broadcast DB8008

The front face is adorned with LEDs, an LCD display, menu control buttons, a headphone jack for the active audio, and the SD card slot. The very easy-to-read display gives true at-a-glance monitoring, with the LEDs showing which audio source is active and the LCD displays the level in dBFS.

A very clean look indeed!

GOZINTAS AND GOZOUTAS

The back plate is full of I/O for pretty much any type of audio, consumer, or professional.



I/O connections for the DB8008

The “Main” input has analog XLR L/R connectors as well as an AES/EBU XLR – and S/PDIF coax and optical! Unfortunately the digital I/O connectors are a “one-at-a-time” input, meaning you cannot have an AES source and S/PDIF source at the same time on the inputs. But that is really okay by me; you probably will not have both formats for your main source audio.

The AUX audio is complemented with the same I/O, as is the Output section.

The Output section is a bit different from the input side, however, as all the outputs are active at any given time. Therefore, the DB8008 also functions as an A/D-D/A converter.

PEEKING UNDER THE HOOD

The manual indicates there are “no user serviceable parts inside.” They are not entirely off base with that statement.



Under the hood of the DB8008

As you can see, there is a lot of logic, more integrated logic, a few jumpers to configure audio levels and padding, and an AC mains voltage switch.

DEVA has gone with an Analog Devices Blackfin DSP/CPU on this unit, which is more than capable of schlepping audio around and decoding streaming audio sources.

Here is an example of what the LCD displays when the unit is active. Note the source and dBFS levels.



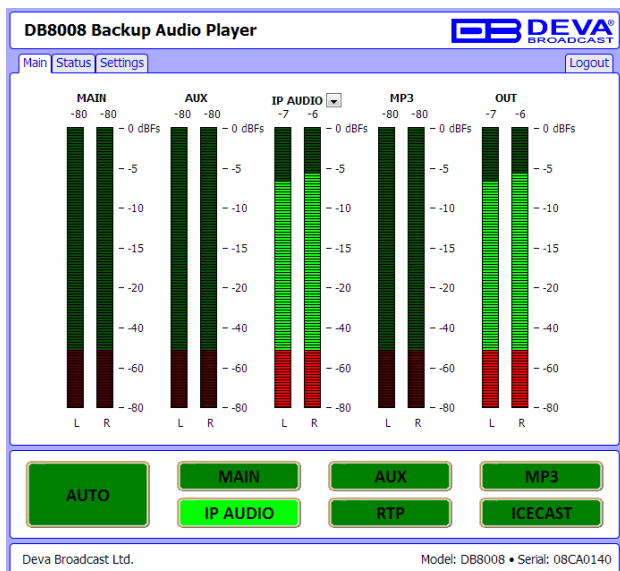
NAVIGATING THE GUI

Since this is an IP-enabled and mostly IP-controlled device, the best way to get a sense of its capabilities is by taking a look at the interface of the unit through a web browser.

Most of the menu items are very self-explanatory. Even without a manual a guy could fumble through the configuration quite quickly and have a unit unboxed, racked, and configured probably in under half an hour.

After you log into the unit, you are presented with all the metering of the unit, as well as con-

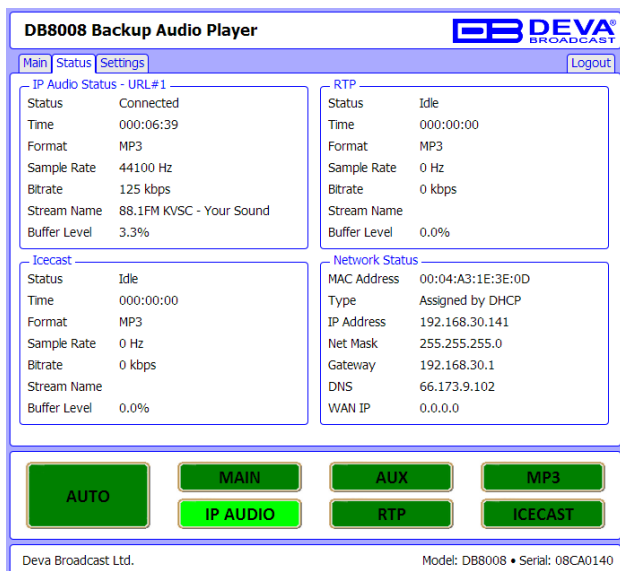
control buttons that allow you to select the active audio on-the-fly and turn on or off the “automatic” functions of the unit.



The Backup Audio Player’s main screen

The Status tab gives you statistics and general overall information about your IP audio sources feeding the DB8008.

The IP information is quite plentiful including the ability to read the ID3 data from a web stream, time-connected to a source, buffer levels, and network information.



Clicking on the Settings tab expands the display to give you several new tabs not seen in the

other screens. This is where most of the goodies are hiding in this unit.

Here you now find the network settings, SMTP E-Mail settings, FTP settings – yes, I said FTP, we will get to that in a moment – and SNMP information.



Settings opens the DB8008 features

Speaking of FTP: this is a very interesting feature of the DB8008. The unit hosts its own FTP server, so you can upload new audio files to the SD card remotely!

This capability is very handy if you were to use the system as a local ad insertion player, which DEVA touts as one of its many uses, or simply refresh the audio on fail-over with say a few new voice-tracked shifts or some such content.

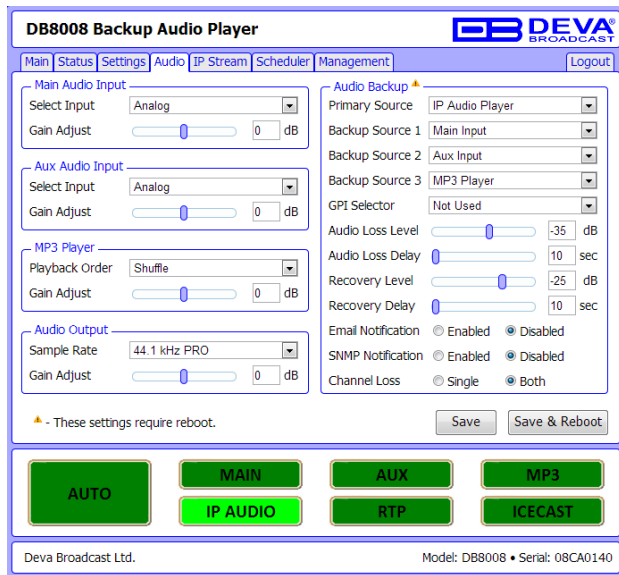
The SNMP implementation is a SNMPv2 implementation. V3 would have been nice to see here for security reasons (SNMPv3 uses TCP and authentication values instead of a private community string and UDP) but is very capable for reporting uses and monitoring via SNMP.

The Management Information Base (MIB) file is provided directly on the unit from the firmware so you do not need to hunt down a MIB on some random website.

AUDIO CONTROL

The next tab is where you set up your audio sources – and this is where the versatility of the unit starts to really shine.

In this section, you will notice that all the sources are definable within the system. You can define which audio source is your primary and secondary, type of audio I/O, gain adjust for audio level inputs and outputs, as well as sample rates and the audio loss thresholds and recovery times.



This is quite a versatile system; especially so because of this one feature. Just think about it: you can have any of the sources operate in any order – or even do fail-over on loss of a single side, not even the entire audio. Suppose you want to use the IP audio player as your primary source: Click. There you go. Now, that is cool!

Suppose your program dropped for more than ten seconds below -35 dB, as shown above. The system will fail-over to whatever source you set until the audio returns for more than ten seconds of recovery (to prevent intermittent jumping back and forth).

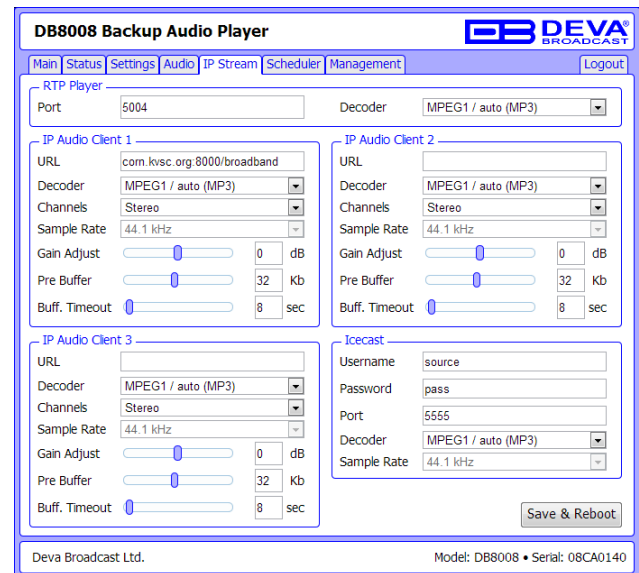
If you chose the SD card, the playlist format is a standard M3U type: playlist.m3u. You can set the configuration to “shuffle” random audio

files, have a playlist, even shuffle the playlist, or just play files from A to Z if you would like to do so. In almost all cases, this will give station personnel time to restore normal programming.

BACKUP, BACKUP, AND MORE BACKUP

On the next tab we find our IP audio sources. Now we are talkin’ IP: the DB8008 will set up *three different sources!*

The DB8008 has three different, selectable IP audio sources, in addition to using Icecast and RTP audio. You can have it connect to your favorite Shoutcast or Icecast or <insert favorite stream type here>. If *any* of the sources are down, it will simply cycle to the one that is active.



So, for example, if your studio goes offline due to a power outage – and your main web stream is also hosted at the studio – you can point a DB8008 to try two more alternate stream points to pick up the audio and keep you on the air way before failing over to the SD card internally.

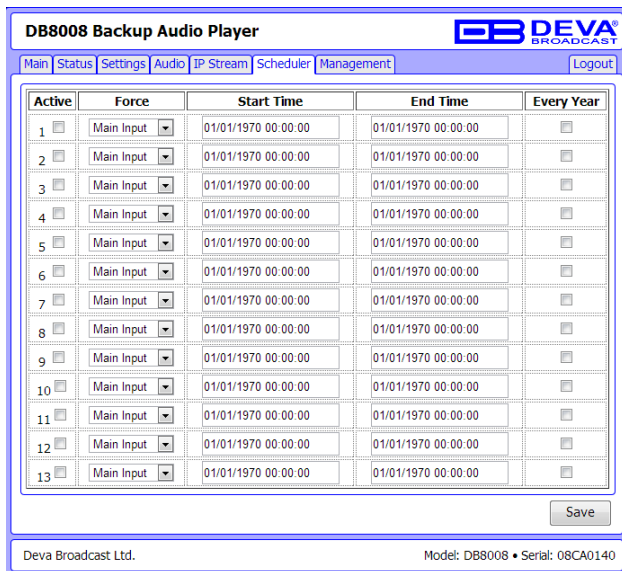
A total of three backup sources can be defined. So, in my case I have “Main,” “Backup1” (a local computer), “Backup2” (Icecast stream), and “Backup3” (the internal SD card). Those are a lot of options to keep you going no matter what happens.

There is another minor idiosyncrasy in the DB8008 here that might be a “gotcha” for some: You must omit the file handler type in the IP audio client section.

Note the lack of <http://> on the URL in the picture. The player assumes it is of this type already. On the other hand, the client is very flexible and can decode MP3, HE-AAC, or PCM type streams as well as “transcode” the audio if it is a PCM variety. It can take a 16-bit PCM stream and output it as 48k if need be to match your plants digital bitrate.

A HANDY SCHEDULER

The next to last tab holds a Scheduler system.



Of course, this is not a sophisticated automation system, rather a pretty basic “if it’s Noon on July 4th, play this from this source until 1 PM” type of thing.

On the other hand, it really is quite a feature – not something you typically see in a unit branded as an off-air backup system. Event scheduling is no trivial task to write into a lightweight firmware, but DEVA still managed to pull it off.

There are 13 slots to allow for local insertion of these for users to define. It is pretty basic; it will not allow dynamic, or even a breakdown by

week, for instance (although they can be yearly recurring events), but it will get the job done. You can also trigger these via the GPIO on the unit as “events.”

SYSTEM SETTINGS

And the final tab has a system management settings area where you configure user information, passwords, SNMP trap servers and the like.

It is all pretty straightforward. There just is not anything really noteworthy here that the average user will not understand readily.

The unit does not appear to log locally, instead DEVA has gone with an E-Mail or SNMP trap notification system. A local log would be nice as well, but DEVA is going with the assumption that the unit will be installed where IP access is available.

In any event, between the emails and polling capabilities, there really is no need to keep a log file on board.

NITPICK TIME

As I ran it through its paces, I found only two – yes, only two – nitpicks with the DB8008.

The first one is the AC mains voltage supply.

A “universal” power supply would have done wonders here, something that can take 90 to 250 VAC 50/60Hz “world-capable” would not add much if anything to the overall cost of production on the unit.

Also, my evaluation unit did have an audible mechanical buzz from the power supply. The main DSP on the unit is actually socketed on a card. It does not affect audio, but should there be future up-dates to the unit requiring more horsepower, it is a simple card swap.

OK, three nitpicks. The unit comes with a 2GB SD card. While having larger cards may not be

necessary, I would like the option of a larger SD card.

On the positive side, DEVA Broadcast seems very receptive to feedback and feature requests for the equipment. While writing this, I thought I had found another bug, and contacted the factory. They quickly informed me that it was actually a feature requested by a lot of (albeit lazy) customers where they just wanted to save a favorite in their browser without being prompted for a user or password.

To me this is a security issue, so if you install this unit at your transmitter site on a public IP, watch out. I would suggest a private LAN for this guy instead of the public Internet – you can change sources without requiring authentication if you know the URL directly to the sources page.

A GOOD VALUE

For all this capability, the MSRP on the DEVA DB8008 is only \$1,800; however street prices will obviously be even lower than that.

Because dead air means no money – and that is never good – I think most, if not all station managers and engineers would like to have at least one DB8008 for their war chest against dead air.

And, as we have seen, with features like the fail-over built in (in case your primary server goes offline), all you need to put together a reliable Internet-based “live” network show is a PC (cheaper than the professional codecs) and the DEVA DB8008.

I recommend you check out the DEVA DB8008 yourself and see if it is a good fit for your station. I know it is a great fit for my station – so much so that I ended up buying the review unit!

[For more information on the DB8008, please click here.](#)

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