

## Breakaway Broadcast Processor (BBP) ASIO

*Watch out big guys, a new breed has been born !*



### ***Rationale***

For a small and rural FM Station like us, broadcast audio processor is a most major obstacle for a long time. Because, first of all, highly regarded multiband audio processors are simply "out of budget", there are too high priced for our investment. Second, because of our FM Station residing in a remote place, finding an authorized service center in a short time is "out of question". So, when an equipment need to be repaired, it has to go to other city, island and even overseas for some periods of time. Our fellow FM Station operators here in Indonesia, hundreds of them, also suffered because of the same reason.

To up against these circumstances, we built an audio processor based on Personal Computer (PC) system. One of our methods was printed on **Radio World International**, July 2002 edition. But, our previous systems also have feebleness. Because PC digital audio outcome have to be processed by multiplexing (MPX) analog electronic circuit. Certainly sound derivation will be occurred.

Now, the new chapter has begun. We find a little software, named **Breakaway Broadcast Processor (BBP)** from **Claesson Edwards Audio LLC**. Our long awaited breakthrough has arrived, finally.

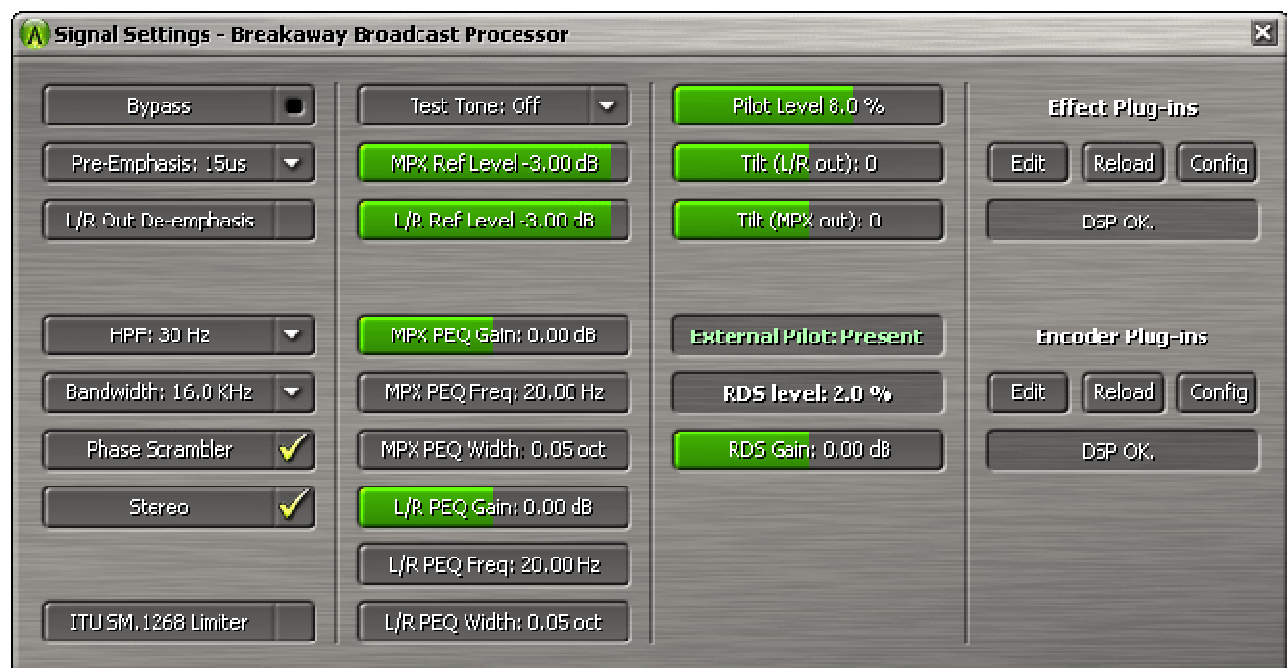
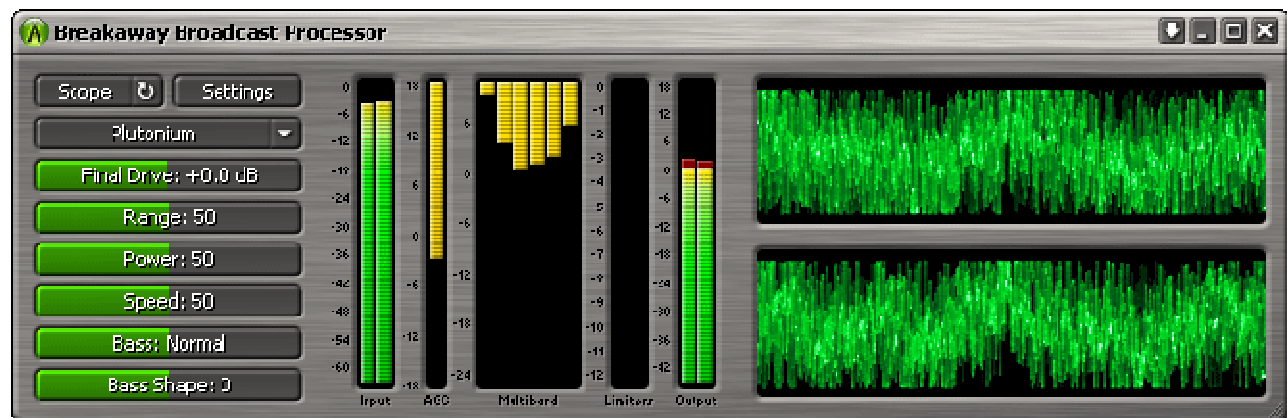
## Preparations

There are two versions of BBP, basically related to the soundcard driver protocol they applied. One version using Windows Kernel Streaming (KS), DirectSound (DS) or Multimedia Extensions (MME). The other one using Steinberg's Audio Stream Input/Output (ASIO), so it is called **BBP ASIO**. We choose BBP ASIO version, because on the paper, it suggests to have lower latency time and higher dynamic range.

Our new stand-alone PC based broadcast audio processor, running on Microsoft's Windows XP SP3 32 bits, but according to the manufacturer, it could be installed on Windows Vista or more recent Windows 7, 32 bits also 64 bits. Main CPU is Intel E5300 2.60 GHz Dual Core. To activate BBP ASIO MPX capability, just one significant requirement which have to fulfill. Soundcard must be capable to handle 192 kHz sample rate, in and out. Therefore we use ESI Juli@ professional soundcard from *ESI Audiotechnik GmbH*. Other specifications are nonessential, just the same as common PCs.

## Operations

BBP ASIO graphic user interface is very straight forward, greatly user friendly. All we need is to choose one of many presets. Those presets analogical to several well-known FM Stations, radio format, music genre and even a music trend of the past decade (70s-80s). Afterwards we can tweak and tune necessarily variables, such as dynamic range, auto gain aggressiveness, multiband compressions attack/release, stereo enhancer, as well as low frequency shape and response. So wide options in compliance with our need and taste.



What we love most about BBP ASIO, is their multiplexing (MPX) capability. As like as broadcast audio processor hardware, BBP ASIO drawing up all processed audio with Pre-Emphasis (0 $\mu$ S to 75 $\mu$ S), High/Low Pass Filter and so Phase Scrambler. MPX Signal then will feed up FM Exciter pass through single channel coaxial cable. Just that simple.

Other feature of BBP ASIO is internal routing via virtual cable (called *Breakaway Pipeline*). With a Radio Data System (RDS) generator (or Broadcast Automation with RDS output), we can feed BBP ASIO with RDS data in the same PC. We can also use other BBP ASIO sound output port, linked with Breakaway Pipeline to be streamed with webcasting application. That is awesome.

## Conclusion

The most valuable and significant BBP ASIO factor is the final FM sound which has produced. BBP ASIO overall sound is very transparent. Very solid and punchy low frequencies. With correct setting, high frequencies perform very silky smooth. Anyway it can be harsh, if you want it to be. Compression aggressiveness is very tolerable; we can not detect any over-shoot effect. In a short word, it is amazingly superb.

Whole system is very stable. Without any accessory applications, BBP ASIO only consume 16% of CPU Source. Fantastic effort for applications that work to process direct audio in a real-time, with 192.000 Hz sample rate indeed.

BBP ASIO is a very bargaining system to FM Stations which do not already have High End Multiband Audio Processor. To whom already had hardware processors, I suggest to get one of BBP ASIO system also. It can be your reliable back-up processor. Of course, if you dare, just compare your old processor sound; and please.... be prepared to be surprised.

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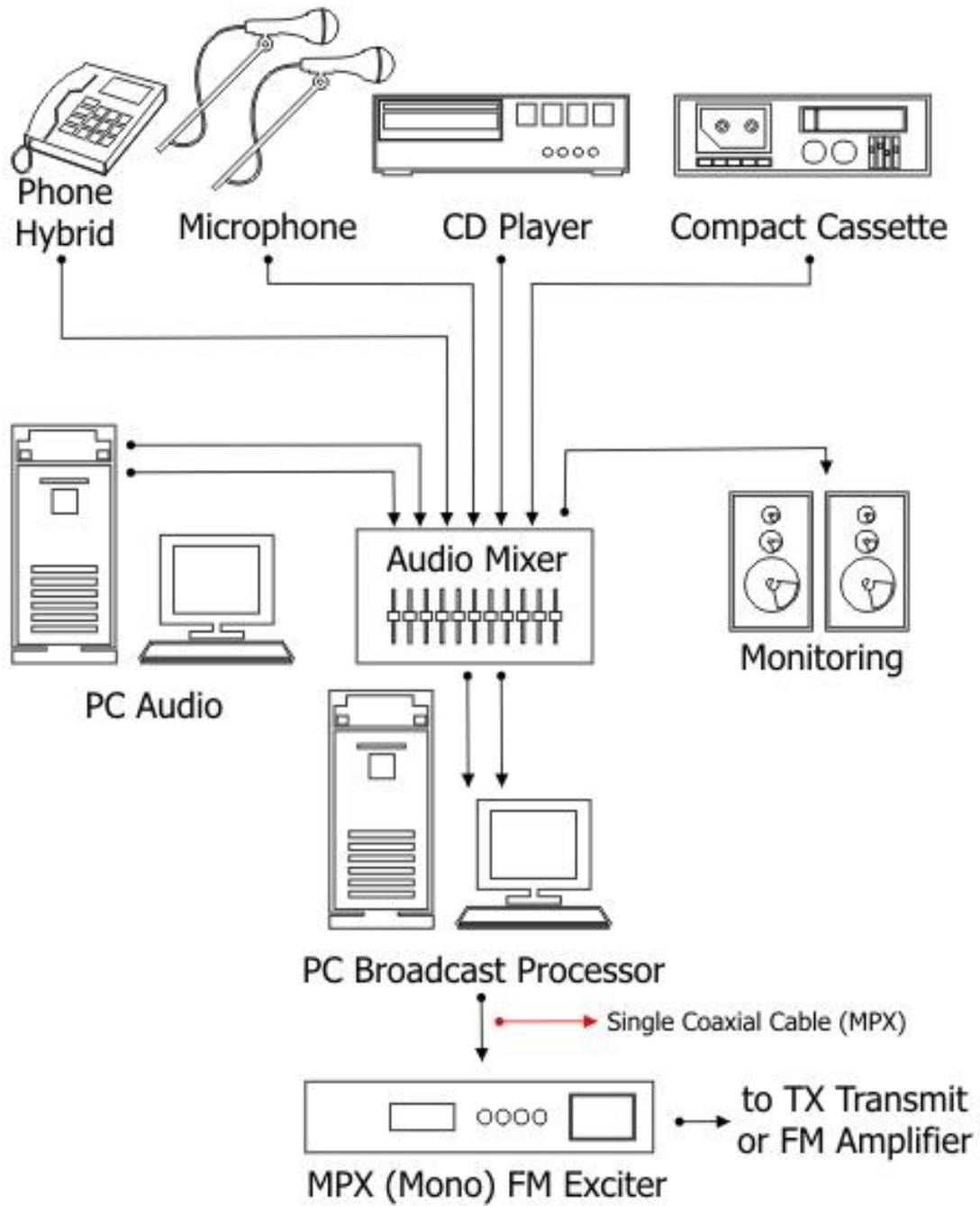
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# INSTALLATION SCHEMA



# INTERNAL ROUTING

