

## **FUTURE MEDIA DESIGN, LLC**

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### **Web Radio Studio Packages**

Please refer to the three (3) drawings FMD-BroadcasterPro-v4.pdf, FMD-BroadcasterPlus-v4.pdf and FMD-Broadcaster-v4.pdf. These three studio packages for web radio represent the best value at each price/performance level. Here is a brief description of the packages.

#### **Broadcaster Pro**

The BroadcasterPro package is centered around a compact mixer that is designed specifically for radio broadcast. It provides two microphone inputs, four stereo line inputs and a USB audio connection. There are four features in the console that distinguish it from the literally hundreds of club, sound reinforcement, recording mixing consoles that are available at or below \$1,200.

- 1 Automatic speaker muting. When a microphone is switched on the monitor speaker feed is muted so that feedback will not occur.
- 2 On-Air light tally. There is a connection that provides logic to control an on-air light. Whenever a microphone is switched on an air warning light can be turned on.
- 3 An external audio input to monitor the web feed from a web PC. This input should be connected to a PC receiving your webcast. This provides assurance that you are "on-the-air". It also allows you to compare how your webcast sounds to the high fidelity feed from your studio. This monitor input cannot be accidentally switched to the mixer program output (which would create feedback).
- 4 Cue buttons on each channel that activate an internal cue amplifier and speaker.

The mixer program output is connected to a stereo 31 band graphic equalizer and compressor/limiter. These two pieces of equipment enhance the quality of the broadcast in several ways.

- 1 The equalizer helps to maximize the audio quality of the web stream by controlling the audio bandwidth sent to the encoder.
- 2 The equalizer can also be used to contour the audio so that your programming sounds best through typical small PC speakers.
- 3 The limiter section of the compressor/limiter prevents the stream encoder (part of the streaming PC) from being driven with too much signal level. Overdriving the encoder results in a terribly annoying noise that persists for as long as the encoder's maximum input signal level is exceeded.
- 4 The compressor is used to reduce the dynamic range of the source audio. This is done to keep the quietest musical passages, and the announcer's voices, above the noise of your audience's listening environment.

The rest of the equipment complement includes: M-Audio BX5a, two-way, self powered, bi-amplified, speakers used as the main monitors. Sony 7502 headphones are included as are OC White mic booms. The CD players are DJ style and provide pitch control and cueing capability. The microphones are Audio Technica and there is a headphone amplifier for guest headphones. A black table top rack is included to hold the CD players and the audio processors. Rack screws are provided.

## FMD-Web Radio Studio Package

All of the cables to interconnect the equipment are provided including the cable between the compressor limiter and your streaming PC's audio input. The wiring between balanced and unbalanced audio inputs and outputs has been addressed in the cabling design. All cables are labeled. A wiring guide is included to make the interconnection of components as easy as possible.

### **BroadcasterPlus**

The BroadcasterPlus system has the same small format broadcast console used in the Pro system. To reduce costs the compressor/limiter and equalizer are not provided. The main monitors are smaller than the Pro systems, they are M-Audio Studio Pro3 self powered speakers. The mic booms are replaced by two desk-top mic stands.

### **Broadcaster**

The broadcaster package uses a different mixer than the Plus and Pro packages. A small Yamaha club mixer provides 4 mic inputs and 4 stereo line inputs, channel On/Off buttons and PFL (cue) buttons. The Sony headphones of the Plus and Pro packages are replaced by slightly less expensive Sennheiser HD201 headphones.

The broadcast features that might be missed are automatic monitor muting when microphones are on and an on-air light tally output. The main monitor volume must be manually reduced before mics are turned on in order to prevent feedback between the monitors and open microphone channels.

There are two cue options included. The first uses the PFL buttons on each channel. Pressing a PFL button replaces the program in the main monitors with the source to be cued. The second method is to turn up the Aux 1 rotary control on any channel that you want to cue. This leaves the on-air program playing in the main monitors while you cue the next source. The Aux 1 control needs to be turned down manually after cueing each source. Since there is no internal cue speaker a pair of small Altec Lansing self-powered speakers is included to listen to this manually operated cue channel.

As in the Plus package, there is no audio processing of the program sent to the web casting computer.

### **Summary**

All three packages provide very good sound, some great features, and all three are easy to use. The Broadcaster package is a great starter system because the price is very low and the Yamaha mixer makes an excellent remote mixer when you are ready to upgrade the studio to something that has more broadcast features. Likewise, the mic desk stands and headphones can be used in the field if you decide to upgrade those items in the studio. In fact, even the broadcast console in the Plus and Pro packages makes a good remote mixer if you decide to move up to a fully featured, large format, broadcast console.

Finally, please remember that these packages can be customized so that they best meet your needs and budget.

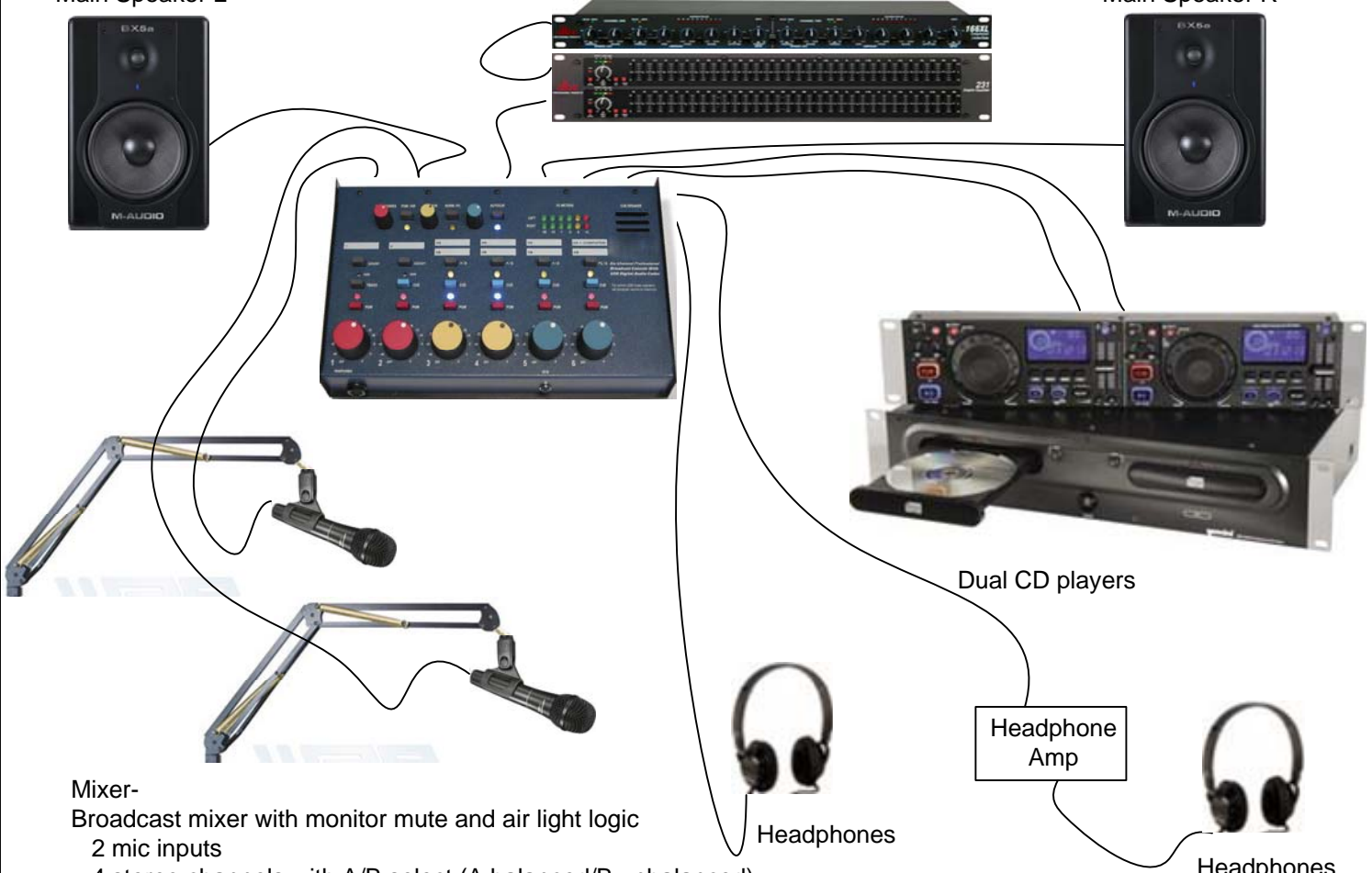
I am happy to answer your questions so do not hesitate to call.

Ken Tankel  
Future Media Design, LLC  
610-640-0843  
ktankel@fmdweb.com

Please note that specifications and prices are subject to change without notice.

Main Speaker L

Main Speaker R



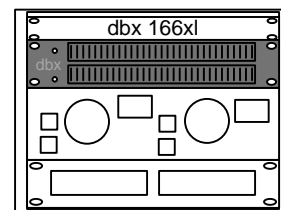
- Mixer-
- Broadcast mixer with monitor mute and air light logic
- 2 mic inputs
- 4 stereo channels with A/B select (A balanced/B unbalanced)
- Inputs for CD, iPod, and additional sources
- 1 main stereo output to PC for stream
- 1 monitor output for main speakers
- 1 guest HP output
- 1 built in cue speaker
- 1 DJ HP output
- 1 record output
- mix minus output
- logic to operate on an On-Air light
- Dual CD players
- 2 microphones and table top mount mic booms
- 1 headphone amplifier for guest
- 2 sets of Sony 7502 headphones
- Main monitors -M Audio BX4
- dbx EQ and compressor/limiter to process the program signal
- Black table top rack
- All cables to connect the provided equipment and to connect to streaming PC
- Guide to making connections and setting up the system

Dual CD players

Headphone Amp

Headphones

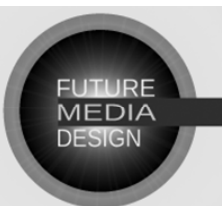
Headphones



Comp/lim  
EQ  
CD control  
CD transport

8 space rack

(Specifications subject to change.)



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TITLE Web-Radio BroadcasterPro Package

PROJ Engineered broadcast packages for web radio

REV	DATE	BY	FILENAME	DRAWN BY	DATE
A		kmt		kmt	10/08
B				SCALE none	PAGE1 of 1

Main Speaker L

Main Speaker R



Cue Speaker



Dual CD players



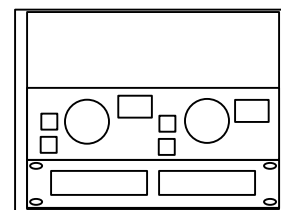
Headphones

Headphone Amp



Headphones

- Mixer-
- Broadcast mixer with monitor mute and air light logic output,
  - 2 microphone inputs
  - 4 stereo channels with A/B select (A balanced/B unbalanced)
  - Inputs for CD, iPod, and additional sources
  - 1 main stereo output to PC for stream
  - 1 monitor output for main speakers
  - 1 guest HP output
  - 1 built in cue speaker
  - 1 DJ HP output
  - 1 record output
  - mix minus output
- Dual CD players
- 2 microphones
  - 2 microphone desk stands
  - 1 headphone amplifier for guest
  - 2 sets of headphones
- Main monitors
- Black table top rack with drilled and tapped rails
  - All cables to connect the provided equipment and to connect to streaming PC.
  - Guide to making connections and setting up the system.



CD control  
CD transport

8 space rack

(Specifications subject to change)



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TITLE Web-Radio BroadcasterPlus					
PROJ Engineered broadcast package for web radio					
REV	DATE	BY	FILENAME	DRAWN BY	DATE
A		kmt	FMD-BroadcasterPlus-v4	kmt	10/30/08
B				SCALE none	PAGE1 of 1

Main Speaker L

Main Speaker R



**Mixer**

- 4 mic inputs
- 2 stereo channels for CD
- 1 stereo channel for iPod input
- 1 stereo channel for additional stereo source
- 1 main stereo output to PC for stream
- 1 stereo output for host and guest headphones
- 1 monitor output Pgm/PFL for main speakers
- 1 output for cue

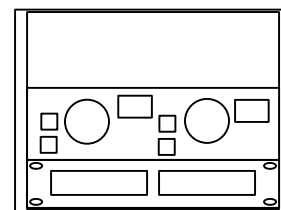
**Dual CD players**

- 2 microphones
- 2 microphone stands
- 1 headphone amplifier for guest
- 2 sets of headphones

**Main monitors**

**Cue speaker**

Black table top rack with drilled and tapped rails  
 All cables to connect the provided equipment and to connect to the streaming PC.  
 Guide to making connections and setting up the system.



CD control  
 CD transport

8 space rack

(All specifications are subject to change.)



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TITLE Web-Radio Broadcaster Package					
PROJ Basic studio equipment package for web-radio broadcasting					
REV	DATE	BY	FILENAME	DRAWN BY	DATE 10/29/08
A		kmt	FMD-Broadcaster-v4	kmt	PAGE1 of 1
B				SCALE none	