



*Pacific Products*

***BMXdigital™  
On-Air Console***

*Ultimate flexibility and quality for today's  
most demanding formats—and tomorrow's*

*next level solutions*



# BMXdigital . . . the details make the difference

## **Power Supply**

### *The Power Supply Redundancy You Want*

The power supply frame accommodates up to two convection-cooled power supply modules. Redundant coupling is accomplished within the rack-mount frame.



## **Finger-Friendly Operation**

### *Finger-Friendly Operation*

Our bright LED-illuminated "finger-friendly" buttons angle towards the operator and have permanent laser-marked legends.



## **Input Modules**

### *Easy to Learn, Easy to Use*

All input modules are equipped with two ten-character alphanumeric displays showing both the active and alternate/standby inputs.

Router control input modules are equipped with a rotary source selector and Take button.

Telco/Codec input modules are also equipped for router control and include assignments to the Telco Record and Telco Monitor buses plus direct Talkback to the source via the foldback (IFB).



## **Set Up and Module Exchange**

### *Set-Up Simplicity, On-the-Fly Module Exchange*

Each module's set-up switches and input, output and control connectors are readily available during installation, operation and service. Exchanging a module is as simple as matching switch settings. No set-up program or computer is required.



## **Network Interface**

### *More Than a Console— A Network Appliance*

Each BMXdigital console features an onboard BMXdigital server with a network connection. The BMXdigital server, an embedded device, uses nonvolatile solid-state memory to store session files. These files contain control surface selections, channel labels, and other pertinent data.

The BMXdigital server also acts as an FTP (file transfer protocol) server. By connection through your secured network, you can access and edit session files, then upload them back to the console. This gives you the ability to manage sessions from any computer within your network.

Integration of Remote Line Selectors (RLS) and external routers are also facilitated through the BMXdigital server's network connection. BMXdigital's network presence provides a rich growth path for additional features that can be leveraged as your needs evolve.



## **BMXdigital . . . a console that redefines expectations**

Harris, the leader in audio consoles with its Pacific Products, proudly presents *BMXdigital*, the latest generation of our legendary BMX Series of premium, high-performance radio broadcast consoles. *BMXdigital* is an all-new “white sheet” design built upon the philosophy and value of its predecessors: high reliability, extensive features, excellent performance, operational flexibility, ease of use, and robust construction.

We’ve taken attention to detail—a hallmark of each BMX console—to a new level with *BMXdigital*. For example, like other manufacturers our previous designs used “off-the-shelf” panel components: i.e., buttons, switches, faders and knobs. *BMXdigital* is different. To achieve optimum user control, we created an all-new family of switches, buttons, and knobs that accentuate *BMXdigital*’s greatly increased functionality within the same reach of earlier models. For optimum user presentation and recognition, we’ve even angled the face of each button toward the operator and included a permanent laser-marked legend.

Angled, laser-marked buttons are only one of the features that make *BMXdigital* the most functional console in its class. You will find that our feature set is unrivaled.

### **BMXdigital Includes:**

- **An all-digital design** that uses 48 digital buses to accomplish everything from Program mixes to the Talkback channels. The only exceptions are the microphone preamplifiers and sections of the monitor circuitry.
- **Four Program buses**, each with two digital outputs and two analog outputs. The second digital output can be set at 48 kHz or 44.1 kHz sample rate.
- **Four Utility buses**, each with digital and analog outputs. The digital output can be set at 48 kHz or 44.1 kHz sample rate. Each Utility assignment can be sourced postfader, prefader and/or preswitch.
- **Two Send buses**, each with digital and analog outputs. The digital output can be set at 48 kHz or 44.1 kHz sample rate. Each Send assignment can be sourced postfader, prefader and/or preswitch.
- **Up to six Telco/Codec input modules**, each supported by a mix-minus output with automatic On-Line/Off-Line switching. Each mix-minus is equipped with digital and analog outputs. The digital output can be set at 48 kHz or 44.1 kHz sample rate.
- **Two independent and selectable off-line mixes** for Telco/Codec foldback.
- **Telco Record mix bus** with digital and analog outputs. The digital output can be set at 48 kHz or 44.1 kHz sample rate.
- **Stereo SOLO (AFL) with automatic metering.** The SOLO function can be globally programmed to be momentary or latching.
- **Console session set-up storage and selection**, with onboard storage for preset and snapshot sessions.
- **Meter panel assembly with five stereo bar graph meters, digital clock and timer.** The meters can be set by the user to display Average with Peak or Average only. Each meter is also equipped with a separate, high-brightness Peak flash indicator that can be set by the user at FSD (full-scale digital) or up to 6 dB before FSD.
- **Four primary Program meters** that can be switched to display the four Utility outputs. The meter switcher drives the Auxiliary meter. Each meter is equipped with a ten-character electronic legend that displays the name of the source being metered.
- Hot-swappable panel modules.

We invite you to take a closer look at *BMXdigital*—a digital console with features and functionality that will redefine your expectations.

*BMXdigital is a very low profile, countertop drop-in design with mainframes available in three sizes; accommodating 22, 30, and 38 input modules, plus the standard supplied microphone preamplifier, control room monitor, meter switches, session control, timer control, and output modules. The console penetrates the countertop by only four inches, preserving operator knee space.*

**All signal and logic control connections**, plus the logic programming set-up switches, are accessible on the face of the console at the top of the modules. These are covered by the hinged meter panel assembly, which is supported in the open position by gas springs.



**Control room monitoring** with "breakaway" monitor selection plus Autocue for the operator's headphones.

**Two-studio monitor module** provides independent console and producer talkback to each studio, host, and co-host position.

**Auto-monitor switching** option between "true Off-Air" and "simulated Off-Air" monitoring, using the monitor modules' external inputs for all headphone outputs.

**Extensive interstudio plus external site talkback facilities.**

Console operator and producer IFB (talkback) to each mix-minus output.

**Metering and clock/timer display assembly** with individual bar graph metering of the four Program outputs and one switched meter, driven by a meter switcher module, a digital clock, and digital timer with timer control panel.

**Accessory panel space** for factory and/or user modules to the left and right of the control area. Wiring access and user connector blanks for the accessory panels are located at the far left and right ends of the mainframe's rear structural extrusion.

**Durable monocoque mainframe** of aluminum extrusions, quarter-inch plate and sheet stock. The housing—which neither twists nor flexes—provides a solid electro-mechanical platform for the modules. The console and its power supply comply with FCC, UL, and CE standards.

**Input mixing section** is centered in the mainframe, providing easy reach to console controls and peripheral equipment. Input modules are digital and analog signal source compliant for each input selection and opto-isolated parallel logic is provided for control of each input selection.

**Modules are constructed on robust aluminum extrusions**, which carry fine-grained polycarbonate inlays employing back-screened legends and graphics.

## Specifications\*

The specifications for BMXdigital are significantly more complete, and the related test conditions are more defined, than those usually provided for broadcast consoles. Be sure to follow the test conditions and measure in the units stated.

### Test Conditions

- The specifications are for a fully loaded BMXdigital 38-input mainframe and are for the basic signal paths, per channel, with bridging loads connected to the analog main outputs.
- 0 dBu corresponds to an amplitude of 0.775 volts RMS regardless of the circuit impedance. This is equivalent to 0 dBm measured into a 600 ohm circuit for convenient level measurement with meters calibrated for 600 ohm circuits. Noise specifications are based upon a 22 kHz measurement bandwidth. The use of a meter with 30 kHz bandwidth will result in a noise measurement increase of approximately 1.7 dB.
- Total Harmonic Distortion (THD+N) is measured at a +18 dBu output level using 1 kHz or a swept signal with a 22 kHz low-pass filter.
- FSD = Full-Scale Digital, +24 dBu

### Microphone Preamplifiers

**Source Impedance** 150 ohms

**Input Impedance** 5K ohms minimum, balanced

**Input Level Range** Adjustable, -65 to -30 dBu

**Input Headroom** >20 dB above nominal input

**Output Level** +4 dBu, nominal

### Analog Line Inputs

**Input Impedance** >40K ohms, balanced

**Input Level Range** Selectable, -10 dBv, +4, +6, +8 dBu

**Input Headroom** 20 dB above nominal input

### Analog Main Outputs

**Output Source Impedance** <3 ohms, balanced

**Output Load Impedance** 600 ohms minimum

**Nominal Output Levels** Program, Utility, Send, Telco/Codec Mix-Minus, Telco Record Mix: +4 dBu, adjustable between +3 dBu and +9 dBu

**Maximum Output Levels** Program, Utility, Send, Telco/Codec Mix-Minus, Telco Record Mix: +24 dBu; +28 dBu with nominal output level adjusted to +8 dBu

### Digital Inputs and Outputs

**Reference Level** +4 dBu (-20 dB FSD)

**Digital I/O** Through digital input and digital Program, Utility, Send, Telco/Codec Mix-Minus outputs

**Signal Format** AES-3, S/PDIF (input only)

**AES-3 Input Compliance** 24-bit sample rate conversion available, individually switch selectable

**AES-3 Output Compliance** 24 bit

**Digital Reference** Crystal (internal) or AES-3 (external) at 48 kHz  $\pm$ 100 ppm

**Internal Sample Rate** 48 kHz

**Output Sample Rates** Program Main outputs 48 kHz; Program Aux, Utility, Telco/Codec Mix-Minus and Telco Record Mix outputs 48 kHz or 44.1 kHz, individually switch selectable

**Processing Resolution** 24-bit fixed with extended precision accumulators

**Conversions** A/D 24-bit, Delta-Sigma, 128x oversampling on all digital inputs; D/A 24-bit, Delta-Sigma, 128x oversampling

**Latency** <1.6 ms, mic in to monitor out

### Monitor Outputs

**Output Source Impedance** <3 ohms, balanced

**Output Load Impedance** 600 ohms minimum

**Output Level** +4 dBu nominal, +24 dBu maximum

### Frequency Response

**Microphone or Line Input to Program, Utility, or Send Output** +0 dB/-0.5 dB, 20 Hz to 20 kHz

### Dynamic Range

**Analog Input to Analog Output** 105 dB referenced to FSD, 108 dB "A" weighted to FSD

**Analog Input to Digital Output** 109 dB referenced to FSD

**Digital Input to Analog Output** 107 dB referenced to FSD, 110 dB "A" weighted to FSD

**Digital Input to Digital Output** 138 dB

### Equivalent Input Noise

**Microphone Preamp** -127 dBu, 150 ohm source

### Total Harmonic Distortion + Noise

**Mic Pre-Input to Mic Pre-Output** <0.005%, 20 Hz to 20 kHz, -38 dBu input, +18 dBu output, 22 kHz filter bandwidth

**Analog Input to Analog Output** <0.005%, 20 Hz to 20 kHz, +18 dBu input, +18 dBu output, 22 kHz filter bandwidth

**Digital Input to Digital Output** <0.00016%, 20 Hz to 20 kHz, -20 dB FSD input, -20 dB FSD output, 20 kHz filter bandwidth

**Digital Input to Analog Output** <0.005%, 20 Hz to 20 kHz, -6 dB FSD input, +18 dBu output, 22 kHz filter bandwidth

### Crosstalk Isolation

**Program-to-Program or to-Utility or to-Send** >95 dB, 20 Hz to 20 kHz

**A Input to B Input, B Input to A Input** >110 dB, 20 Hz to 20 kHz

### Stereo Separation

**Analog Program Outputs** >86 dB, 20 Hz to 20 kHz

### Power Supply

**Output to Console** +48 Vdc at 8.34 amp, redundant operation optional

**AC Input** IEC power cord, one per plug-in power supply

**DC Output** Keyed multipin connectors

### Console Power Requirements

**Fully Configured BMXdigital 22** 250 W at 115/230 Vac,  $\pm$ 12%, 50/60 Hz

**Fully Configured BMXdigital 30** 285 W at 115/230 Vac,  $\pm$ 12%, 50/60 Hz

**Fully Configured BMXdigital 38** 320 W at 115/230 Vac,  $\pm$ 12%, 50/60 Hz

### Dimensions

**BMXdigital 22** 9.75" H x 54.44" W x 33.73" D

**BMXdigital 30** 9.75" H x 67.24" W x 33.73" D

**BMXdigital 38** 9.75" H x 80.04" W x 33.73" D

**Rack-Mount Dual Power Supply Frame** 14.0" H (8 RU) x 19.0" W x 16.0" D

\*Features and performance may change without notice.



next level solutions

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