



Introduction

Progress never stops at Yamaha, and new standards are constantly being established. The Yamaha 02R sparked the digital revolution back in 1995, and remained the professional standard until the release of the 02R96 in 2002. Now the 02R96 Version2 expands the envelope once more, redefining the “state-of-the-art” for digital audio production. With more than five times the processing power of the original 02R, the 02R96 Version2 represents a thorough revision that brings every aspect of the console up to date with today's most advanced production needs. And since the 02R96 inherits key features from Yamaha's flagship DM2000 Digital Production Console — 96 kHz audio, surround monitoring, studio manager software, and DAW control — it makes the most advanced technology for commercial sound and music production available to a broad range of engineers and facilities. Version2 adds features and functionality that place the 02R96 right at the forefront of today's production scene, delivering mixing performance, effects, surround capability, and operational efficiency that set it apart from all other consoles in its class.

Specifications

GENERAL SPECIFICATIONS

Number of scene memories	99	
Sampling Frequency	Internal:	44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz
	External:	Normal rate: 44.1 kHz -10% to 48 kHz +6% Double rate: 88.2 kHz -10% to 96 kHz +6%
Signal Delay	Less than 2.0 ms CH INPUT to STEREO OUT (fs=48 kHz)	
	Less than 1.1 ms CH INPUT to STEREO OUT (fs=96 kHz)	
Fader	100mm motorized with touch sense x 25	
Total Harmonic Distortion *1 (CH INPUT to STEREO OUT) (Input Gain=Min.)	fs=48 kHz	Less than 0.05% 20 Hz ~ 20 kHz @ +14 dB into 600Ω Less than 0.01% 1 kHz @ +18 dB into 600Ω (fs=48 kHz)
	fs=96 kHz	Less than 0.05% 20 Hz ~ 40 kHz @ +14 dB into 600Ω Less than 0.01% 1 kHz @ +18 dB into 600Ω
Frequency Response (CH INPUT to STEREO OUT)	Fs=48kHz	0.5,-1.5dB 20Hz - 20kHz @+4dB into 600Ω
	Fs=96kHz	0.5,-1.5dB 20Hz - 40kHz @+4dB into 600Ω
Dynamic Range	110 dB typ. DA Converter (STEREO OUT)	

(maximum level to noise level)	105 dB typ. AD+DA (to STEREO OUT) @ fs=48 kHz
	105 dB typ. AD+DA (to STEREO OUT) @ fs=96 kHz
Hum & Noise *2 (20Hz-20kHz) Rs=150Ω Input Gain=max. Input Pad = 0dB	-128dB (EIN : Equivalent Input Noise)
	-92dB (Residual Output Noise) @STEREO OUT
	STEREO OUT off
	-92dB (96dB S/N) @STEREO OUT
	STEREO fader at nominal level and all CH INPUT faders at minimum level. -64dB (68dB S/N) @STEREO OUT
Input Sensitivity=-60dB	STEREO fader at nominal level and one CH INPUT fader at nominal level
Crosstalk (@ 1kHz) Input Gain=Min.	-80 dB adjacent input channels (CH1-24)
	-80 dB input to output
Maximum Voltage Gain	74 dB CH INPUT (CH1~24) to STEREO OUT/OMNI (BUS) OUT
	74 dB CH INPUT (CH1~24) to OMNI (AUX) OUT (via pre input fader)
	74 dB CH INPUT (CH1~24) to CONTROL ROOM MONITOR OUT (via STEREO bus)

*1 Total Harmonic Distortion is measured with a 6dB/octave filter @80kHz.

*2 Hum & Noise are measured with a 6dB/ octave filter @12.7kHz equivalent to a 20kHz filter with infinite dB/octave attenuation.

Power Requirements	U.S./Canada	120 V	200W	60 Hz
	H	230 V	200W	50 Hz
	B	230 V	200W	50 Hz
Dimensions	Height	239(352) mm (including the MB02R96)		
	Depth	697(762) mm (including the MB02R96)		
	Width	667(700) mm (including the SP02R96)		
Weight	34kg			
Operating free-air temperature range	10 ~ 35			
Storage temperature range	-20 ~ 60			
Accessories	AC Cable CD-ROM (Studio manager)			
Options	Digital audio interface card (MY16, MY8, MY4 series) PEAK METER BRIDGE: MB02R96 SIDE PANEL: SP02R96			

LIBRARIES

Effect libraries (EFFECT 1-4)	Number of factory presets Number of user libraries	61 (EFFECT 2 ~ 4 :53)*1 67
Compressor libraries	Number of factory presets Number of user libraries	36 92
Gate libraries	Number of factory presets Number of user libraries	4 124
EQ libraries	Number of factory presets Number of user libraries	40 160
Channel libraries	Number of factory presets Number of user libraries	2 127
Surround Monitor libraries	Number of factory presets Number of user libraries	1 128
Input patch libraries	Number of factory presets Number of user libraries	1 32
Input patch libraries	Number of factory presets Number of user libraries	1 32
Output patch libraries	Number of factory presets Number of user libraries	1 32
Bus to stereo libraries	Number of factory presets Number of user libraries	1 32

*1 Effects 53 ~ 61 are optional Add-On Effects. These effects become fully available after installation and authorization. Prior to installation effects 53 ~ 61 function in demo mode only.

ANALOG INPUT SPEC

Input	PAD	GAIN	Actual Load Impedance	For Use With Nominal	Input level			Connector	
					Sensitivity*1	Nominal	Max. before clip		
INPUT A/B 1-16	0	-60 dB	3k Ω	50-600 Ω Mics & 600 Ω Lines	-70 dB (0.245 mV)	-60dB (0.775mV)	-46dB (3.88mV)	A:	XLR-3-31 type (Balanced) *2
					-26dB (38.8mV)	-16dB (0.123V)	-2dB (616mV)		
	26	-16 dB			0dB (775mV)	+10dB (2.45V)	+24dB (12.28V)	B:	Phone Jack (TRS) (Balanced) *3
INPUT 17-24	-	-34 dB	4k Ω	600 Ω Lines	-44dB (4.89mV)	-34dB (15.5mV)	-20dB (77.5mV)		Phone Jack (TRS) (Balanced) *3
		+10 dB			0dB (775mV)	+10dB (2.45V)	+24dB (12.28V)		
INSERT IN 1-16			10k Ω	600 Ω Lines	-6dB (388mV)	+4dB (1.23 V)	+18dB (6.16V)		Phone Jack (TRS) *4
2TR IN ANALOG 1 [L, R]			10k Ω	600 Ω Lines	+4dB (1.23V)	+4dB (1.23 V)	+18dB (6.16V)		Phone Jack (TRS) (Balanced) *3
2TR IN ANALOG 2 [L, R]			10k Ω	600 Ω Lines	-10dBV (0.316 V)	-10dBV (0.316 V)	+4dBV (1.58V)		RCA Pin Jack (Unbalanced)

*1. Sensitivity is the lowest level that will produce an output of +4 dB (1.23 V) or the nominal output level when the unit is set to maximum gain. (All faders and level controls are maximum position.)

*2. XLR-3-31 type connectors are balanced (1=GND, 2=HOT, 3=COLD).

*3. Phone jacks are balanced (Tip=HOT, Ring=COLD, Sleeve=GND).

*4. Phone jacks are wired: Tip=OUT, Ring=IN, Sleeve=GND

•In these specifications, when dB represents a specific voltage, 0 dB is referenced to 0.775 Vrms.

•For 2TR IN ANALOG 2 levels, 0 dBV is referenced to 1.00 Vrms.

•All input AD converters (except INSERT I/O 1-16) are 24-bit linear, 128-times oversampling.

•+48 V DC (phantom power) is supplied to CH INPUT (1-16) XLR type connectors via individual switches.

ANALOG OUTPUT SPEC

Output	Actual Source Impedance	For Use With Nominal	GAIN SW *1	Output Level		Connector
				Nominal	Max. before clip	
STEREO OUT [L,R]	600Ω	10kΩ Lines	-	-10dBV (0.316V)	+4dBV (1.58V)	RCA Pin Jack(Unbalanced)
	150Ω	600Ω Lines	-	+4dB (1.23 V)	+18dB (6.16 V)	XLR-3-32 type (Balanced) *2
STUDIO MONITOR OUT [L, R]	150Ω	10kΩ Lines	-	+4dB (1.23 V)	+18dB (6.16 V)	Phone Jack (TRS) (Balanced) *3
C-R MONITOR OUT [L, R]	150Ω	10kΩ Lines	-	+4dB (1.23 V)	+18dB (6.16 V)	Phone Jack (TRS) (Balanced) *3
OMNI OUT 1-8	150Ω	10kΩ Lines	+18dB (default)	+4dB (1.23 V)	+18dB (6.16 V)	Phone Jack (TRS) (Balanced) *3
			+4dB	-10dB (0.245V)	+4dB (1.23V)	
INSERT OUT 1-16	600Ω	10kΩ Lines	-	+4dB (1.23 V)	+18dB (6.16 V)	Phone Jack (TRS) *4
PHONES	100Ω	8Ω Phones	-	4mW	25mW	Stereo Phone Jack (TRS)(Unbalanced) *5
		40Ω Phones	-	12mW	75mW	

*1. The maximum output level of each OMNI OUT can be set internally.

*2. XLR-3-32 type connectors are balanced (1=GND, 2=HOT, 3=COLD).

*3. Phone jacks are balanced (Tip=HOT, Ring=COLD, Sleeve=GND).

*4. Phone jacks are wired: Tip=OUT, Ring=IN, Sleeve=GND

*5. PHONES stereo phone jack is unbalanced (Tip=LEFT, Ring=RIGHT, Sleeve=GND).

•STEREO OUT [L, R], 0 dBV is referenced to 1.00 Vrms.

•In these specifications, when dB represents a specific voltage, 0 dB is referenced to 0.775 Vrms.

•All output DA converters (except INSERT OUT 1-16) are 24-bit, 128-times oversampling.

DIGITAL INPUT CHARACTERISTICS

Terminal	Format	Data Length	Level	Connector in Console
2TR IN DIGITAL	1 AES/EBU	24 bit	RS422	XLR-3-31 type (Balanced) *1
	2 IEC-60958	24 bit	0.5Vpp/75Ω	RCA Pin Jack
	3 IEC-60958	24 bit	0.5Vpp/75Ω	RCA Pin Jack
CASCADE IN	-	-	RS422	D-SUB Half Pitch Connector 68P (Female)

*1. XLR-3-31 type connectors are balanced. (1=GND, 2=HOT, 3=COLD)

DIGITAL INPUT CHARACTERISTICS

Terminal	Format	Data Length	Level	Connector in Console
2TR OUT DIGITAL	1 AES/EBU *1 Professional use	24 bit *3	RS422	XLR-3-32 type (Balanced) *4
	2 IIEC-60958 *2 Consumer use	24 bit *3	0.5Vpp/75 Ω	RCA Pin Jack
	3 IEC-60958 *2 Consumer use	24 bit *3	0.5Vpp/75 Ω	RCA Pin Jack
CASCADE OUT	-	-	RS422	D-SUB Half Pitch Connector 68P (Female)

*1. channel status of 2TR OUT DIGITAL 1

type : 2 audio channels

emphasis: NO

sampling rate: depends on the internal configuration

*2. channel status of DIGITAL OUT 2,3

type: 2 audio channels

category code: 2 channel PCM encoder/decoder

copy prohibit: NO

emphasis: NO

clock accuracy: Level II (1000 ppm)

sampling rate: depends on the internal configuration

*3. dither: word length 16 - 24 bit

*4. XLR-3-32 type connectors are balanced. (1=GND, 2=HOT, 3=COLD)

Dimensions

