

02R96VCM

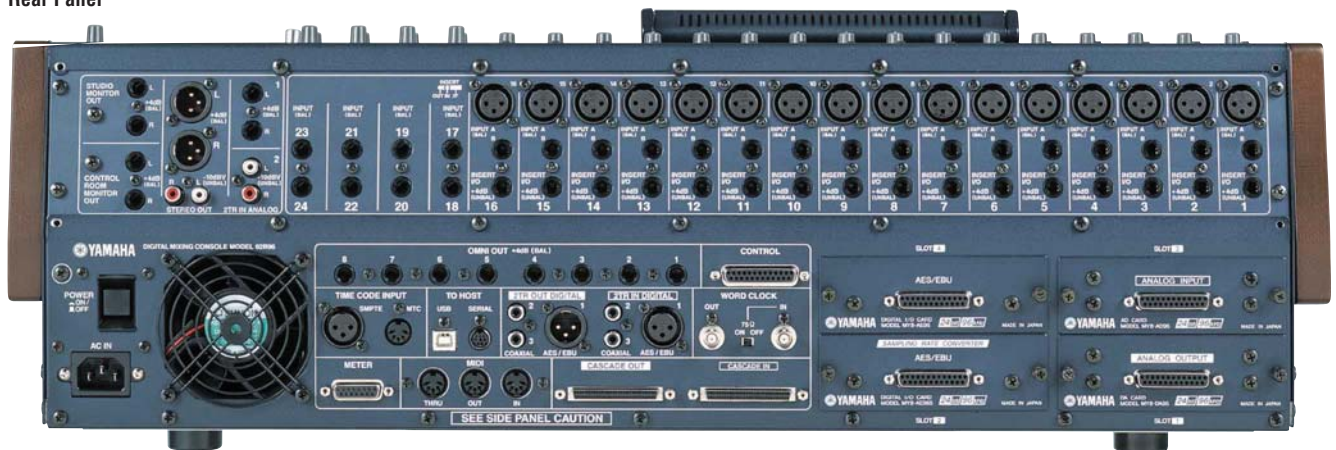
Digital Mixing Console



02R96VCM



Rear Panel



*Peak Meter Bridge MB02R96& Wood Side Pad SP02R96 are options.

A comprehensive update of the legendary 02R.

- Precise 24-bit/96-kHz audio and high-performance head amps.
- Generous mixing capacity with up to 56 simultaneous inputs and 18 mix buses (8 group buses, 8 auxiliary buses and a stereo bus) in the same compact desk-top dimensions as the original 02R.
- Powerful channel functions with flexible control and digital patching.
- Four advanced multi-effect processors include surround effects.
- Scene memory and auto-mix functions for efficient workflow.
- Versatile channel pairing and grouping functions enhance mixing efficiency.
- Comprehensive interface with 25 touch-sensitive 100-mm motor faders.
- 16 microphone/line inputs with balanced XLR/TRS jacks that feature top-performance head amplifiers for outstanding audio quality.
- Four mini-YGDAI expansion slots for easy I/O expansion in a variety of formats.
- Compatible with both Windows or Macintosh versions of Studio Manager version2 Software, allowing your PC and Console to work together seamlessly.
- A new dimension of production power with the addition of Yamaha VCM effects and processing.
- Included in the THX pm3™ Studio Certification Program Approved Equipment List.

OPTIONS

MB02R96
Peak Meter Bridge

SP02R96
Side Pad

02R96VCM

GENERAL SPECIFICATIONS

Internal processing	32bit (Accumulator=58bit)
Number of scene memories	99
Sampling frequency rate	Internal: 44.1kHz,48kHz,88.2kHz,96kHz External: Normal rate 44.1kHz (-10%) to 48kHz (+6%) Double rate 88.2kHz (-10%) to 96kHz (+6%)
Signal Delay	Less than 2.0 ms CH INPUT to STEREO OUT (@fs=48kHz) Less than 1.1 ms CH INPUT to STEREO OUT (@fs=96kHz)
Total harmonic distortion *1 CH INPUT to STEREO OUT Input Gain=Min.	Less than 0.05%, 20Hz to 20kHz @+14dB into 600Ω Less than 0.01%, 1kHz @+18dB into 600Ω (@fs=48kHz) Less than 0.05%, 20Hz to 40kHz @+14dB into 600Ω Less than 0.01%, 1kHz @+18dB into 600Ω (@fs=96kHz)
Frequency response CH INPUT to STEREO OUT	20Hz - 20kHz, 0.5, -1.5dB, @+4dB into 600Ω (@fs=48kHz) 20Hz - 40kHz, 0.5, -1.5dB, @+4dB into 600Ω (@fs=96kHz)
Dynamic range (maximum level to noise level)	110dB typ. DA Converter (STEREO OUT) 105dB typ. AD+DA (to STEREO OUT)
Hum & noise level *2 (20Hz to 20kHz) RS=150Ω Input Gain=Max Input Pad=0dB Input Sensitivity=60dB	-128dBu Equivalent Input Noise -92dBu residual output noise. STEREO OUT STEREO OUT off STEREO OUT -92dBu(96dB S/N) STEREO OUT STEREO fader at nominal level and all CH INPUT faders at minimum level -64dBu(88dB S/N) STEREO OUT STEREO fader at nominal level and one CH INPUT fader at nominal level
Crosstalk (@1kHz) Input GAIN=min	-80dB adjacent input channels (CH1 to 24) -80dB input to output
Power requirements	Japan: AC100V 50/60Hz, 200W North America: AC120V, 60Hz, 200W Other Areas: AC220-240V, 50/60Hz, 200W
Dimensions (W x H x D)	02R96: 667 x 239 x 697mm (26.3" x 9.4" x 27.4") With MB and SP: 700 x 352 x 762mm (27.6" x 13.9" x 30.0")
Weight	34.0kg (75lbs) With MB&SP:39.4kg (86.9lbs)

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

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

CONTROL I/O SPECIFICATIONS

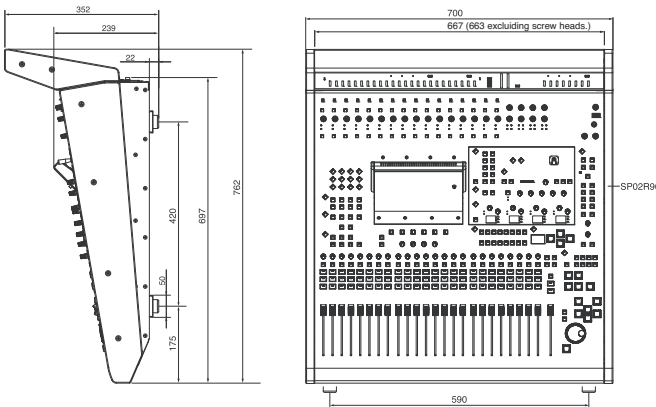
I/O Port	Format	Level	Connector in Console
TO HOST	Serial	-	RS422 Mini DIN Connector 8P
	USB	USB 1.1	0V ~ 3.3V B type USB Connector
MIDI	IN	MIDI	- DIN Connector 5P
	OUT	MIDI	- DIN Connector 5P
	THRU	MIDI	- DIN Connector 5P
TIME CODE IN	MTC	MIDI	- DIN Connector 5P
	SMPTE	SMPTE	Nominal - 10dB/10kΩ XLR-3-31 type (Balanced)*1
WORD CLOCK	IN	-	TTL/75Ω (ON/OFF)*2 BNC Connector
	OUT	-	TTL/75Ω BNC Connector
CONTROL	-	-	D-SUB Connector 25P (Female)
METER	-	RS422	D-SUB Connector 15P (Female)

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

*2 This switch is on the rear panel.

DIMENSIONS

unit : mm



ANALOG INPUT / OUTPUT SPECIFICATIONS

Input Terminal	Pad	Gain	Actual Load Impedance	For Use With Nominal	Input Level			Connector
					Sensitivity*1	Nominal	Max. before Clip	
CH INPUT A/B 1-16	0	-60dB	3kΩ	50-600Ω Mics & 600Ω Lines	-70dBu	-60dBu	-46dBu	A.XLR3-31 type (Balanced)*2 B:Phone jack (TRS)(Balanced)*3
	26	-16dB			0dBu	+10dBu	+24dBu	
CH INPUT 17-24	-	-34dB +10dB	4kΩ	600Ω Lines	-44dBu 0dBu	-34dBu +10dBu	-20dBu +24dBu	Phone jack (TRS)(Balanced)*3
CH INSERT IN 1-16	-	-	10kΩ	600Ω Lines	-6dBu	+4dBu	+18dBu	Phone jack (Unbalanced)*4
2TR IN ANALOG1(L,R)	-	-	10kΩ	600Ω Lines	+4dBu	+4dBu	+18dBu	Phone jack (TRS)(Balanced)*3
2TR IN ANALOG2(L,R)	-	-	10kΩ	600Ω Lines	-10dBV	-10dBV	+4dBV	RCA pin jack (Unbalanced)

* 0dBu=0.775 Vrms.

* 0dBV=1.00 Vrms.

* +48V DC(phantom power) is supplied to CH INPUT(1-24) XLR type connector via each individual switch.

*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, 0 dBu = 0.775 Vrms, 0 dBV = 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.

Output Terminal	Actual Source Impedance	For Use With Nominal	Gain SW *	Output Level		Connector	
				Nominal	Max. before Clip		
STEREO OUT(L,R)	600Ω	10kΩ Lines	-	-10dBV	+4dBV	RCA pin jack (Unbalanced)	
	150Ω	600kΩ Lines	-	+4dBu	+18dBu	XLR3-32 type (Balanced)*5	
STUDIO MONITOR OUT(L,R)	150Ω	10kΩ Lines	-	+4dBu	+18dBu	Phone jack (TRS)(Balanced)*3	
C-R MONITOR OUT (L,R)	150Ω	600kΩ Lines	-	+4dBu	+18dBu	Phone jack (TRS)(Balanced)*3	
OMNI OUT 1-8	150Ω	10kΩ Lines	-	+18dBu (default)	+4dBu	+18dBu	Phone jack (TRS)(Balanced)*3
			+4dBV	-10dBV	+4dBV		
INSERT OUT 1-16	600Ω	10kΩ Lines	-	+4dBu	+18dBu	Phone jack (Unbalanced)*4	
PHONES	100Ω	8Ω Lines	-	4mW	25mW	Stereo phone jack (TRS)(Unbalanced)*6	
		40Ω Lines	-	12mW	75mW		

* +18dBu, +4dBV selectable (Internal SW)

0dBV=1.00 Vrms.

0dBu=0.775 Vrms.

*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).

* In these specifications, 0 dBu = 0.775 Vrms, 0 dBV = 1.00 Vrms.

* All output DA converters (except INSERT OUT 1_16) are 24-bit, 128-times oversampling.

DIGITAL INPUT / OUTPUT SPECIFICATIONS

Terminal	Format	Data Length	Level	Connector
2TR IN DIGITAL	1 AES/EBU	24bit	RS422	XLR3-31 type (Balanced)*1
	2 IEC-60958	24bit	0.5Vpp/75Ω	RCA pin jack
	3 IEC-60958	24bit	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)

Terminal	Format	Data Length	Level	Connector
2TR OUT DIGITAL	1 AES/EBU*1 (Professional use)	24bit*3	RS422	XLR3-32 type (Balanced)*4
	2 IEC-60958*2 (Consumer Use)	24bit*3	0.5Vpp/75Ω	RCA pin jack
	3 IEC-60958*2 (Consumer Use)	24bit*3	0.5Vpp/75Ω	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)

