YAMAHA




02R96

DIGITAL MIXING CONSOLE

Version 2

The Standard Evolves Once More: The Yamaha 02R96 Version2 Digital Mixing Console

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 manger 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 it's class.

96 kHz AUDIO DSP

Advanced Protocol DAW control

SM Studio Manager Version 2

ADD-ON EFFECTS

SURROUND MONITORING

THX pm3 APPROVED

m.i.p.a.

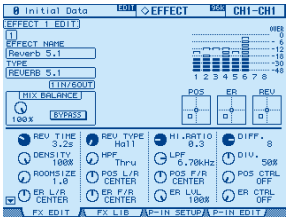
Musikmesse International Press Award
2003 Best Mixing Desk - Project Studio

TEC TECHNICAL EXCELLENCE & CREATIVITY AWARDS

19th Annual Technical Excellence & Creativity (TEC) Award
Small Format Console Technology: Yamaha 02R96

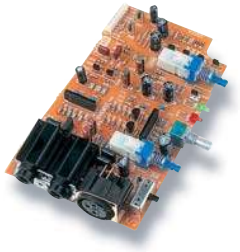
Unprecedented 24-bit, 96-kHz Performance Throughout

Unlike conventional equipment that achieves operation in 96-kHz mode with reduced number of channels, the 02R96 imposes no such limitations — at 44.1 kHz, 48 kHz, 88.2 kHz or 96 kHz. Full 96-kHz resolution with 32-bit internal processing and 58-bit accumulators is the standard. You get 56 channels of transparent, super-dynamic 24-bit/96-kHz audio, plus all the additional effects and processing you'll ever need for most applications. Yamaha has included a comprehensive range of 96-kHz compatible stereo effects with 32-bit internal processing in the 02R96 — plus several designed specifically for surround. And you can use as many as four individual effect processors simultaneously.



FX Edit Reverb 5.1

Superlative Analog Head Amplifiers & Converters

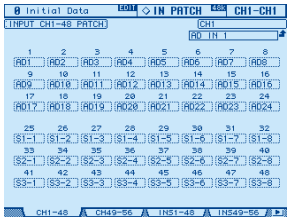


And what about critical A/D conversion? All onboard A/D and D/A conversion makes use of the finest 24-bit/96-kHz converters. This is particularly important in the 02R96 because it features head amplifiers derived from the acclaimed DM2000 — some of the finest analog mic preamps available in any console, anywhere. The on-board converters ensure that you get an excellent digital representation of the warm, transparent output from these remarkable mic preamps. I/O capability is also in line with the rest of the console's performance: four I/O slots accept a new range of 24-bit/96-kHz-capable Mini-YGDAI digital and analog I/O cards as well as existing types.

56 Channels in 3 Layers, Plus Extraordinary Patching Flexibility

One of the advantages of working with digital is that it allows maximum power and flexibility to be packed into minimum space. On the 02R96 24 precision 100-millimeter motorized channel faders can be instantaneously layer-switched to control any of 56 channels. Having all controls right in front of you at all times not only saves space, but it also means that all operations can be carried out without having to move away from the monitoring "sweet spot". What's more, all available inputs, outputs, effects, and channel inserts can be assigned to any of the console's channels or outputs via the 02R96's remarkably versatile, easy-to-use digital patching system. For example, any of the four effect processors can be assigned to an auxiliary buss for send-type operation, or inserted directly into any input channel as required.

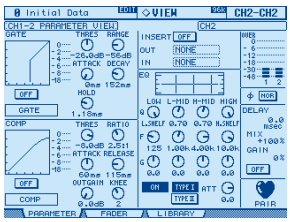
A direct out function also allows the signal from any of the 56 input channels to be routed directly to any digital or analog output. The eight auxiliary busses can also be patched to anywhere in the system. Centralized control means you'll never have to run around to physically re-patch cables whenever you need to reconfigure the system, and patch setups you might want to use again can be stored in the patch library for instant recall at any time.



In Patch

Top-quality Channel Compression, Gating, EQ and Delay *Version2*

All 56 input channels on the 02R96 feature flexible, independent compression and gating/ducking processors for dynamics control. The 4-band parameter channel equalizers also offer extra versatility with switchable "type I" or "type II" EQ algorithms to deliver the type of EQ response you prefer. Even the channel delay goes beyond the norm, with a maximum delay of 453 milliseconds. Version2 even features comp/gate gain reduction metering on the meter display.



Channel View

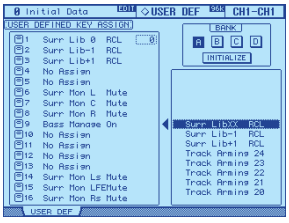
Expandable Data Libraries

Setting up EQ, compression, and other parameters for a mix from scratch can be a daunting task, so Yamaha has provided an extensive selection of presets in a range of "libraries" that can simply be selected and used unmodified, or edited to suit specific requirements. Libraries are provided for effects, compression, gating, EQ, I/O patching, and more. Of course, your own setups can be added to the libraries for instant recall whenever they are needed.

The 02R96 provides everything you need for 6.1 surround processing, panning and monitoring.

Intuitive Interface Designed for Maximum Productivity

If you've used an 02R before, you'll feel right at home with the 02R96. It even has the same footprint size as the 02R, so replacing existing equipment is a snap. You will notice, however, that the control surface and user interface have been expanded and enhanced to allow analog-style hands-on operation with minimum need to refer to the LCD. 16 user-defined keys which can be assigned the functions of your choice are also provided.

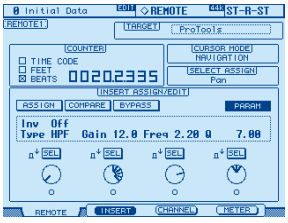


User Defined

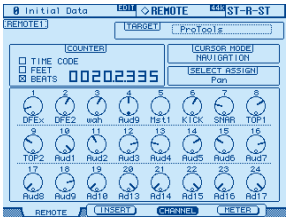
Integrated DAW Control *Version2*

Advanced Protocol DAW control

The 02R96 has been designed to integrate tightly with leading digital audio workstations to create a complete production and mixing environment. Extensive support for Digidesign's Protools® system provides full control of mixing and processing parameters, as well as transport/track-arming control and access to editing functions, directly from the 02R96 control surface. Version2 adds advanced support for Steinberg's Nuendo® DAW, as well as joystick control compatibility in the Protools mode.



Remote (Insert)



Remote (Channel)

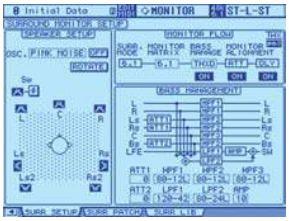
A Complete Surround Solution *Version2*

SURROUND MONITORING The 02R96 provides everything required for a complete surround solution. All the facilities you need for surround processing, panning and monitoring — including joystick — are provided as standard equipment. The joystick is the perfect (and generally preferred) tool for smooth, continuous positioning of 5.1 or 6.1 surround sound for DVDs or other surround media. And since accurate monitoring is so essential to surround production, extra care was taken to ensure that the 02R96 offers the ideal mixing environment — it includes a downmix matrix which can deliver 3-1 (LCRS) and stereo mixes while you are burning a surround mix to DVD, bass management, and speaker alignment facilities for optimum speaker system tuning.


Surround Monitor


Monitor Alignment


Surround Edit


Bass Management

Comprehensive Automation and Scene Control

The 02R96 takes automation and scene memory recall to new levels of precision and ease-of-use. While providing full automation of virtually all console parameters, the 02R96 features smooth and quiet touch-sensitive, 100mm motorized faders that make writing and updating automated mixes faster and more intuitive than ever. And all automation data is recorded at 1/4-frame accuracy to ensure excellent precision.

Studio Manager Version 2 Software Supplied *Version2*

SM Studio Manager Version 2 Control from a personal computer? Of course! And Yamaha even supplies the software. The 02R96 comes with the Studio manager application for both Macintosh® and Windows® platforms, allowing total control and management of all 02R96 parameters via a comprehensive graphic interface. Studio Manager Version2 offers even more advanced networking potential than the original version, functioning as a complete central management system for digital mixing.

Add-On Effects *Version2*

ADD-ON EFFECTS The 02R96 Version2 is compatible with Yamaha's outstanding Add-On Effects series (sold separately). According to your signal-processing needs you could add the Channel Strip package with high-performance EQ and compression capability, or the Master Strip Package for extraordinarily accurate sonic reproductions of some of the finest tape decks of audio's "golden age". There's also a Reverb Package featuring the latest REV-X reverb algorithms used in Yamaha's outstanding SPX2000, and other effect packages that can contribute to your production arsenal in a big way.

I/O Expandability and Plug-in Capability

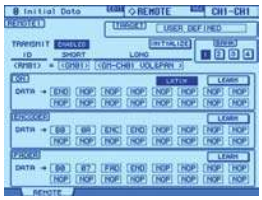
The 02R96's real I/O versatility comes in the form of six Mini-YGDAI expansion slots. The expansion slots are 24 bit/96 kHz compatible, so you can select I/O and processing cards to provide the input/output configuration and processing capabilities that are perfect for your needs. Whether you need digital I/O in ADAT, TASCAM, or AES/EBU format connectivity, or extra analog I/O capability, the appropriate Mini-YGDAI cards are available.

for Production & Broadcast

DAW Integration

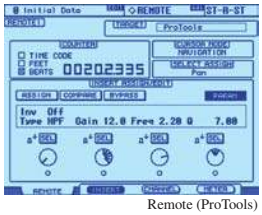
Integrated DAW Control

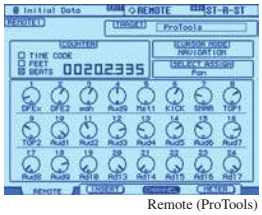
The 02R96 has been designed to integrate tightly with leading digital audio workstations to create a complete production and mixing environment. Extensive support for Digidesign's Protools® system provides full control of mixing and processing parameters, as well as transport/track-arming control and access to editing functions, directly from the 02R96 control surface.

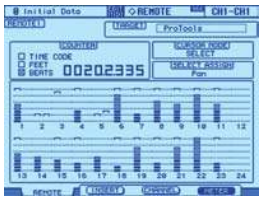

Remote (User Difined)

Protools® and Nuendo® Control *Version2*

When used with a DAW system the 02R96 provides physical control of mixer functions as well as recorder control. Control functions for Digidesign's Protools® and Steinberg's Nuendo® digital audio workstation software are provided as standard libraries.
By simply connecting the console to a computer via the TO HOST connector (combined USB and serial), the console's faders and encoders can be used for DAW control to create a seamless, efficient production environment. These libraries can be assigned to the console's remote layer as required. Just about any other DAW software can be accommodated via MIDI by creating an appropriate MIDI assignment table.


Remote (ProTools)


Remote (ProTools)


Remote (ProTools)

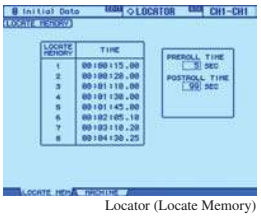
Nuendo® Advanced Support and Protools® Remote Joystick Control *Version2*

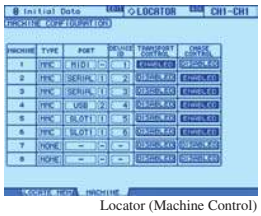
In Version2 the 02R96 provides significantly enhanced DAW integration. When used with Nuendo 2.0, for example, the software's mixer channel EQ and surround pan functions can be accessed directly from the 02R96 selected channel controls. If Protools is your DAW of choice you have direct control of Protools surround panning via the 02R96 joystick.

Transport Controls and eight direct locate keys *Version2*

Since the 02R96 will almost certainly be used with some sort of multitrack recorder — tape, hard-disk, or DAW — it has been provided with a comprehensive range of facilities for external machine control. The MMC protocol is supported, and control can be switched between MTR and master target machines. Version2 provides additional control capability with the ability to remotely control MMC equipment directly from the console's DAW layer, so you can simultaneously control a DAW and MMC recorders without having to switch layers. 8 direct locate keys are also provided for fast, easy location and cueing.


Machine Control

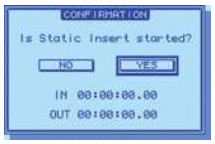

Locator (Locate Memory)

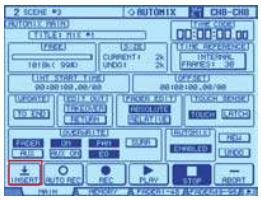

Locator (Machine Control)

Advanced Automix Function

Automix Static Insert *Version2*

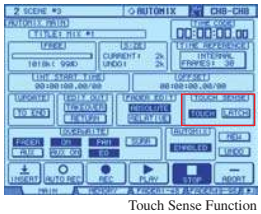
Versatility is further enhanced in Version2 with an automix static insert function that allows pre-defined parameter settings to be punched in and out to, for example, adjust the EQ for a short dialog sequence during pre-production.




Auto Mix Static Insert

Touch-sensitive Intelligent Automix Parameter Punch I/O *Version2*

This flexible system lets you set up the controls for the most efficient operation according to the signal flow and mixing task at hand. Version2 additionally includes a fader touch-sense function that allows automix parameter punch in/out operations to be carried with unprecedented speed and efficiency. When a fader is touched the parameter for that fader is punched in and the automix parameter overwrite mode is engaged. Two modes are provided: in the TOUCH mode the fader parameter is punched out and overwrite ends when the fader is released, and in the LATCH mode overwrite continues even after the fader is released.


Touch Sense Function

ADD-ON EFFECTS Capability

Add-On Effects *Version2*

The DM2000 Version2 is compatible with Yamaha's outstanding Add-On Effects series (sold separately). According to your signal-processing needs you could add the Channel Strip package with high-performance EQ and compression capability, or the Master Strip Package for extraordinarily accurate sonic reproductions of some of the finest tape decks of audio's "golden age". There's also a Reverb Package featuring the latest REV-X reverb algorithms used in Yamaha's outstanding SPX2000, and other effect packages that can contribute to your production arsenal in a big way.


COMP276 (CHANNEL STRIP)

OPEN DECK (MASTER STRIP)

REV-X (REVERB)

for Broadcast

Versatile Channel Pairing and Grouping Functions *Version2*

In addition to being able to pair faders "horizontally", corresponding faders in layers1 and 2 can be "vertically" paired, allowing each physical channel fader to be used for stereo channel control. Up to 24 stereo channels can thus be controlled from a single layer with a whole list of linked parameters.

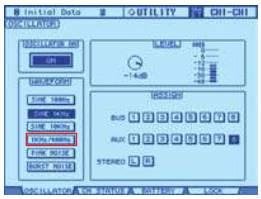
Mix Minus *Version2*

The 02R96 even incorporates a number of features that can be extremely valuable in broadcast applications. There's Mix Minus, for example, that makes it possible to instantly remove the announcer from a mix. Vertical pairing of stereo source is extremely useful, too.


Mix Minus

Dual Oscillator *Version2*

02R96 Oscillator is capable of sending simultaneously sine wave of 400Hz and 1kHz respectively to L, R and odd/even buses to check the signal path.


Oscillator

Fader Solo Release and Pre-Fader with Pan *Version2*

Of particular interest to broadcast engineers will be the new fader solo release and pre-fader with pan functions included in Version2. Fader solo release allows instant, automatic switchover from solo source monitoring to mixing. Pre-fader with pan also provides a post-pan monitoring option.

Operation lock *Version2*

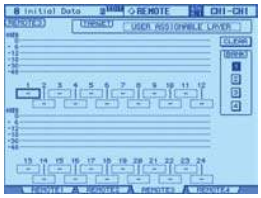
There's even a password-protected operation lock feature that can be used to "lock" specified functions and parameters.

Set up a password.

for Live SR

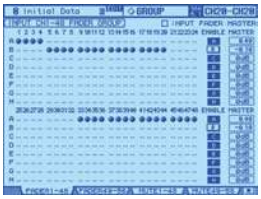
User Assignable Layer *Version2*

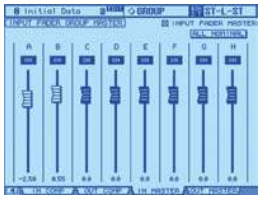
Using the "User Assignable Layer" feature you can create a custom layer to which any channels can be assigned in a preferred layout, and the setups can be stored in any of four banks. This system means that you have a total of 96 channels and buses right in front of you in the space of 24.

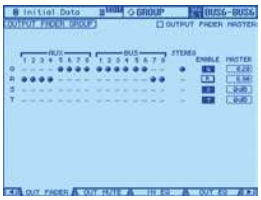

User Assignable Layer

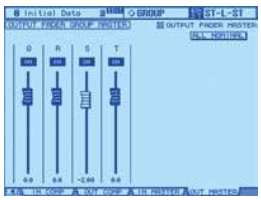
Fader Group Master *Version2*

Grouped faders can now be operated in a more VCA-like manner, with easy adjustment of fader balance within the group. Used with the user-assignable layer feature this functionality delivers significant advantages in live sound applications.


Input Fader Group

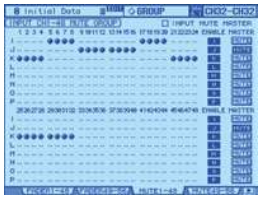

Input Fader Master

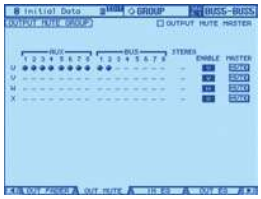

Output Fader Group


Output Fader Master

Group Master Mute *Version2*

Version2 adds the capability to assign group master mute to the user defined keys. Any of the console's inputs and outputs can be assigned to mute groups as required, then muting of the assigned group can be engaged or disengaged with one touch via the user defined keys – a tremendous advantage in live sound applications.

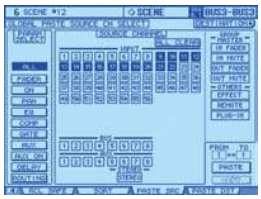

Input Mute Group


Output Mute Group

Scene Memory *Version2*

Scene Memory capability is an essential element of modern digital mixing consoles. With the 02R96 you can take a snapshot of just about any mix, effect and patch setup and store it in any of 99 scene memories. There are also fade time, and recall safe functions which can be applied globally as well as individually for each channel. Additional scene memories can be managed via memory cards or a computer running the supplied Studio Manager software. Like most other control sections, a DISPLAY key brings all scene parameters up on the LCD display panel. And for even greater versatility Version2 features a global paste function that lets you simultaneously paste selected parameters from one scene to multiple scenes – your EQ and AUX settings from final rehearsal, for example, can easily be copied to all other scenes that will be used during the performance.

Fade time and recall safe settings can also be copied to multiple scenes in one easy operation.


Global Paste (Source)


Global Paste (Destination)

Global Fade Time and Global Recall Safe *Version2*

In addition to independent fade time and recall safe settings for each scene, you can set global fade time and recall safe settings that apply to all scenes. This ability can dramatically reduce setup time when you will be using multiple scenes with the same settings.


Global Fade Time

AUX Pre-Fader/Pre-ON *Version2*

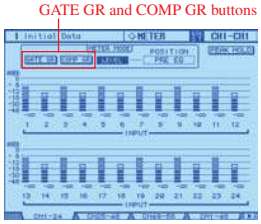
Live sound engineers will really appreciate the new AUX pre-fader/pre-ON feature that allows monitor AUX output to be active at all times, regardless of whether the FOH send is on or off.

Instant AUX Monitoring (AUX/SOLO Link) *Version2*

Another feature that will be an advantage in live sound applications is instant AUX monitoring: solo monitor any desired AUX signal simply by pressing the AUX Select button. The ability to instantly switch to AUX without having to switch the master layer can be an enormous advantage for monitor control.

Gain Reduction Meter *Version2*

Version2 even features comp/gate gain reduction metering on the meter display. You can monitor gain reduction while simultaneously monitoring input levels on the meter bridge.



Meter

for Surround Production

Up to 6.1 Surround Monitoring & Processing

The 02R96 surround features are fully compatible with 3-1, 5.1 and 6.1 surround processing, panning and monitoring requirements. With the 02R96 you can also change the order of the surround channel to bus out assignment according to project requirements. And since accurate monitoring is so essential to surround production, extra care was taken to ensure that the 02R96 offers the ideal mixing environment it includes a downmix matrix which can deliver 3-1 (LCRS) and stereo mixes while you are burning a surround mix to DVD, bass management, and speaker alignment facilities for optimum speaker system tuning. The 02R96 will even handle multiple surround stem mixes with ease.

Versatile Surround Panning Functions

In addition to graphic monitor configuration displays, the DM2000 also provides multi-channel surround pan/position displays so you can see where multiple channels sit in the surround mix at a glance. The joystick provided for surround panning in the console's SELECTED CHANNEL control section has high 128 x 128 step resolution for exceptionally smooth control, and a divergence parameter can be used to adjust the hard/phantom center ratio for each channel.

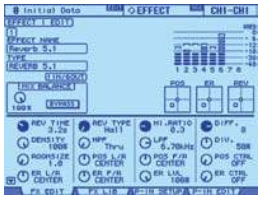

Surround Panning


Surround Panning

Surround Effects Built In

The DM1000's internal digital effect system includes "Reverb 5.1", "Comp 5.1", "Expand 5.1", and a number of other effects specifically designed for surround production. Reverb ER and REV can be panned via the joystick. One program even provides as many as 8 mono reverbs that can be used for 8-in/8-out processing. Bus EQ and dynamics can also be grouped for efficient surround processing.

* Some surround effects use as many as four effect processors.


Reverb 5.1

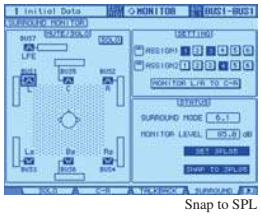
Flexible Surround Bus Setup *Version2*

In version2 the 02R96 surround bus is no longer fixed, but can be freely configured to accommodate a wide variety of surround mixing needs.


Surround Bus setup

Snap to SPL 85dB *Version2*

A "Snap to 85dB" function instantly sets the surround monitor level to the standard 85dB SPL. You can use a short-cut key to set levels instantly and precisely to the theater-standard of 85dB SPL.


Snap to SPL

Simultaneous Downmix Capability *Version2*

Matrix mixing and bus-to-stereo functions can be used to provide 6.1 to 5.1, 5.1 to 3-1 (LCRS) downmix or 3-1 to stereo downmix while you are working on the 5.1 mix.

Simultaneous Surround Source Monitoring *Version2*

Bus outs and any outputs you have assigned to the Assign key can be monitored simultaneously, for enhanced efficiency when working on multitrack stem mixes and other complex procedures.

Surround Pan On/Off *Version2*

Surround panning can be turned on or off as required by the application. When off, sources such as dialog that require no panning can be directly fed to the center bus. This capability can simplify signal routing in many situations.

Comprehensive Surround Monitoring Environment *Version2*

The 02R96 features comprehensive surround monitoring functions that enable optimum monitoring of surround sources on the buses or stem mixes input from either of the expansion slots. Surround monitoring functions include downmixing (which enables you to monitor signals on fewer channels) and fine tuning of surround channel signals according to the monitoring environment. The 02R96 downmix monitoring matrix makes it possible, for example, to monitor a 5.1 surround program in 3-1, or stereo, switching between modes instantly without affecting the recorder sends. Bass Management is important for optimizing channel signals and subwoofer delivery for the monitoring environment. The 02R96 has 8 preset bass management modes (including 3 THX presets) for DVD or film mixing and authoring. You can also fine-tune individual filter and attenuation parameters.

Other features include an oscillator for testing speakers, individual attenuator and delay parameters for monitor alignment, individual bus (speaker) muting, and overall level control for all monitor outputs.

THX pm3™ Approval

Yamaha Digital consoles DM2000V2, DM1000V2 & 02R96V2 are the worlds first digital consoles equipped with complete surround monitoring facilities built-in, eliminating the need to connect and feed the signal to external monitoring equipment and offer perfect solution used in combination with the Powered Monitor Speaker MSP10 STUDIO.

Known worldwide for high quality entertainment sound and picture, the THX pm3™ (Professional Multi-Channel Mixing & Monitoring) Studio Certification Program addresses the need for reliable, translatable, and superior performance in professional multi-channel mixing and monitoring studios worldwide. THX has created a performance standard that focuses on the listening and viewing environment, selection of audio and video equipment, layout of the working area, and calibration. DM2000V2, DM1000V2 & 02R96V2 are included in the THX pm3™ Approved Equipment list as Studio Monitoring Systems, and Powered Monitor Speaker MSP10 STUDIO as Front & Surround speakers.

Yamaha Digital Consoles have the following surround functions built-in.

Surround production functions

- Fully compatible with 3-1, 5.1 and 6.1 surround processing, panning and monitoring
- Flexible surround bus set up
- Built-in Joy stick
- Graphical user interface and parameters to assist accurate surround PAN positioning and efficient moves of sound image.
- Built-in surround effects including "Reverb 5.1", "Comp 5.1", "Expand 5.1" etc.

Surround Pan Positioning

THX pm3™ Approved surround monitoring functions

- Downmix monitoring matrix
- Bass Management: comprehensive filter and attenuator setting and THX pm3 presets
- Monitor Alignment functions (Attenuator and delay for individual speakers)
- Build-in Oscillator
- "Snap to 85dB SPL" function

Surround Monitor Setup
(THX pm3 Monitor Flow)

THX Bass Management Presets:

The following presets have been approved by THX™ Ltd. for use in THX pm3™ Certified Studios*. They are designed to provide dedicated parameters for the proper playback of multi-channel audio content in bass managed systems and to be compatible with subwoofer-satellite type consumer systems.

* Use of a THX preset does not permit a studio to use the designation THX pm3 Certified Studio. The THX pm3 Studio Certification Program uses performance and design specifications to create calibrated environments for optimum sound and picture presentation. For more information, visit the THX website at http://www.thx.com

[THXD] THX DVD	This preset is configured for DVD-Video production. Use this preset when mixing and/or monitoring audio content not from a theatrical film source. The parameters cannot be changed.
[THXF] THX Film	This preset is configured for Film pre-production. Use this preset when mixing and/or monitoring theatrical film-based content (such as a pre-mix for film). The parameters cannot be changed.
[THXM] THX Music	This preset is configured for DVD-Music production. Use this preset when mixing and/or monitoring multi-channel music content (including DVD-Audio and SACD). Only one parameter can be changed. The LFE gain (AMP) can be set to +10dB (default) or 0dB. Select the level that complies with the standards of the target media. Please note: The LFE output gain on some DVD players, receivers, and/or decoders may already be set to +10dB. Select the 0dB setting only if the destination environment (home theatre, etc.) has the LFE gain set to 0dB. Otherwise, use the default setting.

For more information on THX pm3, please visit THX website at http://www.thx.com.
Visit Yamaha website at http://www.yamahaproaudio.com/ to find DM2000/1000, 02R96 surround set up manual, Quick Guide and Surround Tutorial Booklet.

Refined Interface

The Yamaha 02R96 has been designed on the strength of past successes plus invaluable feedback from leading engineers and artists worldwide. It is the latest step in an ongoing evolution that makes more production power, creative potential, and operational efficiency available than ever before.

* Rear panel shown with optional I/O cards installed.

1 Fader & Encoder Mode

The FADER MODE keys allow the 02R96 faders to be instantaneously switched between fader and auxiliary level control, while the ENCODER MODE keys assign the console's rotary encoders for pan, send level, and other assignable control functions. This flexible system lets you set up the controls for the most efficient operation according to the signal flow and mixing task at hand.

Version2 additionally includes a fader touch-sense function that allows automix parameter punch in/out operations to be carried with unprecedented speed and efficiency.

2 Display Control

The DISPLAY ACCESS keys determine which type of data will be shown on the LCD panel — a total of 12 selectable categories — in addition to the DISPLAY keys provided for each of the 02R96 control sections. This approach minimizes the need to scroll through on-screen lists when you need access to a particular type of data. Below the display access keys are a group of EFFECTS/PLUG-IN keys that can be used to instantly bring the parameters for any of the four simultaneously-assignable effects to the display. Editing and selection of on-screen parameters is easy, too, via encoders located immediately below the display.

3 Selected Channel Section

The SELECTED CHANNEL controls are the hands-on channel controls for the currently selected input and output channel, with analog-style buttons and knobs for direct, easy access to every single parameter. Need to adjust the high-mid frequency a little? Just grab the HIGH-MID encoder and turn. And while we're on the subject of EQ, note that individual numeric displays are provided for each of the four EQ bands, displaying precise frequency and dB values immediately below the encoders so you don't have to refer to the LCD display. All of the sub-sections within the SELECTED CHANNEL section also feature DISPLAY keys that instantly bring the corresponding parameters up on the LCD display.

4 Monitor Section

The 02R96 MONITOR section features separate, multiple source selectors for the studio and control room sends, solo capability, separate source selectors and level control for surround monitoring, a DIMMER switch, and a TALKBACK section complete with slate capability. The 02R96 also offers advanced surround monitoring capability.

5 Scene Memory

Here's where you can store all console parameters as a new scene, or instantly recall previously-stored scenes. A numeric display right next to the STORE, RECALL, and UP/DOWN keys shows the current scene number – 01 through 99. Additional scene memories can be managed via a computer running the supplied Studio Manager software.

6 User Defined Keys

These 16 keys can be assigned to control any functions you choose. You could, for example, individually mute surround monitor speakers, arm tracks on an MTR, etc. When the Pro Tools® or Nuendo® Remote Layer mode is selected, the USED DEFINED KEYS are automatically assigned to dedicated control functions by default.

7 Machine Control

The 02R96 has been provided with a comprehensive range of facilities for external machine control. MMC protocol is supported, and control can be switched between MTR and master target machines. The MACHINE CONTROL section features basic transport control in the familiar layout – REW, FF, STOP, PLAY, and REC – for fast, efficient transport operation, plus locator keys for easy cue access.

8 Channel Strips

The 24 channel strips on the 02R96 panel provide access to the most essential operations for the corresponding channels. Depending on the currently selected layer, the channel strips will control channels 1 through 24, channels 25 through 48, or channels 49 through 56 as well as the eight AUX sends and eight busses (the "Master Layer"). Also the channel faders and encoders will function according to the settings in the FADER MODE and ENCODER MODE sections. In addition to a fader and rotary encoder, each channel strip includes a channel ON/OFF key, a SOLO key, and AUTO key to turn mix automation on or off for that channel, and a SEL key which assigns the channel as the console's "Selected Channel". Detailed control for the currently selected channel – dynamics, EQ, buss assignment, panning and surround positioning, – is available via the SELECTED CHANNEL controls.

9 Master & Layer Section

In addition to the master stereo fader with its own ON, SEL and AUTO keys, the master section includes keys for input channel layer selection (1-24, 25-48, or MASTER) as well as a selector for remote control.

10 Data Entry

Large cursor, INC/DEC, and enter keys are complemented by a data entry dial that lets you spin in values quickly and easily. The data entry dial also doubles as a shuttle/scrub dial for recorder or DAW control.

11 Analog Input Section

Inputs 1 through 16 feature high-performance head amplifiers for microphone or line input that deliver a pristine signal to the console's precision 24-bit/96-kHz A/D converters. 48-volt phantom power for condenser microphones is individually switchable for each input, trim controls and pad switches facilitate optimum level matching with the source, and switchable inserts make it easy switch external analog processing gear into or out of the pre-A/D signal path while maintaining optimum signal quality in wired installations. Inputs 17 through 24 accept line-level signals singly (each input has an independent trim control) or in pairs for stereo input.

12 Meter Bridge

The MB02R96 Peak Meter Bridge is a complete level-monitoring station with 12 12-segment level meters that can be used to display pre-EQ, pre-fader, or post-fader input channel signal levels. An additional eight meters display levels on the console's eight busses. A separate 32-segment stereo meter is provided for the main stereo program.

13 Rear Panel

A quick look at the rear panel should tell you that the 02R96 is designed for serious production. Balanced XLR and TRS connectors are provided for inputs 1 through 16, in addition to insert jacks (insert switches are provided on the console). Line-input channels 17 through 24 feature balanced TRS inputs. Then there are balanced analog studio, stereo, control room, and monitor outputs as well as eight balanced "omni" outputs. Analog 2-track inputs are provided in addition to digital 2-track inputs and outputs featuring both AES/EBU and coaxial connectors. On-board sample rate conversion allows CD players and other digital sources connected to the digital input to be monitored or routed to an input channel without having to be synchronized to the system clock. A wide range of synchronization and control options are available via word clock inputs and outputs, SMPTE and MTC time code inputs, MIDI connectors, and both serial and USB "TO HOST" connectors. Cascade in and output connectors allow two 02R96 consoles to be cascaded to provide up to 112 channels. Even the cooling fan is specially designed for ultra-quiet operation so that machine noise doesn't interfere with critical monitoring or recording operations.

Studio Manager Version 2

The 02R96 Studio Manager application has undergone a significant evolution and has been reborn as Studio Manager Version2. The hybrid Windows®/Macintosh® Studio Manager application has been rewritten as a host application which hosts the 02R96 Editor which actually controls the 02R96 console, and which can be used simultaneously with other editors for professional digital audio gear such as the DM2000 Version2 digital mixer or the SPX2000 professional multi-effect processor. Simply connect the console to a computer via its TO HOST port (combined USB/serial), and the computer functions as comprehensive control center for the entire system. You can even open and close Studio Manager version2 windows from the 02R96 console controls, for seamless system integration and optimum operation efficiency in any application.


Studio Manager V2 Host Window


Library Window


Meter Window


Surround Editor Window


Layer Window

Master Window


Patch Editor Window


Patch Editor-Effect Window


Selected Channel Window


SPX 2000 Editor (REV-X)

02R96 Editor

The 02R96 Editor runs under the Studio Manager Version2 host application, and offers features and functionality that have been refined and updated for professional-level control. Some of the most significant updates include:

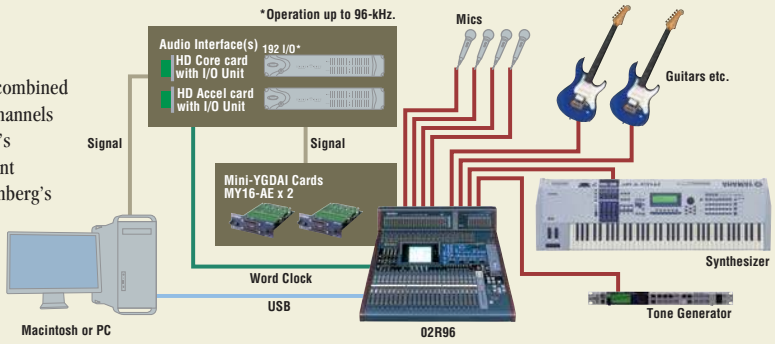
- Master Fader Window provides independent master fader display and control.
- Meter Window shows levels on all 56 channels.
- A new Automix Library Window has been added to the library windows.
- Layer Window allows selection and display of effects and other sources above the panel pan controls.
- Selected Channel Window adds graphic gate displays and long-stroke channel metering.
- Patch Edit Window is now resizable, and displays effect block inputs and outputs.
- Effect Editor Window adds Add-On Effects interface and fine control.

ADD-ON EFFECTS

Sample Applications

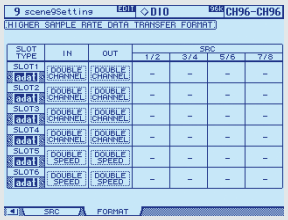
Computer-based 96-kHz Recording

In this system the Yamaha 02R96 and a Digidesign Protools® HD2 Accel setup are combined in a powerful recording and production system that provides as many as 64 input channels with up to 192 tracks at 48 kHz or up to 96 tracks at 96 kHz. Add to this the 02R96's advanced control surface features, and you have an extraordinarily powerful, efficient computer-based hard-disk recording system. You can combine the 02R96 with Steinberg's Nuendo® or emagic's Logic Audio® workstation software, too. While the 02R96 functions as an advanced control surface for the software, it can also handle critical audio processing tasks as well as monitoring.



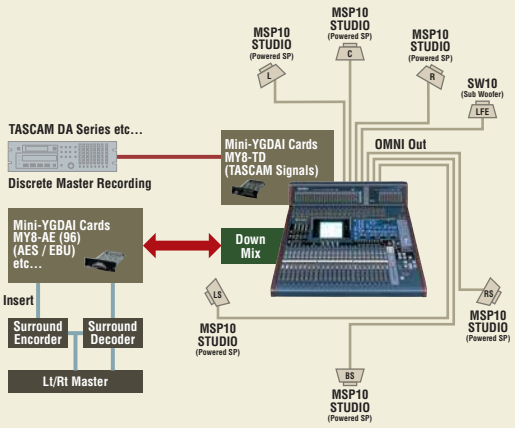
Connection with 96-kHz recorders

Although the 02R96 handles 96-kHz audio as standard, most of the currently available digital recorders can handle 96-kHz audio only in double channel mode (using 2 tracks to make one). In this configuration, the 02R96 uses one channel for one (96-kHz) track, but twice the number of I/O connections must be used. MY8-AT/TD/AE cards work in double channel mode to handle 96-kHz audio. The MY16-AT/TD/AE cards can handle 16 channels of 44.1 / 48-kHz audio or up to 8 channels of 96-kHz audio in double channel mode. With the latest equipment that handles 96-kHz audio as standard (in double speed mode like the 02R96) you can make standard connections using the MY8-AE96 card. MY8-AE96 card can work either in double speed or double channel mode.



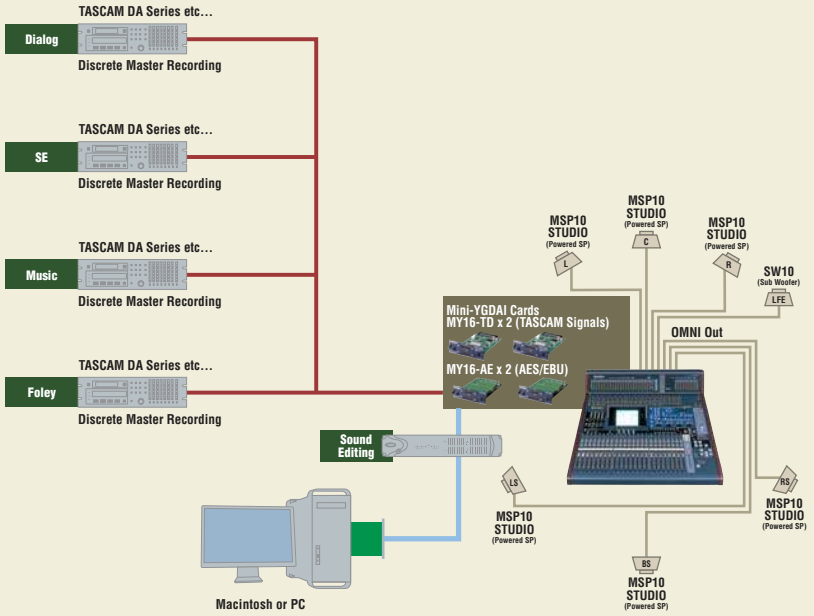
DVD Authoring (6.1 Surround Monitoring)

Both the 02R96 and Yamaha's MSP10 STUDIO powered monitor speakers have been officially approved for use in THX pm3™ Certified Studios, and are thus ideal choices for the most advanced DVD authoring applications. In the system shown here the 6.1 program is monitored via powered monitors and a subwoofer connected to the console's OMNI outputs (the 02R96 also includes bass management facilities for full-range playback).
At the same time surround encoders and decoders can be inserted in the system to burn a stereo mix as well as the surround mix to Lt/Rt Master.



Stem Mix Monitoring

With the 02R96 monitoring stem mixes for film or video is easy. Even if your dialog, sound effects, music, and Foley sources are all in the form of 6.1 mixes, they can be combined and processed via the 02R96 without the need for any extra monitoring facilities.

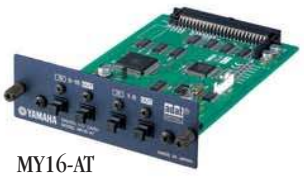


Options

The 02R96's real I/O versatility comes in the form of four mini-YGDAI expansion slots. The expansion slots are 24 bit/96-kHz compatible, so you can select mini YGDAI plug-in cards to create the input/output configuration that's perfect for your needs. Whether you need digital I/O in ADAT, TASCAM, or AES/EBU connectivity, extra analog I/O capability, or other functions, the appropriate cards are available.

Guidance on the use of Mini-YGDAI cards — Go to www.yamahaproaudio.com to check "Guidance on the use of Mini-YGDAI cards"

16 I/O Series



MY16-AT
16 channel ADAT format I/O

MY16-AE
16 channel AES/EBU format I/O

MY16-TD
16 channel TDIF format I/O

MY16-mLAN
mLAN format I/O

96-kHz Series

MY8-AD96
8 channel Analog Input Card

MY8-DA96
8 channel Analog Output Card

MY8-AE96
8 channel AES/EBU format I/O

MY8-AE96S
8 channel AES/EBU format I/O
(w/Sample rate converter)

Standard Series

MY8-AE
8 channel AES/EBU format I/O

MY8-AT
8 channel ADAT format I/O

MY8-TD
8 channel TDIF format I/O

MY8-AD24
8 channel Analog Input Card (24 bit)

MY4-AD
4 channel Analog Input Card (24 bit)

MY4-DA
4 channel Analog Output Card (20 bit)

Plug-in DSP card

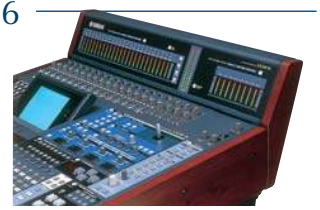
Y96K
Waves Effects and ADAT I/O

The Y96K contains many of Waves "greatest hits", including Waves Renaissance Compressor and EQ, TrueVerb reverb, L1 Ultramaximizer, SuperTap delay, and DeEsser. These processors are all available in addition to your on-board effects.

Developed, Manufactured & Supported by:
WAVES www.waves.com
Exclusively distributed worldwide by:
YAMAHA CORPORATION
For details, go to Y96K product page at www.yamahaproaudio.com

MB02R96
Peak Meter Bridge

SP02R96
Side Pad



ADD-ON EFFECTS

Software packages are available for adding unique and valuable effect programs to the 02R96 internal effect programs. You can edit, store and recall ADD-ON EFFECTS on the console in the usual way. In addition, a special GUI is available in the 02R96 editor to manage these effects.

CHANNEL STRIP PACKAGE (AE-011)

This Package includes 5 models that employ VCM (Virtual Circuitry Modeling) technology to recreate the sound and characteristics of several classic compression and EQ units from the 70's.

- Includes five models that employ VCM technology to recreate the sound and characteristics of classic compression and EQ units from the 70's.
- Fine-tuned by leading engineers, and featuring carefully selected parameters in a simple interface.
- **Compressor 276 (mono)/Compressor 276S (stereo):** Recreate the fast response, frequency characteristics, and tube-amp saturation of the most in-demand analog compressors for studio use.
- **Compressor 260 (mono)/Compressor 260S (stereo):** Features faithful modeling of the solid-state VCA and RMS detection circuitry of the late 70's for live sound reinforcement applications.
- **Equalizer 601:** Delivers the unique characteristics of 70's analog EQ circuitry, featuring graphical editing capability on both the console and PC displays.

Compressor 260(mono)/Compressor 260S

MASTER STRIP PACKAGE (AE-021)

The Master Strip Package Open Deck employs Virtual Circuitry Modeling technology to recreate both the analog circuitry and tape characteristics that shaped the sound of open-reel tape recorders.

- Employs VCM technology to recreate both the analog circuitry and tape characteristics that shaped the sound of open-reel tape recorders.
- The Open Deck provides models of four machine types: Swiss '70, Swiss '78, Swiss '85, and American '70. You can even combine different record and playback decks for a wider range of variation.
- You also have a choice of "old" and "new" tape types, tape speed, bias, and EQ settings that can vary the "focus" of the sound, distortion, and saturation characteristics.


American '70 with New

Swiss '85 with New

Swiss '70 with New

REVERB PACKAGE (AE-031)

The REV-X programs feature the richest reverberation and smoothest decay available, based on years of dedicated research and development.

- Reverb ADD-ON EFFECTS employing the latest REV-X algorithms first introduced in Yamaha's SPX2000 Professional Multi Effect Processor.
- The REV-X programs feature the richest reverberation and smoothest decay available, based on years of dedicated research and development.
- Hall, Room, and Plate programs are provided.
- The Hall and Room programs have a very open sound, while Plate delivers a brighter tonality that is ideal for vocals.


REV-X HALL

REV-X ROOM

REV-X PLATE

SURROUND POST PACKAGE (AE-041) *Coming Soon*

The Surround Post Package uses Yamaha's Interactive Spatial Sound Processing technology that takes full advantage of the 96-kHz audio DSP power of the Yamaha digital consoles. The AE-041 will include three effect programs: Room ER, Auto Doppler and Field Rotation. These unique effect programs not only can vastly simplify the complex operation in Post-Production requirements, but also can be used creatively in the musical context.

VINTAGE STOMP PACKAGE (AE-051) *Coming Soon*

In this package Virtual Circuitry Modeling technology delivers faithful models of classic much-in-demand stomp boxes from the 70's that helped shape the sound of music history. The AE-051 package will include three phaser models: the MAX100, Vintage Phaser, and Dual Phase. Although the vintage equipments are hard to come by, they are in considerable demand for both live performance and studio production. All models feature graphical user interfaces that reflect the image of the times.

WHAT IS ISSP?

ISSP stands for "Interactive Spatial Sound Processing," and is a new sound effect system created originally by Yamaha. Designed through comprehensive and extensive research, this technology offers unparalleled reality, operability and originality. It delivers unprecedented soundfield positioning and highly realistic sound source movement effects, with simple operation that allows simulations.

WHAT IS VCM TECHNOLOGY?

VCM (Virtual Circuitry Modeling) technology actually models the characteristics of analog circuitry – right down to the last resistor and capacitor. VCM technology goes well beyond simply analyzing and modeling electronic components and emulating the sound of old equipment. It's capable of capturing subtleties that simple digital simulations cannot even approach, while actually creating ideal examples of sought-after vintage gear.

Specifications

GENERAL SPECIFICATIONS

Number of scene memories	99	
Sampling Frequency	Internal External	44.1kHz, 48kHz, 88.2kHz, 96kHz Normal rate 44.1kHz-10% - 48kHz+6% Double rate 88.2kHz-10% - 96kHz+6%
Signal Delay (CH INPUT to STEREO OUT)	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 Fs=96kHz	0.5,-1.5dB 20Hz - 20kHz @+4dB into 600Ω 0.5,-1.5dB 20Hz - 40kHz @+4dB into 600Ω
Dynamic Range (maximum level to noise level)	110 dB typ. DA Converter (STEREO OUT) 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 Input Sensitivity=-60dB	-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 STEREO fader at nominal level and one CH INPUT fader at nominal level	
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)	
Crosstalk (@ 1kHz) Input Gain=Min.	-80 dB adjacent input channels (CH1-24) -80 dB input to output	

*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 H B	120 V 230 V 230 V	200W 200W 200W	60Hz 50Hz 50Hz
Dimensions	Height Depth Width	239(352) mm (including the MB02R96) 685(697) mm (including the MB02R96) 667(700) mm (including the SP02R96)		
Weight	34 kg			
Operating free-air temperature range	10-35°C			
Storage temperature range	-20-60°C			
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 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 B: Phone Jack (TRS) (Balanced) *3
		-16 dB			-26dB (38.8mV)	-16dB (0.123V)	-2dB (616mV)	
	26				0dB (775mV)	+10dB (2.45V)	+24dB (12.28V)	
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]	600 Ω	10k Ω Lines	-	-10dBV (0.316V)	+4dBV (1.58V)	RCA pin jack (Unbalanced)
	150 Ω	600 Ω Lines	-	+4dB (1.23 V)	+18dB (6.16 V)	XLR-3-32 type (Balanced) *2
STUDIO MONITOR OUT [L, R]	150 Ω	10k Ω Lines	-	+4dB (1.23 V)	+18dB (6.16 V)	Phone Jack (TRS) (Balanced) *3
C-R MONITOR OUT [L, R]	150 Ω	10k Ω Lines	-	+4dB (1.23 V)	+18dB (6.16 V)	Phone Jack (TRS) (Balanced) *3
OMNI OUT 1-8	150 Ω	10k Ω Lines	+18dB (defalt)	+4dB (1.23 V)	+18dB (6.16 V)	Phone Jack (TRS) (Balanced) *3
			+4dB	-10dB (0.245V)	+4dB (1.23V)	
INSERT OUT 1-16	600 Ω	10k Ω Lines	-	+4dB (1.23 V)	+18dB (6.16 V)	Phone Jack (TRS) *4
PHONES	100 Ω	8 Ω Phones	-	4mW	25mW	Stereo Phone Jack (TRS) (Unbalanced) *5
		40 Ω 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 OUTPUT 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	IEC-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)

Available Mini-YGDAI card specifications

Guidance on the use of Mini-YGDAI cards — Go to www.yamahaproaudio.com to check "Guidance on the use of Mini-YGDAI cards"

Maker	Model	Function	IN	OUT	Format	Res / Freq	Connector	Note
Yamaha	MY8-AT	Digital I /O	8	8	ADAT	24 bit 44.1/48 kHz	Toslink x 2	Can handle 96 kHz by double channel mode
	MY8-AE	Digital I /O	8	8	AES/EBU	24 bit 44.1/48 kHz	D-sub 25pin	Can handle 96 kHz by double channel mode
	MY8-TD	Digital I /O	8	8	TDIF	24 bit 44.1/48 kHz	D-sub 25pin	Can handle 96 kHz by double channel mode
	MY8-AD24	A to D In	8	-	-	24 bit 44.1/48 kHz	TRS x 8	Replacing MY8-AD (20 bit 44.1/48 kHz)
	MY4-AD	A to D In	4	-	-	24 bit 44.1/48 kHz	XLR x 4	
	MY4-DA	D to A Out	-	4	-	20 bit 44.1/48 kHz	XLR x 4	
	MY8-AD96	A to D In	8	-	-	24 bit 44.1/48/88.2/96 kHz	D-sub 25pin	
	MY8-DA96	D to A Out	-	8	-	24 bit 44.1/48/88.2/96 kHz	D-sub 25pin	
	MY8-AE96S	Digital I /O	8	8	AES/EBU	24 bit 44.1/48/88.2/96 kHz	D-sub 25pin	Sampling Rate Converter for Input, 2 cards max. with 02R96
	MY8-AE96	Digital I /O	8	8	AES/EBU	24 bit 44.1/48/88.2/96 kHz	D-sub 25pin	
	MY16-AT	Digital I /O	16	16	ADAT	24 bit 44.1/48/88.2/96 kHz	Toslink x 2	Can handle 24 bit/96 kHz by double channel mode
	MY16-AE	Digital I /O	16	16	AES/EBU	24 bit 44.1/48/88.2/96 kHz	D-sub 25pin	Can handle 24 bit/96 kHz by double channel mode
	MY16-TD	Digital I /O	16	16	TDIF	24 bit 44.1/48/88.2/96 kHz	D-sub 25pin	Can handle 24 bit/96 kHz by double channel mode
	MY16-mLAN	mLAN Interface	16	16	IEEE 1394	24bit, 44.1/48kHz	1394 6pin	Check instructions for multiple use

Third Party

Maker	Model	Function	IN	OUT	Format	Res / Freq	Connector	Note
Waves	Y96K	Effect & I/O	8	8	ADAT	24 bit 44.1/48 kHz	Toslink x 2	Can handle 24 bit/96 kHz by double channel mode

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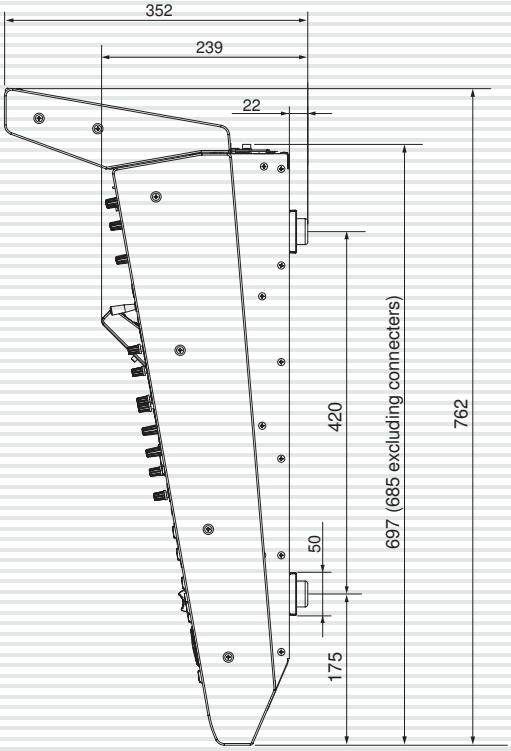
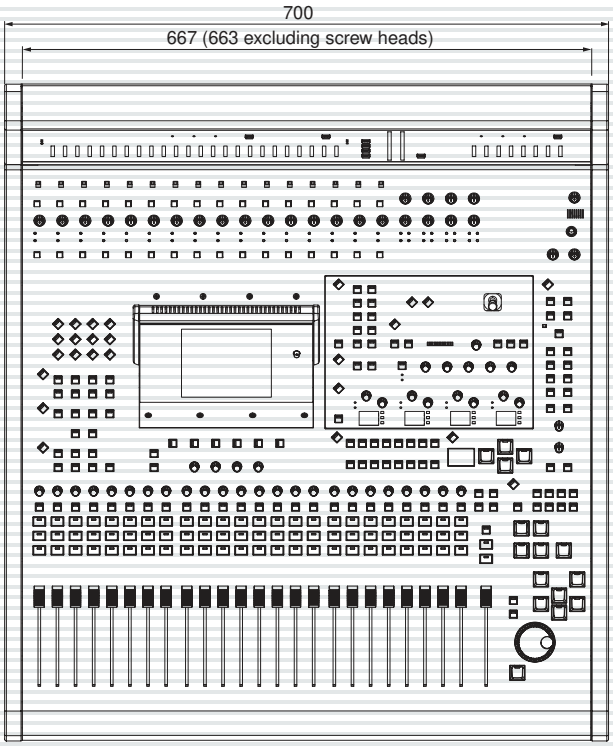
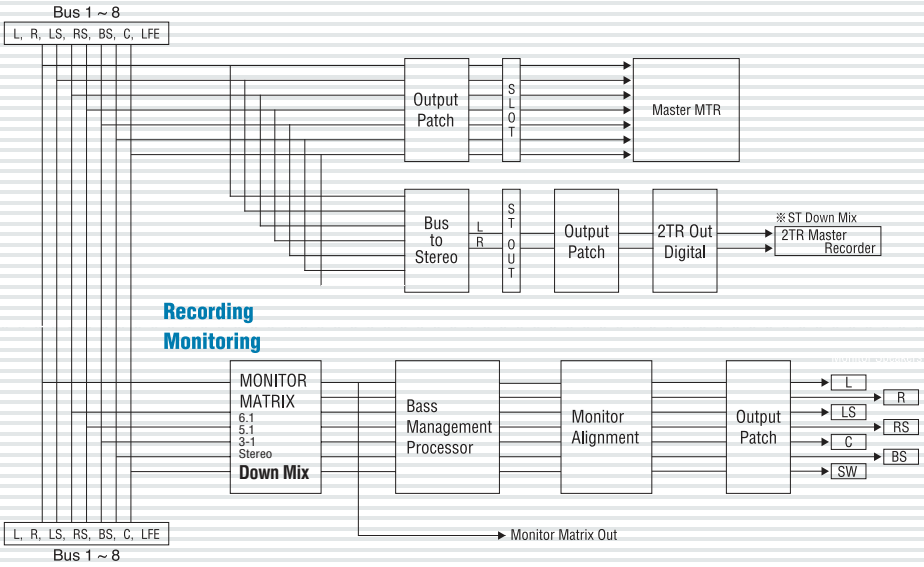
Dimensions

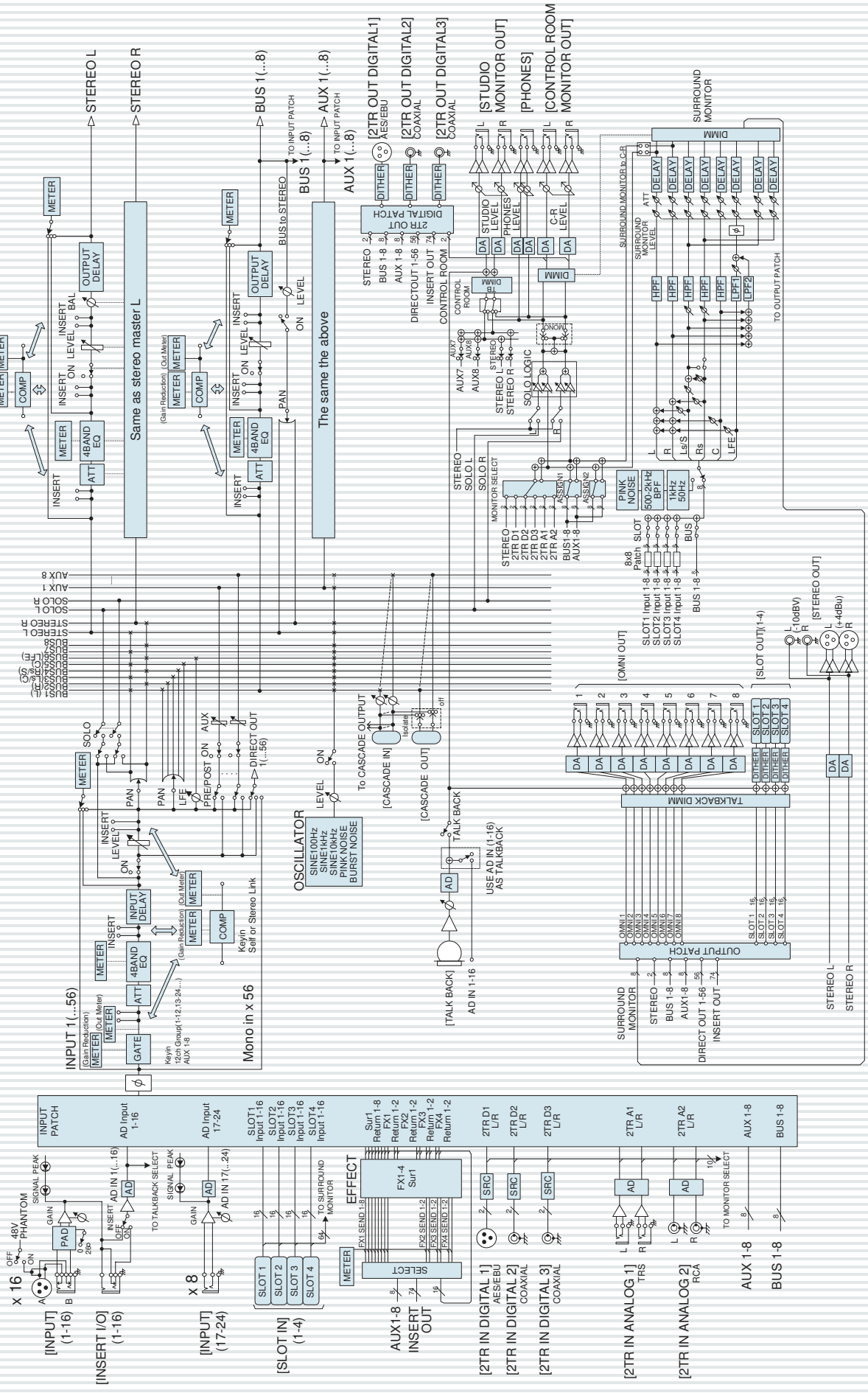




Surround Monitoring Diagram



02R96 Block Diagram



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