



# I/O EXPANSION CARD MY16-EX

**OWNER'S MANUAL**  
**BEDIENUNGSANLEITUNG**  
**MODE D'EMPLOI**  
**MANUAL DE INSTRUCCIONES**  
**MANUALE DI ISTRUZIONI**  
**使用说明书**  
**取扱説明書**

ENGLISH

DEUTSCH

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ESPAÑOL

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EN  
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FR  
ES  
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ZH  
JA

## FCC INFORMATION (U.S.A.)

### 1. IMPORTANT NOTICE: DO NOT MODIFY THIS UNIT!

This product, when installed as indicated in the instructions contained in this manual, meets FCC requirements. Modifications not expressly approved by Yamaha may void your authority, granted by the FCC, to use the product.

### 2. IMPORTANT:

When connecting this product to accessories and/or another product use only high quality shielded cables. Cable/s supplied with this product MUST be used. Follow all installation instructions. Failure to follow instructions could void your FCC authorization to use this product in the USA.

### 3. NOTE:

This product has been tested and found to comply with the requirements listed in FCC Regulations, Part 15 for Class "B" digital devices. Compliance with these requirements provides a reasonable level of assurance that your use of this product in a residential environment will not result in harmful interference with other electronic devices. This equipment generates/uses radio frequencies and, if not installed and used according to the instructions found in the users manual, may cause interference harmful to the operation of other electronic devices. Compliance with FCC regulations does

not guarantee that interference will not occur in all installations. If this product is found to be the source of interference, which can be determined by turning the unit "OFF" and "ON", please try to eliminate the problem by using one of the following measures:

Relocate either this product or the device that is being affected by the interference.

Utilize power outlets that are on different branch (circuit breaker or fuse) circuits or install AC line filter/s.

In the case of radio or TV interference, relocate/reorient the antenna. If the antenna lead-in is 300 ohm ribbon lead, change the lead-in to co-axial type cable.

If these corrective measures do not produce satisfactory results, please contact the local retailer authorized to distribute this type of product. If you can not locate the appropriate retailer, please contact Yamaha Corporation of America, Electronic Service Division, 6600 Orangethorpe Ave, Buena Park, CA90620

The above statements apply ONLY to those products distributed by Yamaha Corporation of America or its subsidiaries.

\* This applies only to products distributed by YAMAHA CORPORATION OF AMERICA.

(class B)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

## CANADA

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

- This applies only to products distributed by Yamaha Canada Music Ltd. (class B)
- Ceci ne s'applique qu'aux produits distribués par Yamaha Canada Musique Ltée.

# PRECAUTIONS

## PLEASE READ CAREFULLY BEFORE PROCEEDING

\* Please keep this manual in a safe place for future reference.

### **WARNING**

**Always follow the basic precautions listed below to avoid the possibility of serious injury or even death from electrical shock, short-circuiting, damages, fire or other hazards. These precautions include, but are not limited to, the following:**

- Before installing the card in an audio device please check to make sure that the device is compatible with the card and check possible restrictions regarding the maximum number of Yamaha and third-party expansion cards that can be simultaneously installed. Refer to the owner's manual supplied with the audio device, and/or the Yamaha Pro Audio web site at: <http://www.yamahaproaudio.com/>
- Do not install the card in any Yamaha products not specified by Yamaha for use with the card to avoid possible electrical shock, fire, or equipment damage.
- Do not attempt to disassemble or modify the card. Do not apply excessive force to card connectors or other card components. Mishandling of the card may lead to shock, fire hazard, or equipment failure.
- Be sure to disconnect the power cable of the host device before installing the card and connecting/disconnecting the cables (in order to eliminate shock hazard, undesired noise, and avoid equipment damage).
- Turn off all peripheral devices connected to the host device before installation, and unplug all related cables.

### **CAUTION**

**Always follow the basic precautions listed below to avoid the possibility of physical injury to you or others, or damage to the device or other property. These precautions include, but are not limited to, the following:**

- Be sure to properly ground the host device to prevent electrical shock and/or malfunction.
- Do not touch the metallic leads (pins) of the circuit board when handling the card. The pins are sharp and may cause hand cuts.
- Wear a pair of heavy gloves during installation to avoid scratching or cutting your hands on sharp edges.
- Avoid touching exposed connectors and metal parts to minimize the possibility of bad connections.
- Drain all static electricity from your clothing and body before handling the card. Static electricity can damage the card. Touch an exposed metal part of the host device or other grounded object beforehand.
- Do not drop the card or subject it to physical shock as this can result in breakage and/or malfunction.
- Do not drop screws or other small parts inside the card. If power is applied while screws or similar metal objects are loose inside the unit the card may malfunction or be damaged. If you cannot retrieve dropped objects yourself, refer the problem to qualified Yamaha service personnel.

Yamaha cannot be held responsible for damage caused by improper use or modifications to the device, or data that is lost or destroyed.

- The illustrations as shown in this Owner's Manual are for instructional purposes only, and may be different from the ones on your equipment.
- The company names and product names in this Owner's Manual are the trademarks or registered trademarks of their respective companies.

## Introduction

Thank you for purchasing the Yamaha MY16-EX I/O expansion card. The MY16-EX is a 16-channel digital input/output card that enables you to extend the number of channels of compatible cards, such as Yamaha MY16-ES64. Up to three MY16-EX cards can be daisy-chained.

### About the host devices in which the MY16-EX can be installed

Before installing the card in a host device, please refer to the Yamaha Pro Audio web site for the latest information on the compatible host devices in which the card can be installed.

Yamaha Pro Audio web site:

<http://www.yamahaproaudio.com>

- Ethernet is a trademark of Xerox Corporation.

### Installation information

Please refer to the owner's manual supplied with the host device for installation information.

As well as securing the card in place, the fixing screws at the left and right of the card function as electrical grounds. Be sure to screw them in tightly.

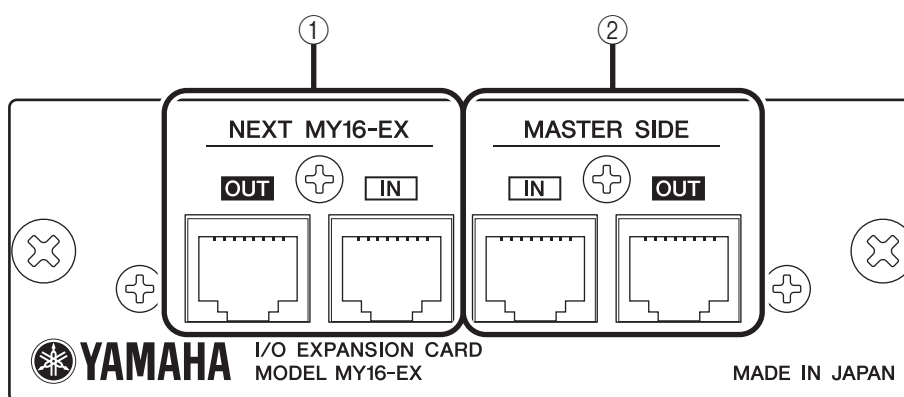
### Accessories

Owner's Manual

Ferrite core x 2

## Part Names and Functions

### ■ Panel



#### ① [NEXT MY16-EX IN][NEXT MY16-EX OUT] Connectors

These RJ-45 connectors can be connected via an Ethernet cable (CAT5e or higher category) to other MY16-EX cards for transmission and reception of the audio and word clock signals. Daisy-chain the cards in the following order: [NEXT MY16-EX OUT] connector → [MASTER SIDE IN] connector on the next card in the daisy chain; [NEXT MY16-EX IN] connector → [MASTER SIDE OUT] connector on the next card in the daisy chain.

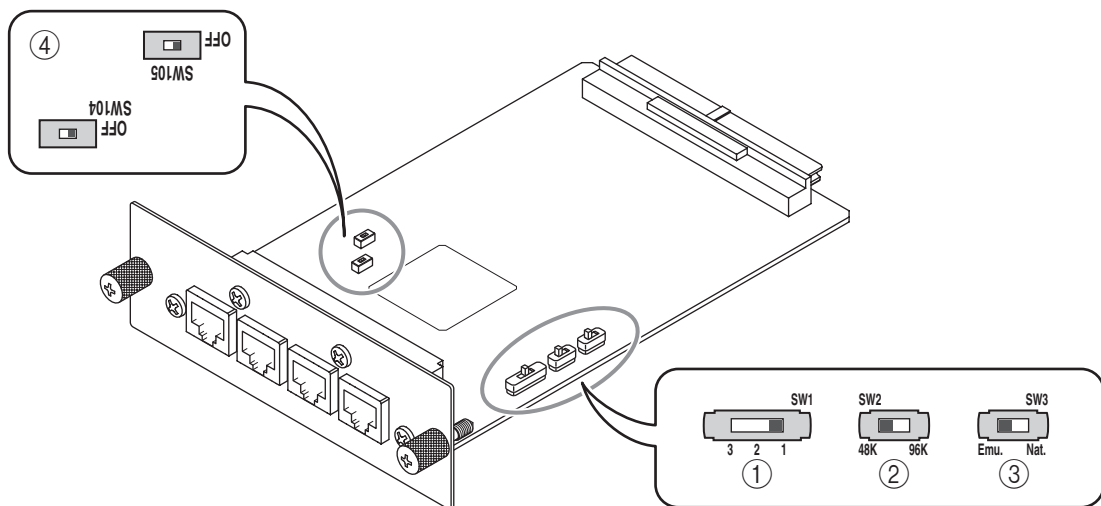
#### ② [MASTER SIDE IN][MASTER SIDE OUT] Connectors

These RJ-45 connectors can be connected via an Ethernet cable (CAT5e or higher category) to the [NEXT MY16-EX IN] or [NEXT MY16-EX OUT] connector of the master card, such as a Yamaha MY16-ES64 or other MY16-EX cards, for transmission and reception of the audio and word clock signals.

#### About the cable

- Use an Ethernet CAT5e or higher category straight cable in which all eight (8) pins are connected.
- Use an STP (Shielded Twisted Pair) cable to prevent electromagnetic interference. Be sure to attach the included ferrite cores to a location close to the plug of each cable that is connected to the [NEXT MY16-EX OUT] / [MASTER SIDE OUT] connectors.
- Cables up to 3 meters in length can be used.

## Switches



Set these switches as appropriate for your situation and for the device in which the card is installed.

### ① Daisy-chain connection ID (SW1)

Mode	Position
No.1	1
No.2	2
No.3	3

Assign an ID number to each card in the daisy-chain in sequence, starting with the card closest to the master card (such as the MY16-ES64).

### ② Sampling Frequency (SW2)

Mode	Position
44.1/48 kHz	48K
88.2/96 kHz	96K

#### NOTE:

*This card supports only Double Speed mode when running at 88.2/96kHz. (Double Channel mode is not supported.)*

### ③ Card ID (SW3)

Mode	Position
Emulation	Emu.
Native	Nat.

Typically set this switch to the [Emu.] position. If you set this switch to the [Emu.] position and switch ② (SW2) to the [48K] position, the host device will recognize the card as a Yamaha MY16-AT digital I/O card. If you set this switch to the [Emu.] position and switch ② (SW2) to the [96K] position, the host device will recognize the card as a Yamaha MY8-AE96 digital I/O card. If you install the card in a host device whose firmware supports the MY16-EX, setting this switch to the [Nat.] position enables you to make best use of the MY16-EX function.

### ④ SW104/SW105

Leave these switches permanently set to the [OFF] position during use. Please do not change the settings. Otherwise, the card will not operate properly.

### Word Clock Master settings on the host device

If the MY16-EX and the master card (MY16-ES64 etc.) are installed in the same device, do not select the MY16-EX as the clock master.

If the MY16-EX and the master card (MY16-ES64, etc.) are installed in a different device, you can select the MY16-EX as the clock master. In this case, the word clock signal input to the [MASTER SIDE IN] connector will be recognized as the master clock. If multiple MY16-EX cards are installed, select the MY16-EX with the lowest ID number as the clock master.

# Appendix

ENGLISH

DEUTSCH

FRANÇAIS

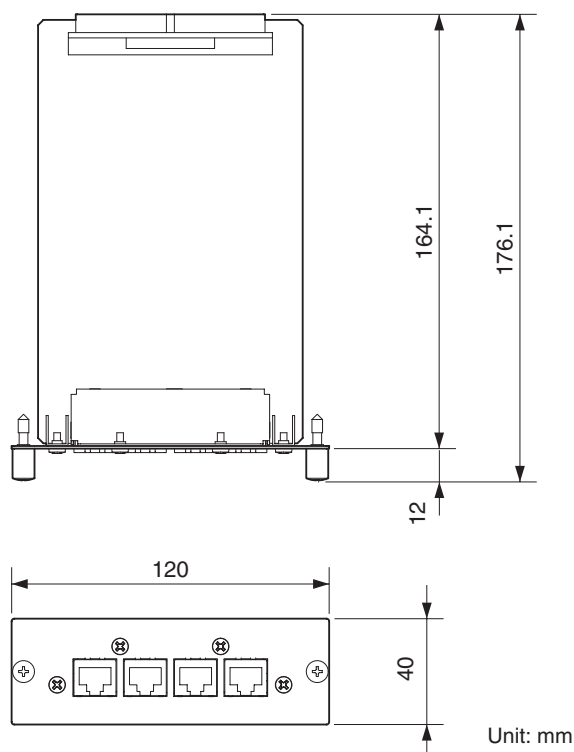
ESPAÑOL

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## Dimensions



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### European models

Purchaser/User Information specified in EN55103-1 and EN55103-2.

Conforms to Environments: E1, E2, E3 and E4

### Europäische Modelle

Käufer/Benutzerinformationen nach EN55103-1 und EN55103-2.

Entspricht den Umgebungen: E1, E2, E3 und E4

### Pour les modèles distribués en Europe

Les informations d'achat/utilisation sont décrites dans les documents EN55103-1 et EN55103-2.

Conformité aux normes environnementales : E1, E2, E3 et E4

### Modelos europeos

Información comprador/usuario especificada en EN55103-1 y EN55103-2.

Conforme para entornos: E1, E2, E3 y E4

### Modelli europei

Informazioni acquirente/utente specificate in EN55103-1 e EN55103-2.

Conforme agli ambienti: E1, E2, E3 e E4

For details of products, please contact your nearest Yamaha representative or the authorized distributor listed below.

Pour plus de détails sur les produits, veuillez-vous adresser à Yamaha ou au distributeur le plus proche de vous figurant dans la liste suivante.

Die Einzelheiten zu Produkten sind bei Ihrer unten aufgeführten Niederlassung und bei Yamaha Vertragshändlern in den jeweiligen Bestimmungsländern erhältlich.

Para detalles sobre productos, contacte su tienda Yamaha más cercana o el distribuidor autorizado que se lista debajo.

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**Yamaha Canada Music Ltd.**  
135 Milner Avenue, Toronto, Ontario,  
M1S 3R1, Canada  
Tel: 416-298-1311

### U.S.A.

**Yamaha Corporation of America**  
6600 Orangethorpe Avenue, Buena Park, CA 90620,  
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Tel: +507-269-5311

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Tel: 01908-366700

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Tel: 04101-3030

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MSD06  
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77183 Croissy-Beaubourg, France  
Tel: 01-64-61-4000

### ITALY

**Yamaha Music Europe GmbH, Branch Italy**  
Viale Italia 88, 20020 Lainate (Milano), Italy  
Tel: 02-935-771

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**Yamaha Music Europe GmbH Ibérica, Sucursal  
en España**  
Ctra. de la Coruna km. 17,200, 28231  
Las Rozas (Madrid), Spain  
Tel: +34-91-639-88-88

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**Philippos Nakas S.A. The Music House**  
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Tel: 01-228 2160

### SWEDEN/FINLAND/ICELAND

**Yamaha Music Europe GmbH Germany filial  
Scandinavia**  
J. A. Wettergrensgata 1, Box 30053  
S-400 43 Göteborg, Sweden  
Tel: +46 31 89 34 00

### DENMARK

**Yamaha Music Europe GmbH, Tyskland – filial  
Denmark**  
Generatorvej 6A, DK-2730 Herlev, Denmark  
Tel: 44 92 49 00

### NORWAY

**Yamaha Music Europe GmbH Germany -  
Norwegian Branch**  
Grini Næringspark 1, N-1361 Østerås, Norway  
Tel: 67 16 78 00

### RUSSIA

**Yamaha Music (Russia) LLC.**  
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121059, Russia  
Tel: 495 626 5005

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**Yamaha Music Europe GmbH**  
Siemensstraße 22-34, 25462 Rellingen, Germany  
Tel: +49-4101-3030

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**Yamaha Music Gulf FZE**  
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Tel: +971-4-881-5868

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Bağımsız Böl. No:3, 34398 Şişli İstanbul  
Tel: +90-212-999-8010

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Siemensstraße 22-34, 25462 Rellingen, Germany  
Tel: 04101-3030

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**Yamaha Music Gulf FZE**  
Office JAFZA 16-512, P.O.Box 17328,  
Jebel Ali - Dubai, U.A.E  
Tel: +971-4-881-5868

## ASIA

### THE PEOPLE'S REPUBLIC OF CHINA

**Yamaha Music & Electronics (China) Co.,Ltd.**  
2F, Yunhedasha, 1818 Xinzha-lu, Jingan-qu,  
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Tel: 021-6247-2211

### INDIA

**Yamaha Music India Pvt. Ltd.**  
Spazedge building, Ground Floor, Tower A, Sector  
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Tel: 0124-485-3300

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**PT. Yamaha Musik Indonesia (Distributor)**  
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8F, 9F, Dongsung Bldg. 158-9 Samsung-Dong,  
Kangnam-Gu, Seoul, Korea  
Tel: 02-3467-3300

### MALAYSIA

**Yamaha Music (Malaysia) Sdn., Bhd.**  
No.8, Jalan Perbandaran, Kelana Jaya, 47301  
Petaling Jaya, Selangor, Malaysia  
Tel: 03-78030900

### SINGAPORE

**Yamaha Music (Asia) Private Limited**  
Block 202 Hougang Street 21, #02-00,  
Singapore 530202, Singapore  
Tel: 65-6747-4374

### TAIWAN

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3F, No.6, Section 2 Nan-Jing East Road, Taipei,  
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Tel: 02-2511-8688

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**Siam Music Yamaha Co., Ltd.**  
3, 4, 15 and 16th floor, Siam Motors Building,  
891/1 Rama 1 Road, Wangmai,  
Pathumwan, Bangkok 10330, Thailand  
Tel: 02-215-2622

### VIETNAM

**Yamaha Music Vietnam Company Limited**  
15th Floor, Nam A Bank Tower, 201-203 Cach  
Mang Thang Tam St., Ward 4, Dist.3,  
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Tel: +84-8-3818-1122

### OTHER ASIAN COUNTRIES

**Yamaha Corporation  
Sales & Marketing Division**  
Nakazawa-cho 10-1, Naka-ku, Hamamatsu,  
Japan 430-8650  
Tel: +81-53-460-2312

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**Yamaha Music Australia Pty. Ltd.**  
Level 1, 99 Queensbridge Street, Southbank,  
Victoria 3006, Australia  
Tel: 3-9693-5111

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Sales & Marketing Division**  
Nakazawa-cho 10-1, Naka-ku, Hamamatsu,  
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