



YAMAHA

AUDIO INTERFACE CARD / CARTE INTERFACE AUDIO
TARJETA INTERFAZ DE AUDIO / CARTÃO DE INTERFACE DE ÁUDIO
КАРТА АУДИОИНТЕРФЕЙСА / 音频界面卡 / 音訊介面卡
오디오 인터페이스 카드 / オーディオインターフェースカード

PY64-D

EN Owner's Manual

DE Benutzerhandbuch

FR Mode d'emploi

ES Manual de instrucciones

PT Manual do Proprietário

IT Manuale di istruzioni

RU Руководство пользователя

ZH-CN 使用说明书

ZH-TW 使用說明書

KO 사용설명서

JA 取扱説明書

English

Deutsch

Français

Español

Português

Italiano

Русский

简体中文

繁體中文

한국어

日本語

目录

注意事项	63
简介	66
目标用户	66
用途	66
附件	66
可用文档	66
固件更新	66
关于 Dante	66
源代码分发	67
部件名称和功能	68
规格	70
一般规格	70
尺寸	71

- 插拔本卡时，有关说明和安全信息，请参阅主机设备附带的使用说明书。
- 要了解主机设备是否支持此卡，请参阅设备的使用说明书，或访问以下 Yamaha Pro Audio 网站。
<https://www.yamahaproaudio.com/>



Yamaha 环保标志

Yamaha 环保标志表示产品具有高环保性能。与我们的传统型号 Mini-YGDAI 卡相比，本产品的尺寸缩小了 36%。

注意事项

请在操作使用前，首先仔细阅读下述内容

请将本说明书存放在安全的地方，以便将来随时参阅。

⚠ 警告

为了避免因触电、短路、损伤、火灾或其它危险可能导致的严重受伤甚至死亡，请务必遵守下列基本注意事项。这些注意事项包括但不限于下列情况：

- 在设备中安装本卡之前，请确保设备与本卡兼容。另外，请不要在 Yamaha 未指定可与本卡配合使用的任何 Yamaha 产品中安装本卡，以防止触电、火灾或产品损坏。
- 请勿擅自对本卡进行拆卸或改装。请勿对卡的接口或其它卡组件施加过大压力。否则，可能会导致触电、火灾或产品损坏。
- 在安装本卡和连接 / 断开电缆之前，请务必关闭主机设备并断开主机设备的电源线，以防止触电、不必要的噪音或产品损坏。
- 在安装之前，请务必关闭主机设备和连接到主机设备的所有外围设备，并拔下所有相关线缆，以防止触电、不必要的噪音或产品损坏。
- 请勿在产品附近放置任何燃烧物品或明火。否则可能会造成火灾。

⚠ 注意

为了避免您或周围他人可能发生的人身伤害、设备或财产损失，请务必遵守下列基本注意事项。这些注意事项包括但不限于下列情况：

- 请务必对主机设备进行正确接地，以防触电、火灾和 / 或产品损坏。
- 使用本卡时，请勿触摸电路板上的金属部件（针脚）。否则可能会割伤手。
- 安装时请务必带上厚手套，以防锐利边缘刮伤或划伤您的手。
- 请勿将本产品放置在可能会接触到腐蚀性气体或含盐空气的地方。否则，可能会导致产品损坏。

对由于不正当使用或擅自改造本产品所造成的损失、数据丢失或破坏，Yamaha 不负任何责任。

须知

为了避免损坏本产品、数据或其它财产，请遵照以下注意事项。

使用和保养

- 请勿将本产品直接连接到公共 Wi-Fi 和 / 或互联网。仅通过具有强密码保护的路由器将本产品连接到互联网。有关安全最佳实践的信息，请咨询您的路由器制造商。
- 请勿在电视机、收音机或其它电子产品附近使用本产品。否则，本产品、电视机或收音机可能会产生噪音。
- 为避免面板变形、操作不稳定或内部组件损坏，请勿将本产品暴露于灰尘过多或振动较大，或者极冷或极热的环境中。
- 请勿将产品安装在温度变化剧烈的地方。否则，可能会在产品的内部或表面形成冷凝水，进而导致产品破裂。
- 如果有理由相信可能发生冷凝，请在不打开电源的情况下将产品放置几个小时，直到冷凝水完全干燥，以避免可能对产品造成的损坏。
- 请勿在本产品上放置乙烯基、塑料或橡胶物体，否则可能会导致面板损坏或褪色。
- 要清洁本产品，请使用柔软的干布。请勿使用次氯酸钠、酒精、苯、油漆稀释剂、清洁液或浸有化学物质的抹布擦拭产品表面，这可能会导致变色或改变表面特性。
- 使用本产品之前，请释放衣服和身体上的所有静电。静电可能会损坏本产品。事先触摸主机设备裸露金属的部分或其它接地物品。
- 请勿接触暴露的接口和金属零部件，以尽量减少连接不良的可能性。
- 请勿使本产品摔落或使其受到物理冲击，因为这可能导致破损和 / 或故障。
- 请勿将螺丝或其它小零件掉落在卡内部。如果通电时设备内部的螺丝或类似金属物体松弛，卡可能会发生故障或损坏。如果您本人无法取出掉落的物体，请交给有资质的 Yamaha 维修人员处理。
- 请勿卸下本产品上附带的螺丝。否则，可能会发生损坏或组件故障。

信息

版权保护

- 请勿将本产品用于任何可能侵犯任何第三方权利（包括每个国家或地区法律规定的版权）的目的。
- Yamaha 对因使用本产品而可能发生的任何侵犯第三方权利的行为不承担任何责任。

关于本产品的功能 / 数据包

- 本产品使用 Dante IP Core。
请参阅 Audinate 网站，了解特定软件的开源许可证的详细信息。
<https://www.audinate.com/software-licensing>

关于本说明书

- 本说明书所示的插图仅供介绍说明之用。
- 本使用说明书中所使用的公司名和产品名都是各自公司的商标或注册商标。
- 为便于您理解使用说明书的内容，本公司已经依据国家的相关标准尽可能的将其中的英文表述部分翻译成中文。但是，由于专业性、通用性及特殊性，仍有部分内容仅以原文形式予以记载。

关于处置

- 本产品包含可回收的组件。
处置本产品时，请联系相应的当地机构。

产品中有害物质的名称及含量

部件名称	有害物质					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
印刷线路板	×	○	○	○	○	○

本表格依据 SJ/T 11364 的规定编制。
○：表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572 规定的限量要求以下。
×：表示该有害物质至少在该部件的某一均质材料中的含量超出 GB/T 26572 规定的限量要求。

(16-M04 CN 01)



此标识适用于在中华人民共和国销售的电器电子产品。
标识中间的数字为环保使用期限的年数。

(16-M03 CN 01)

保护环境

如果需要废弃设备时，请与本地相关机构联系，获取正确的废弃方法。
请勿将设备随意丢弃或作为生活垃圾处理。

(44-M13 CN h 01)

简介

感谢您购买 Yamaha PY64-D。

要充分利用产品的功能，请在开始使用产品之前阅读本说明书。使用后请妥善保管说明书。

目标用户

本产品专为具有要安装本产品的主机设备的操作技能的个人而设计。

用途

您可以将此产品安装在主机设备中以扩展其 I/O 端口。

附件

使用说明书（本书）

可用文档

· 使用说明书（本书）

本书主要介绍此产品的部件名称和功能。

· 状态 / 信息列表

此列表说明 [SYSTEM] 和 [SYNC] 指示灯的含义，以及做出响应的适当处理手段。

<https://manual.yamaha.com/pa/dante/status/>



固件更新

您可以更新本产品的固件，以提高操作性、增加功能并排除可能的故障。

欲知固件更新相关信息，可以登录以下网站查询。

<https://www.yamahaproaudio.com/>

有关更新固件和设置主机设备的信息，请参考网站提供的固件更新指南。

关于 Dante

此产品使用 Dante 作为音频信号传输协议。Dante 是由 Audinate 开发的网络协议。它旨在以各种采样率和比特率提供多通道音频信号，以及通过千兆位以太网 (GbE) 网络提供设备控制信号。

有关 Dante 的详细信息，请参阅 Audinate 网站。

<https://www.audinate.com/>

此外，还可以在 Yamaha Pro Audio 网站上找到有关 Dante 的各种信息。

<https://www.yamahaproaudio.com/>

注

对于 Dante 网络，请勿使用网络交换机的 EEE 功能 *。

EEE 功能可能会降低时钟同步性能并中断音频。

因此，请注意以下几点。

- 使用托管的交换机时，请关闭用于 Dante 的所有端口上的 EEE 功能。请勿使用不允许关闭 EEE 功能的交换机。
- 使用非托管交换机时，请勿使用支持 EEE 功能的交换机。在此类交换机中，无法关闭 EEE 功能。

* EEE（节能以太网）是一种可在低网络流量期间降低交换机功耗的技术。其还被称为绿色以太网和 IEEE802.3az。

源代码分发

在产品最终出厂后的 3 年内，您可以写信到以下地址向 Yamaha 索取经 GNU General Public License/GNU Lesser General Public License/RealNetworks Public Source License 授权的本产品任何部分的源代码：

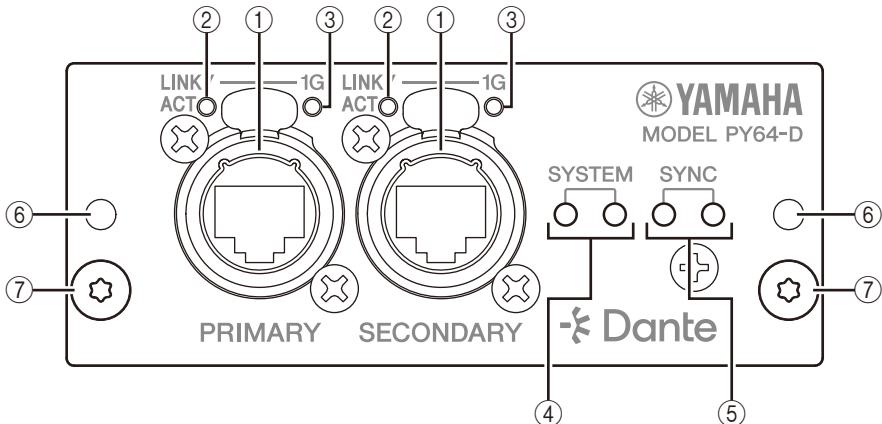
10-1 Nakazawa-cho, Chuo-ku, Hamamatsu, 430-8650, JAPAN
Global Marketing & Sales Department, Professional Solutions Division,
Musical Instruments & Audio Products Business Unit, Yamaha Corporation

虽然源代码是免费提供的，但是我们可能会向您收取源代码的运送费用。源代码可从下列 URL 下载：

<https://www.yamahaproaudio.com/>

- 请注意，我们对于由 Yamaha（或 Yamaha 授权单位）以外的第三方对本产品的软件所进行的变动（添加 / 删除）而造成的任何损失概不承担责任。
- 注意，Yamaha 公司发布到公共域后的再利用源码不在维护之列。Yamaha 对源代码不承担任何责任。

部件名称和功能



① Dante [PRIMARY]/[SECONDARY]

etherCON CAT5e (RJ-45) 接口可将卡连接到 Dante 音频网络。配备了采样率转换器 (SRC)。此外，还支持星链和菊链配置。

须知

为了避免电磁干扰，请使用评级为 CAT5e 或更高标准的 STP（屏蔽双绞）电缆。对于 STP 电缆，请使用导电胶带或其他手段，确保接口的金属部分和电缆的屏蔽部分互相接触。

注

- 建议使用兼容 Neutrik etherCON CAT5e 接口的 RJ-45 插头。也可以使用具有标准 RJ-45 插头的电缆。
- 可使用的最大电缆长度因电缆类型而异。使用 CAT5e 电缆时，最多可在 100 m 电缆所连接设备之间发送数据。
- 如果您计划使用安装卡的目标设备不支持的采样频率，请开启 SRC。在目标设备上开启或关闭 SRC。
- SRC 处理以 24 位完成。

② [LINK/ACT]

显示 [PRIMARY] 和 [SECONDARY] 接口的通信状态。

指示灯会在相应接口发送或接收数据时闪动绿光。

③ [1G]

显示 [PRIMARY] 和 [SECONDARY] 接口的连接状态。

如果橙色指示灯点亮，则表示相应的接口连接到千兆以太网网络。如果指示灯没有点亮，则表示连接有问题。在这种情况下，请检查所有网络电缆和开关。如果无法解决问题，请联系您的的 Yamaha 业务代表。

④ [SYSTEM]

指示本卡的运行状态。

正常操作过程中，绿色指示灯亮起而红色指示灯熄灭。本设备打开时，如果绿色指示灯熄灭而红色指示灯亮起或闪烁，则表示发生了错误。

有关指示灯含义的更多信息，请参阅状态 / 信息列表 *。

⑤ [SYNC]

表示 Dante 时钟同步的状态。

绿色指示灯点亮时，则安装本卡的设备为时钟从机，时钟同步。绿色指示灯闪烁时，安装本卡的设备为时钟主机。本卡打开时，绿色指示灯应点亮或闪烁；如果指示灯没有点亮或闪烁，则已发生错误。

有关橙色 [SYNC] 指示灯稳定亮起或闪动，或是每个指示灯含义的更多信息，请参阅状态 / 信息列表 *。

⑥ 螺丝孔

使用这些螺丝孔将本卡固定到主机设备上。使用主机设备随附的螺丝固定本卡。如果未正确固定本卡，组件可能失效或发生故障。

⑦ 把手

要从主机设备中取出本卡，请在握住这些把手的同时将卡朝您的方向拉。

* 状态 / 信息列表

此列表说明 [SYSTEM] 和 [SYNC] 指示灯的含义，以及做出响应的适当处理手段。

<https://manual.yamaha.com/pa/dante/status/>



规格

一般规格

采样率范围

条件	
Dante 时钟	44.1 kHz、48 kHz、88.2 kHz、96 kHz (- 4% / - 0.1% / +0.1% / +4.167%)
采样率转换器	从 44.1 kHz - 4% 到 96 kHz +4.167%

温度范围

条件	最小值	典型值	最大值	单位
工作温度范围	0	-	40	°C
存放温度范围	- 20	-	60	°C

数字输入 / 输出特性

端口	格式	数据长度	电平	音频	接口
PRIMARY、 SECONDARY	Dante	24 位 /32 位 ^{*1}	1000BASE-T	64 通道输入 64 通道输出	etherCON CAT5e ^{*2 *3}

*1 配备采样率转换器。

支持的数据长度：仅 24 位

支持的频率：从 44.1 kHz - 4% 到 96 kHz +4.167%

*2 使用 CAT5e 或更高规格的电缆连接。

*3 建议使用 STP 电缆连接。

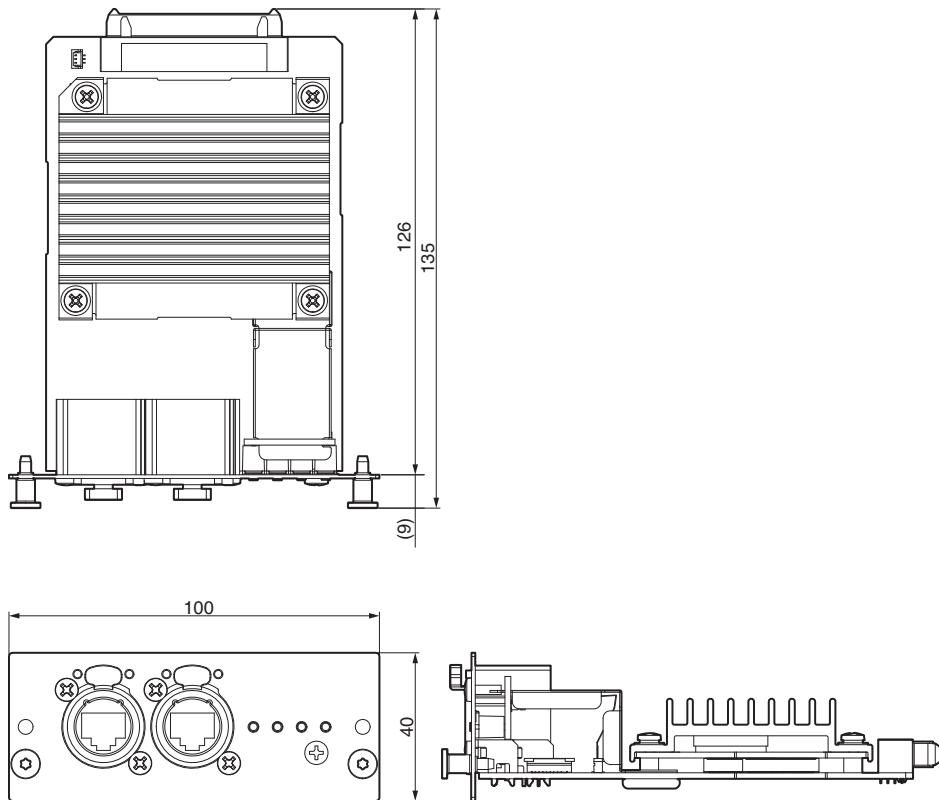
功率消耗：

5.5 W

尺寸（宽 × 高 × 深）和净重：

100 mm × 40 mm × 135 mm, 0.3 kg

尺寸



单位: mm

外观颜色的近似孟塞尔值: N2.25

本使用说明书的内容为出版时最新的技术规格。请至 Yamaha 网站下载最新版本的使用说明书。

**Apache License
Version 2.0, January 2004**

http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.

You may obtain a copy of the License at

<http://www.apache.org/licenses/LICENSE-2.0>

Unless required by applicable law or agreed to in writing, software distributed under the License is distributed on an "AS IS" BASIS,

WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.

See the License for the specific language governing permissions and limitations under the License.

Yamaha Worldwide Representative Offices

English

For details on the product(s), contact your nearest Yamaha representative or the authorized distributor, found by accessing the 2D barcode below.

Deutsch

Wenden Sie sich für nähere Informationen zu Produkten an eine Yamaha-Vertretung oder einen autorisierten Händler in Ihrer Nähe. Diese finden Sie mithilfe des unten abgebildeten 2D-Strichcodes.

Français

Pour obtenir des informations sur le ou les produits, contactez votre représentant ou revendeur agréé Yamaha le plus proche. Vous le trouverez à l'aide du code-barres 2D ci-dessous.

Español

Para ver información detallada sobre el producto, contacte con su representante o distribuidor autorizado Yamaha más cercano. Lo encontrará escaneando el siguiente código de barras 2D.

Italiano

Per dettagli sui prodotti, contattare il rappresentante Yamaha o il distributore autorizzato più vicino, che è possibile trovare tramite il codice a barre 2D in basso.

Português

Para mais informações sobre o(s) produto(s), fale com seu representante da Yamaha mais próximo ou com o distribuidor autorizado acessando o código de barras 2D abaixo.

Русский

Чтобы узнать подробнее о продукте (продуктах), свяжитесь с ближайшим представителем или авторизованным дистрибутором Yamaha, воспользовавшись двухмерным штрихкодом ниже.

简体中文

如需有关产品的详细信息，请联系距您最近的Yamaha代表或授权经销商，可通过访问下方的2D条形码找到这些代表或经销商的信息。

繁體中文

如需產品的詳細資訊，請聯絡與您距離最近的 Yamaha 銷售代表或授權經銷商，您可以掃描下方的二維條碼查看相關聯絡資料。

한국어

제품에 대한 자세한 정보는 아래 2D 바코드에 엑세스하여 가까운 Yamaha 담당 판매점 또는 공식 대리점에 문의하십시오.



https://manual.yamaha.com/audio/address_list/

Head Office/Manufacturer: Yamaha Corporation 10-1, Nakazawa-cho, Chuo-ku, Hamamatsu, 430-8650, Japan

Importer (European Union): Yamaha Music Europe GmbH Siemensstrasse 22-34, 25462 Rellingen, Germany

Importer (United Kingdom): Yamaha Music Europe GmbH (UK) Sherbourne Drive, Tilbrook, Milton Keynes, MK7 8BL, United Kingdom

AP01

雅马哈乐器音响（中国）投资有限公司
上海市静安区新闻路 1818 号云和大厦 2 楼
客户服务热线：4000517700
公司网址：<https://www.yamaha.com.cn>

ヤマハ株式会社
〒430-8650 静岡県浜松市中央区中沢町10-1

Yamaha Pro Audio global website
<https://www.yamahaproaudio.com/>
Yamaha Downloads
<https://download.yamaha.com/>

© 2024 Yamaha Corporation
Published 08/2024
2024年8月 发行
IPEM-A0



VHE6400