# 10. Specifications

## General specifications

| | |
|---|---|
| Sampling Frequency*1 | Internal clock: 48 kHz; Dante clock: 48 kHz, 44.1 kHz (when using NY64-D) |
| Signal Delays | Less than 2.6 ms, INPUT to OMNI OUT, Fs=48 kHz |
| Fader | 100 mm motorized, Resolution = 10-bit, +10 dB to –138 dB, –∞ dB all faders |
| Frequency Response | +0.5, –1.5 dB 20 Hz–20 kHz, refer to +4 dBu output @1kHz, INPUT to OMNI OUT |
| Total Harmonic Distortion*2 | Less than 0.05% 20 Hz–20 kHz @+4 dBu into 600 Ω, INPUT to OMNI OUT, Input Gain=Min. |
| Hum & Noise*3 | –128 dBu typ., Equivalent Input Noise, Input Gain=Max.,<br>–85 dBu, Residual output noise, ST master off |
| Dynamic Range | 110 dB typ., DA Converter,<br>107 dB typ., INPUT to OMNI OUT, Input Gain=Min. |
| Crosstalk@1 kHz*4 | –100 dB, adjacent INPUT/OMNI OUT channels, Input Gain=Min. |
| Dimensions (W x H x D)<br>Net Weight | TF5: 866 mm × 225 mm × 599 mm, 20.0 kg<br>TF3: 716 mm × 225 mm × 599 mm, 17.0 kg<br>TF1: 510 mm × 225 mm × 599 mm, 13.5 kg |
| Power Requirements (wattage) | TF5: 120W, TF3: 110W, TF1: 100W |
| Power Requirements (voltage and hertz) | 100–240 V 50/60 Hz |
| Temperature Range | Operating temperature range: 0–40 °C<br>Storage temperature range: -20–60 °C |
| Included Accessories | Quick Guide, Power Cord |

*1. Pull-up/down function is not supported.
*2. Total Harmonic Distortion is measured with a –18 dB/octave filter@80 kHz.
*3. Hum & Noise are measured with an A-Weight filter.
*4. Crosstalk is measured with a –30 dB/octave fi lter@22 kHz.

## Input/output characteristics

| Analog input specifications | | | | | | | |
|---|---|---|---|---|---|---|---|
| Input jacks | GAIN | Input impedance | Source impedance | Input levels | | | Connectors |
| | | | | Sensitivity*1 | Standard level | Max. non-clipping level | |
| INPUT1-32 (TF5)<br>INPUT1-24 (TF3)<br>INPUT1-16 (TF1,TF-RACK) | +66 dB | 7.5 kΩ | 50 - 600 Ω Mics or 600 Ω Lines | -82 dBu (61.6 µV) | -62 dBu (0.616 mV) | -42 dBu (6.16 mV) | Combo Jack (XLR-3-31 type*2 or TRS phone*3) (Balanced) |
| | -6 dB | | | -10 dBu (245 mV) | +10 dBu (2.45 V) | +30 dBu (24.5 V) | |
| ST IN 1,2 | — | 10 kΩ | 600 Ω Lines | -30 dBV (31.6 µV) | -10 dBV (316 mV) | +10 dBV (3.16 V) | RCA Pin Jack (Unbalanced) |

*1. “Sensitivity” is the necessary input level for outputting at +4 dBu (1.23 V) or at standard levels, when all faders and level controls are set to maximum.
*2. The XLR-3-31 connector is a balanced-type connector (1=GND, 2=HOT, 3=COLD).
*3. The TRS phone connector is a balanced-type connector (Tip=HOT, Ring=COLD, Sleeve=GND).
*4. This is 0 dBu=0.775 Vms for all specifications.
*5. The input jacks use +48V DC (phantom power), which can be set on/off for each jack in the software of this unit.

| Analog output specifications | | | | | | |
|---|---|---|---|---|---|---|
| Output jacks | Output impedance | Load impedance | Maximum output level switch | Output levels | | Connectors |
| | | | | Standard level | Max. non-clipping level | |
| OMNI OUT 1-16 | 75 Ω | 600 Ω Lines | "+24 dBu" position (default) | +4 dBu (1.23 V) | +24 dBu (12.3 V) | XLR-3-32 type (Balanced)*1 |
| PHONES | 100 Ω | 40 Ω Phones | — | 3 mW*3 | 75 mW | Stereo Phone Jack (Unbalanced)*2 |

*1. The XLR-3-32 connector is a balanced-type connector (1=GND, 2=HOT, 3=COLD).
*2. The stereo phone jack (TRS) connector is an unbalanced-type connector (Tip=LEFT, Ring=RIGHT, Sleeve=GND).
*3. This value is when the PHONES LEVEL knob is set 16 dB lower than the maximum position.
*4. This is 0 dBu=0.775 Vms for all specifications.
*5. The DA connectors all feature 24-bit linear/128x oversampling.

| Digital I/O specifications | | | | |
|---|---|---|---|---|
| Jacks | Format | Data length | Audio | Connectors |
| USB (TO HOST) | USB | 24 bit | 34ch Input / 34ch Output, PCM | USB (B type) |
| iPad | USB | — | Playback : MP3 (MPEG1 Layer3), WAV Recording : WAV | USB (A type) |

| Control I/O standards | | | |
|---|---|---|---|
| Jacks | Format | Levels | Connectors |
| NETWORK | IEEE802.3 | 10BASE-T/100BASE-TX | RJ-45 |
| FOOT SW | — | — | TS Phone |

* The contents of this manual apply to the latest specifications as of the publishing date. To obtain the latest manual, access the Yamaha website then download the manual file.

## Source code distribution

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10-1 Nakazawa-cho, Naka-ku, Hamamatsu, 430-8650, JAPAN
PA Division, Yamaha Corporation

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