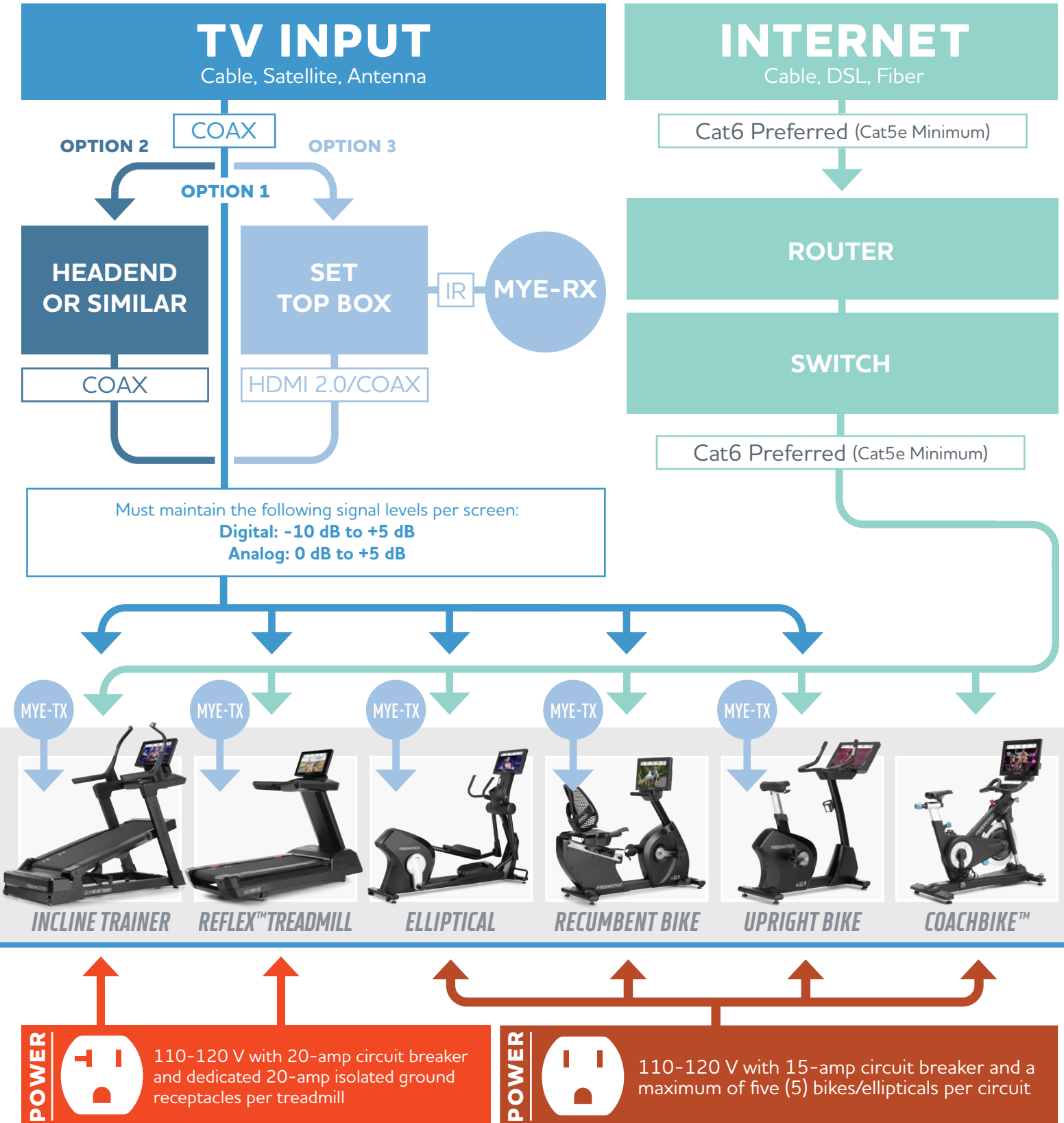


# FACILITY INFRASTRUCTURE REQUIREMENTS Z2 SERIES



## FACILITY INFRASTRUCTURE REQUIREMENTS FOR 22 SERIES



## TELEVISION REQUIREMENTS†

1. A digital TV signal is recommended, however, an analog signal is acceptable
2. Channels must be properly balanced from headend
3. Console signal levels must meet detailed specifications
  - » Digital: -10 dB to +5 dB
  - » Analog: 0 dB to +5 dB
4. Commercial-grade cable and infrastructure is recommended

### SUPPORTED TUNERS:

- » NTSC, ATSC, QAM (Set-Top Box Ready), Pro:Idiom
- » PAL B/G, PAL I, SECAM D/K, SECAM L, DVB-T, DVB-T2, DVB-C (Set-Top Box Ready)

**COAXIAL CABLE:** If using a coaxial cable input, a minimum of RG6 Coaxial cable is required on television installations. RG6 is the standard for digital and satellite television signals.

**HDMI:** If using HDMI input, a minimum of HDMI 2.0 cable between the unit and a set-top box is required. A MYE Wireless CableSAT Channel Changer is also needed. If HDMI is used over a long distance, use a high-quality HDMI extender.

**NOTE:** Media requirements vary by location and equipment type. Your A/V professional will be able to provide your signal level and total number of splits in your distribution network. More units may be connected to a leg depending on signal level and splits. Contact Freemotion Technical Support with any questions.



†Coaxial, HDMI and Ethernet cables are not included and must be purchased separately.

## INTERNET REQUIREMENTS<sup>†</sup>

1. Dedicated Internet is required to all 22 SERIES equipment
2. Cat6 twisted-pair ethernet cable with 10/100/1000 Mbps dedicated network switch is preferred (Cat5e or higher required)
3. Home run wiring from the network switch to each networked console is recommended.
4. Outbound network ports: TCP Port 80 (HTTP), TCP Port 443 (HTTPS), UDP Port 123 (NTP)
5. Router should be set to DHCP. A DHCP reservation can also be used.

### INTERNET CONNECTIVITY RECOMMENDATIONS

SPECIFICATION	MINIMUM REQUIREMENT
Download data rate	Dedicated: 10 Mbps per unit

**NOTE:** Contact Freemotion Technical Support for ANY questions on switches or switch types.

# OF UNITS	BANDWIDTH/UNIT
1	10 Mbps
2-3	6 Mbps
4-6	4 Mbps
7 or more	3 Mbps

### WIRELESS NETWORKING RECOMMENDATIONS

Individual hardwired connections are always recommended. Ethernet Cat6 (Cat5e at the minimum) provides the most reliable and highest speed connection.

SPECIFICATIONS	MINIMUM REQUIREMENTS
Wireless connection	802.11 a/b/g/n 2.4/5 GHz (Cat6 Preferred)
Access points	Commercial grade and dedicated to 22 SERIES cardio equipment
SSID	Private

**NOTE:** Always consult a wireless networking specialist for questions about network design and wireless equipment purchases. Freemotion is not able to provide any wireless network equipment or technical support for that equipment.

### SOFTWARE FIREWALL REQUIREMENTS

Some facilities use software firewalls that may potentially block the operating system of 22 SERIES products from accessing necessary websites, ports, servers, IP addresses, etc., required for iFIT apps to run. Please work with your facility's IT Specialist to ensure the following list is made available so iFIT features perform successfully:

#### \*.iFIT.com

- » 443
- » 80

**siteintercept.qualtrics.com:80/wrsiteinterceptengine/targeting.php**

**rum-http-intake.logs.datadoghq.com:80/v1/input/pub19b0bc2a7e69a2bdb86e7a28f1a6442f**

#### App.launchdarkly.com

- » app.launchdarkly.com:80/sdk/goals/\*
- » events.launchdarkly.com:80/events/diagnostic/\*
- » app.launchdarkly.com:80/sdk/evalx/\*/users/ejyrzxkioijhytjzwwifq

#### AWS

- » https://ifit-music.s3-cdn.ifit.com
- » https://s3.amazonaws.com/\*
- » https://icon-sparky.s3.amazonaws.com
- » wss://az2wp4gg6an1j-ats.iot.us-east-1.amazonaws.com/mqtt

#### Segment

- » 52.25.130.38/32

#### Raygun

#### Zendesk

- » https://ifit.zendesk.com

**NOTE:** The asterisks (\*) represent wildcards in the list above.

## POWER REQUIREMENTS INCLINE TRAINER AND REFLEX™ TREADMILL

**WARNING:** Failure to follow may cause unexpected behavior of the treadmill or other machine malfunctions.



### 110-Volt Treadmill Applications

Voltage range: 100-120 VAC, 60 Hz | Freemotion treadmills require an individual branch circuit using a NEMA 5-20R isolated ground (pictured), or similar receptacle. The hot, neutral, and ground wires must each be independently isolated (not looped or tied to other circuits).



### 220-Volt Treadmill Applications

Voltage range: 200-240 VAC, 50/60 Hz | Freemotion treadmills require an individual branch circuit using an CEE 7 (pictured), NEMA 6-20R, or similar receptacle. Two hot and one ground wires must be independently isolated (not looped or tied to other circuits).

Do not modify the plug provided with this product as it will void the warranty and may damage the product. If it will not fit your electrical outlet, have a qualified electrician install the appropriate outlet in your facility.

## ELECTRICAL APPLICATIONS

Electrical supply may fluctuate in your area. To ensure the product's stable performance, we require the following wiring gauges based on the distance between the single treadmill and the panel.

DISTANCE	WIRE SIZE
100-150 ft   30-45 m	10 Gauge   6 mm <sup>2</sup>
150-200 ft   45-60 m	8 Gauge   10 mm <sup>2</sup>
More than 200 ft   60 m	6 Gauge   16 mm <sup>2</sup>

When designing a facility or installing new Freemotion equipment into a facility, it is important to have the correct electrical power provisions for the equipment to operate safely and correctly. Each treadmill must be furnished with an Individual Branch Circuit. Circuits for 110-Volt models must include a 20-amp circuit breaker and individual 20-amp isolated ground receptacles for each treadmill. Circuits for 220-Volt must include a 15-amp circuit breaker and individual 15-amp isolated ground receptacles for each treadmill. The US-based NEC requires that each outlet has dedicated conductors of at least 12 AWG (American Wireless Gauge) for line, neutral, and ground for 20-amp service. Larger conductors (10 AWG) may be required for long branch circuits or high temperatures to prevent voltage drop. Dedicated outlets must not share a line, neutral, or ground conductors with other outlets. This means that a single breaker, one hot wire, one neutral wire, and one ground wire are connected from the panel to a single electrical load, in this case, one treadmill.

**ALL CIRCUITS FOR TREADMILLS SHOULD NOT SHARE A NEUTRAL GROUND.** Each neutral wire and each ground wire should be tied back to the panel directly. This should help to avoid three problems commonly experienced:

- 1. Overloading the Circuit Breaker** – With only one treadmill connected to a single circuit breaker in the electrical panel, the smaller circuit breaker in the treadmill will trip first if there is an over-current situation due to abnormal treadmill operation. If more than one treadmill is wired to the same panel breaker, the additional current requirements may frequently overload and trip the panel breaker, even though the treadmills are operating normally.
- 2. Overloading the Neutral Wire** – If there are multiple treadmills connected to the same neutral wire, even if each hot conductor is wired to separate breakers, there is a risk of overloading the neutral wire, possibly resulting in a dangerous situation (could overheat and cause a fire) and/or more commonly, low voltage at the outlet. As a result of the low voltage the amperage (AMPS) goes up to keep up with the current demand. With the high amounts of current comes high heat, which will damage the electrical components such as the power board, console, and other small components within the treadmill.
- 3. Low Voltage at the Outlet** – A few things can cause this; the most common is too many treadmills on one circuit (or neutral wire), which overloads and heats the wire, causing the voltage at the outlet to drop. This also happens if the wire size is too small or the distance from the panel to the outlet is too far. Low voltage at the outlet can only be measured when the load is at its peak. The voltage may be sufficient when all the treads are off but lower significantly when they are all operating and drawing 20-amps. Low voltage causes problems for the drive motor, power board, and motor controller, resulting in unexpected behaviors of the treadmill.

**The benefits of an Isolated Ground (IG)** – The primary reason for using an IG is to provide a noise-free (electromagnetic interference) ground return, separate from the equipment grounding return. The IG provides an isolated, separate ground path for the ground reference in the treadmill. The IG also helps eliminate the potential for a "ground loop," which can cause electromagnetic interference.

**NOTE:** DO NOT share TV Power Supplies with Treadmill 20A Circuits. Failure to follow these requirements may cause unexpected behavior of the treadmill or other machine malfunctions. We recommend that you meet with a qualified electrician to meet your individual needs best.

## POWER REQUIREMENTS *BIKES AND ELLIPTICALS:*

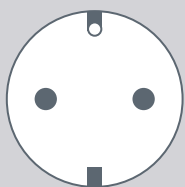
ALL 22 SERIES Bikes and Ellipticals require a separate power supply. Up to five (5) machines' power supplies can be connected to

- » A minimum of 15-Amp Circuit in 110-Volt Applications
- » A minimum of 10-Amp Circuit in 220-Volt Applications



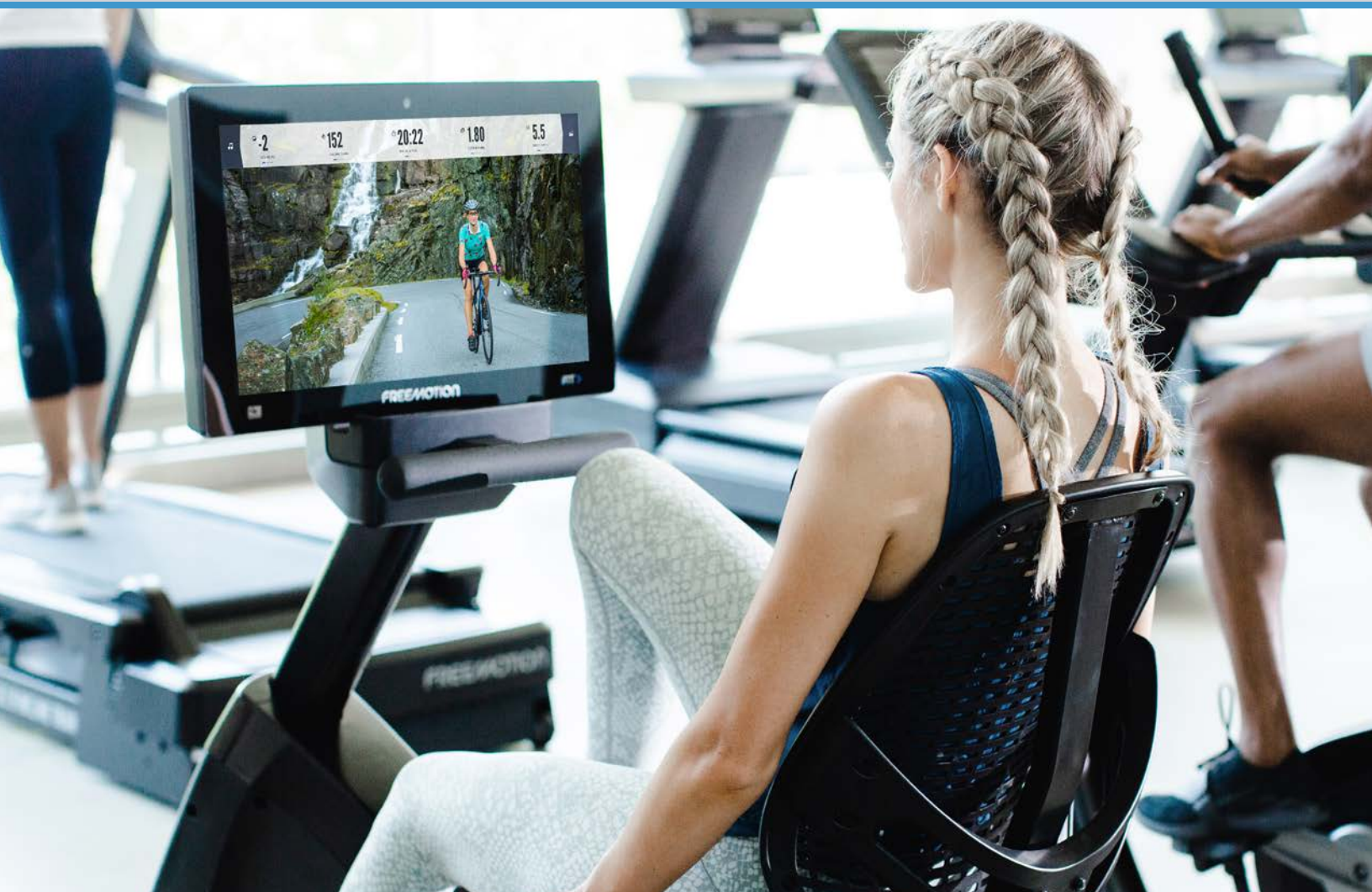
### **110-Volt Applications**

Voltage range: 100-120 VAC, 60 Hz | Freemotion bikes and ellipticals require an individual branch circuit using a NEMA 5-15R (pictured), or similar receptacle.



### **220-Volt Applications**

Voltage range: 200-240 VAC, 50/60 Hz | Freemotion bikes and ellipticals require an individual branch circuit using a CEE 7 (pictured), NEMA 6-20R, or similar receptacle.



# FREEMOTION®

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