



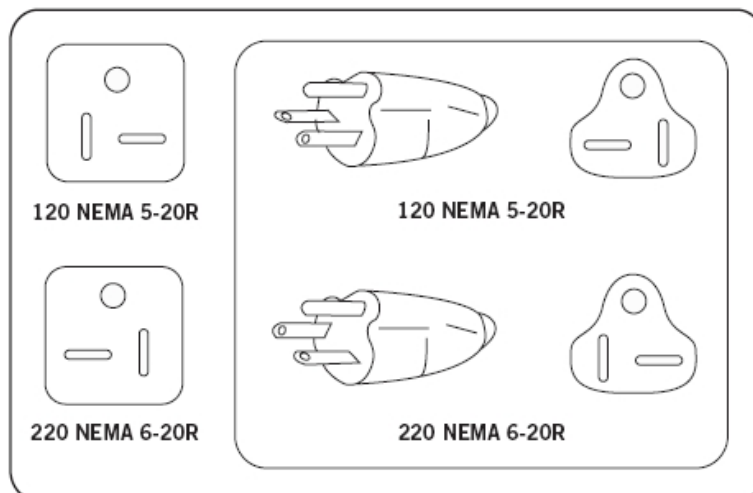
ELECTRICAL REQUIREMENT INFO

All powered Matrix units require the use of a “dedicated circuit”, with a non-looped isolated neutral and a non-looped isolated ground, for the power requirement. Quite simply this means that each outlet you plug a unit into should not have anything else running on that same circuit. The easiest way to verify this is to locate the main circuit breaker box, and turn off the breaker(s) one at a time. Once a breaker has been turned off, the only thing that should not have power to it is the unit itself (or multiple units for bikes / ellipticals). No lamps, vending machines, fans, sound systems, or any other item should lose power when you perform this test.

Non-looped (isolated) neutral/grounding means that each circuit must have an individual neutral/ground connection coming from it, and terminating at an approved earth ground. You cannot “jumper” a single neutral/ground from one circuit to the next. Please refer to NEC articles 210-21 and 210-23.

In addition to the dedicated circuit requirement, the proper gauge wire must be used from the circuit breaker box, to each outlet that will have a unit running off of it. If the distance from the circuit breaker box, to each outlet, is 100 ft or less, then 12 gauge wire may be used. For any distance greater than 100 ft from the circuit breaker box to the outlet, 10 gauge wire must be used.

See the diagram below for the proper outlet required to plug each power adaptor into (all current production powered machines designed for the US market require a 100-125vac, 50-60Hz, 20 amp circuit (2.5KW max) NEMA 5-20R outlet). Any alterations to the standard Matrix power cords will void all warranties.





**IF A TV IS ADDED, ALSO CHECK TV POWER REQUIREMENTS
ON PAGES 6 & 7.**

Treadmills

All Matrix treadmill units require the use of a 100-125vac, 50-60Hz, 20 amp “dedicated circuit” (2.5KW max), with a non-looped isolated neutral and a non-looped isolated ground. One treadmill = one circuit breaker.

Bikes (Hybrid, Recumbent, or Upright)

1 Series – The 1 series bike is designed to be self powered and does not require an external power supply. The user’s pedaling powers the console as long as a minimum of 30 RPMs are maintained. An optional battery is available to prolong the shut down time for 30 seconds if the minimum RPMs are not maintained.

3 Series – The 3 series bike is designed to be self powered and does not require an external power supply. The user’s pedaling powers the console as long as a minimum of 20 RPMs are maintained. A battery is present in the console to prolong the shut down time for 30 seconds after the RPMs drop below 20.

5 Series – The 5 series bike is designed to be self powered and does not require an external power supply. The user’s pedaling powers the console as long as a minimum of 25 RPMs are maintained. A battery is present in the console to prolong the shut down time for 30 seconds after the RPMs drop below 25. However, the 5 series bike can be AC powered if an optional power cord is purchased. This will power the console at all times and requires no minimum RPM for operation. These units can be daisy chained together, up to 3 units per dedicated 15 amp circuit (4 for a 20 amp circuit), using a Matrix daisy chain cord adapter (sold separately).

7x Series – The 7x series bike can operate without power; however, the machine must boot the software with each new user once a minimum of 25 RPMs are obtained. This can mean a delay of around 25 seconds while the machine's operating system prepares for a workout. The 7x series bike can also be AC powered. This will power the console at all times and requires no minimum RPM for operation. A powered product lowers the starting resistance and is easier to use for beginners. These units can be daisy chained together, up to 3 units per dedicated 15 amp circuit (4 for a 20 amp circuit), using a Matrix daisy chain cord adapter (sold separately).

7xe Series - The 7xe series bike must be AC powered. These units can be daisy chained together, up to 3 units per dedicated 15 amp circuit (4 for a 20 amp circuit), using a Matrix daisy chain cord adapter (sold separately).



Ellipticals

1 Series – The 1 series elliptical is designed to be self powered and does not require an external power supply. The user’s pedaling powers the console as long as a minimum of 30 RPMs are maintained. An optional battery is available to prolong the shut down time for 30 seconds if the minimum RPMs are not maintained.

3 Series – The 3 series elliptical is designed to be self powered and does not require an external power supply. The user’s pedaling powers the console as long as a minimum of 15 RPMs are maintained. A battery is present in the console to prolong the shut down time for 30 seconds after the RPMs drop below 15.

5 Series – The 5 series elliptical is designed to be self powered and does not require an external power supply. The user’s pedaling powers the console as long as a minimum of 25 RPMs are maintained. A battery is present in the console to prolong the shut down time for 30 seconds after the RPMs drop below 25. However, the 5 series elliptical can be AC powered if an optional power cord is purchased. This will power the console at all times and requires no minimum RPM for operation. These units can be daisy chained together, up to 3 units per dedicated 15 amp circuit (4 for a 20 amp circuit), using a Matrix daisy chain cord adapter (sold separately).

7x Series – The 7x series elliptical can operate without power; however, the machine must boot the software with each new user once a minimum of 25 RPMs are obtained. This can mean a delay of around 25 seconds while the machine's operating system prepares for a workout. The 7x series elliptical can also be AC powered. This will power the console at all times and requires no minimum RPM for operation. A powered product lowers the starting resistance and is easier to use for beginners. These units can be daisy chained together, up to 3 units per dedicated 15 amp circuit (4 for a 20 amp circuit), using a Matrix daisy chain cord adapter (sold separately).

7xe Series - The 7xe series elliptical must be AC powered. These units can be daisy chained together, up to 3 units per dedicated 15 amp circuit (4 for a 20 amp circuit), using a Matrix daisy chain cord adapter (sold separately).



Steppers

3 Series - The 3 series stepper is designed to be self contained and does not require an external power supply to operate. The user's stepping powers the console as long as a minimum of 15 SPMs are maintained. However, the stepper can be AC powered with an optional power cord. This will power the console at all times and requires no minimum SPM for operation. These units can be daisy chained together, up to 3 units per dedicated 15 amp circuit (4 for a 20 amp circuit), using a Matrix daisy chain cord adapter (sold separately). The unit does have an internal battery to initialize and display the workout readout or information while stepping to a stop.

5 Series - The 5 series stepper is designed to be self contained and does not require an external power supply to operate. The user's stepping powers the console as long as a minimum of 25 SPMs are maintained. However, the stepper can be AC powered with an optional power cord. This will power the console at all times and requires no minimum SPM for operation. These units can be daisy chained together, up to 3 units per dedicated 15 amp circuit (4 for a 20 amp circuit), using a Matrix daisy chain cord adapter (sold separately). The unit does have an internal battery to initialize and display the workout readout or information while stepping to a stop.

7x Series - The 7x series stepper must be AC powered. These units can be daisy chained together, up to 3 units per dedicated 15 amp circuit (4 for a 20 amp circuit), using a Matrix daisy chain cord adapter (sold separately).

7xe Series - The 7xe series stepper must be AC powered. These units can be daisy chained together, up to 3 units per dedicated 15 amp circuit (4 for a 20 amp circuit), using a Matrix daisy chain cord adapter (sold separately).



Ascent Trainers

3 Series - The 3 series Ascent Trainer must be AC powered. These units can be daisy chained together, up to 3 units per dedicated 15 amp circuit (4 for a 20 amp circuit), using a Matrix daisy chain cord adapter (sold separately).

5 Series (non self powered base) – The 5 series Ascent Trainer without the self powered base must be AC powered. These units can be daisy chained together, up to 3 units per dedicated 15 amp circuit (4 for a 20 amp circuit), using a Matrix daisy chain cord adapter (sold separately).

5 Series (with self powered base) - The 5 series Ascent Trainer with a self powered base is designed to be self contained and does not require an external power supply to operate. The user's pedaling powers the console as long as a minimum of 25 RPMs are maintained. However, the Ascent Trainer can be AC powered with an optional power cord. This will power the console at all times and requires no minimum RPM for operation. These units can be daisy chained together, up to 3 units per dedicated 15 amp circuit (4 for a 20 amp circuit), using a Matrix daisy chain cord adapter (sold separately).

7x Series (non self powered base) - The 7x series Ascent Trainer without the self powered base must be AC powered. These units can be daisy chained together, up to 3 units per dedicated 15 amp circuit (4 for a 20 amp circuit), using a Matrix daisy chain cord adapter (sold separately).

7x Series (with self powered base) - The 7x series Ascent Trainer with a self powered base is designed to be self contained and does not require an external power supply to operate. The user's pedaling powers the console as long as a minimum of 25 RPMs are maintained. However, this can mean a delay of around 25 seconds while the machine's operating system prepares for a workout. The Ascent Trainer can be AC powered with an optional power cord. This will power the console at all times and requires no minimum RPM for operation. These units can be daisy chained together, up to 3 units per dedicated 15 amp circuit (4 for a 20 amp circuit), using a Matrix daisy chain cord adapter (sold separately).

7xe Series (With either base) - The 7xe series Ascent Trainer must be AC powered regardless of the base. These units can be daisy chained together, up to 3 units per dedicated 15 amp circuit (4 for a 20 amp circuit), using a Matrix daisy chain cord adapter (sold separately).



Entertainment Power & Coax Cable Requirements (see Page 7 for Satellite or Fiber Optic Cable Requirements)

POWER NOTE: To power the TV, each outlet needs to have 2 amps per TV on a dedicated circuit with a non-looped ground. For example, one 20 amp dedicated circuit could be used for up to 10 TVs using daisy chain cords. This dedicated circuit should only be used for the TVs, plugging in a unit or other equipment will make the circuit non-dedicated.

COAX NOTE: Matrix Fitness does not provide any coax cables for installation, they need to be provided by the customer. All coax signal cables need to have a signal power of at least 10db. The coax cable should be equipped with an RG6 male end.

External TVs – BRACKET – If a TV is being installed onto a bracket that is attached to a cardio unit, a separate power outlet for the TV will be needed even if the unit itself does not require an outlet. The premium treadmills (5, and 7x series) are the exception to this rule and do not require an additional power source for the TV. All units with an add on bracket or internal TV require a coax be run to the bottom of the unit.

External TVs – STAND – If a TV is being installed on a stand, it will need a separate power outlet for the TV. It will also need a coax cable with approximately 10 feet of slack to run through the stand itself.

Internal TVs (7x Series) – These units have an integrated TV. While these units are not required to be plugged in, it is highly recommended as the console (and TV) will take around 25 seconds to load without power (the 7x series treadmill is the exception as it requires a power outlet). A separate power outlet for the TV is not needed regardless of whether the unit is plugged in or not. A coax cable needs to be run to the bottom of these units.

Internal TVs (7xe Series) – These units have an integrated TV and already require power, so do not need a separate outlet for the TV. A coax cable needs to be run to the bottom of these units.



Satellite and Fiber Optic Cable Requirements

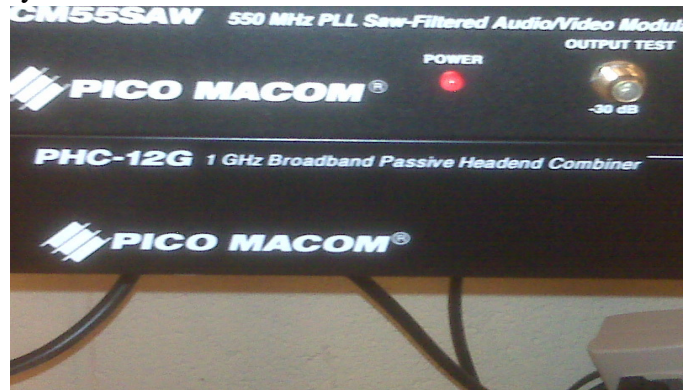
Complete Satellite System - A complete satellite system consists of 12 to 24 modulators, one for each channel needed. The system will also have 12 to 24 satellite (or cable) boxes one for each channel wanted.

Modulators – A Modulator is a device that converts a video signal to a set frequency. What that means is it takes your video source and turns it into a channel that is set on the modulator. For each modulator, you will have a satellite box or cable box set to the same channel.

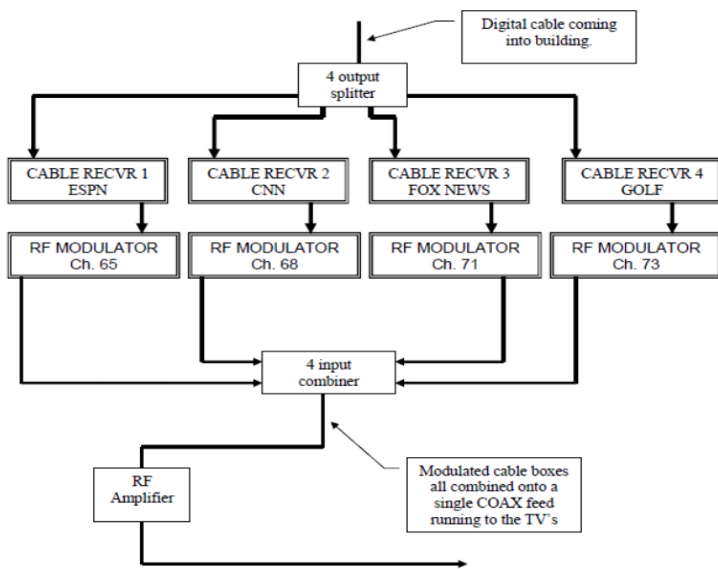
Combiner – A combiner is a device that takes several frequencies and stacks them so that they can be sent through one cable. What this means is takes each signal from the modulators and stacks them together into one usable signal for the TVs. One combiner can combine 12 to 24 channels, so typically only one combiner is needed.



Modulator Example



Combiner Example



4 Channel Modulated System Example



Complete Satellite System Example