The duty cycle is set for a specific operation by adjusting the controller for the welder. An instrument capable of measuring current impulses for 3 cycles (1/20 second) is required to measure the actual primary current as required by 630.31(A)(2) in order to size the conductors. For the sizing of supply conductors, voltage drop should be limited to a value permissible for the satisfactory performance of the welder.

630.32 Overcurrent Protection. Overcurrent protection for resistance welders shall be as provided in 630.32(A) and (B). Where the values as determined by this section do not correspond with the standard ampere ratings provided in 240.6 or where the rating or setting specified results in unnecessary opening of the overcurrent device, a higher rating or setting that does not exceed the next higher standard ampere rating shall be permitted.

(A) For Welders. Each welder shall have an overcurrent device rated or set at not more than 300 percent of the rated primary current of the welder. If the supply conductors for a welder are protected by an overcurrent device rated or set at not more than 200 percent of the rated primary current of the welder, a separate overcurrent device shall not be required.

(B) For Conductors. Conductors that supply one or more welders shall be protected by an overcurrent device rated or set at not more than 300 percent of the conductor ampacity.

630.33 Disconnecting Means. A switch or circuit breaker shall be provided by which each resistance welder and its control equipment can be disconnected from the supply circuit. The ampere rating of this disconnecting means shall not be less than the supply conductor ampacity determined in accordance with 630.31. The supply circuit switch shall be permitted as the welder disconnecting means where the circuit supplies only one welder.

630.34 Marking. A nameplate shall be provided for each resistance welder, giving the following information:

(1) Name of manufacturer
(2) Frequency
(3) Primary voltage
(4) Rated kilovolt-amperes (kVA) at 50 percent duty cycle
(5) Maximum and minimum open-circuit secondary voltage
(6) Short-circuit secondary current at maximum secondary voltage
(7) Specified throat and gap setting

Part IV. Welding Cable

630.41 Conductors. Insulation of conductors intended for use in the secondary circuit of electric welders shall be flame retardant.

Listed welding cable is intended to be used for the secondary circuits of electric welders and cannot be used as "building wire" for circuits operating at 1000 volts or less unless the cable is also one of the types covered in Table 310.4(1). The fine stranding allows for the flexibility necessary in manual and automatic welding operations. Terminals used with this type of cable must be suitable for use with the fine stranding used in this type of cable construction. See 110.14 for more information regarding terminations used with conductors having other than Class B or C stranding.

630.42 Installation. Cables shall be permitted to be installed in a dedicated cable tray as provided in 630.42(A), (B), and (C).

(A) Cable Support. The cable tray shall provide support at not greater than 150-mm (6-in.) intervals.

(B) Spread of Fire and Products of Combustion. The installation shall comply with 300.21.

(C) Signs. A permanent sign shall be attached to the cable tray at intervals not greater than 6.0 m (20 ft). The sign shall read as follows:

CABLE TRAY FOR WELDING CABLES ONLY

ARTICLE 640 Audio Signal Processing, Amplification, and Reproduction Equipment

Part I. General

640.1 Scope.

(A) Covered. This article covers equipment and wiring for audio signal generation, recording, processing, amplification, and reproduction; distribution of sound; public address; speech input systems; temporary audio system installations; and electronic organs or other electronic musical instruments. This also includes audio systems subject to Article 517, Part VI, and Articles 518, 520, 525, and 530.

Informational Note: Examples of permanently installed distributed audio system locations include, but are not limited to, restaurant, hotel, business office, commercial and retail sales environments, churches, and schools. Both portable and permanently installed equipment locations include, but are not limited to, residences, auditoriums, theaters, stadiums, and movie and television studios. Temporary installations include, but are not limited to, auditoriums, theaters, stadiums (which use both temporary and permanently installed systems), and outdoor events such as fairs, festivals, circuses, public events, and concerts.

Equipment covered by Article 640 includes amplifiers; public address (PA) systems and centralized sound systems used in schools, factories, businesses, stadiums, and similar locations; intercommunications devices and systems; and devices used for recording or reproducing voice or music. The scope is limited to equipment whose main function is the processing, distribution, amplification, and reproduction of audio frequency bandwidth signals. This limitation does not preclude equipment that uses

radio frequency or other forms of transmission between equipment components, such as wireless microphone systems.

Electronic organs are synthesizers, and synthesizers also generate audio signals. For the sake of clarity, electronic organs are uniquely cited in the scope, and electronic musical instruments are included to cover all other forms of electronic tone generation. Electronic musical instruments create an electronic signal as their sole or primary output and require amplification and reproduction equipment to be audible.

(B) Not Covered. This article does not cover the installation and wiring of fire and burglary alarm signaling devices.

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640.3 Locations and Other Articles. Circuits and equipment shall comply with 640.3(A) through (N), as applicable.

(A) Spread of Fire or Products of Combustion. Section 300.21 shall apply.

Δ **(B) Ducts, Plenums, and Other Air-Handling Spaces.** Section 300.22(B) shall apply to circuits and equipment installed in ducts specifically fabricated for environmental air. Section 300.22(C) shall apply to circuits and equipment installed in other spaces used for environmental air (plenums).

Exception No. 1: Class 2 and Class 3 cables installed in accordance with 722.135(B) shall be permitted to be installed in ducts specifically fabricated for environmental air.

Exception No. 2: Class 2 and Class 3 cables installed in accordance with 722.135(B) shall be permitted to be installed in other spaces used for environmental air (plenums).

Informational Note: See NFPA 90A, *Standard for the Installation of Air-Conditioning and Ventilating Systems*, 4.3.11.2.6.5, which permits loudspeakers, loudspeaker assemblies, and their accessories listed in accordance with UL 2043-2013, *Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces*, to be installed in other spaces used for environmental air (ceiling cavity plenums).

N **(C) Communications Cables.** Types CMP, CMR, CMG, and CM communications cables shall be permitted to substitute for Class 2 and Class 3 cables in accordance with 722.135(E).

Δ **(D) Cable Trays.** Cable trays and cable tray systems shall be installed in accordance with Part II of Article 392. The installation of Class 2, Class 3, and Type PLTC cables in cable trays shall be in accordance with 722.135(B).

(E) Hazardous (Classified) Locations. Equipment used in hazardous (classified) locations shall comply with the applicable requirements of Chapter 5.

The examples of assembly occupancies described in 518.2(A) are some of the most common locations for the installation of both distributed audio systems (e.g., background music) and centralized systems (permanently installed sound reinforcement systems for meeting rooms, auditoriums, gymnasiums, and so forth).

(F) Assembly Occupancies. Equipment used in assembly occupancies shall comply with Article 518.

(G) Theaters, Audience Areas of Motion Picture and Television Studios, and Similar Locations. Equipment used in theaters, audience areas of motion picture and television studios, and similar locations shall comply with Article 520.

(H) Carnivals, Circuses, Fairs, and Similar Events. Equipment used in carnivals, circuses, fairs, and similar events shall comply with Article 525.

(I) Motion Picture and Television Studios. Equipment used in motion picture and television studios shall comply with Article 530.

(J) Swimming Pools, Fountains, and Similar Locations. Audio equipment used in or near swimming pools, fountains, and similar locations shall comply with Article 680.

The underwater installation of audio equipment in swimming pools is covered in 680.27(A).

See also

640.10 for the acceptable placement, wiring, and use of equipment used near (rather than immersed in) bodies of water, both natural and artificial

Δ **(K) Combination Systems.** Where the authority having jurisdiction permits audio systems for paging or music, or both, to be combined with fire alarm systems, the wiring shall comply with Article 760.

Informational Note: See *NFPA 72, National Fire Alarm and Signaling Code*, and NFPA *101, Life Safety Code*, for installation requirements for such combination systems.

In addition to alarm tones, fire alarm systems frequently use loudspeakers for verbal announcements. All such systems must comply with Article 760 and with *NFPA 72®, National Fire Alarm and Signaling Code®*. Audio systems that use a paging or background music system are permitted to be used as part of a fire alarm warning system, but they must comply with Article 760. The installation of fire alarm systems is governed by *NFPA 72*. Refer to *NFPA 101®, Life Safety Code®*, for multipurpose systems.

(L) Antennas. Equipment used in audio systems that contain an audio or video tuner and an antenna input shall comply with Article 810. Wiring other than antenna wiring that connects such equipment to other audio equipment shall comply with this article.

The term *receiver* is commonly used in the consumer market to mean an amplifier combined with a radio tuner (typically AM/FM) and other signal processing and/or switching functions. Except for the tuner function and the antenna input, the signal processing functions are the same as those provided by equipment covered in Article 640.

See also

810, Part II, which covers the antenna installation for such equipment

810.3, which references Parts I and II of Article 640 as appropriate for wiring requirements (other than for the antenna)

(M) Generators. Generators shall be installed in accordance with 445.10 through 445.12, 445.14 through 445.16, and 445.18. Grounding of portable and vehicle-mounted generators shall be in accordance with 250.34.

(N) Organ Pipes. Additions of pipe organ pipes to an electronic organ shall be in accordance with 650.4 through 650.9.

640.4 Protection of Electrical Equipment. Amplifiers, loudspeakers, and other equipment shall be so located or protected as to guard against environmental exposure or physical damage, such as might result in fire, shock, or personal hazard.

640.5 Access to Electrical Equipment Behind Panels Designed to Allow Access. Access to equipment shall not be denied by an accumulation of wires and cables that prevents removal of panels, including suspended ceiling panels.

640.6 Mechanical Execution of Work.

(A) Installation of Audio Distribution Cables. Cables installed exposed on the surface of ceilings and sidewalls shall be supported in such a manner that the audio distribution cables will not be damaged by normal building use. Such cables shall be secured by straps, staples, cable ties, hangers, or similar fittings designed and installed so as not to damage the cable. The installation shall conform to 300.4 and 300.11(A).

If installed in the hollow space above a suspended, dropped, or similar ceiling, cables of audio systems covered in Article 640 are required to be supported in accordance with 300.11. Without specific instructions permitting the use of the ceiling system support wires as a means to support wiring methods, an independent support system for the cables must be installed. Additional ceiling wires installed to support the audio system wiring are required to be secured in place. Attachment of the additional support wires to the ceiling system and to the building structure above the ceiling provides the secure support required by 300.11(B)(1) and (B)(2). The use of securing hardware such as straps, staples, cable ties, hangers, or other approved means is required, and this hardware must be installed so as not to damage the audio cable. The *NEC*® does not specify the distance between securing points.

(B) Abandoned Audio Distribution Cables. The accessible portion of abandoned audio distribution cables shall be removed.

(C) Installed Audio Distribution Cable Identified for Future Use.

(1) Cable Identification Means. Cables identified for future use shall be marked with a tag of sufficient durability to withstand the environment involved.

(2) Cable Tag Criteria. Cable tags shall have the following information:

(1) Date cable was identified for future use
(2) Date of intended use
(3) Information related to the intended future use of cable

640.7 Grounding.

(A) General. Wireways and auxiliary gutters shall be connected to an equipment grounding conductor(s), to an equipment bonding jumper, or to the grounded conductor where permitted or required by 250.92(B)(1) or 250.142. Where the wireway or auxiliary gutter does not contain power-supply wires, the equipment grounding conductor shall not be required to be larger than 14 AWG copper or its equivalent. Where the wireway or auxiliary gutter contains power-supply wires, the equipment grounding conductor shall not be smaller than specified in 250.122.

(B) Separately Derived Systems with 60 Volts to Ground. Grounding of separately derived systems with 60 volts to ground shall be in accordance with 647.6.

(C) Isolated Ground Receptacles. Isolated grounding-type receptacles shall be permitted as described in 250.146(D), and for the implementation of other technical power systems in compliance with Article 250. For separately derived systems with 60 volts to ground, the branch-circuit equipment grounding conductor shall be terminated as required in 647.6(B).

Informational Note: See 406.3(E) for grounding-type receptacles and required identification.

The reference to 647.6 provides requirements for grounding separately derived systems operating at 60 volts to ground. These separately derived systems are used for the reduction of electromagnetic noise in audio and video systems.

Section 640.7(B) addresses the proper use of isolated ground receptacles when used with technical power systems of the type that are separately derived systems with 60 volts to ground.

640.8 Grouping of Conductors. Insulated conductors of different systems grouped or bundled so as to be in close physical contact with each other in the same raceway or other enclosure, or in portable cords or cables, shall comply with 300.3(C)(1).

640.9 Wiring Methods.

(A) Wiring to and Between Audio Equipment.

(1) Power Wiring. Wiring and equipment from source of power to and between devices connected to the premises wiring systems shall comply with the requirements of Chapters 1 through 4, except as modified by this article.

(2) Separately Derived Power Systems. Separately derived systems shall comply with the applicable articles of this *Code*, except as modified by this article. Separately derived systems

with 60 volts to ground shall be permitted for use in audio system installations as specified in Article 647.

(3) Other Wiring. All wiring not connected to the premises wiring system or to a wiring system separately derived from the premises wiring system shall comply with Part II of Article 725.

(B) Auxiliary Power Supply Wiring. Equipment that has a separate input for an auxiliary power supply shall be wired in compliance with Article 725. Battery installation shall be in accordance with Article 480. This section shall not apply to the use of uninterruptible power supply (UPS) equipment, or other sources of supply, that are intended to act as a direct replacement for the primary circuit power source and are connected to the primary circuit input.

Informational Note: See *NFPA 72-2019, National Fire Alarm and Signaling Code*, where equipment is used for a fire alarm system.

Audio equipment with a separate input for an auxiliary power supply is typically used for emergency paging or fire alarm systems. These auxiliary power supply inputs typically range from 12 to 48 volts dc. Article 480 covers installation and overcurrent protection of battery circuits of this type. The term *auxiliary* is used to indicate that the equipment is also capable of being powered by the premises wiring system through an independent input connector, cord, or cable.

A replacement source for the premises wiring system such as an uninterruptible power supply (UPS) or a standby generator is not covered by the requirements of this section unless it is directly connected to the auxiliary power supply input and supplies the audio equipment with a dc voltage.

Δ **(C) Output Wiring and Listing of Amplifiers.** Amplifiers with output circuits carrying audio program signals shall be permitted to employ Class 1, Class 2, or Class 3 wiring where the amplifier is listed and marked for use with the specific class of wiring method. Such listing shall ensure the energy output is equivalent to the shock and fire risk of the same class as stated in Articles 724 and 725. Overcurrent protection shall be provided and shall be permitted to be inherent in the amplifier.

Audio amplifier output circuits wired using Class 1 wiring methods shall be considered equivalent to Class 1 circuits and shall be installed in accordance with 724.46, where applicable.

Audio amplifier output circuits wired using Class 2 or Class 3 wiring methods shall be considered equivalent to Class 2 or Class 3 circuits, respectively. They shall use conductors insulated at not less than the requirements of 722.179 and shall be installed in accordance with 722.135 and 725.136 through 725.144.

Informational Note No. 1: See UL 1711-2016, *Amplifiers for Fire Protective Signaling Systems*, which contains requirements for the listing of amplifiers used for fire alarm systems in compliance with *NFPA 72-2019, National Fire Alarm and Signaling Code*.

Informational Note No. 2: See UL 813-1996, *Commercial Audio Equipment*; UL 1419-2016, *Professional Video and Audio Equipment*; ANSI/UL 1492-1996, *Audio-Video Products and Accessories*; UL 6500-1999, *Audio/Video and Musical Instrument Apparatus for Household, Commercial, and Similar Use*; and UL 62368-1-2014, *Audio/Video, Information and Communication Technology Equipment — Part 1: Safety Requirements*, for examples of requirements for listing amplifiers used in residential, commercial, and professional use.

(D) Use of Audio Transformers and Autotransformers. Audio transformers and autotransformers shall be used only for audio signals in a manner so as not to exceed the manufacturer's stated input or output voltage, impedance, or power limitations. The input or output wires of an audio transformer or autotransformer shall be allowed to connect directly to the amplifier or loudspeaker terminals. No electrical terminal or lead shall be required to be grounded or bonded.

Audio transformers and autotransformers are commonly used between the amplifier output and the loudspeaker input for the following reasons:

1. At the output of the amplifier to change the amplifier's operating voltage to match the design impedance of the loudspeaker
2. At the loudspeaker, where the inherently low voice coil impedance is raised, to match the output voltage of the amplifier (or autotransformer)
3. Between the amplifier output and the loudspeaker input as an attenuating device (volume control)

Audio autotransformers are similar in concept to autotransformers used for light and power. Audio transformers are commonly used to provide electrical isolation of the speakers from the signal source. Either type of audio transformer (two windings or an autotransformer) is referred to as an "impedance matching transformer."

The last sentence of 640.9(D) specifically addresses the fact that electrical terminals are not to be treated in the same manner as transformers used for light and power might be (e.g., grounding the common terminal of an autotransformer). Some amplifier outputs are deliberately isolated from equipment ground, in which case such a connection could damage the amplifier and violate the manufacturer's recommended use. The frame of the transformer may or may not require bonding, depending on the manufacturer's installation instructions.

640.10 Audio Systems Near Bodies of Water. Audio systems near bodies of water, either natural or artificial, shall be subject to the restrictions specified in 640.10(A) and (B).

Exception: This section does not include audio systems intended for use on boats, yachts, or other forms of land or water transportation used near bodies of water, whether or not supplied by branch-circuit power.

Informational Note: See 680.27(A) for installation of underwater audio equipment.

(A) Equipment Supplied by Branch-Circuit Power. Audio system equipment supplied by branch-circuit power shall not be placed horizontally within 1.5 m (5 ft) of the inside wall of a pool, spa, hot tub, or fountain, or within 1.5 m (5 ft) of the prevailing or tidal high water mark. In addition to the requirements

in 210.8(B), the equipment shall be provided with branch-circuit power protected by a ground-fault circuit interrupter where required by other articles.

The particular application of underwater loudspeakers is unique in construction and wiring to pools and is addressed in Article 680. Other locations where audio equipment might be used "near bodies of water" are not addressed in Article 680. Locations where audio equipment is used near bodies of water are covered by 640.10.

The term *prevailing or tidal high water mark* recognizes that the edges of natural bodies of water can advance or recede. Such water level changes must be anticipated.

Unless required by other sections of the *NEC*, the requirement for GFCI protection does not apply where the equipment (specifically an amplifier or a receiver) is not installed near a body of water.

(B) Equipment Not Supplied by Branch-Circuit Power. Audio system equipment powered by a listed Class 2 power supply or by the output of an amplifier listed as permitting the use of Class 2 wiring shall be restricted in placement only by the manufacturer's recommendations.

Informational Note: See 640.10(A) for placement of the power supply or amplifier if supplied by branch-circuit power.

Part II. Permanent Audio System Installations

640.21 Use of Flexible Cords and Cables.

(A) Between Equipment and Branch-Circuit Power. Power supply cords for audio equipment shall be suitable for the use and shall be permitted to be used where the interchange, maintenance, or repair of such equipment is facilitated through the use of a power-supply cord.

(B) Between Loudspeakers and Amplifiers or Between Loudspeakers. Cables used to connect loudspeakers to each other or to an amplifier shall comply with Article 722. Other listed cable types and assemblies, including optional hybrid communications, signal, and hybrid optical fiber cables, shall be permitted.

Some loudspeakers are identified as being for outdoor use, as shown in Exhibit 640.1. The conductors supplying outdoor speakers must be identified for the environment.

See also

110.11, which specifies electrical equipment and conductors be identified for use in the operating environment and applies to audio equipment and its conductors

(C) Between Equipment. Cables used for the distribution of audio signals between equipment shall comply with Article 722. Other listed cable types and assemblies, including optional hybrid communications, signal, and hybrid optical fiber cables, shall be permitted. Other cable types and assemblies specified by the equipment manufacturer as acceptable for the use shall be permitted in accordance with 110.3(B).

EXHIBIT 640.1 Loudspeakers for outdoor use above ground or partially in ground. *(Courtesy of Bose)*

Informational Note: See 770.3 for the classification of composite optical fiber cables.

Δ **(D) Between Equipment and Power Supplies Other Than Branch-Circuit Power.** The following power supplies, other than branch-circuit power supplies, shall be installed and wired between equipment in accordance with this *Code* for the voltage and power delivered:

(1) Storage batteries
(2) Transformers
(3) Transformer rectifiers
(4) Other ac or dc power supplies

Informational Note: For some equipment, these sources such as in items (1) and (2) serve as the only source of power. These could, in turn, be supplied with intermittent or continuous branch-circuit power.

(E) Between Equipment Racks and Premises Wiring System. Flexible cords and cables shall be permitted for the electrical connection of permanently installed equipment racks to the premises wiring system to facilitate access to equipment or for the purpose of isolating the technical power system of the rack from the premises ground. Connection shall be made either by using approved plugs and receptacles or by direct connection within an approved enclosure. Flexible cords and cables shall not be subjected to physical manipulation or abuse while the rack is in use.

640.22 Wiring of Equipment Racks and Enclosures. Metal equipment racks and enclosures shall be bonded and grounded. Bonding shall not be required if the rack is connected to a technical power ground.

Wires, cables, structural components, or other equipment shall not be placed in such a manner as to prevent reasonable access to equipment power switches and resettable or replaceable circuit overcurrent protection devices.

Supply cords or cables, if used, shall terminate within the equipment rack enclosure in an identified connector assembly. The supply cords or cable (and connector assembly if used) shall

have sufficient ampacity to carry the total load connected to the equipment rack and shall be protected by overcurrent devices.

640.23 Conduit or Tubing.

(A) Number of Conductors. The number of conductors permitted in a single conduit or tubing shall not exceed the percentage fill specified in Table 1, Chapter 9.

(B) Nonmetallic Conduit or Tubing and Insulating Bushings. The use of nonmetallic conduit or tubing and insulating bushings shall be permitted where a technical power system is employed and shall comply with applicable articles.

640.24 Wireways, Gutters, and Auxiliary Gutters. The use of metallic and nonmetallic wireways, gutters, and auxiliary gutters shall be permitted for use with audio signal conductors and shall comply with applicable articles with respect to permitted locations, construction, and fill.

640.25 Loudspeaker Installation in Fire Resistance–Rated Partitions, Walls, and Ceilings. Loudspeakers installed in a fire resistance–rated partition, wall, or ceiling shall be listed and labeled, or identified as speaker assemblies for fire resistance, or installed in an enclosure or recess that maintains the fire resistance rating.

Informational Note: Fire-rated construction is the fire-resistive classification used in building codes.

The enclosure must maintain the fire resistance rating of the wall or ceiling in which a flush-mounted loudspeaker is installed. Listed enclosures are available for this purpose. Site-built enclosures may be installed with the approval of the AHJ and have been used as a method to maintain the fire resistance rating of the wall or ceiling.

Part III. Portable and Temporary Audio System Installations

While the equipment used for portable and temporary audio systems might not differ fundamentally from that used in permanent installations, the enclosures that serve as portable equipment racks must provide both transit protection and mechanical protection while the equipment is in use. Such enclosures can be constructed of metal, wood, plastic, or reinforced plastic construction. Nonmetallic construction enclosures frequently do not comply with EIA/ECA 310-D, *Cabinets, Racks, Panels, and Associated Equipment*.

640.41 Multipole Branch-Circuit Cable Connectors. Multipole branch-circuit cable connectors, male and female, for power-supply cords and cables shall be so constructed that tension on the cord or cable is not transmitted to the connections. The female half shall be attached to the load end of the power supply cord or cable. The connector shall be rated in amperes and designed so that differently rated devices cannot be connected together. Alternating-current multipole connectors shall be polarized and comply with 406.7(A) and (B) and 406.10. Alternating-current or direct-current multipole connectors utilized for connection between loudspeakers and amplifiers, or between loudspeakers, shall not be compatible with nonlocking 15- or 20-ampere rated connectors intended for branch-circuit power or with connectors rated 250 volts or greater and of either the locking or nonlocking type. Signal cabling not intended for such loudspeaker and amplifier interconnection shall not be permitted to be compatible with multipole branch-circuit cable connectors of any accepted configuration.

Informational Note: See 400.14 for pull at terminals.

640.42 Use of Flexible Cords and Cables.

(A) Between Equipment and Branch-Circuit Power. Power supply cords for audio equipment shall be listed and shall be permitted to be used where the interchange, maintenance, or repair of such equipment is facilitated through the use of a power-supply cord.

(B) Between Loudspeakers and Amplifiers, or Between Loudspeakers. Installation of flexible cords and cables used to connect loudspeakers to each other or to an amplifier shall comply with Part I of Article 400 and Parts I, II, and III of Article 725, respectively. Cords and cables listed for portable use, either hard or extra-hard usage as defined by Article 400, shall also be permitted. Other listed cable types and assemblies, including optional hybrid communications, signal, and hybrid optical fiber cables, shall be permitted.

(C) Between Equipment and/or Between Equipment Racks. Installation of flexible cords and cables used for the distribution of audio signals between equipment shall comply with Parts I and II of Article 400 and Parts I, II, and III of Article 725, respectively. Cords and cables listed for portable use, either hard or extra-hard service as defined by Article 400, shall also be permitted. Other listed cable types and assemblies, including optional hybrid communications, signal, and hybrid optical fiber cables, shall be permitted.

Δ **(D) Between Equipment, Equipment Racks, and Power Supplies Other Than Branch-Circuit Power.** Wiring between the following power supplies, other than branch-circuit power supplies, shall be installed, connected, or wired in accordance with this *Code* for the voltage and power required:

(1) Storage batteries
(2) Transformers
(3) Transformer rectifiers
(4) Other ac or dc power supplies

(E) Between Equipment Racks and Branch-Circuit Power. The supply to a portable equipment rack shall be by means of listed extra-hard usage cords or cables, as defined in Table 400.4. For outdoor portable or temporary use, the cords or cables shall be further listed as being suitable for wet locations and sunlight