The Consumer Electronics Association

TechHome® Rating System Guidelines

The TechHome Rating System (THRS) is a powerful new nationally-recognized build-to specification for residential technology infrastructure. THRS explains at a glance the level of technology infrastructure—also known as structured wiring—that is present, or could be installed, in a home.

A core goal of TechHome and the THRS is to further enhance the perceived value of the homes, while removing the complexity, difficulties and frustrations builders and homeowners have experienced in the past when adding home technology to their offerings and help Electronic System Contractors (ESC) build more productive and solid relationships with builders

A TechHome Rating can be achieved at three levels:

- *Bronze*, which provides the basic technology infrastructure needed in today's homes, such the distribution of TV and video signal to multiple rooms and networking and communications capability;
- *Gold* expands to more rooms and adds advanced functionality, such as a multi-room audio distribution system for listening to music in rooms throughout the house; or
- *Platinum*, the top ranking, further enhances functionality by including a home office space with full networking and communications for workstyle as well as lifestyle convenience.

Also, each provides requirements for Safety and Security, Lighting Control and complete Home Control.

The following pages detail the pre-wire requirements or "build-to" specifications for each of the three rating levels. For each rating—Bronze, Gold or Platinum—start by reading from left to right:

- First, note the Service Pre-wire Requirement on page 1. The service pre-wire is required as a baseline installation for any of the TechHome rating levels: Bronze, Gold or Platinum.
- The left column names the pre-wire requirement for each application.
- The middle column details functional considerations and, in the case of Home Theater/Media Room, covers this with respect to products comprising the theater or multi-media system.
- The right column names the "Standard Rooms" to which the cabling should be run; and it specifies the type of cable and the number of runs needed to each room.

TechHome®
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TechHome® Rating System

Service Pre-wire Specifications Required as a baseline installation for TechHome Bronze, Gold or Platinum		**From incoming Service to Head-end[1]**
TV Service Pre-wire Requirement From where any of the TV service signal sources listed enter the home, depending on the service available, use the cable and the number of runs specified for that signal source and home-run the cable(s) to the head-end.[1]	Over-the-air Antenna[2]	RG6 Quad
	Cable Gateway	RG6 Quad
	Satellite Dish	5x RG6 Quad
Radio Antenna Pre-wire Requirement From an antenna located outside the home or in the attic, for any of the radio signal sources listed, use the cable specified for each signal source and home-run it to the head-end.[1]	AM antenna	22 AWG Shielded
	FM antenna	RG6 Quad
	Satellite Radio antenna	RG6 Quad
Telecommunications Service Pre-wire Requirement From where the telecommunications service enters the home at the Network Interface Device, use the cable specified and home-run it to the head-end.[1]	Network Interface Device	Cat6/Cat5e
Broadband Service Pre-wire Requirement Depending on the type of broadband service—either Telco or Cable, from where broadband enters the home—either at the Telco Network Interface Device or Cable Gateway, use the cable specified and home-run it to the head-end.[1]	Network Interface Device	Cat6/Cat5e
	Cable Gateway	Cat6/Cat5e

Notes:
This service pre-wire is required as a baseline installation for any of the three TechHome Rating levels: Bronze, Gold or Platinum
All cables listed are the minimum cable specification for the application. Higher performance cable or heavier wire gauge may be substituted.

[1]*All cable should be home-run from the service entry point or point of origin outside the house to the head-end located in common area where Telco and CATV reside.*
[2]*Antenna needed to receive over-the-air broadcasts of local TV stations' uncompressed HDTV programs. Check www.Antennaweb.org for correct antenna for your zip code.*

TechHome® Bronze Rating Specifications

		Standard Rooms			
		Kitchen	**Family Room[1]**	**Master Bedroom**	**All other bedrooms**
Pre-wire Requirement Each standard room must be pre-wired with the minimum cable specifications and number of runs listed. Higher performance cable may be substituted as indicated. **This pre-wire specification will allow for either:** • Local viewing of HDTV and video [3]; • A multi-room video distribution system with infrared (IR), Serial Data Port, or Ethernet control for a local video display, local set-top box (STB), local DVD and receiver; • Digital Video; • Internet Access and Data Networking; • Telephone Communications; or • Home Control	Video/TV Distribution [2, 4]	2x RG6 Quad			
	Digital Video [2, 5] Internet and Data [2, 5] Telephone [2, 5] Home Control [2, 5, 6] Multi-room Audio [2, 5, 7]	2x Cat6/Cat5e			

Home Theater/Media Room Pre-wire Requirement At a *minimum* each home should have *one* room pre-wired for Home Theater/Multi-media with the cables and number of cable runs specified. Higher performance cable may be substituted as indicated. *Specifications at right are for the dedicated home theater/media room only.*[8]	**Display**[9] *See Optional Display Pre-wire Configuration*	Digital Video	2x Cat6/Cat5e
		Component Video	3x RG6 Quad or 3/5 RGB
		Composite Video	RG6 Quad
		Audio	2x RG6 Quad or RGB + 22/4 SHLD
	Speakers		16/2 for 5.1 or 7.1
	Subwoofer		1x 16/4 and 1x RG6 Quad
	Optional Display Pre-wire Configuration		
	Display[9]	Digital Video	2x Cat6/Cat5e
		Component Video	3x RG6 Quad or 3/5 RGB
		Audio	2x RG6 Quad or RGB + 22/4 SHLD
	Display Conduit		1 x 1½ inch minimum or larger conduit or inner-duct from display to loop location and from loop location to head end

Notes:
TechHome Service Pre-wire required as a baseline installation for TechHome Bronze.
All cables listed are the minimum cable specification for the application. Higher performance cable or heavier wire gauge may be substituted.

[1]*Family Room can be omitted if this room serves as the Home Theater/Media Room*.
[2]*When layout allows, all cables should be home-run from room to the head-end located in a common area where Telco and CATV reside.*
[3]*Antenna needed to receive over-the-air broadcasts of local TV stations' uncompressed HDTV programs. Check www.Antennawb.org for correct antenna for your zip code.*
[4]*When using a multi-room video distribution system, use of additional electronics/hardware for Component Video or HDMI may be required based on configuration.*
[5]*The Bronze Pre-wire Requirement provides cabling for only one of the multiple applications listed. This limits overall flexibility to possible installed systems and point-of-device placement in room. It would greatly benefit the functionality of a home to have additional runs of Cat6/Cat5e to each of the standard rooms.*

[6]*Following the TechHome Infrastructure Guidelines will make implementation of a complete integrated home control solution possible. When evaluating equipment for your home, it is important to select equipment or systems that can be controlled through a third-party system via Internet Protocol (IP), Serial Data Port or infrared (IR). For example: If a multi-room video distribution system is installed as a stand-alone system, the system installed must be able to be communicated to and/or controlled by another system. This should be considered before installing any home control, lighting control, or safety and security system. Following this guideline will make integrating all technology in the home seamless.*
[7]*Multi-room Audio requires the installation of additional cable runs for speaker level (16/4) and line level (22/4 or Cat6/Cat5e).*
[8]*It is best practice to loop wire from head-end in room where possible local equipment may reside. This will allow for local and or head-end equipment configuration.*
[9]*Composite Video, Component Video or HDMI may be required based on configuration.*

TechHome® "Green"

Many of us are thinking about the environment and our impact on it.
Today's technology products can enhance your green lifestyle; decreasing energy and water usage and increasing environmental sustainability. When integrated to function as part of a home control system operating throughout your home's living and working spaces, product performance, as well as your comfort and convenience, can be enhanced; greater gains in savings can be realized.

Home control systems can help reduce your impact on our environment by providing you with local and remote control, as well as monitoring, of major energy systems in your home, such as heating and cooling, lighting, hot water, your water use and even your entire home's use of electricity!

Benefits include monitoring your home systems while at work or on travel; returning to a house that's comfortably cool or warm; turning-off lights in empty rooms; and increasing hot water in anticipation of demand, while decreasing it off peak. Monitoring water use might even reveal problems; protecting you against a damaging water leak.

With a TechHome Rated Home—Bronze, Gold or Platinum, you may already have some of the necessary technology infrastructure in place to add these home control systems.
Going "green" can be as easy as connecting a control system to your home's Local Area Network (LAN); or purposing an unused run of Cat5e or Cat6 cable. If you're thinking ahead, you may want your integrator to pull a dedicated run of cable for this. Some systems even can be controlled wirelessly. If you install any of the home control systems from the checklist to your right, you're well on your way to lowering your energy consumption and environmental impact; while saving you money, as well as saving our environment.

Home Control Systems

- ❑ Heating and Air Conditioning Control [1]
- ❑ Lighting Control
- ❑ Window Shade Control
- ❑ Ventilation Control
- ❑ Hot Water Heater Control
- ❑ Water Use Monitor
- ❑ Electric Use Monitor
- ❑ Natural Gas Use Monitor
- ❑ Smart Irrigation Controller
- ❑ Occupancy Detection [2]
- ❑ On/Off Timer Control [3]
- ❑ Alternative Energy Control/Switching [4]

Note:
This is not an exhaustive list of available "green" home control systems. Please consult a professional as new systems and new options are coming to market.
[1]Includes programmable, set-back thermostats
[2]Switching on/off by room or by zone and includes motion sensors
[3]Switching on/off by room or by zone
[4]Includes solar, geothermal, wind, etc.