

Tips for Installing Outlets

- For all individual and broadband applications, MTS recommends using the standard size individual electrical box which will support both applications. The electrical box installation should also include a vapour barrier when installed on outside walls and should be installed at the same height of other electrical outlets within the room.
- Inside walls: MTS recommends that a MPLS plate (Mud plate) is used at the outlet location as opposed to a standard size individual electrical box. The stud space is used to store the wiring.

POST-WIRING INSPECTION TIPS

What to look for when you inspect your completed communications wiring:

1. “Daisy chaining” wires is not recommended and should be avoided.
 - “Daisy-chaining” occurs when wires are run from outlet to outlet within the house, as opposed to running a new wire directly from the Central Distribution Point.
 - Installing separate wire runs simplifies repairs and allows for future changes without disrupting other Telephone, Internet or TV equipment.
2. All locations that are on the outside walls of the house should have a “vapour barrier” installed.
 - A “vapour barrier” will prevent condensation from damaging the wiring, which can lead to interference or even a service outage.
3. All communications wiring must be separate from all electrical wiring.
 - It is recommended that communication wiring be located at least 50mm (2”) from all electrical wiring, as electrical wiring may cause interference that can affect telephone, TV and Internet transmission.
4. Communications wiring must NOT be run inside heating ducts or vents.

- Wiring inside heating ducts is a potential fire hazard and should be removed immediately.
 - Heat can cause the protective wire covering to break down, which may affect the transmission of voice, data or video.
5. Check for any damage to the outer wire covering.
 - Staples or fasteners can cause damage to the outer covering of the wire when it is being installed.
 - If any fasteners have broken the outer covering, they must be removed and the wire will need to be replaced.

FREQUENTLY ASKED QUESTIONS

Why should all rooms with the exception of the bathroom be pre-wired with a Cat5e wire?

Technology is changing: in the near future, home networks will expand to include more than just computers and printers. TVs, gaming consoles, home security systems and even smart appliances (such as fridges) will require Internet connections.

Note: CSA has specific regulations regarding installation of outlets in bathroom locations.

Why should the extra rooms be wired as Broadband locations?

- Because we can only guess at the future uses of the various rooms of a house when wiring is installed, so it's best to provide Broadband outlets now when the walls are open. If you sell your home in the future, the advantage of rooms having Broadband outlets may increase the selling features over older homes.

Why provide a “home run” wiring installation?

- Each pre-wired outlet has its own individual “home run” of cabling extending back to a central distribution device. The benefits of having a wire return directly back to the central distribution point are:

- *flexibility* – all changes in distribution of services can be quickly and easily made at the central distribution device.
- *isolation of problems* – when an interruption takes place (nail through a wall and into a cable, etc.) only one outlet is affected; and
- *quality of signal* – each additional connection point is a potential source of interference and other problems which can cause a loss of signal quality.

What face plates and connectors should be used to terminate individual and broadband outlets?

- Termination of outlets is completed after enclosure of the walls. Your Telecommunications Service Provider will normally terminate the outlets according to their standard procedures when signing up for each service.

AAA ALARM PRE-WIRING STANDARDS

- There will be one 4C 22AWG (Z Wire) located at each entry door, system keypad, any applicable windows, sump pump sensors, low temperature devices and smoke/CO detectors, etc. and should be home run to the alarm panel location.
- There will be one Cat 3 located at each powered device (motion sensor, glass breaks, etc.) home run to the panel.
- There will be a 3C 18AWG run from the AC source to the alarm panel (if the AC source is not beside the panel).
- There will be a 4C 22AWG run from the phone demarcation to the panel (if the phone demarcation is not beside the panel).
- There will be a length of 12 inches or 30 cm for each wire left at every electrical box installed and at every alarm device point.

Please contact MTS at 204-225-5687 for all your communication and entertainment needs prior to moving in.



WAIVER OF RESPONSIBILITY

The contents of this Guide are provided by MTS Allstream Inc. (“MTS”) for illustration and information purposes only. MTS does not guarantee the accuracy of the information or suggestions contained herein, and it is the homeowner’s responsibility to ensure that all electrical installations, including communications wiring, are done according to governing laws and regulations. It is highly recommended by MTS that such installations should only be done by a duly licensed electrician. MTS reserves the right to refuse to connect any wiring or equipment to the MTS network that does not comply with generally recognized telecommunications or Manitoba Electrical Code standards. MTS SHALL NOT BE LIABLE TO ANYONE FOR DAMAGE OR LOSS OF ANY KIND OR NATURE, INJURY OR DEATH RESULTING FROM IMPROPER ELECTRICAL INSTALLATIONS WHETHER OR NOT SUCH INSTALLATION ARISES FROM, OR IS CONNECTED TO, RELIANCE ON THIS GUIDE. ANY PRE-WIRING BY THE HOMEOWNER OR ANY OTHER PERSON PURSUANT TO THIS GUIDE IS ENTIRELY AT YOUR OWN RISK.

MTS design mark is a registered trade-mark of Manitoba Telecom Services Inc., used under license.

RS2518/Mar 2012

MTS Pre-Wiring Standards for the Broadband Home

Information Guide

This educational guide will provide you with the necessary information to pre-wire your home according to the MTS Pre-Wiring Standard for Telephone, MTS TV and Internet service. This guide applies to wood frame or metal stud framed, single-family dwellings that are newly built, or undergoing major renovations. For other residential dwellings or business applications, please contact MTS.

WHAT EVERY HOME OWNER SHOULD KNOW

As a home owner, you are responsible for the installation, maintenance and repair of all communications wiring beyond the "Demarcation Point." The "Demarcation Point" is the point where the MTS cable network ends and where your home's inside communication wiring begins. One of the benefits of being responsible for your home's inside communication wiring is that you're free to choose the installation or repair method of your choice.

As a home owner, you need to ensure that your inside communications wiring meets minimum Canadian Electrical Code, Provincial and local wiring codes. These codes exist to ensure your safety and proper delivery of your telecommunications services.

When you build a new home or renovate your existing home, be sure to pre-wire your telephone, television and Internet locations before the wall covering or drywall is installed. Pre-Wiring will help you avoid unsightly surface wiring and save you time and money in the future.

When you build a new home, home building companies typically include two telephone and two television outlets in the price of your home. However, consider your future communications needs when you build your new home, to avoid needing to install more outlets in the future.

You should consider pre-wiring the following locations in your home:

Telephone Outlets:

- Bedrooms
- Kitchen
- Family/Living Room
- Den/Home Office
- Rec. Room

Broadband Outlets:

- Bedrooms
- Den/Home Office
- Family/Living Room
- Kitchen
- Rec. Room

QUESTIONS TO ASK YOUR HOME BUILDING COMPANY

Here is a list of helpful questions to ask your home building company when you discuss communications pre-wiring in your new home:

1. What type of wiring and outlets are included in the basic home price?

Typically, two telephone and two television outlets are included with every new home. Check with your builder to confirm their standard offering.

MTS recommends installing 'Broadband outlets' in all rooms of your home in order to ensure that your home will be ready for all of your future TV, High Speed Internet and voice service needs.

2. Will the wiring used provide sufficient speed for Broadband (TV or High Speed Internet services)?

Internet and TV signals must have the correct wiring installed. High Speed Internet wiring should use a Category 5e cable (trade name Cat 5e) or higher.

3. Will all of the telephone, television and Internet locations use a separate wire run?

Installing separate wire runs simplifies repairs and allows for future changes without disrupting other telephone, Internet or TV services.

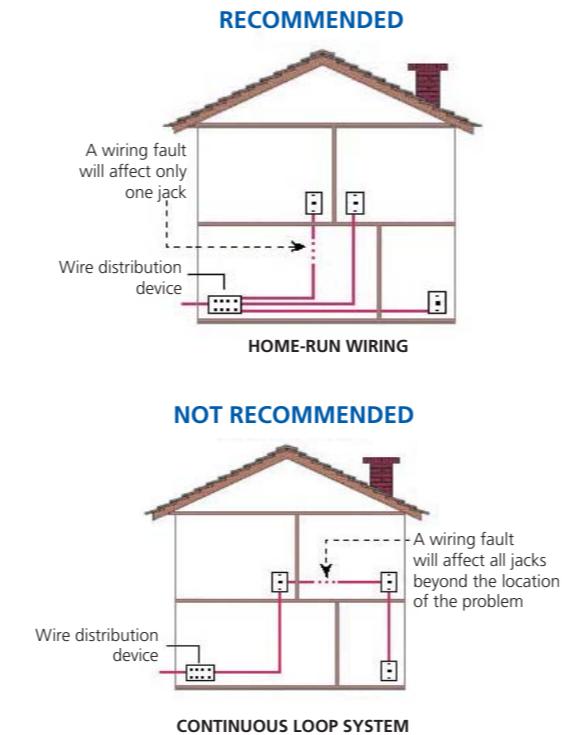
4. Will all of the telephone, television and Internet wires run directly back to the electrical panel or some central location?

Yes. In the future, you may face additional costs if a wire is left short, or not run back to the electrical panel directly. Some types of wire such as Cat 5e cannot be extended and must be replaced with a new one if damage has occurred.

MTS PRE-WIRING FOR THE BROADBAND HOME STANDARD

The MTS Pre-Wiring for the Broadband Home standard recommends that all wire runs in your house go back to a central location, such as the electrical panel, typically located in your basement (see illustration below). This central point is referred to as the Wire Distribution Device in the following diagrams.

Recommended set up of MTS Pre-Wiring for the Broadband Home Standard



BROADBAND PRE-WIRING SPECIFICATIONS

MTS Telephone and Standalone High Speed Internet Service Pre-Wiring

Cat 5e cable (depicted below) or higher should be used for each telephone or standalone High Speed Internet location throughout your home. Each location should have a separate wire run back to the Central Distribution Point.

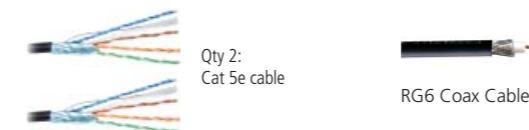


Cat 5e cable contains eight color-coded conductors (four twisted pairs of copper wires). It offers increased bandwidth compared with old-fashioned quad wiring. The cable is small (roughly 3/16 inch in diameter), inexpensive and easy to pull, although it must be handled with care.

NOTE: if you want to have multiple Internet access locations, you will need to install a router at the Central Distribution Point. However, if you are using a wireless router, one Internet location in the home will support multiple wireless Internet users.

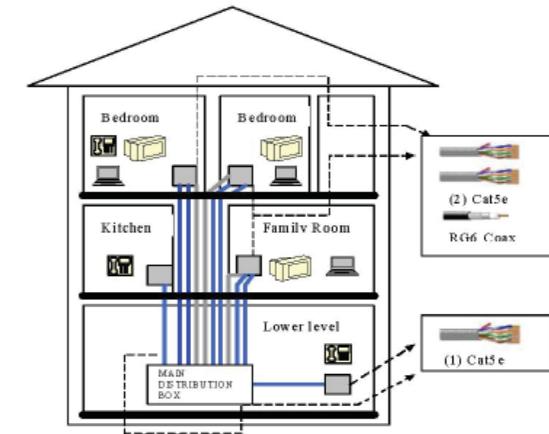
MTS Broadband Outlet (TV and High Speed Internet) Pre-Wiring

For Broadband locations (TV and High Speed Internet), MTS recommends 2 Cat5e wires and also 1 RG6 Coax cable to be installed in each outlet. This offers the combination of all three services in one outlet reducing the need for three individual outlets in each room.



INSTALLATION OF BROADBAND PRE-WIRING

In order to pre-wire for telephone, Internet and MTS TV services, we recommend that each room in your home is installed with a Broadband outlet, which is home run back to the central distribution point (shown below).



NOTE:

- Use Cat 5e (or better) UTP Copper Wiring
- Outlets shown are not terminated (pre-drywall installation)
- Use a Home run Wiring Pattern (do not daisy chain any wiring)
- Do not exceed 90 meters in length per each wire run

Tips for Installing the Wire

- Do not pull wire tight from joist to joist. Allow approximately 1 to 2 cm sag between joists.
- Wiring should not come within 5" or 13 cm of unprotected high voltage cables (110V/220V). Wire is considered protected if separated from high voltage cables by properly grounded BX or metallic conduit. Failure to do so may degrade the quality of your TV and High Speed Internet service.
- Arrow T-25 or T-59 staple guns can be used for this job and staple spacing should be approximately the length of the stapler. Avoid kinks and sharp bends in the cable. If staples pierce wire, replace the wire.
- Leave at least 1/3 meter of cable at the outlet locations and at least 2 meters of cable at the main or central distribution location for termination. It is not necessary to strip the insulation off the wires.