Home Structured Cable

What Really Matters in Selecting the RIGHT Home Structured Cable

Why more than one location in the room? How often have you decided to move around the furniture in your room only to reconsider when it would require rewiring telephone or the coax? If you plan ahead, you will have all the flexibility you need.

Why data/phone/coax all in one jack?

Electronic devices are becoming more and more integrated. Devices like DirectTV® and TIVO® are required to be connected to a telephone or data line at all times. In the future, more devices will allow you to look at digital pictures and movies kept on your home computer. If you have more than one of these devices at one location, the number of jacks needed increases. As a rule, any location that has a data or phone jack should also have a coax jack and vice-versa. Proper planning will allow for the convenience when you need it.

Coax: Why Home Run every cable?

Can't I just install a splitter? When everything you watched came over the antenna and you only had 1 or 2 TVs, installing a splitter would have worked fine. Today's household is much more demanding on the media with TVs and set-top-boxes in every room. Many satellite and digital cables will not work properly with splitters in place. Additionally, each splitter reduces the signal by one half, so if you install a few splitters in line, the first and last television will have vastly different signal qualities. Instead, best practice would be to home-run every coax cable and install one amplifier and one large splitter that will accommodate the number of TVs/Taps in use and the signal level will be consistent.

Telephone/Data: Why Home-Run every cable? Can't I just daisy-chain?

It is critical that data and phone be home-run in today's new homes. Data, unlike telephone, can't share the same signal, and instead needs to be connected to a hub or router which will control traffic between devices. The FCC has mandated that homes be home-run wired (and must use Cat 3 at minimum) to maintain the integrity of the signal. Today's phone companies are providing DSL and home-run wiring gives greater flexibility.

Whole-Home Sound:

(14 gauge wire preferred, 16 gauge minimum)

- **Single-source, Volume Control Only:** Home-run 4 conductor wire to each volume control location in home. Run 2 conductors to each speaker location in room from volume control. Home-run 4 conductor wire from main stereo to central location.
- **Multi-source, Volume Control:** Same as above, add home-run Cat 5e to each volume control location (depending on system). May need to run 1 or multiple Cat 5e runs to main controller/amp unit.
- **Strand-Count:** Many installers prefer a high strand count speaker wire (SoundSational 65/34 or 105/34) because of the flexibility. Note that the stranding has little or no impact on the sound quality, only on the flexibility. If cost is an issue, opt for a smaller gauge and standard strand-count.

Identify the Application

Kitchen:
Best Practice: (2) Tel/Data (1) Coax
Minimum: (1) Tel/Data (1) Coax in 1 location

Media Room:
Best Practice: (3) Tel/Data (3) Coax in 2 locations, plus speaker wire
Minimum: (1) Tel/Data (2) Coax in 1 location

Home Office:
Best Practice: (3) Tel/Data (2) Coax in 2 locations
Minimum: (2) Tel/Data (1) Coax in 1 location

Bedroom:
Best Practice: (2) Tel/Data (2) Coax in 2 locations
Minimum: (1) Tel/Data (1) Coax in 1 location

More on Home Structured Cable

Component Needs:

Tivo®:	(1) Tel/Data (1 to 2) Coax
DirectTV® Tivo:	(1) Tel/Data (2 to 3) Coax (for recording 1 channel while watching another)
X-Box:	(1) Data
PlayStation2:	(1) Data
DirecTV:	(1) Tel/Data
DISH Network:	(1) Tel/Data (1) Coax
HDTV Receiver:	(1) Coax (for local HDTV channels)
Media Box:	(1) Data (watch digital pictures and movies from your computer at your TV)


96263

Category 5e Cables

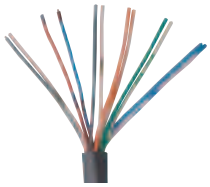
Part Number	Description	Pairs	UL Type	Weight (Nom.)	Outside Dia. (Nom.)	Packaging	Jacket Color
96262	Cat 5e 24/4pr solid BC ETL Verified, Tested 350 MHz	4	CM	24 lbs	0.185″	1,000′ Box (46)	Blue (06)
96263	Cat 5e 24/4pr solid BC ETL Verified, Tested 350 MHz	4	CMR	24lbs	0.185″	1,000′ RIB (16) 1,000 Box (46)	White (01) Yellow (02) Orange (03) Green (05) Blue (06) Gray (09) Pink (21)
96963	2x Cat 5e 24/4pr solid BC Dual (Parallel) construction ETL Verified, Tested 350 MHz	4+4	CMR	51 lbs	0.185″ x 0.370″	1,000′ Reel (06)	Blue (06)
966956	Cat 5e+ 24/4pr solid BC Plenum Rated ETL Verified, Tested 350 MHz	4	CMP	21 lbs	0.180″	1,000′ RIB (16)	Yellow (02) Orange (03) Green (05) Blue (06) Gray (09) Natural (23)
96294	Cat 5e 24/4pr solid BC For drect burial use (flooded)	4	n/a	20 lbs	0.250″	1,000′ Reel (06)	Blue (06)


96203

Freq. (MHz)	Attn. (dB/100m) Max	NEXT loss (dB) Min	PSNEXT loss (dB) Min	ACR (dB@100m) Min	PSACR (dB@100m) Min	ELFFEXT (dB@100m) Min	PSELFFEXT (dB@100m) Min	Ret. Loss (dB) Max
1	2.0	65.3	62.5	63.3	60.3	63.8	60.8	20.0
10	6.5	50.3	47.3	43.8	40.8	43.8	40.8	25.0
16	8.2	47.3	44.3	39.1	36.1	39.7	36.7	25.0
20	9.3	45.8	42.8	36.5	33.5	37.7	34.7	25.0
31.25	11.7	42.9	39.9	31.2	28.2	33.9	30.9	23.6
62.5	17.0	38.4	35.4	21.4	18.4	27.8	24.8	21.5
100	22.0	35.3	32.3	13.3	10.3	23.8	20.8	20.1

Specification	Value
Mutual Capacitance: (nF / 100m) Nominal	4.4
DC Resistance: (Ohms / 100m @ 20°C) Max	8.9
Delay Skew: (ns / 100m) Max	45
Velocity of Propagation:	
Non-Plenum (%):	70
Plenum (%):	72
Input Impedance: (Ohms @ 1-100 MHz):	100+/-15


96204


96206

Category 3 Cables

Part Number	Description	Pairs	UL Type	Weight (Nom.)	Outside Dia. (Nom.)	Packaging	Jacket Color
96202	Cat 3 24/2pr solid BC ETL Verified	2	CMR	10 lbs	0.140″	1,000′ Box (46)	Gray (09) Beige (33)
96203	Cat 3 24/3pr solid BC ETL Verified	3	CMR	14 lbs	0.150″	1,000′ Box (46)	Gray (09) Beige (33)
96204	Cat 3 24/4pr solid BC ETL Verified	4	CMR	17 lbs	0.180″	1,000′ Box (46)	Gray (09) Beige (33)
96206	Cat 3 24/6pr solid BC	6	CMR	25 lbs	0.200″	1,000 Box (46)	Gray (09)
996212	Cat 3 24/12pr solid BC	12	CMR	53 lbs	0.320″	1,000 Reel (06)	Gray (09)
96210	Cat 3 24/25pr solid BC	25	CMR	108 lbs	0.410″	1,000 Reel (06)	Gray (09)
96214	Cat 3 24/4pr solid BC ETL Verified, Plenum Rated	4	CMP	19 lbs	0.160″	1,000′ Box (46)	Gray (09) Beige (33)

Freq. (MHz)	Attn. (dB/100m) Max	NEXT loss (dB) Min	Ret. Loss (dB) Max
1	2.6	41	12
4	2.6	32	12
8	2.6	27	12
10	2.6	26	12
16	2.6	23	10