

Single Family Residential Plan Review Checklist

Outside Box - Customer Premise Equipment (CPE) Requirements:

- The Outside Box (CPE) enclosure shall be framed into the exterior wall of the structure near the electrical meter. See attached Detail “A” – Typical Curb to Building Detail, Detail “B” – Typical Outside Box (CPE) Placement and Detail “C” – Typical Outside Box (CPE) Enclosure Placement Profile Data for placement and installation details. The Outside Box (CPE) shall meet the following specifications at a minimum:
 - Outside Box (CPE) shall be a minimum of 16 gauge steel construction and desert tan powder coat finish.
 - Outside Box (CPE) doors shall provide a weather proof seal.
 - Outside Box (CPE) should include a ¾” plywood backboard for mounting equipment.
 - Outside Box (CPE) shall be NEMA 3R rated and UL Listed.
 - Outside Box (CPE) shall be approximately 14” wide, and approximately 5” deep. The enclosure shall be a *minimum* of 24” tall. Sample enclosures include:
 - Benner Nawman 1130W-UL (www.benner-nawman.com) (25 ½” tall)
 - Eaton ESWFDB24 (www.eaton.com) (24” tall)
 - Eaton ESWFDB32 (www.eaton.com) (32” tall)
 - Include a dedicated, 120 VAC nominal, non-switched circuit. A minimum of 2 outlets shall be installed in the CPE, and provide ample room for power supplies.

Inside Box - Network Communication Center (NCC) Enclosure Requirements:

- The Inside Box (NCC) enclosure shall be framed into an interior wall of the structure, centrally located and preferably in an area that is easily accessible and convenient (i.e. laundry room, utility room, etc. NOTE: Closets can be used, but are *not* a good place to put the Inside Box (NCC). Once the homeowner has moved in there are shoes and clothes in the way!) The Inside Box (NCC) shall meet the following specifications at a minimum:
 - The Inside Box (NCC) shall be a minimum of 16 gauge steel construction and powder coated white.
 - The Inside Box (NCC) doors shall be white powder coated steel or a decorative door.
 - NCC shall be UL Listed and Approved.
 - The Inside Box (NCC) shall be approximately 14” wide, and approximately 4” deep. The enclosure shall be a *minimum* of 36” tall. Sample enclosures include (please note the following are not preferred just a sample of available enclosures that meet this requirement):
 - Open House Systems Channel Plus Model H336 (www.linearcorp.com) (36” tall)
 - Eaton ESWI3600 (www.eaton.com) (36” tall)
 - Leviton SMC-420 (www.levitonproducts.com) (42” tall)
 - Channel Vision C—0138E (www.channelvision.com) (38” tall)
 - Include a dedicated, 120 VAC nominal, non-switched circuit. A minimum of 4 outlets shall be installed in the Inside Box (NCC), and shall provide ample room for power supplies (for items such as cable modems, routers, etc).

Other Requirements

- The builder shall place a **minimum** of one (1) 1.5” flexible conduit between the Outside Box (CPE) and the Inside Box (NCC). The conduit shall be free of kinks and inspected by the building inspector prior to installation of drywall.
- The builder shall place a **minimum** one empty outlet box in each room identified in the Communications System Installation Matrix below.
- The builder shall place a **minimum** of one (1) ½” flexible conduit between the Inside Box (NCC) and each empty outlet box installed for Communications Systems Purposes. The conduit shall be free of kinks and inspected by the building inspector prior to installation of drywall.
- All flexible conduits terminating in the Outside Box (CPE) and the Inside Box (NCC) shall be labeled with a tag according to their terminating location (i.e. Master Bedroom, Kitchen, etc.)
- The grounding conductor from the communications equipment to the residence system electrical power ground shall have a total wire length of less than 20 feet.
- All communications conduits crossing electrical power and lighting conductors shall be separated by a minimum of 2 inches. On communication runs parallel to electric power and over 5 feet in length, a 12 inch separation is recommended. A separation of 5 inches is recommended from fluorescent lighting fixtures.

Communications System Installation Matrix

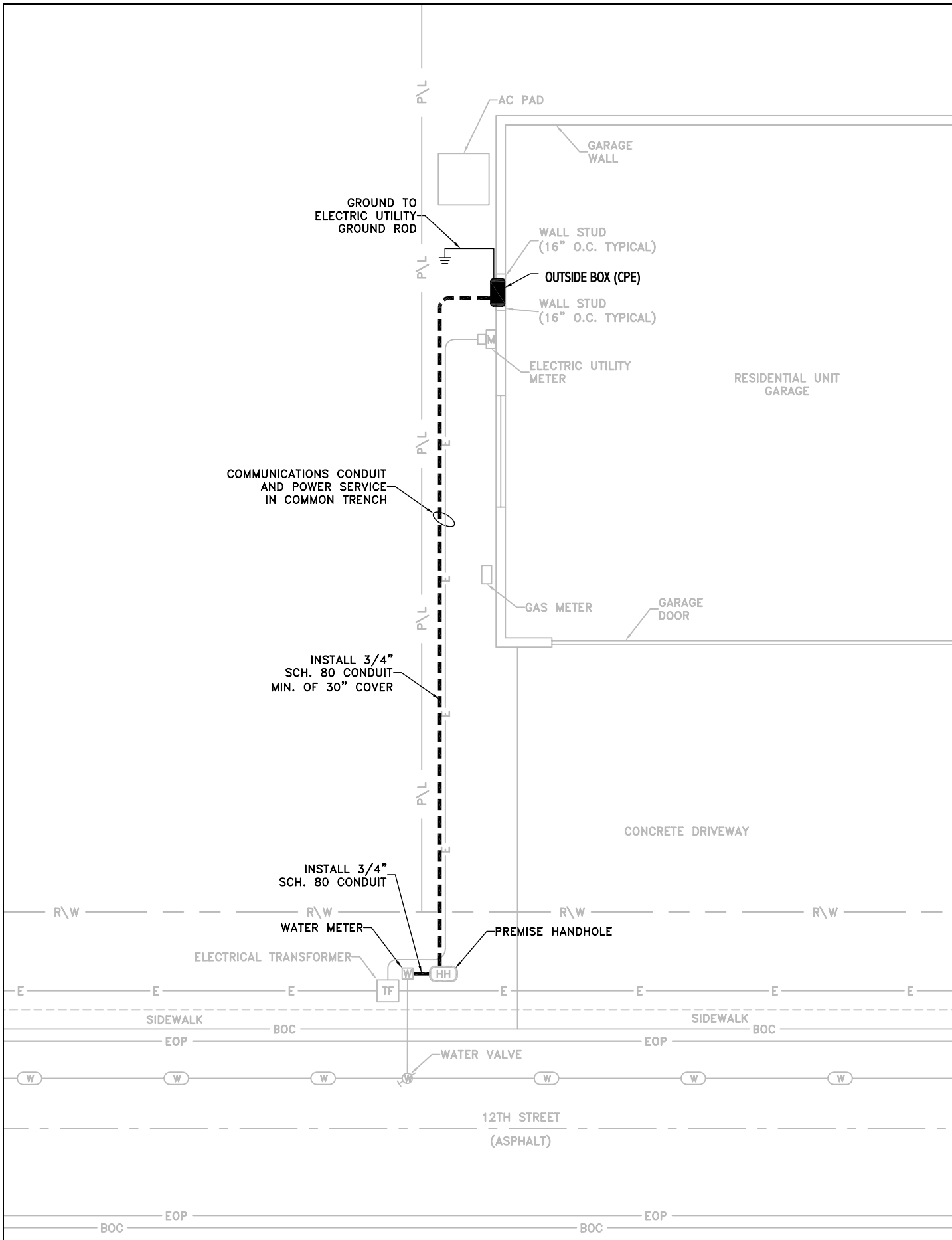
Room Types	Required Empty Outlet Box
Kitchen	Yes
Living/Family/Great Room	Yes
TV/Media Room	Yes
Master Bedroom	Yes
Bedroom/Den/Study	Yes

Note: This matrix dictates the minimum communications system drops. Builders/Contractors are responsible to determine if a particular space requires more than one drop (example: a large family/media room may require more than one TV/video drops to accommodate different furniture layouts).

Optional Requirements

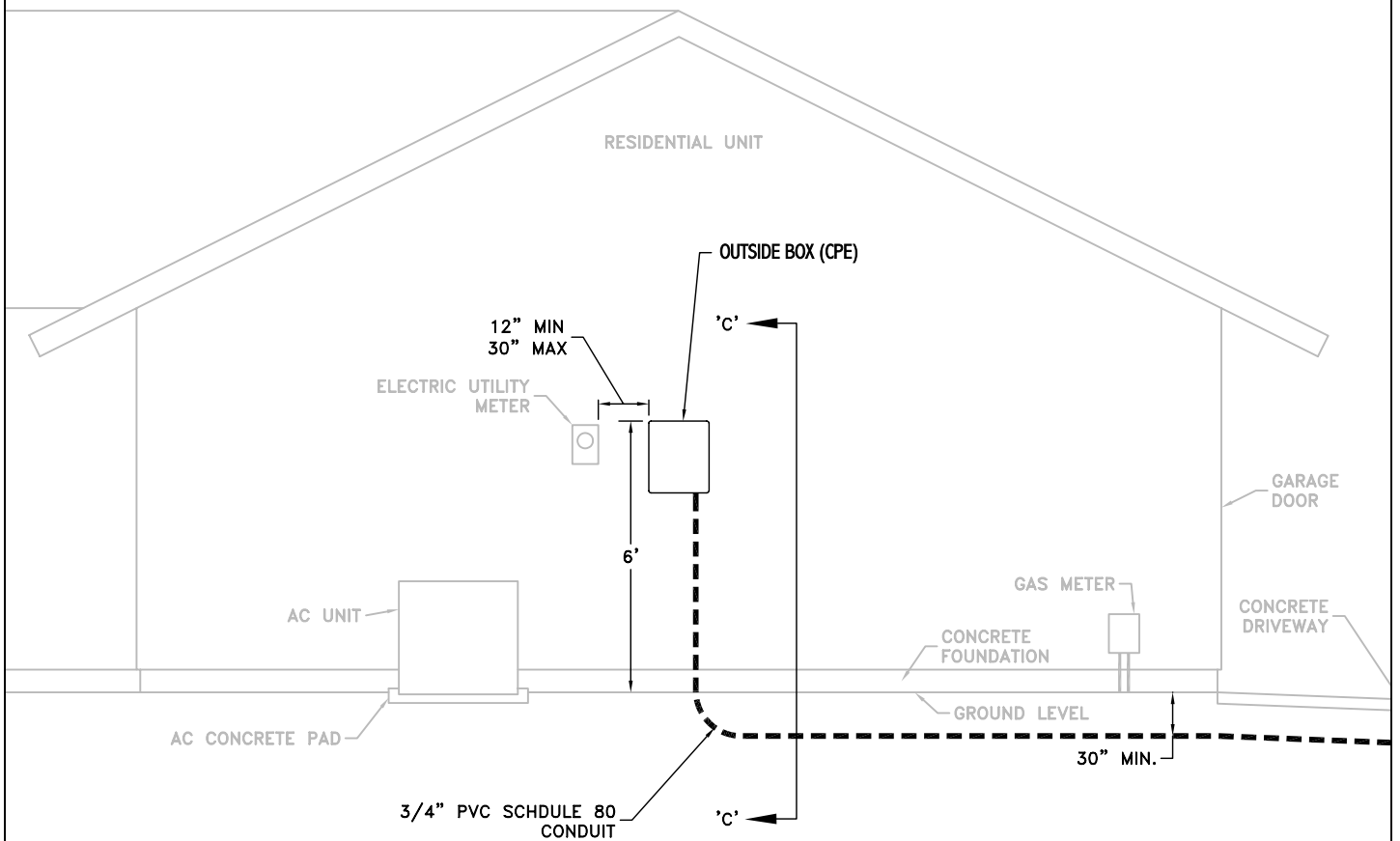
The following requirements shall be met should the builder decide to install cabling into the home:

- All cabling shall be installed inside of the required flexible conduits.
- All telephone cabling shall be achieved with Cat6/Cat6a cable and RJ-45 connectors.
- All Data cabling shall be achieved with Cat6/Cat6a cable and RJ-45 connectors.
- All Video shall be achieved with RG6/RG11 and F-type Coax connectors.
- All cables terminating in the Inside Box (NCC) shall have a minimum of 3-feet of slack cabling.
- All cables terminating in the Outside Box (CPE) shall have a minimum of 3-feet of slack cabling.

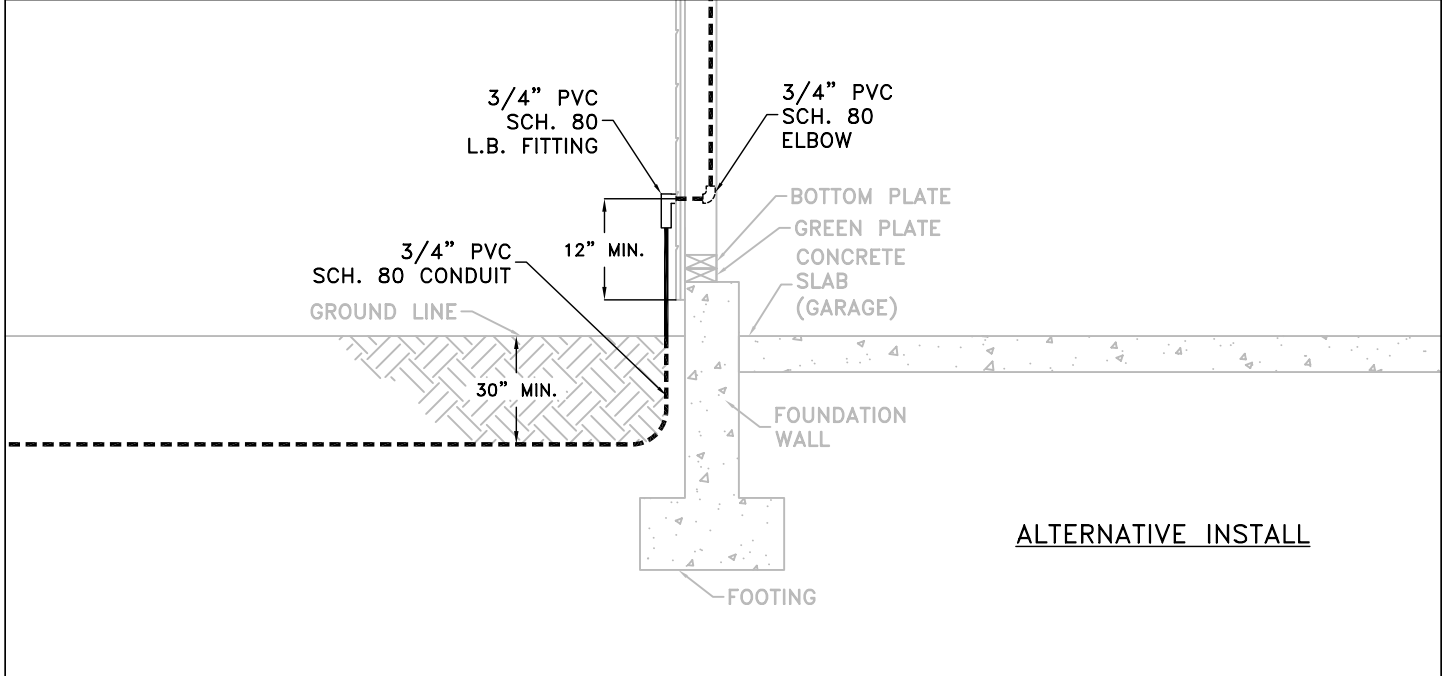
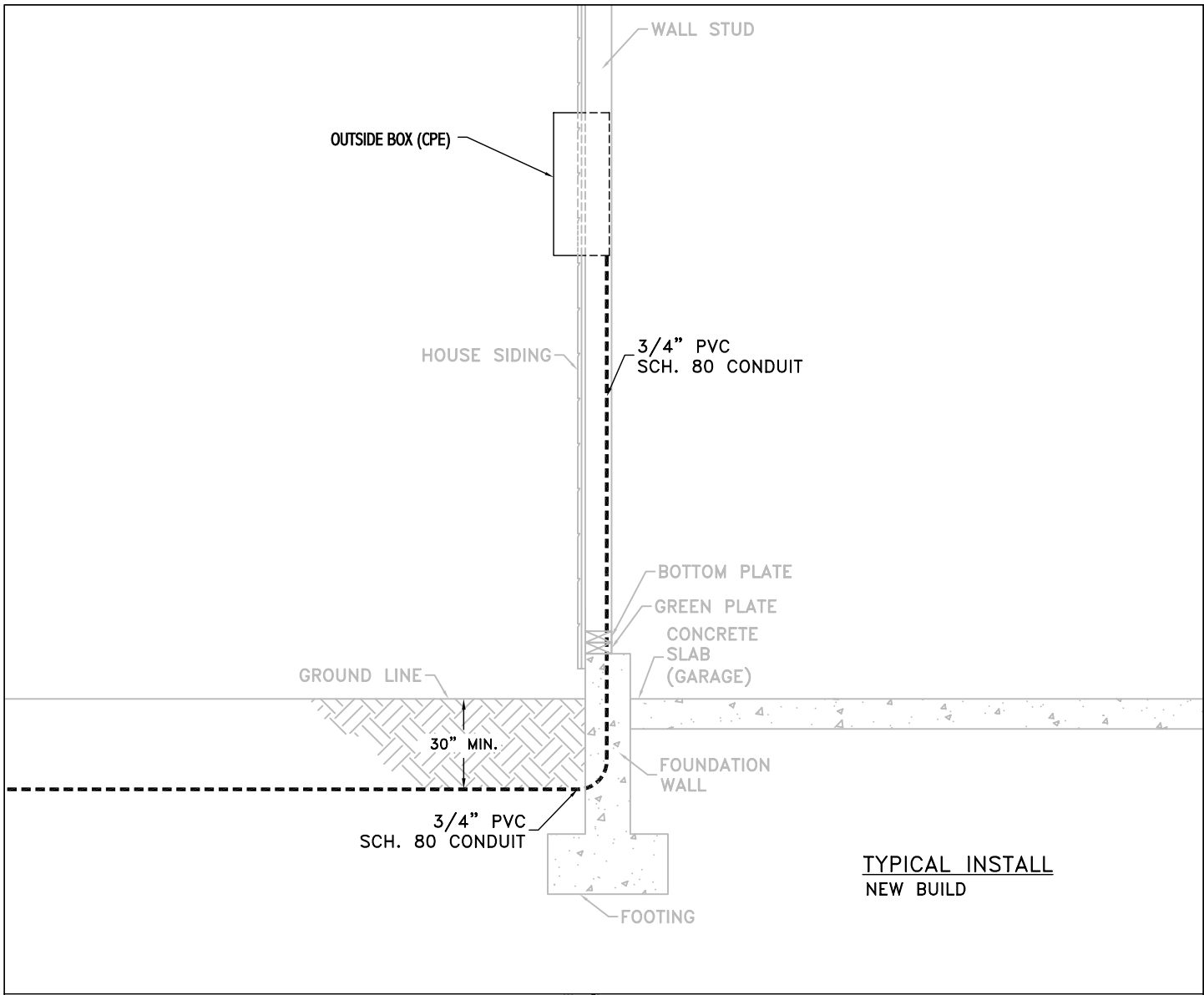


SCALE: NTS		TYPICAL CURB TO BUILDING DETAIL	SHEET NO.
DRAWN BY:	DATE:		DETAIL "A"
APPROVED BY:	DATE:		
FILE NAME:			

TYPICAL OUTSIDE BOX (CPE) PLACEMENT



SCALE: NTS		TYPICAL OUTSIDE BOX (CPE) PLACEMENT	SHEET NO.
DRAWN BY:	DATE:		DETAIL "B"
APPROVED BY:	DATE:		
FILE NAME:			



SCALE:		TYPICAL OUTSIDE BOX (CPE) PLACEMENT PROFILE DETAIL	SHEET NO.
DRAWN BY:	DATE:		DETAIL "C"
APPROVED BY:	DATE:		
FILE NAME:			

SAMPLE CPE ENCLOSURES



**24" NEMA-3R Dmarc Box w/
Plywood back**

Meets the new SBC and Verizon specifications for outdoor fiber optic installations. Includes a power receptacle and grounding bar

ESWFDB24



**32" NEMA-3R Dmarc Box w/
Plywood back**

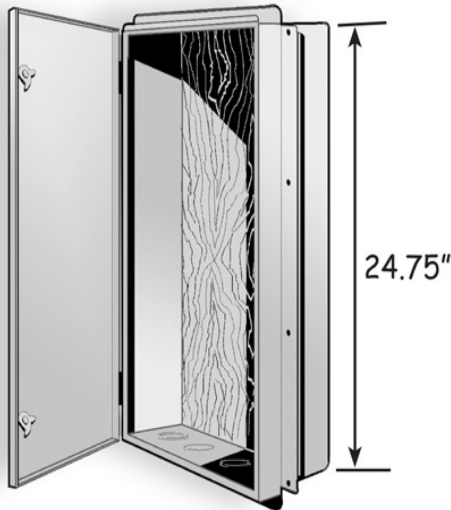
Meets the new SBC and Verizon specifications for outdoor fiber optic installations. Includes a power receptacle and grounding bar

ESWFDB32



BN1130W-UL Low Voltage Enclosure

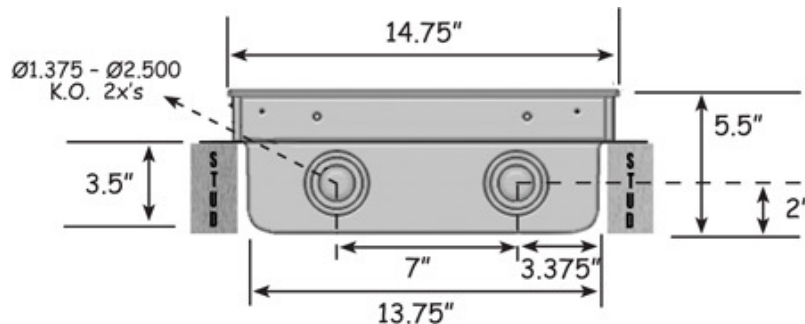
Exterior Semi-Recessed Fully Enclosed Service Box



Specification: BN1130W-UL Low Voltage Enclosure
Exterior Semi-Recessed Fully Enclosed Service Box
14-3/4" Wide x 24-3/4" Tall x 5-1/2" Deep
Weight: 30 lbs

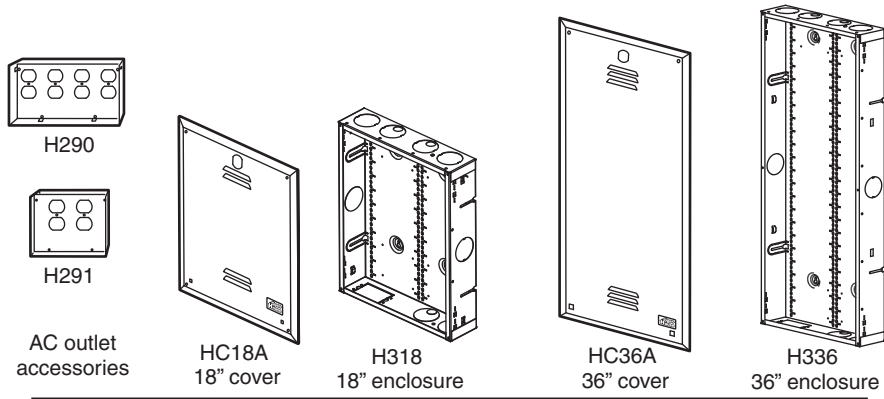
This enclosure is made of 16-gauge zinc-coated fabricated steel with a powder coated tan finish. It is fully enclosed with bottom knockouts and a reinforced hinged door that locks with a standard can wrench. The door is embossed with the word "Communication". It also includes a 1/2" plywood backboard for easy mounting of low-voltage utility equipment. The BN1130W-UL is UL listed (UL1863) and designed to meet NEMA 3R specifications.

A 4-position, #4-14 wire ground bar is available as an optional feature. This enclosure is nailed or screwed between framing studs on a 16" center, flush with the mounting surface prior to the application of stucco or siding. This exterior, semi-recessed enclosure is specifically designed as a demarcation point for telephone, data and/or cable television.



SAMPLE NCC ENCLOSURES

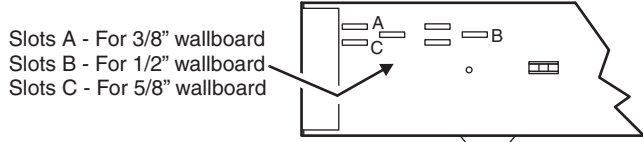
ChannelPlus® Enclosures



Mounting the enclosure

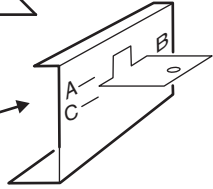
1. For tab mounting, install the mounting tabs

A. Select the proper slots for the wallboard thickness.



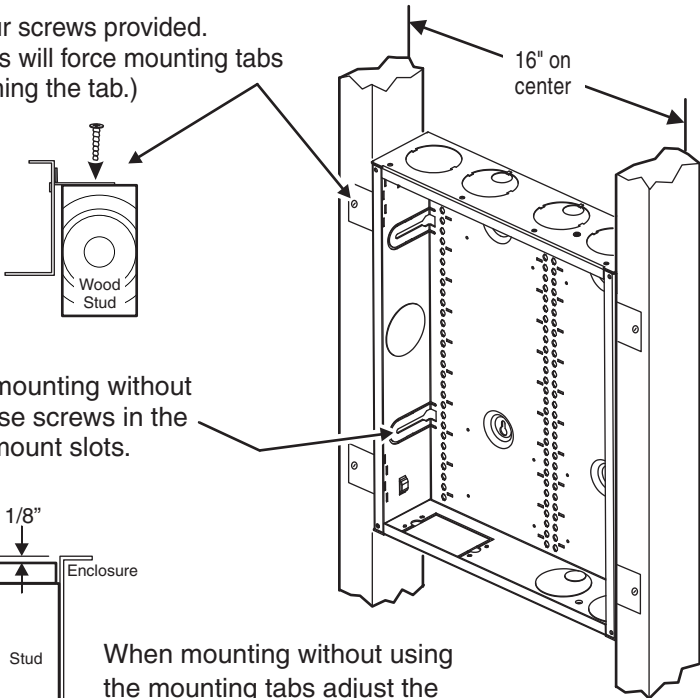
B. Insert mounting tab.

(Don't worry if the tabs seem loose - they tighten up when screwed to the studs.)

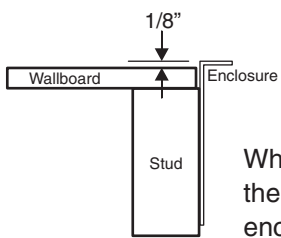


2. Attach enclosure

Use the four screws provided. (The screws will force mounting tabs flat, tightening the tab.)



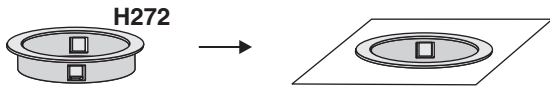
Or, when mounting without the tabs, use screws in the four side mount slots.



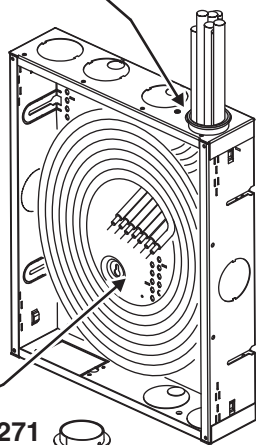
When mounting without using the mounting tabs adjust the enclosure to protrude 1/8" beyond the wallboard surface.

Installing cables

Remove the knockouts as needed and line the holes with the grommets provided.

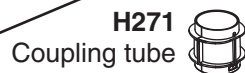


H272 Grommet



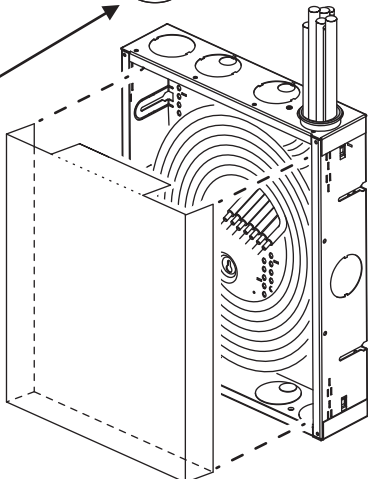
The H318 and H336 enclosures include H272 grommets. If you need more grommets, they are available as part number H272.

Remove paint shield and save. Route cabling into enclosure.



H271 Coupling tube

Use H271 (not included) to join 2 or more enclosures.

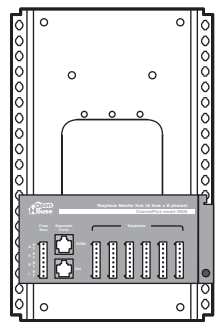
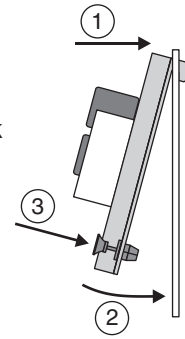


After cabling is routed, reverse paint shield and return it to the enclosure to protect cabling.

If H290 is installed, fold flaps on the paint shield to bend the shield over the H290 AC outlet accessory.

OpenHouse modules attach from the top

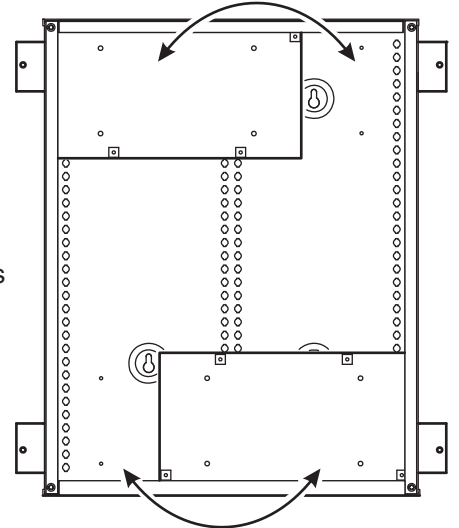
- 1) Hook from the top
- 2) Swing into place
- 3) Push button to lock



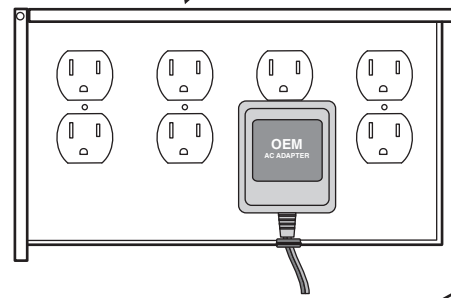
Mounting the H290/H291 AC outlet accessory

H290/H291 installs in any of 4 locations

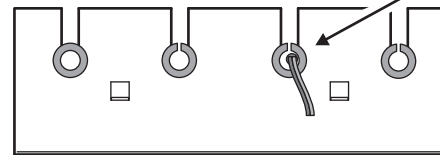
The H290/H291 accessory brings AC power inside the H318 and H336 enclosures. The H290/H291 gives the installer a clean location to mount power adapters. Mount the H290/H291 in any corner of the enclosure using the four #6 screws provided. Installation of AC outlets should be done only by a qualified electrician.



1/2" knockouts for 120VAC

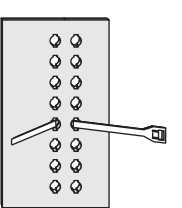
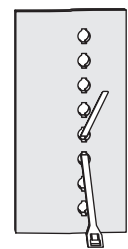
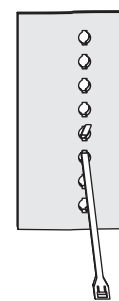
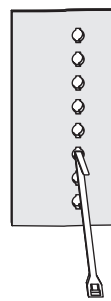


The H290/(H291) provides space for 4/(2) standard duplex receptacles. Wires should exit the H290/(H291) using the grommets provided. The grommets may be cut as shown.



Using wire ties with the OpenHouse® grid

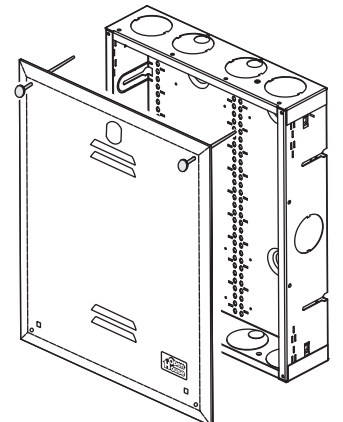
- 1) Fold back tip of wire tie and insert into hole
- 2) Push wire tie slowly into hole until tip snaps to next hole
- 3) Pull tip through second hole
- 4) Works horizontally too



Installing the cover

An old electrician's trick ...

When hanging a heavy cabinet cover, insert two nails (included) through the mounting holes on the cover. Guide the nails into the mating holes on the enclosure and let the cover hang from the nails while you attach the screws.



Grounding the cabinet

When used with model H290/H291 accessory, the grounding lug on the H290/H291 is used. Standard #10-32 grounding screws may be added to the tapped holes top or bottom.

Optional lock kit - H208

Remove knockouts on the cover to install optional lock kit H208. If an H290/H291 is used the cover must be fastened to the enclosure using the included screws (even when using the lock kit.) This is a UL requirement.

Good ...
 Typical room - phone, TV
 Media center - phone, satellite receiver, AV modulators
 Home office - phone, TV, cable modem
 Better ...
 Typical room - phone, TV, ethernet
 Media center - phone, TV, ethernet, satellite receiver, AV modulators
 Home office - phone, TV, ethernet, cable modem
 Best ...
 Typical room - phone, TV, ethernet, satellite receiver
 Media center - phone, TV, ethernet, satellite receiver, AV modulators, hi-speed data
 Home office - phone, TV, ethernet, satellite receiver, cable modem, hi-speed data

	1 Cat-5	1 Cat-5	1 Cat-5	Good
1 Cat-5	1 RG-6	1 RG-6	1 RG-6	Better
2 Cat-5	2 Cat-5	2 Cat-5	2 Cat-5	Best
1 Cat-5	1 RG-6	3 RG-6	3 RG-6	
2 Cat-5	2 Cat-5	3 RG-6	3 RG-6	
3 Cat-5	3 Cat-5	3 RG-6	3 RG-6	
1 Cat-5	1 RG-6	2 RG-6	2 RG-6	
2 Cat-5	2 Cat-5	2 RG-6	2 RG-6	
3 Cat-5	3 Cat-5	3 RG-6	3 RG-6	
1 Cat-5	1 RG-6	1 RG-6	1 RG-6	
2 Cat-5	2 Cat-5	2 RG-6	2 RG-6	
3 Cat-5	3 Cat-5	3 RG-6	3 RG-6	

Typical Room Media Center Home Office

Wiring a house for OpenHouse

The cables in an OpenHouse run from the various rooms of the house directly to the service center location. (This is known as 'home run' wiring.) Two types of wire are used for communication and entertainment: Cat-5, 4-UTP (4 Unshielded Twisted Pairs) wire handles data or 1 to 4 telephone lines. RG-6 coax handles television (antenna or cable), satellite dish, cable modem, or AV modulator signals. (An AV modulator creates new TV channels for front door camera, DVD player, a VCR or a satellite receiver.) We recommend the following pre-wire schemes. Run these wires from the service center to the rooms indicated.



Linear LLC

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760-438-7000 800-999-5225 fax: 760-931-1340

www.openhousesystem.com

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Warranty

Linear LLC warrants the OpenHouse Model H318/H336 to be free from defects in material and workmanship for 15 years. The time period will be measured using the date code labeled on the product. Linear LLC is not responsible for damage to the product resulting from the buyer's improper handling, stocking or warehousing of the product. Any implied warranty arising from the sale of the product including implied warranties of merchantability and fitness for purpose are limited. Linear LLC shall not be responsible for any losses, damages or expenses, whether direct, consequential, or incidental arising from the use or the inability to use the product. Some states and countries do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above exclusions may not apply. The Linear LLC warranty gives specific legal rights in addition to other rights, which may exist and vary from state to state and country to country. The warranty is limited to repair or replacement of products returned, freight prepaid, to Linear LLC, there is NO PROVISION FOR LABOR COST OR OTHER REIMBURSEMENTS OF ANY KIND.

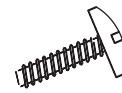
- Failures due to product abuse, such as negligence, improper use, and electrical surge including damage from lightning, water damage or other damage due to natural disasters are not covered by the warranty. The most common form of product abuse is surge damage caused by lightning.
 - The warranty shall also be voided by any tampering with the date code, labels or other markings on the product.
 - Products that are damaged in transit to Linear LLC due to improper packaging or by the carrier (shipping company) will not be covered under the warranty. If the product was damaged or lost by the carrier, it is the sender's responsibility to create a claim against the carrier.
 - The user is responsible for all labor costs associated with removing, reinstalling and returning the product to Linear LLC.
- Linear LLC, at its option, will repair or replace the defective product. Replacements will be made from B-Stock, if an exact replacement is not available, Linear LLC, at its option, will select the nearest equivalent product. The user is responsible for freight charges to Linear LLC. Linear LLC will return warranted repaired or replacements by UPS Ground or an equivalent service. A customer may pay the additional costs for second-day or next-day service. All products returned for warranty service require a Return Product Authorization Number (RPA#). Contact Linear Technical Services at 1-800-999-5225 for an RPA# and other important details.



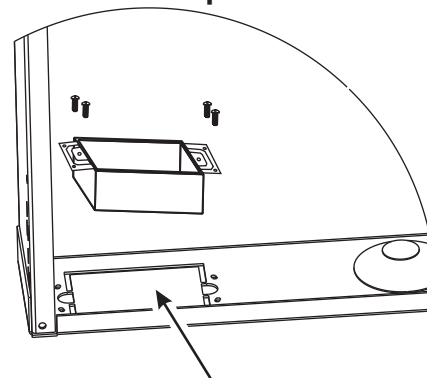
Compatible

New features of the H318/H336

New tri-thread cover mounting screws thread fast and securely.



Bottom knockout accepts standard J-box.



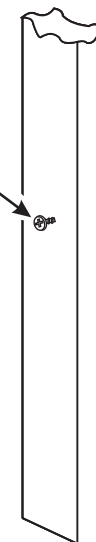
Remove rectangular knockout. Drop in J-box and attach with #6 sheet metal screws.

Quick, flexible mounting system

1

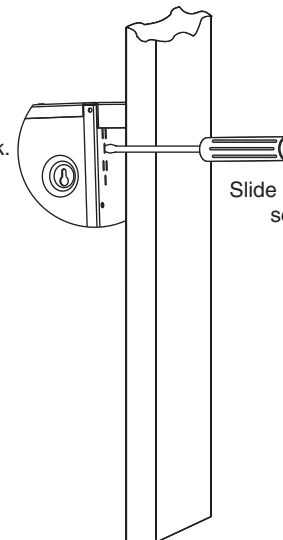
Install upper right screw. (#6 - #10)

Center screw on stud. Place screw 8 1/4" from desired top of enclosure.



2

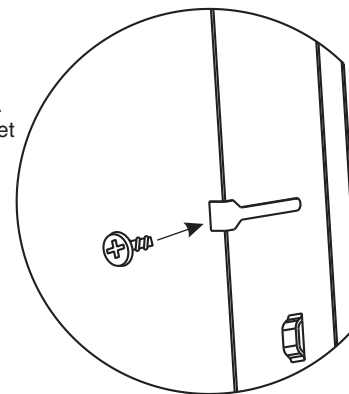
Slide enclosure on screw. Use screwdriver to select 3/8", 1/2", or 5/8" drywall setback. Tighten screw.



Slide enclosure on screw until screwdriver hits stud.

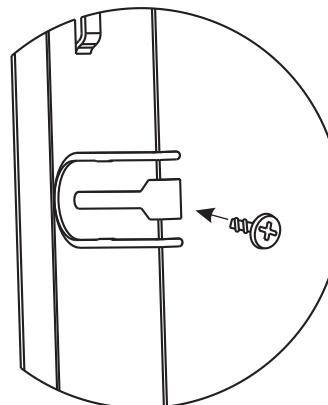
3

Install bottom right side screw. (Use screwdriver as above to set the depth of the enclosure.)



4

Install both left side screws. (Use screwdriver as above to set the depth of the enclosure.) The mount will flex to attach the enclosure to the stud without distorting the enclosure.





36" x 14.5" x 3.75" Install can

Allows room for (11) 6" modules.

Panel includes a power receptacle
and grounding bar

ESWI3600



54" x 14.5" x 3.75" Install can

Allows room for (17) 6" modules.

Panel includes a power receptacle
and grounding bar

ESWI5400

Structured Wiring Enclosures

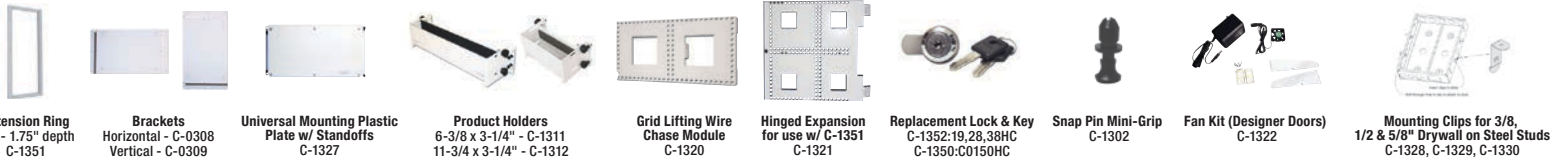
Structured wiring enclosures from Channel Vision Technology are designed to be the central “brain” of the home sending signals to every room, with distribution from cable TV, satellite, speakers, IR, fiber optics, telephone, automation, internet, security cameras, and much more. The modular layout of these sturdy cabinets allow easy access and is upgradeable. Plus, with sizes of 12”, 19”, 28”, 38”, and 50” Channel Vision has an enclosure to fit any need.

Features
UL Approved
Modular Push and Lock Product Components
Electrical Gang Box Knockout with Grounding Screw
Sturdy 18 gauge Steel Construction
Powder Coated White Paint
Includes Wire Management Straps, Large Cable Knockouts, Grommets, Cable Identifiers, and Cardboard Rough In Cable Protector



12" Enclosure (C-0112E)	19" Enclosure (C-0119E)	28" Enclosure (C-0128E)	38" Enclosure (C-0138E)	50" Enclosure (C-0150E)
Dimensions: 12"(L) x 14"(W) x 3 5/8(D) Material: C.R.S Gauge: 18 awg Indoor / Outdoor: Indoor Use Knockout Size: 1 3/4" Electrical knockout: Single Gang Knockout Top: 5 Knockout Box: 3 Knockout Sides: 1 each side	Dimensions: 19"(L) x 14"(W) x 3 5/8(D) Material: C.R.S Gauge: 18 awg Indoor / Outdoor: Indoor Use Knockout Size: 1 3/4" Electrical knockout: Single Gang Knockout Top: 5 Knockout Box: 3 Knockout Sides: 1 each side	Dimensions: 28"(L) x 14"(W) x 3 5/8(D) Material: C.R.S Gauge: 18 awg Indoor / Outdoor: Indoor Use Knockout Size: 1 3/4" Electrical knockout: Single Gang Knockout Top: 5 Knockout Box: 3 Knockout Sides: 5 each side	Dimensions: 38"(L) x 14"(W) x 3 5/8(D) Material: C.R.S Gauge: 18 awg Indoor / Outdoor: Indoor Use Knockout Size: 1 3/4" Electrical knockout: Single Gang Knockout Top: 5 Knockout Box: 3 Knockout Sides: 5 each side	Dimensions: 50"(L) x 14"(W) x 3 5/8(D) Material: C.R.S Gauge: 18 awg Indoor / Outdoor: Indoor Use Knockout Size: 1 3/4" Electrical knockout: Single Gang Knockout Top: 5 Knockout Box: 3 Knockout Sides: 5 each side
12" Enclosure Covers	19" Enclosure Covers	28" Enclosure Covers	38" Enclosure Covers	50" Enclosure Covers
Screwdown Cover: C-0112C Hinged Cover: N/A Double Door: N/A Designer Door: N/A	Screwdown Cover: C-0119C Hinged Cover: C-0119HC Double Door: N/A Designer Door: N/A	Screwdown Cover: N/A Hinged Cover: C-0128HC Double Door: N/A Designer Door: C-0128D	Screwdown Cover: N/A Hinged Cover: C-0138HC Double Door: C-0138DD Designer Door: C-0138D	Screwdown Cover: N/A Hinged Cover: C-0150HC Double Door: N/A Designer Door: C-0150D

Enclosure Accessories

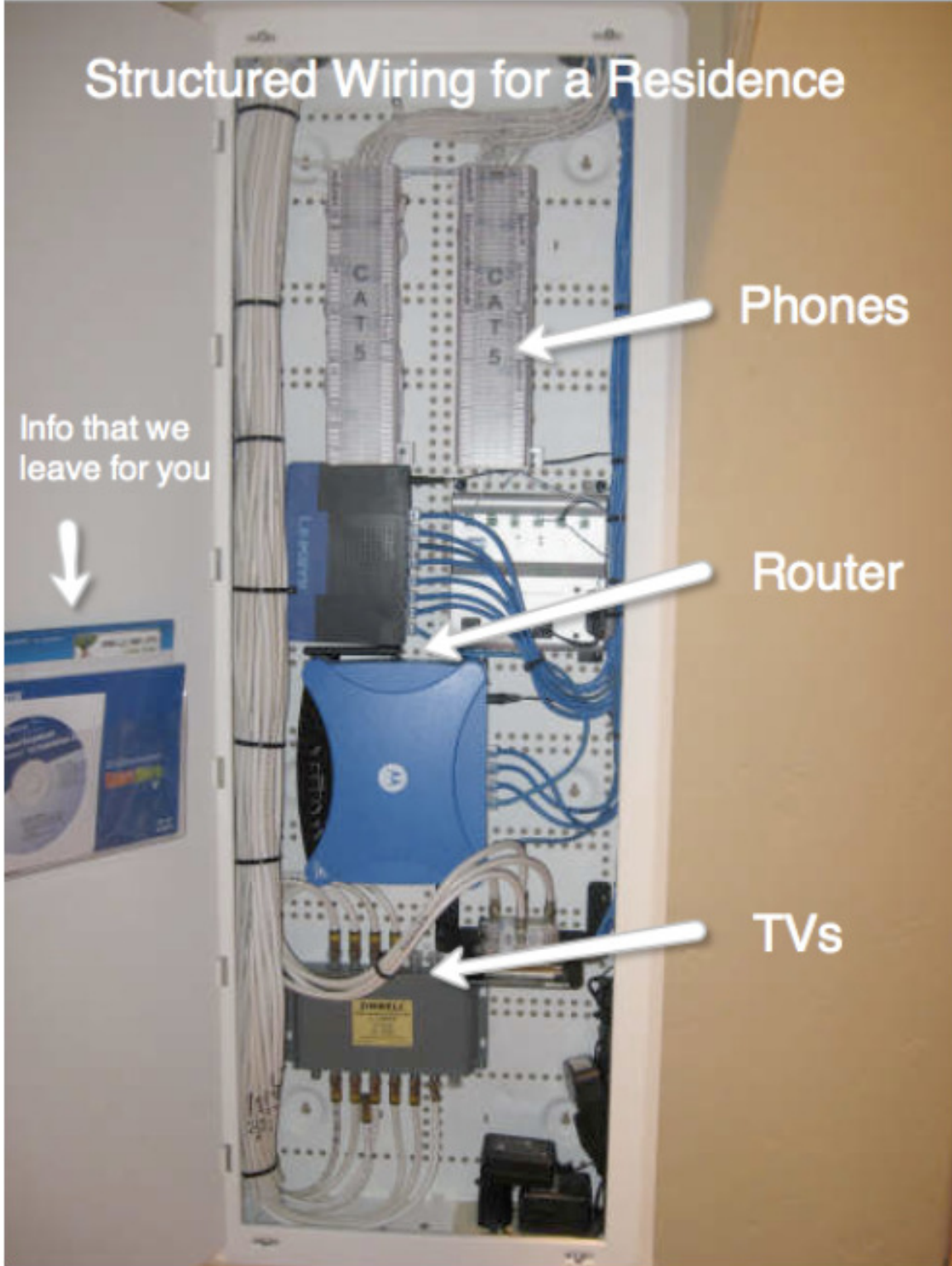


*Specifications subject to change. iOS and Android are registered trademarks of their respective companies.



STRUCTURED WIRING SAMPLE

Structured Wiring for a Residence



Phones

Info that we
leave for you

Router

TVs