

## Required Locations for 120 volt GFCI Protected Receptacle Outlets in Residences

Date of CEC Based on (NEC) Edition	Exterior	Garage	Bathroom	Hydromassage Tubs	Kitchens	Sinks & Wet Bars	Laundry	Foundation Crawlspace	Unfinished Basements	Swimming Pools	Spas & Hot Tubs	Accessory Buildings	Boathouses
{1971}	E 1									P 1			
{1975} [4]	E 1		A							P 1			
{1978}	E 2	A	A							P 1			
{1981}	E 2	G 1	A							P 1	SH 1		
{1984} [4]	E 2	G 1	A							P 2	SH 1		
{1987}	E 2	G 1	A	H 1	K 1				U 1	P 2	SH 1,2		A
{1990} [4]	E 2	G 1	A	H 1	K 1			C	U 2	P 2	SH 1,2		A
1995 {1993} [1]	E 2	G 1	A	H 1	K 1	S 1		U 2,3	U 2,3	P 2	SH 1,2		A
1998 {1996} [1]	E 3	G 1	A	H 2,3	K 2	S 1		C	U 2,4	P 3	SH 1,2	G 2	A
2001 {1999} [1]	E 3	G 1	A	H 2,3	K 2	S 1		C	U 2,3	P 3	SH 1,2	G 2	A
2004 {2002} [1]	E 3	G 1	A	H 2,3	K 2	S 1		C	U 2,3	P 3	SH 1,2	G 2	A
2007 {2005} [1]	E 3	G 1	A	H 2,3	K 2	S 1	L 1	C	U 3,4,5	P 3	SH 1,2	G 2	A
2010 {2008} [1,2]	E 3	A	A	H 2,4	K 2	S 1	L 1	C	U 5	P 4	SH 1,3	G 2	A
2013 {2011} [1,2]	E 3	A	A	H 2,4	K 2	S 1	L 1	C	U 5	P 4	SH 1,3	G 2	A
2016 {2014} [1,2,3]	E 3	A	B	H 2,4	K 2,3	S 2	A	C	U 5	P 4	SH 1,3	G 2	A
2019 {2017} [1,2,3]	E 3	A	B	H 2,4	K 2,3	S 2	A	C	U 5	P 4	SH 1,3	G 2	A

- [1] Beginning with 1995 {1993}, all receptacle outlets which are replaced & are in locations which require GFCI protection in the code applicable at the time of replacement shall be GFCI protected. 210-22(d), 215-8
- [2] Beginning with 2010 {2008}, all receptacle outlets installed in any damp and/or wet locations are required to be listed as weather-resistant (WR), including GFCI devices.
- [3] Beginning with 2016 {2014}, kitchen & laundry areas require both GFCI and AFCI protection.
- [4] Inferred, not confirmed - Do not have access to 1975, 1984, & 1990 NEC.
- A All receptacle outlets.
- B All including receptacles within 6' of outside edge of tub or shower (can be outside of bathroom). 210.8(A)
- C At or below grade level. 210.8 (a)
- E1 Effective January 1, {1973}, all receptacle outlets. 210-22, 215-8
- E2 All w/ direct grade access to dwelling & receptacles. {1987-Direct grade defined as 6'6" or less above grade}
- E3 All receptacle outlets except for snow melt equip. if on a dedicated circuit & not readily accessible. 210.8(A)
- G1 All receptacle outlets. (Exception 1) not readily accessible (6'8"+) & (Exc.2) appliances in dedicated space.
- G2 All recept. in accessory building w/floor at/below grade, not intended as habitable, limit to storage, work & similar.
- H1 All circuits supplying a hydromassage tub are required to be GFCI protected.
- H2 Hydromassage tub & associated electric components shall be GFCI protected by GFCI circuit or receptacle.
- H3 All 120 volt receptacle outlets serving hydromassage tub within 5 feet horizontally from inside walls of tub.
- H4 All 120 volt, 30 amp & less, receptacles serving hydromassage tub within 6' horizontally from inside walls of tub.
- K1 Receptacle outlets which serve the counter surfaces within 6' of kitchen sink(s). Counter not face-up. 210-8(a)
- K2 All receptacle outlets which serve the counter surfaces. Counter receptacle outlets not face-up. 210.8(a)
- K3 Receptacle outlets for dishwashers. GFCI not allowed behind dishwasher (not readily accessible). 210.8(D)
- L1 Receptacle outlets within 6' of sink.
- P1 All receptacle outlets within 15' of the water, in any direction. No receptacles within 10' of inside of pool walls.
- P2 All receptacle outlets within 20' of the water, in any direction. No receptacles within 10' of inside of pool walls.
- P3 All receptacle outlets within 20' of the water, in any direction. No receptacle outlets within 10' of inside of pool walls, Except receptacle outlets for pumps which must be minimum 5' from inside of pool walls.
- P4 All 120v receptacle outlets within 20' of the water, in any direction. No receptacle outlets within 6' of inside of pool walls, Except receptacle outlets for pumps which must be minimum 10' from inside of pool walls. Except not less than 6' if single outlet, twist-lock, GFCI protected, & grounded. 680.21(C), 680.22(A), 680.22(A), 680.32
- S1 Receptacle outlets serving counter surfaces within 6' of wet bar sink. Outlets not face-up.
- S2 Receptacle outlets within 6' of any sink. Outlets not face-up.
- SH1 Outdoor spa/hot tub. GFCI all receptacle outlets within 15' of the water, in any direction. No receptacle outlets within 10' of inside of spa walls.
- SH2 Indoor. GFCI all receptacle outlet within 10'. Any receptacle outlet must be 5' min. from inside wall of spa/hot tub.
- SH3 Indoor. GFCI all receptacle outlet within 10'. No receptacle outlets within 6' of inside wall of spa/hot tub.
- U1 At least one receptacle outlet & must be GFCI protected identified. 210-8
- U2 All in unfinished basements. Except laundry, single recept. for specific appliance (fridge/sump pump). 210-8(a)
- U3 All receptacle outlets except where not readily accessible.
- U4 All receptacles in unfinished basements, Except appliance in dedicated space & not easily moved. 210-8(a)
- U5 All receptacle outlets, except permanent burglar or fire alarm. 210.8(a)

## Required Locations for 120 volt AFCI Protected Circuits in Residences

Date of CEC Based on {NEC} Edition	Bedrooms	Family Rooms	Dining Rooms	Living Rooms	Parlors	Libraries	Dens	Sunrooms	Recreation Rooms	Closets	Hallways	Kitchen	Laundry Area	Similar Areas
2001 {1999}	1													
2004 {2002}	2													
2007 {2005}	2													
2010 {2008}	3	3	3	3	3	3	3	3	3	3	3	3	3	3
2013 {2011}	3	3	3	3	3	3	3	3	3	3	3	3	3	3
2016 {2014}	3	3	3	3	3	3	3	3	3	3	3	3	3	3
2019 {2017}	3	3	3	3	3	3	3	3	3	3	3	3	3	3

- 1) Effective Date: January 1, 2005 {2002}. All 120 volt, 15 & 20 ampere branch circuits supplying **receptacle outlets** in all bedrooms. 210.12 (not all circuits, just receptacle outlets)
- 2) Effective CEC {NEC} Date: January 1, 2008 {2005}. All 120 volt, 15 & 20 ampere branch circuits supplying **outlets** in all bedrooms. 210.12 (not restricted to receptacle outlets, this includes all circuits)

**Exception:** May be located at 1st device if both (a) and (b) are met.

**(a)** Within 6 ft. (conductor length) of overcurrent protection device.

**(b)** Metal sheath cable or metal raceway.

- 3) Effective CEC {NEC} Date: January 1, 2011 {2008}. All 120 volt, 15 & 20 ampere branch circuits supplying **outlets** in family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, kitchens, laundry areas, or similar rooms or areas. AFCI device is at circuit breaker distribution panel 210.12

**Exception 1:** Where RC, IMC, EMT, or Type AC steel armored cable using metal outlet and junction boxes is used between the breaker and the 1st receptacle of a circuit, the AFCI device is permitted to be installed at the 1st outlet in the circuit.

**Exception 2:** Fire alarm circuits - provided those circuits are installed in rigid conduit, intermediate conduit, EMT, or Type AC steel armored cable using metal outlet and junction boxes - no AFCI protection is required. (This exception will rarely be applicable for dwelling units)

### General Notes for GFCI and AFCI Matrices:

National Electrical Code date is noted in braces {}. California Electrical Code is without.

The CEC is modified from the NEC. Typically, enforcement of the CEC in California has been 3 years after the NEC date of publication and one year after the CEC date of publication (i.e. 2017 NEC, becomes 2019 CEC, enforced January 2020).

The above charts and notes are believed to be accurate; however, no guarantee is provided.

If inaccurate information is found, please notify me and I will make the necessary corrections.

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