Emergency Response Go-Kits

7 September 2023
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CARES mission

The mission of Cupertino ARES is to maintain and train Amateur Radio volunteers capable of providing professional emergency communications, increasing the City's emergency response effectiveness, and speeding the recovery effort.

Cupertino ARES/RACES

You just were activated… now what!?!

In Cupertino, we may be responding to any of the following:

- Earthquakes
- Flooding by dam failure
- Flooding by rain
- Wild land or large urban fire
- Manmade disasters (BNICE)
- Missing Person(s)

Each of these events has a different communications needs and expectations on how we perform.

So, how do we prepare?

Cupertino ARES/RACES

Types of Assignments

As an CARES Field Responder, you may be asked to assist with any of a number of assignments, from a variety of station operating locations, such as:

Base Station

- Emergency Operations Center / Comm 469
- County Fire Stations
- From Home (Message Net)

Field-Portable Station

- Incident Command Post (ARKs, Staging Areas, etc.)
- Search and Rescue Field support
- Community Access Point (911 call taking)
- Shelter

Mobile Station

- Mobile Command Post
- Shadow
- Vehicle Ride-Along (Public Works, Logistics, etc.)
- Cross-band Repeat Station Control Operator

Length of Assignments

The length of time you are asked to assist with emergency communications will depend on the type and size of the incident and the number of Field Responders available:

- One Operational Period – a few hours to less than a day

- Overnight

- Two to three days (Shifts over several days)

- Long-Duration – greater than 72 hours (MAC Response)

The longer the assignment, the more we need to bring to the event.

What is a Go-Kit?

- A Go-Kit is a previously identified collection of equipment and personal gear that you will need to perform your duties as an Emergency Communicator in the event of an activation.

- Your Go-Kit should be tailored to your needs, your equipment, expected assignments, and expected length of assignments.

What is a Go-Kit?

Why do you need one?

- In the event of a major disaster, your assignment location will probably be without power, heat, water, and telephone service. Most businesses in the area will probably not be open due to the emergency.

- As a Field Responder, YOU must provide your own equipment and gear.

- You are responsible for your own safety, and you must provide for your own welfare and comfort.

Building your Go-Kit now ensures:

- The items you need are available <u>when</u> you need them.

- The items you need are <u>where</u> you expect them to be.

- When the Activation Call comes, you won't have time to hunt for things!

Types of Go-Kits

Your Go-Kit should be tailored to your needs, your equipment, your expected assignments, and the expected length of assignments. Go-Kits should be broken-up into different types of kits, depending on function and location:

Go-Kits by Function

- Types of Incident
- Type of Assignment or Mission
- Length of Assignment

Go-Kits by Location

- Carried on Person
- Carried in Vehicle
- Stored at Fixed Location (Home, Office, Shop, etc.)
- Non-Cached Equipment—gathered as needed (Home, Office, Shop, etc.)

Think Modular

Basic Go-Kits

- 2 Hour Kit - kept nearby at all times for immediate (within minutes) communication of damage reports during an initial activation.

- 12-Hour Kit – For one operational period; for fully independent operation; unknown environment (heat, cold, wind, rain); unknown time (day, night, up to 12 hours). Return home to retrieve.

- Extended Kit – Additional items for fully independent operation over an extended period of time.

CARES Basic Go-Kit

Cupertino ARES/RACES
Field Communications Handbook

- These are specific requirements for a Cupertino deployment by CARES members.

- See the County RACES Go-Kit, a requirement for Type IV credentials.

UPDATED For 2024

10	Minimum Field Deployment Equipment (Go-Kit)	

Purpose: Fully independent operation, Cupertino ARK or [...]
environment (heat, cold, wind, rain), unknown time ov[...]
You must have the following to participate in a CARES fi[...]

Equipment – REQUIRED

1.	2m/440 HT	
2.	Radio user manual or cheat-sheet	
3.	Ear bud or headphones	
4.	Charged batteries or extra batteries for 12 hours operation	
5.	Mobile antenna (mag mount or existing mobile antenna)	
6.	Power cord adaptors, Cigarette lighter adaptor	
7.	Spare Fuses	
8.	Coax adaptors (connect HT to coax)	
9.	Notepad, pens	
10.	Clipboard (covered recommended)	
11.	Cell phone and charger, cigarette lighter adaptor	

Documentation, Identification – REQUIRED

12.	Amateur radio license	
13.	CA driver's license or CA-issued ID card	
14.	City of Cupertino Identification Badge	
15.	Cupertino City Map, County Grid; off-line maps OK	

Forms – REQUIRED (http://www.cupertinoares.org/ccc/forms/)

16.	ICS 211 Check-in Log	
17.	ICS 214 Unit Log	
18.	ICS 213 Message Forms, Short Form	
19.	ICS 309 Communications Log	
20.	COES 105 Preliminary Safety Assessment Form, Field	

Personal Gear – REQUIRED

21.	Watch or clock	
22.	Flashlight, headlamp, spare batteries for 12 hours	
23.	Safety vest, ANSI standard, City-issued	
24.	Long pants	
25.	Sturdy closed-toe shoes	

Personal Gear – Recommended
(Some of the following items may be REQUIRED depending on the assignment)

26.	Fueled vehicle (always keep your fuel tank at least ½ full)	
27.	Hat (broad-brim recommended)	
28.	Seasonal jacket / rain gear	
29.	Leather Gloves, Eye Protection	
30.	Food for 12 hours, water for 12 hours	
31.	First Aid Kit	
32.	N95 breathing mask	
33.	Compass (Ember Watch)	
34.	Whistle	
35.	FRS/GMRS radio	

Cupertino ARES/RACES   29 / 31

CARES Basic Go-Kit

10   Minimum Field Deployment Equipment (Go-Kit)

Purpose: Fully independent operation, Cupertino ARK or field location, unknown environment (heat, cold, wind, rain), unknown time of day, 12-hour operation. You must have the following to participate in a CARES field response.

Equipment – REQUIRED

#	Item		Do I have this?
1.	2m/440 HT		*Yes!*
2.	Radio user manual or cheat-sheet		Easy to get
3.	Ear bud or headphones		??
4.	Charged batteries or extra batteries for 12 hours operation		??
5.	Mobile antenna (mag mount or existing mobile antenna)		??
6.	Power cord adaptors, Cigarette lighter adaptor		??
7.	Spare Fuses		??
8.	Coax adaptors (connect HT to coax)		??
9.	Notepad, pens		Easy to get
10.	Clipboard (covered recommended)		Easy to get
11.	Cell phone and charger, cigarette lighter adaptor		Easy to get

Documentation, Identification – REQUIRED

#	Item		
12.	Amateur radio license		*Yes!*
13.	CA driver's license or CA-issued ID card		*Yes!*
14.	City of Cupertino Identification Badge		*Yes!*
15.	Cupertino City Map, County Grid; off-line maps OK		*Yes!*

Cupertino ARES/RACES

CARES Basic Go-Kit

Forms – REQUIRED (http://www.cupertinoares.org/ccc/forms/)

Do I have this?

16.	ICS 211 Check-in Log	
17.	ICS 214 Unit Log	
18.	ICS 213 Message Forms, Short Form	
19.	ICS 309 Communications Log	
20.	COES 105 Preliminary Safety Assessment Form, Field	

Yes!
Yes!
Yes!
Yes!
Yes!

Personal Gear – REQUIRED

21.	Watch or clock	
22.	Flashlight, headlamp, spare batteries for 12 hours	
23.	Safety vest, ANSI standard, City-issued	
24.	Long pants	
25.	Sturdy closed-toe shoes	

Yes!
East to get
??
Easy to get
??

Personal Gear – Recommended

(Some of the following items may be **REQUIRED** depending on the assignment)

26.	Fueled vehicle (always keep your fuel tank at least ½ full)	
27.	Hat (broad-brim recommended)	
28.	Seasonal jacket / rain gear	
29.	Leather Gloves, Eye Protection	
30.	Food for 12 hours, water for 12 hours	
31.	First Aid Kit	
32.	N95 breathing mask	
33.	Compass (Ember Watch)	
34.	Whistle	
35.	FRS/GMRS radio	

Emergency Response Go-Kits

Why Power Adapters?

Notes

1. Operating in the field during an emergency is all about power management.

2. Batteries are important and important to any go-kit.

3. Ensuring you can **charge** your equipment is critical.

4. Battery power can come from different sources --- your car, gel cell, LiFePO4 batteries, etc.

5. *Anderson Powerpoles* are the power interconnect standard we use for our 12vdc equipment.

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Power Adapters

Basics

Getting to the source… Vehicle power plug

**Car Accessory Plug
with radio power connector**

Cupertino ARES/RACES

Power Adapters
Basics

Getting to the source… Battery terminals

**Battery clamps
with Powerpoles**

**Car Accessory socket
with Powerpoles**

**Car Accessory Plug
with radio power connector**

**Cell Phone USB
Charge connector**

Cupertino ARES/RACES

Power Adapters

Basics

Do you Build or Buy?

Consider building if...

- This is a good use of your hobby time.

- You like tinkering and learning, working with your hands.

- You get satisfaction from using something that you built.

- What you need is something custom to your situation.

- You are cost sensitive.

Consider buying if…

- What you need is inexpensive and readily available.

- You have limited time to figure things out.

- You do not have the material or tools to build things.

- Any *flavor* of the item will do.
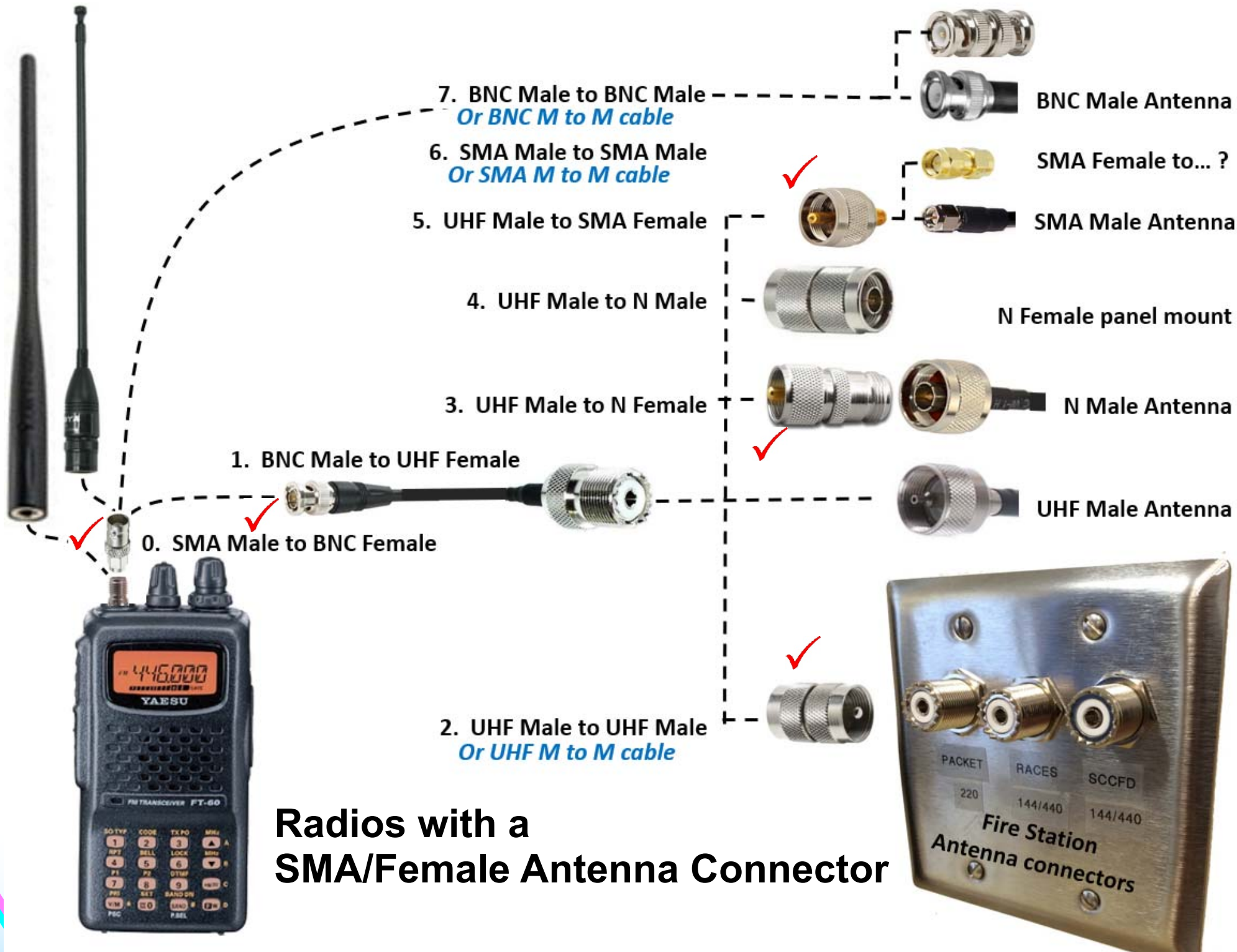
- Cost is not a concern.

Why Coax Adapters?

Notes

1. Most HT radios are built with one of 2 connectors:
   - BNC/Female
   - SMA/Female [!]

2. The most common antenna coax connector is a UHF/Male PL259 connector.

3. Sooner or later, you may need to connect your HT to an antenna other than your stock HT antenna.

4. Getting a collection of the coax adapters now will ensure no surprises in the field later!

7. BNC Male to BNC Male
Or BNC M to M cable

BNC Male Antenna

6. SMA Male to SMA Male
Or SMA M to M cable

SMA Female to... ?

5. UHF Male to SMA Female

SMA Male Antenna

4. UHF Male to N Male

N Female panel mount

3. UHF Male to N Female

N Male Antenna

1. BNC Male to UHF Female

UHF Male Antenna

0. SMA Male to BNC Female

2. UHF Male to UHF Male
Or UHF M to M cable

Radios with a SMA/Female Antenna Connector

YAESU — FM TRANSCEIVER FT-60 — 446.000

Fire Station Antenna connectors

PACKET — 220

RACES — 144/440

SCCFD — 144/440

Coax Adapters

Radio with a SMA/Female Antenna Connector

Item	Description	Mfgr	*Price Ea	Distributor
✓ 0	SMA Male to BNC Female adapter	SMC	$ 5.05	ShowMe Cables
✓ 1	BNC male to UHF Female cable, 0.5m	Comet	$ 11.99	HRO
✓ 2	UHF male to male PL-259 connector	DHT LLC	$ 5.50	Amazon
✓ 3	N female to UHF male PL-259 adapter	DHT LLC	$ 6.50	Amazon
4	N Male to UHF Male adapter	Pasternak	$ 25.71	Pasternak
✓ 5	SMA female to UHF male PL-259 adapter	DHT LLC	$ 5.50	Amazon
6	SMA Male to Male adapter	uxcell	$ 1.22	Amazon
7	BNC Male to Male adapter	Generic	$ 1.00	Amazon
	Total		**$ 62.47**	

* Prices are samples and not necessarily the best as of 2019.

7. **BNC Male to BNC Male**
   Or BNC M to M cable — BNC Male Antenna

6. **SMA Male to SMA Male**
   Or SMA M to M cable — SMA Female to... ?

5. **UHF Male to SMA Female** ✓ — SMA Male Antenna

4. **UHF Male to N Male** — N Female panel mount

3. **UHF Male to N Female** ✓ — N Male Antenna

1. **BNC Male to UHF Female** ✓ — UHF Male Antenna

2. **UHF Male to UHF Male** ✓
   Or UHF M to M cable

**Radio with a
BNC/Female Antenna Connector**

Fire Station
Antenna connectors

PACKET 220   RACES 144/440   SCCFD 144/440
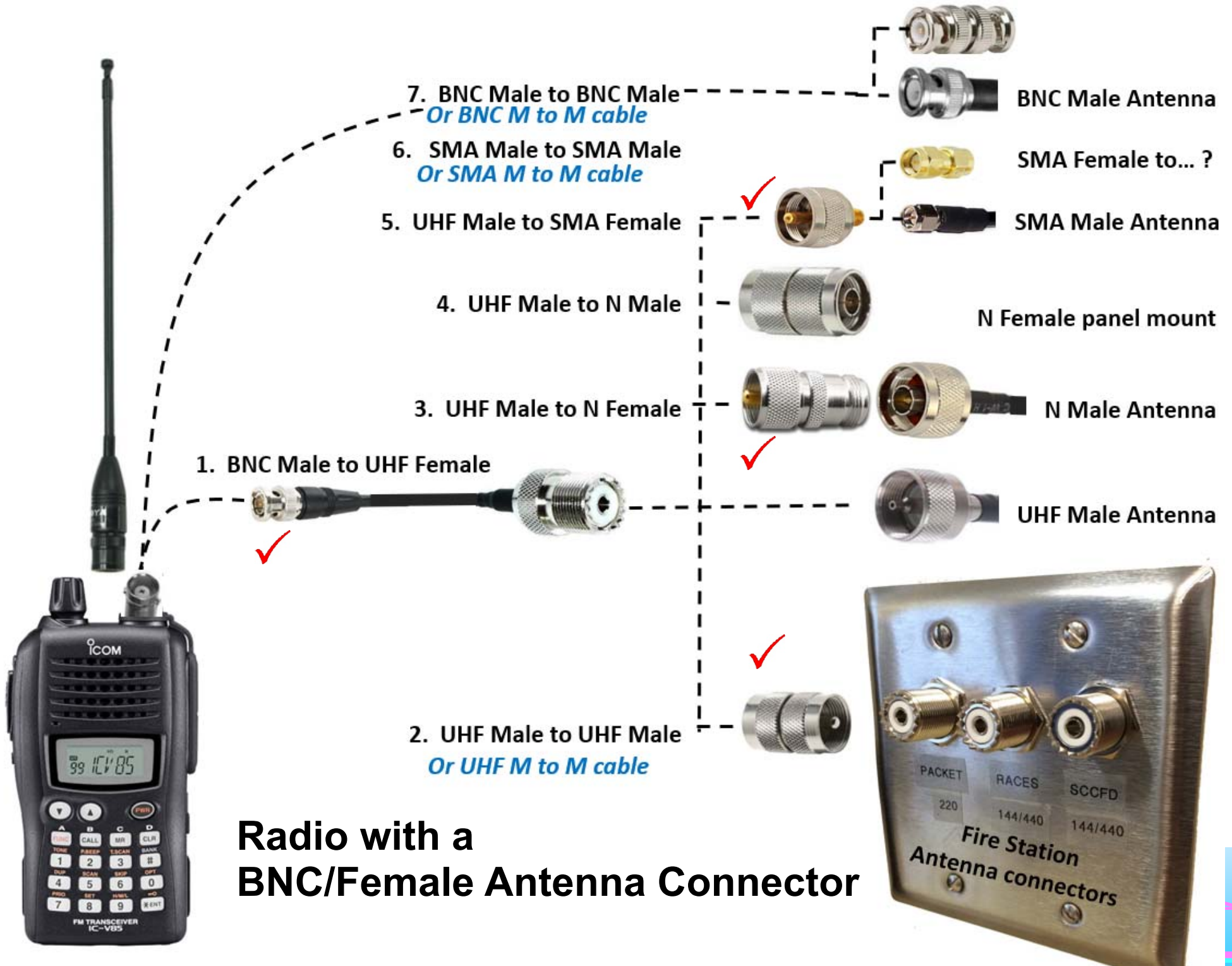
Coax Adapters

Radio with a BNC/Female Antenna Connector

Item	Description	Mfgr	*Price Ea	Distributor
✓ 1	BNC male to UHF Female cable, 0.5m	Comet	$ 11.99	HRO
✓ 2	UHF male to male PL-259 connector	DHT LLC	$ 5.50	Amazon
✓ 3	N female to UHF male PL-259 adapter	DHT LLC	$ 6.50	Amazon
4	N Male to UHF Male adapter	Pasternak	$ 25.71	Pasternak
✓ 5	SMA female to UHF male PL-259 adapter	DHT LLC	$ 5.50	Amazon
6	SMA Male to Male adapter	uxcell	$ 1.22	Amazon
7	BNC Male to Male adapter	Generic	$ 1.00	Amazon
	Total		**$ 57.42**	

* Prices are samples and not necessarily the best as of 2019.

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Safety Vests
ANSI Class 2
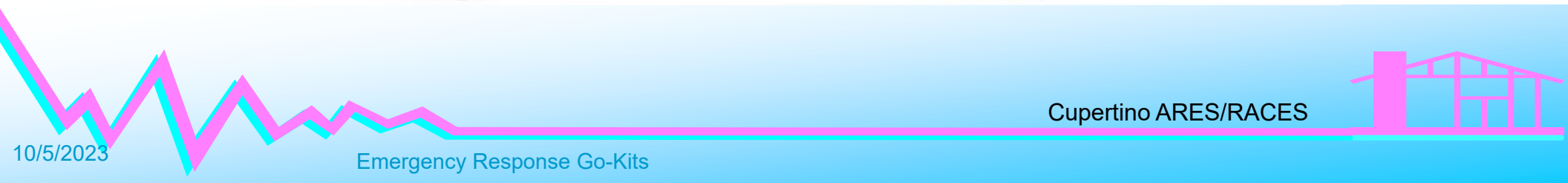
SC County RACES Recommendation

2 Hour Carry Kit

Purpose: To be kept nearby at all times for immediate (within minutes) communication of damage reports during Initial Activation Operations. Also used to remain in contact with Resource Net while returning home to retrieve 12-hour Go-Kit.
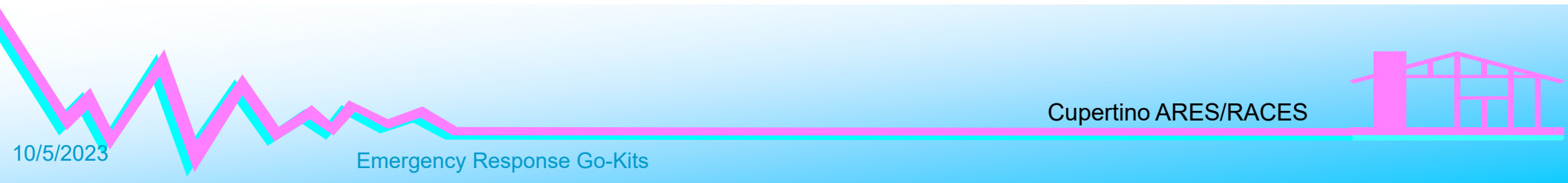
12 Hour Go-Kit

Purpose: For fully independent operation; unknown environment (heat, cold, wind, rain); unknown time (day, night, up to 12 hours). Usually need to return home to retrieve.
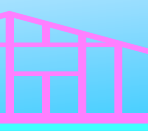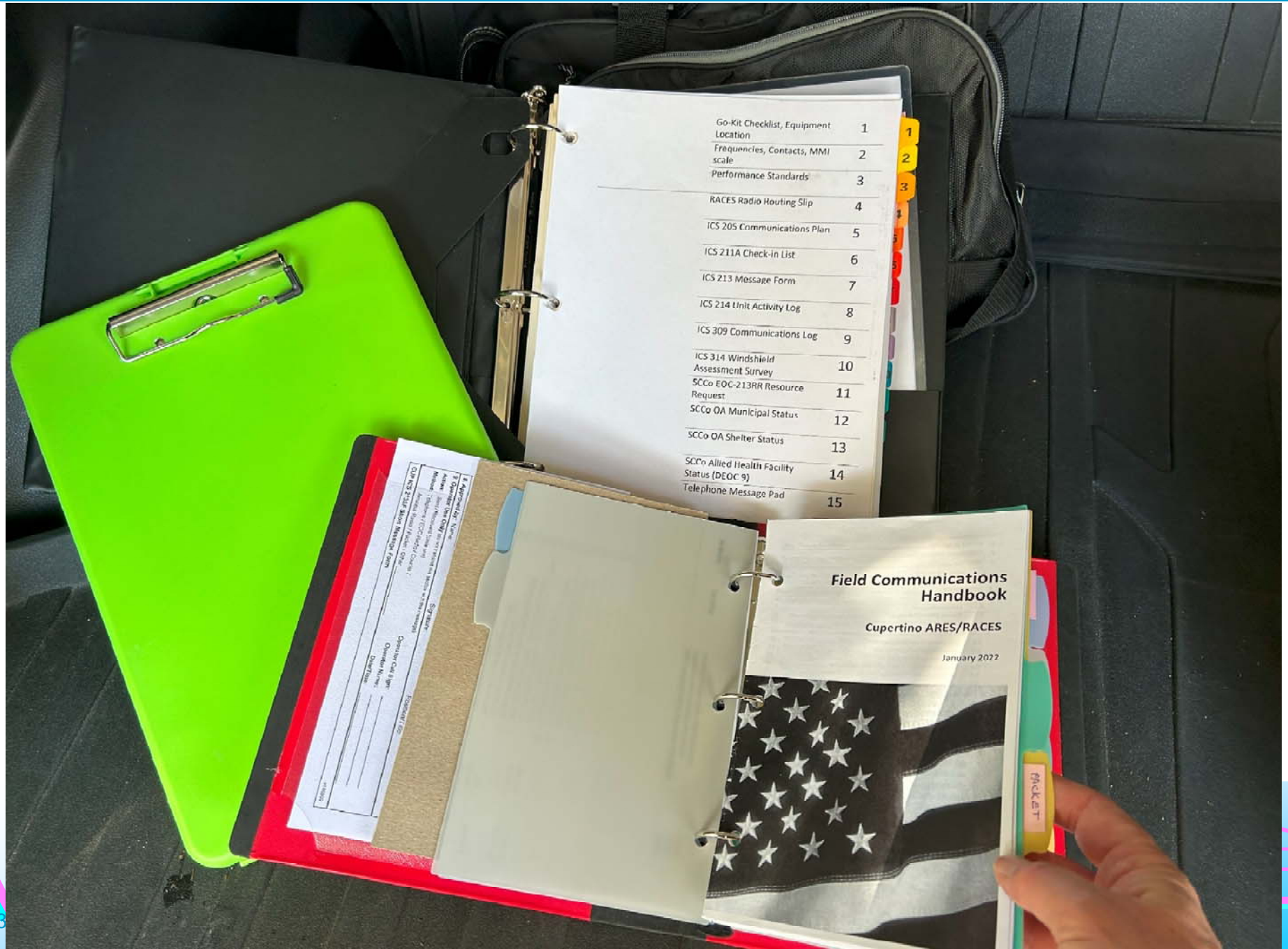
Cupertino ARES/RACES

Go-Kit show and tell

KN6PE #1

KN6PE #2

KN6PE #3

KN6PE #4

References

1. **CARES Go-Kits**
   https://www.cupertinoares.org/docs/FieldCommOps-ebook.pdf, page 29
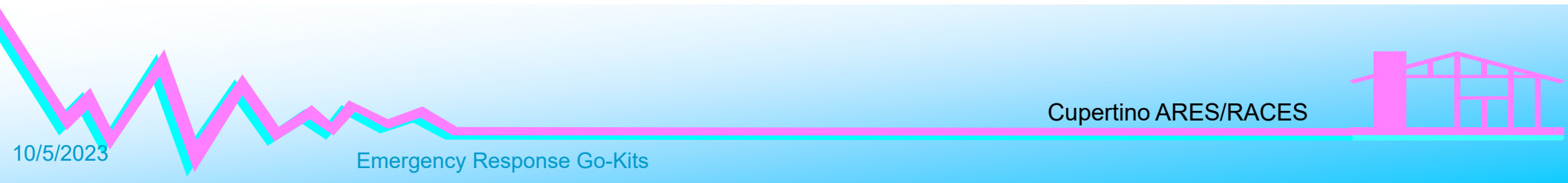

2. **Santa Clara County RACES Go-Kits**
   https://www.scc-ares-races.org/gokit/SCCo_Go_Kit_rev180603.pdf

Thank you!

Any Questions?

Cupertino ARES/RACES

CARES Basic Go-Kit Requirements

Minimum Field Deployment Equipment – 12 hours

Equipment – *REQUIRED!*	Do I have this?
1. 2m/440 HT	**Yes!**
2. Radio user manual or cheat-sheet	Easy to get
3. Ear bud or headphones	??
4. Charged batteries or extra batteries for 12 hours operation	??
5. Mobile antenna (mag mount or existing mobile antenna)	??
6. Power cord adapters, Cigarette lighter adapter	(??)
7. Spare Fuses	??
8. Coax adapters (connect HT to coax)	(??)
9. Notepad, pens	Easy to get
10. Clipboard (covered recommended)	Easy to get
11. Cell phone and charger, cigarette lighter adapter	Easy to get

Documentation – *REQUIRED!*	
12. Amateur radio license	**Yes!**
13. CA driver's license or CA-issued ID card	**Yes!**
14. City of Cupertino Photo ID (SCCo issued badge if you have one)	**Yes!**
15. Cupertino City Map, County Grid; off-line maps OK	**Yes!**

CARES Basic Go-Kit Requirements
(continued)

Minimum Field Deployment Equipment – 12 hours

Forms – *REQUIRED!* (https://www.cupertinoares.org/forms)   **Do I have this?**

17. ICS 211 Check-in Sheet   *Yes!*
18. ICS 214 Unit Log   *Yes!*
19. ICS 309 Communications Log   *Yes!*
20. ICS 213 Message Forms   *Yes!*
21. COES 105 Preliminary Safety Assessment Form, Field   *Yes!*

Personal Gear – *REQUIRED!*

22. Watch or clock   *Yes?*
23. Flashlight, headlamp, spare batteries for 12 hours   Easy to get
24. Safety vest, ANSI standard, City-issued   ??
25. Long Pants   Easy to get
26. Sturdy closed-toe shoes (no sandals or flip flops)   ??

Personal Gear – Recommended

27. Fueled vehicle (always keep your tank at least ½ full)
28. Hat (broad-brim recommended)
29. Seasonal jacket / rain gear
30. Leather Gloves, Eye Protection

31. Food for 12 hours, Water for 12 hours
32. First Aid Kit
33. N95 breathing mask
34. Compass (Ember Watch)
35. Whistle
36. FRS / GMRS Radio