

800 MHz Frequently Asked Questions

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What is an 800MHz radio system?

An 800MHz radio system is a blend of traditional two-way radio technology and computer-controlled transmitters. The system's main advantage is that radio transmitters can be shared among various departments on campus, with the aid of computer programming. Virtual radio groups called "talk groups" are created in software to enable private departmental conversations. This gives the new system the appearance of having many "frequencies," when in fact everyone is sharing only a few.

At least three talk groups besides the departmental one are programmed into every radio:

- A "COMMON" talk group that allows you to communicate with other departments for specific events, such as Move-In, concerts, or Commencement.
- A channel for use when the campus activates the Emergency Operations Center.
- A Campus Emergency channel for contacting the campus police in the event of an emergency.

Who at UCR is using this system?

We currently have the following users on the system: Environmental Health & Safety, Physical Plant / Facilities Management, Housing Services, Transportation and Parking Services, the Libraries, Dining Services, Telecommunications, University Extension, Women's Resource Center, Event Management & Protocol, the Commons, Student Life and Leadership, Student Special Services,

The Biology Department and, The Police Department as well as Senior University Officers (during campus emergencies).

Who else uses this type of system?

The UC Regents have approved this system for all UC campuses, and it is now operational at every site. This allows staff at other campuses to assist in Mutual Aid. The radios may be programmed to inter-operate at all other UC Campuses.

What kinds of portable radios I can buy?

There are four models of handheld radios to choose from: **the XTS 1500**, and the **XTS 2500 Types I, II, and III**. Up to 2005, the campus used the Motorola **MTS 2000**. In 2005, Motorola discontinued the **MTS 2000*** series and replaced it with the **XTS 1500** and **2500** models. Motorola will continue to support the **MTS** model until 2011 (see [Legacy MTS 2000 Accessories and Equipment](#) below).

What are the distinctions among the "Types"?

All the radios have the same power and range, so there is no penalty in performance if you choose a less expensive model. All can participate in UCR emergency response and Emergency Operation Center conditions. However, there are differences.

- The **XTS 1500** is the most cost-effective, simple to use and can have up to 16 "talk groups" programmed into it. It cannot be used for mutual aid on other UC campuses.
- The **XTS 2500 Type I** can also scan frequencies, can have up to 48 "talk groups" programmed into it, and can receive radio pages. It cannot be used for mutual aid on other UC campuses
- The **XTS 2500 Type II** can do all of the above, as well as initiate radio pages from a pre-programmed list, and may be programmed to participate in Mutual Aid emergencies on other UC campuses.
- The **XTS 2500 Type III** has all the features of Type II, plus a full keypad that can be used in applications such as paging and may be programmed to participate in Mutual Aid emergencies on other UC campuses.

*Due to Motorola ***no longer supporting MTS-2000 radio software***, some radios may no longer be able to be programmed correctly.

In the event of a power blackout, will the radios still work?

The main transmitters are connected to an emergency generator that provides power to the system in the event of a power outage. Should the generator fail, there are still several hours of battery power to sustain the system while other options are brought in. If the main transmitters are destroyed some of the radios will operate in a "talk-around" configuration.

What costs are associated with buying radios?

Individual departments may only purchase the following styles/models of radios to ensure system compatibility;

XTS 1500, XTS 2500 Type I, II, and III radios cost between \$1,000 and \$3,000 respectively. This includes a one-year warranty, with an optional (but inexpensive and highly recommended) two-year additional maintenance plan.

You may contact Purchasing at **extension x23023** for a current quote before submitting your purchase requisition for any radio equipment or accessories.

There is a backbone maintenance fee of \$26.00 per month per radio associated with the UCR 800MHz system.

What do I need to do after I purchase a radio?

All radios are shipped from the factory with no programming whatsoever. Since the 800MHz system is a computer-controlled system, the computer software must be configured to be compatible with the other radios in use on campus. The operation is performed by The Police Department Communications Division.

The *basic radio configuration* has the emergency talk groups programmed into it. This is the simplest configuration, recommended for departments that need only a small number of radios, for limited use for campus emergency situations.

The *standard radio configuration* has the emergency talk groups installed, and creates a departmental talk group for daily radio use. This option provides the greatest flexibility to join other departments (with consent), add more radios to your group, and scan, and while still keeping your conversations private. .

How do I get other departments' talk groups programmed into my radio?

Each department that uses the campus 800MHz radio system has a coordinator assigned. If you wish to have a particular talk group or groups added to your department's radio configuration, The Police Department Communications Division would need the written approval of that department's coordinator.

How long do you expect this system to be operational?

Best estimates are that the 800MHz system should be operational until at least the year 2012 and probably well beyond. There are no plans to replace the system at this time. The 800MHz system replaced two older systems, which used frequencies in the 150MHz band and a low band paging system. The Federal Communications Commission (FCC), which licenses two-way radios systems, required that the 150MHz system be turned off once the 800MHz system was operational and the paging system was also removed at that time.

If I want to buy a radio, can I order it myself?

Yes. However, since the campus system requires that radios be software-configured for UCR's custom setup, you would not be able to purchase a radio "off the shelf" and expect it to work in our system. Orders should be coordinated through The Police Department Communications Division and by submitting your purchase requisition to Purchasing. This would ensure compatibility and allow you to take full advantage of system features.

What information will I need to include in my purchase order for a radio?

The radio model and type you wish to purchase and any accessories to go with your radio.

XTS 1500 Radio **DESCRIPTION**

XTS1500 Portable Model 1.5 Radio 3W 764-870 MHz .

ENH: Trunking 3600 Baud

Dipole *or* Whip (Flex) Antenna (*suggested*)

Express Service Plus (*optional extended warranty—strongly suggested*)

2-½" Belt Clip for battery (*suggested*)

Spare Battery, High Capacity

Charger, 110V Impress Smart Rapid Rate

XTS 2500 Type I Radio

DESCRIPTION

XTS2500 Portable Model 1.5 Radio 3W 764-870 MHz 48 Ch.

ENH: Trunking 3600 Baud

Antenna, Dipole or Whip (Flex) Antenna (*suggested*)

Express Service Plus (*optional extended warranty—strongly suggested*)

2-½" Belt Clip for battery (*suggested*)

Spare Battery, High Capacity

Charger, 110V Impress Smart Rapid Rate

XTS 2500 Type II Radio DESCRIPTION

XTS2500 Portable Model II Radio 3W 764-870 MHz 255 Ch.

ENH: Trunking 3600 Baud

Antenna, Dipole or Whip (Flex) Antenna (*suggested*)

Express Service Plus (*optional extended warranty—strongly suggested*)

2-½" Belt Clip for battery (*suggested*)

Spare Battery, High Capacity

Charger, 110V Impress Smart Rapid Rate

XTS 2500 Type III Radio DESCRIPTION

XTS2500 Portable Model III Radio 3W 764-870 MHz 255 Ch.

ENH: Trunking 3600 Baud

Antenna, Dipole or Whip (Flex) Antenna (*suggested*)

Express Service Plus (*optional extended warranty—strongly suggested*)

2-½" Belt Clip for battery (*suggested*)

Spare Battery, High Capacity

Charger, 110V Impress Smart Rapid Rate

If needed, please contact Purchasing at (951) 827-3023 for a current pricing quote prior to submitting your order for any radios.

Legacy MTS 2000** Accessories and Equipment

**Due to Motorola *no longer supporting MTS-2000 radio software*, some radios may no longer be able to be programmed correctly.

| ITEM | DESCRIPTION |
|------------|-------------------------------|
| NTN7143 | Battery, High Capacity, Spare |
| 4205638V09 | 2-½" Black Belt Clip |
| 8505241U06 | ¼" Whip (Stubby) Antenna |
| NAF5037 | ½" Whip (Flex) Antenna |
| NAF5039 | Antenna, Dipole |

All other accessories and chargers are reported to be interchangeable with MTS 2000 and XTS 1500/2500 equipment. Batteries are NOT interchangeable between the MTS 2000 and XTS 1500/2500 equipment. Please verify the above with Purchasing.

The Buyer who handles all radio equipment purchases for UCR is Renee Aldal. Her e-mail is renee.aldal@ucr.edu.

Tips on Accessories

- Consider buying a spare battery when you purchase your radio. That way you can always have a fresh one in the charger if the one you are using gives out.
- We believe you'll find the belt clip accessory very convenient.
- The Dipole antenna provides the highest quality reception. But due to its length and rigidity, it can be awkward and uncomfortable, especially in a motor vehicle. The Flex antenna performs nearly as well as the Dipole, and is much more comfortable to wear.

Where can I get more information?

You may contact David Ontiveros at the UCR Police Department for more information at (951) 827-6191 or e-mail

David.Ontiveros@ucr.edu.