

# Communications in TGO

## Communications Tech

*"A simple binary code transmitted by carrier wave signal. Radio."*

-- Mr. Spock (*Star Trek, The Motion Picture*)

## Basic Communications

All basic forms of wireless communication in *The Great Outback* still rely on radio transmissions, although transmitters can operate in higher bands and receivers are more sensitive.

Computer enhancement allows even faint signals to be picked up and made intelligible.

## Laser Communicators

When two parties have line of sight to each other, they can use laser-based point-to-point communications to ensure that their conversations are not monitored. Such links cannot be tapped.

Such devices are typically mounted only on aerospace vehicles and on ground stations. A portable communicator is unlikely to have one. However, there are bulky models with small parabolic dishes that can be carried and set up in the field.

## E-messages

In the future, all electronic communications have come to be called "e-messages." Specific forms of e-messages such as letters (emails), videos (evids), and audio (etracks) have their own lingo.

## Unique E-message IDs

Any time an e-message is created, it is assigned a unique identifier code (similar to a network card's MAC address). Each transmitter appends its own signature to the code to allow it to be traced to its source as well as to prevent accidental duplication of e-message IDs.

## Green E-messages

Users can flag e-messages they create to be "Local-Only." Such messages are never stored by red boxes (see below). They are sometimes called **green e-messages** because they are propagated by green boxes (see below).

## Red E-messages

Red e-messages are not restricted to local network distribution like green messages are. They can be stored and propagated by both red and green boxes.

## Blue E-messages

Blue e-messages do not propagate on the civilian communications network. They are intended for use only by government agencies, and must be exchanged either by hand or through other blue boxes.

## Message Persistence

Most e-messages stored in a comm box are never deleted. (Yes, in the Twenty-Ninth Century, computer data storage really has become that vast.) However, most truly important e-messages, such as military or diplomatic communique, have special codes that prevent them from being stored. The first time they are transmitted, they are deleted.

## Delivery Confirmation

Once an e-message is delivered to its intended recipient, the terminal comm box (see below) sends a blank delivery confirmation message that overwrites the original e-message. This preserves the record of the message, although the original is only stored by the sender and the recipient.

Once the message finds its way back to the original owner, the owner receives a delivery notification.

If the owner specifies that he or she wants a "read" confirmation, the message is not replied to until it is opened by the recipient. It is not possible for a recipient to avoid sending a read confirmation, but they will be warned that the message has such a requirement attached before they open it.

## Comm Boxes

Comm boxes store and propagate e-messages between other comm boxes. The physical dimensions of comm boxes are not large compared to the job they perform. They are only one cubic foot in volume, however, they weigh about twenty pounds. The weight comes from extra shielding that prevents remote scanning. Any scanners powerful enough to penetrate the shielding will destroy the electronics within the comm box.

There are three types of comm boxes: Green, Red, and Blue.

### Green Boxes

**Green boxes** are local (meaning, intra-star system) message repeaters. They work similarly to red boxes (see below), except that they store green e-messages as well as red e-messages.

### Red Boxes

All civilian starships have a secure communications **red box** installed. The red box stores any e-messages it receives that are not flagged as local-only (see above).

Once the message is sent, it propagates out through the network, being stored by each red box which receives it.

The first time a red box receives a message it already has stored, it stops transmitting that message within the star system it currently occupies. The same rule applies for each unique terminus.

### Blue Boxes

**Blue boxes** are carried by military and diplomatic ships, which deliver their e-messages either through laser communicator links or by hand.

### Hacking a Comm Box

The device is factory sealed. Breaking the seal causes the system to self-destruct. Master passwords for red boxes are secret, and known only to the Confederation Aerospace Authority. Four consecutive failed attempts to access the information within a red box without breaking the seal will

cause the box to permanently unlink its transceiver from its database and broadcast a signal to the effect that it is being hacked. So, you need to be either really good at burglary, or have a valid administrator password. And be in a remote location to avoid getting caught.

## Interstellar Comm

Interstellar communications rely on either ships or communications drones to physically travel between locations and transmit information. Restricted information is sometimes hand-delivered.

When a ship arrives in a new system and comes into range of the local traffic control network, it will be pinged by the network's transponders. Civilian ships automatically respond, establishing a persistent communications link. If the distance between the network and the ship narrows to less than one light-second, the ship's red box exchanges e-message information with the network's red box. The local system receives everything inbound, and the ship picks up all outbound messages.

### Package Delivery

Physical packages must still be hand delivered, and therefore there is a thriving delivery business industry.

### Passenger Travel

Just as with today's airlines, passenger travel between interstellar locations is handled by private conveyors. Where not profitable, the Confederation subsidizes occasional travel routes.

### Confederation Postal Service (CPS)

The Confederation Postal Service (CPS) makes regular runs to most inhabited locations, but if the location is remote or sparsely populated, there may be gaps of up to a month between scheduled deliveries. They are a public corporation, much like the US Postal Service and the Royal Mail. They operate under strict Confederation oversight, but they also receive subsidies to enable them to establish service to all locations that request it.

Their motto is "Go Postal!"