

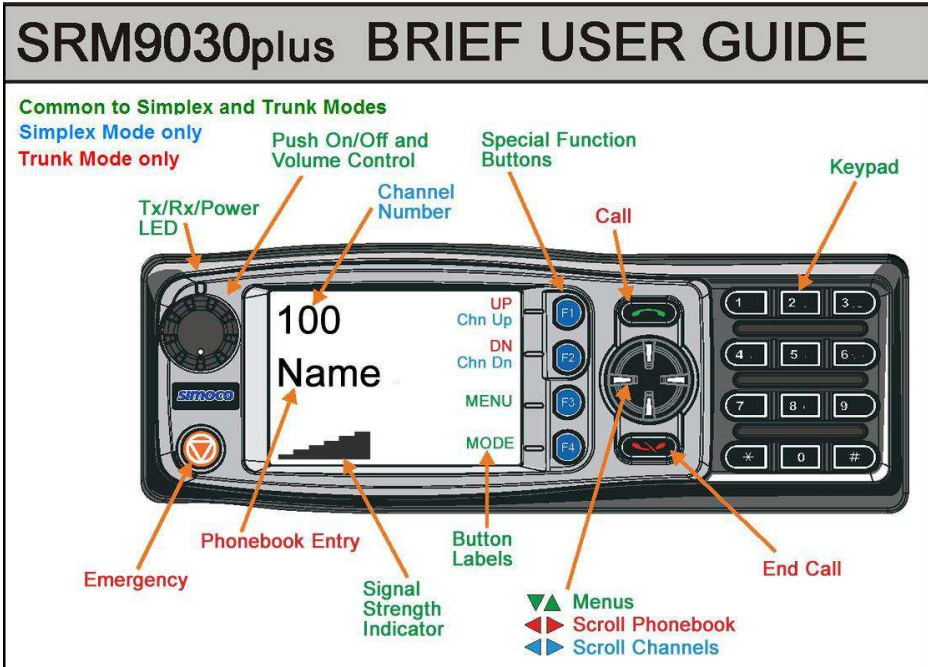
Communications

Radio installation description

Each State Fleet aircraft will normally be fitted with two Simoco 9030plus Dual Mode VHF-FM transceivers. The primary radio can function as either a trunking mode radio using the Statenet Mobile Radio (**SMR**) network or a Simplex mode radio. The secondary radio operates in Simplex mode only. The primary radio can be easily switched from one mode to the other.

The primary radio must not be switched from trunk mode without prior approval of the State Airdesk, except in urgent situations. This is the primary means of contact for re-dispatch. The State Airdesk must be notified of any change initiated for reasons of urgency as soon as possible.

The radios share a fitted keypad control head. All functions of the radio can be performed using this control head.



Operation of Simoco 9030plus radios

Operation of the dual mode Simoco 9030plus radios can be divided into three parts: operations in Trunk mode, operations in Simplex PMR mode and operations common to both modes.

Common operations:

Power on/off	Push the power on/off button to turn the radio on or off. The radio should be turned off before turning off the avionics master switch.
Volume up/down	Turn the volume knob to adjust the volume.
Channel / Address up/down	Use the left or right arrows on the scroll button to scroll through the available channels (Simplex mode) or addresses (trunking mode).

Trunking Mode

In trunking mode the Simoco 9030plus radio operates as a part of the SMR network. In this mode, direct radio to radio calls can be made to any other radio using the SMR network. Using a trunk radio is similar to using a cellular telephone. To call another radio, its trunk address is entered and the call key is pressed. If the radio is available on the network it will sound an alert tone.

Select an address	The address to be called is selected by scrolling with the left and right arrow keys. All aircraft radios are in the SAU Aircraft Radio Fleet. Calls to radios in other fleets should be preceded with their prefix and fleet number.
Initiate a call	When the address is selected a call can be initiated by pressing the green hanDEPIt key or press to talk (PTT) switch. A ringing tone will be heard until the call is answered. When the receiving party answers use the PTT switch as normal.
Receive a call	The radio will sound an alert tone (2 beeps) and display a message when it is being called. Radios installed in

	contract aircraft will automatically answer incoming calls. Once answered use the PTT switch as normal.
Cancel a call	To finish or cancel a call press the red handset key or dial *# on the keypad.
State Airdesk	To call the State Airdesk press the Airdesk (F2) button. This will call the DAO on trunk address 700.
Call time limits	Trunk radio calls on the SMR network are limited to 180 seconds. Call progress time is indicated on the control head display. During the last ten seconds of the call a tone will sound to warn of the imminent disconnection of the call. There is also a 60 second limit on continuous transmissions and connected calls without any transmissions for 60 seconds. These calls are disconnected without any warning.
Phone access	<p>Calls to telephone numbers outside the department require a 0 to precede the phone number. PSTN will be displayed on the screen during the call.</p> <p>Telephone calls are chargeable and call details are logged by the system.</p>

Simplex Mode

In Simplex mode the SMR 9030plus radio operates as a Simplex radio. The current channel name and number is displayed on the control head screen.

Select a Channel	The channel is selected by scrolling with the left and right arrow keys until reaching the desired channel, or typing the channel number and pressing the # key.
Initiate a call	When the channel is selected a call can be initiated by pressing the press to talk (PTT) switch in the aircraft.

Radio procedures and discipline

When dispatched to local destination

Pilots must confirm the operation of both Simplex and trunking transceivers at the earliest opportunity after take off *as described in Communications Test Procedures (next page)*, you must confirm the correct operation of all radios.

Pilots are then to proceed to task/fire with the trunk radio operating in trunk mode and the Simplex radio tuned to the "home channel".

Dispatch to other destinations

You must confirm the proper operation of all radios (as listed above) at the earliest opportunity after take-off. *(see Communications Test procedures - on the next page)*

Then proceed to task/fire with the trunk radio operating in trunk mode and the Simplex radio tuned to the "home channel". As you leave the "home" radio channel area change the Simplex radio to the channel that applies to your destination (unless otherwise advised).

If the aircraft has not flown for six days

If the aircraft has not flown during the preceding six days, the pilot must fly the aircraft on the seventh day (provided it is safe to do so) for at least five minutes and confirm the proper operation of all radios (as listed above), in the manner described below. This flight is not chargeable but should be noted on the Flight Operations Return for that day. DEPI will supply or pay for the fuel used.

Communications test procedures

The mandatory test procedure requires successful transmitting and receiving with both Trunk and Simplex radios. Test calls using radios in Simplex mode should be made to an appropriate DEPI or CFA base station (e.g.: a regional office or fire tower), or a mobile unit *at least 10 kms distant*.

These tests will require two separate calls to be made. A recommended method for this test is outlined below.

1. Select the trunking radio on the aircraft audio selection panel.
 - Call your test station using the trunk network. Tell them you will call them shortly on conventional radio. Confirm with them a channel to use.
2. Select the conventional radio on the aircraft audio selection panel.
 - Call your test station using the conventional radio on the previously agreed channel.
3. If time permits a trunk radio call to the State Airdesk (Trunk number 700), is also encouraged.
 - **Note: You must also check other systems such as GPS, associated audio equipment, public address, siren etc. immediately after checking the radios.**

Problems

If the tests reveal any problems, repeat the procedure to confirm the problem.

If a problem occurs with any transceiver, the pilot must inform the State Airdesk as soon as possible on 1300 13 4144 or Trunk number 700. This may require returning to base or to an appropriate landing field or using other means as appropriate (other radios etc.), to relay a message. The pilot will then be advised of what course of action should be taken.

DEPI radio procedures

The following operational procedures are used by DEPI for radio communications using radios operating in the VHF Trunk and Simplex mode.

Please note that all Trunked and Simplex VHF Channels used by DEPI can be overheard by any person using scanning or listening devices.

Callsigns

For positive identification and to comply with the SMR regulations, DEPI personnel are to use a Radio Callsign at the commencement of traffic in both the Trunked and Simplex Modes.

The Callsign used by aircraft would normally be the aircraft name.

e.g.: ***“DEPI Fire Management from Firebird 302... Over”***

Trunked radio procedures

Individual unit to unit (person to person) calls shall be used in preference to any other types of calls on the trunked radio network.

Group calls can be used where:

- the same message is to be given to a number of radios in a specified area

or

- to locate a person whose whereabouts are unknown.

Radio calls to or from personnel in offices shall be made by way of the Departments telephone inter-connect units in preference to the SMR network telephone ports.

When calling the State Airdesk, the radio will normally automatically answer. In some instances the operator may not be present at the radio. To ensure a response please “announce” the call.

e.g.: ***“Airdesk from Firebird 305”***

Likewise, pilots should not provide flight details until it is clear that the call has been attended.

Simplex mode procedures

One main regional and two extra conventional channels have been assigned to each DEPI Region for use in situations where open channel communications are required between radio units over short distances.

When operating in the Simplex Mode the radio operator shall always use a radio callsign.

Control of radio traffic on DEPI Simplex channels

DEPI implements a system to control radio traffic on particular radio channels. The system is normally only active when the fire towers are operating (generally between 1000hrs and 1800hrs daily local time), or in other areas, on days of high fire danger. The controlling station allocates use of radio channels to stations that request it. In these situations it is necessary to begin initial transmission by requesting clearance to use the channel. This is achieved by transmitting your aircraft call sign followed by the word "CHECK".

eg. *Aircraft to controlling station*

Bomber 358 says **"Bomber 358 CHECK"**

Control station says **"Go ahead Bomber 358"**

Bomber 358 says **"Yarram Base from Bomber 358"**

or ("Joe Smith from Bomber 358")

If the channel is not clear:

Bomber 358 says **"Bomber 358 CHECK"**

Control station says **"STANDBY Bomber 358"**

When the channel is clear:

Control station says **"GO AHEAD Bomber 358"**

If there is no response to the "CHECK" call, assume the system is not active and proceed with your transmission.

CFA radio procedures

The following operational procedures are used by CFA for radio communications using radios operating in the VHF Simplex mode.

Please note that all Trunked and Simplex VHF Channels used by CFA can be overheard by any person using scanning or listening devices.

One main regional and two extra conventional channels have been assigned to each CFA District for use in situations where open channel communications are required between radio units over short distances.

CFA Districts are numbered. Callsigns generally use the number of the District in which the station is located. In the case of personnel, the number of their "home" District is used. Numbers are spoken as component numbers.

Begin your initial radio chat by calling your intended contact first, then "from (your aircraft call sign)". The following are examples.

If calling District 13 headquarters

“District 13 from Firebird 303”

If calling a District Officer from District 13

“District 13 from Firebird 303.”

or if District Officer is mobile or using a portable,

“District 13 Mobile from Firebird 303”

If calling a base station or vehicle

“Manangatang Fire Station from Firebird 303”

or ***“Ouyen Tanker from Firebird 303”***

Incident channels

An “Incident Channel” (IC) is simply a radio channel (in conventional mode) that can be selected for a particular geographic area of the State that will give access to a radio repeater located on a high point. Telstra and the Agencies have developed the Incident Channel network by establishing conventional repeaters at approximately 120 sites across Victoria.

Although each IC site has the ability to operate as an independent conventional repeater, it will also have the ability to allow users access to the Trunk and telephone (PSTN) networks from a conventional IC.

What are the benefits of the incident channels?

The Incident Channel is an “open channel” system, one of the main benefits to ground resources will be the option to “hear” and monitor all fireground radio traffic using the Incident Channel. This is particularly beneficial for transmitting high priority or emergency calls.

How to use the repeater

When the correct channel is selected for the appropriate site, all radios on the same channel and within range of the repeater will hear the broadcast. All IC sites are located on geographically high points, so the range of operation on ground is considerable (up to 80+ kms radius). For fire incidents, if the controlling office and fireground are each within range of the repeater, then the office radio set will be able to monitor and be included in all transmissions. Unit to unit communications in open channel mode to all radios within range is therefore possible.

Note: *A two to three second delay exists in use of command or repeater channels owing to the time taken for the repeater to “open”. Pilots must be aware that when transmitting on Incident Channels, they must pause after activating the transmit button for approximately two seconds before speaking, as the first words of a message may be lost if they commence speaking immediately*