South Australian Country Fire Service

VOICE TERMINAL EQUIPMENT MODEL

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Government of South Australia

COUNTRY FIRE SERVICE SIGNOFF

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Document Control

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- who may approve the incorporation of amendments, that is changes that do not alter the sense, meaning or intent of the document, or
- shall propose the changes for approval by the above signatories where revision may be required that alters the sense, meaning or intent of the document.

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1 Introduction

1.1 Purpose

The purpose of this document is to:

(a) Identify the types of voice radio terminal equipment used within the Country Fire Service; and

(b) Detail the approved model for the allocation of voice radio terminal equipment to the various fixed locations and mobile units within the CFS.

1.2 Definitions

The following definitions are used throughout this document:

Table 1: Definitions

Command & Control Radio(s):	Means the Motorola MCS 2000 and MTS 2000 radio terminal equipment provided under the SA-GRN Transition Project
Fireground Radio(s):	Means the TAIT 2020 Mobile and ICOM F3GS Portable Radio terminal equipment provided under the Fireground Radio Project

1.3 Application of this Document

This document describes the approved allocation of radio terminal equipment throughout the CFS only. Any deficiency in existing allocations and those prescribed in this document does not infer that equipment is available to cover any identified shortfall, nor does it infer that funds are available to acquire terminal equipment.

1.4 Desired Outcome

The desired outcome of this document is to provide a radio terminal equipment-provisioning model that enables the CFS to provide radios on a 'needs basis' that minimizes instances of 'oversupply' and 'undersupply' across Brigades, and takes into account specialist (eg. EMA, Hazmat, RCR) and location dependent requirements (e.g. Kangaroo Island).

1.5 Constraints

The following constraints shall be taken into account in the determination of radio terminal equipment numbers and disposition:

(a) No fixed base stations, high site simplex base stations or two-frequency repeater sites shall be provided for Fireground Communications;

(b) Contingency communications shall be provided for Command & Control Communications only.

2 Operational Communications Requirements and Characteristics

Table 2: Operational Communications Requirements and Characteristics

Type of Communication	Characteristics	Primary Communications	Secondary Communications	Contingency Communications
Command & Control Communications	Wide Area. One to many communications. Usually infrastructure dependent.	SA-GRN Mobile Radio Sub-Network - Trunking Channels.	Multiagency SA-GRN Simplex channels for localised Command and Control	Multiagency and/or CFS UHF Repeaters. Satellite Phone PSTN Mobile phones
Fireground (Tactical) Communications	Short distance - generally line of sight. One to many communications. Infrastructure independent.	CFS Fireground VHF Simplex Channels	Interactive Voice Over Air. Multiagency SAGRN Simplex Channels.	Normally assured by provision of sufficient radios. Multiagency SAGRN Simplex Channels.
Remote Area Communications - Long Distance	Long distance. Usually one to ode (or few). Infrastructure dependent and/or independent.	Satellite Phone. UHF CB Repeater Network. HF Radio.	Satellite Phone. UHF CB Repeater Network. HF Radio.	Satellite Phone. UHF CB Repeater Network. HF Radio.
Remote Area Communications - Short Distance	Short distance - generally line of sight. One to many communications. Infrastructure independent.	CFS Fireground VHF Simplex Channels	Interactive Voice Over Air. Multiagency SA-GRN Simplex Channels. UHF CB Simplex Channels.	Normally assured by provision of sufficient radios. Multiagency SA-GRN Simplex Channels. UHF CB Simplex Communications.

Type of Communication	Characteristics	Primary Communications	Secondary Communications	Contingency Communications
Command & Control Coverage Extension	Extend access to CFS Command & Control channels up to 50 km from 'edge' of SA-GRN coverage area. One to many communications. Infrastructure dependent.	Conventional to SA-GRN Talkgroup Cross-band Repeater – fixed or transportable.		
Command & Control Coverage In-Fill	Provide access to CFS Command & Control channels in areas within the SA-GRN footprint where coverage is not 'fit for purpose'. One to many communications. Infrastructure dependent.	Conventional to SA-GRN Talkgroup Cross-band Repeater – fixed or transportable.		

3 Command & Control Voice Terminal Provisioning

3.1 State Operations Centre

(a) Three (3) Motorola Centracom Consoles with dedicated Central Electronics Bank (CEB) and Operator accessories.

(b) MCS 2000 II fixed radios and/or MTS 2000 III portable radios determined by contingency arrangements for unavailability of one or more Centracom Consoles.

(c) 1 Six-way unit Motorola MTS 2000 III battery charger.

(d) 1 Six position Battery Optimiser.

3.2 Regional Headquarters

(a) 4 Motorola MCS 2000 II fixed radios with keypad microphones and headsets (Dual/single earpiece, boom microphone, PTT switch);

(b) 1 Six-way unit Motorola MTS 2000 III battery charger;

(c) 1 Six position Battery Optimiser.

3.3 Group Control Centre

(a) 3 Motorola MCS 2000 II fixed radios with keypad microphones and headsets (Dual/single earpiece, boom microphone, PTT switch);

(b) 1 Six-way unit Motorola MTS 2000 III battery charger;

(c) 1 Six position Battery Optimiser.

3.4 Backup Group Control Centre

(a) 2 Motorola MCS 2000 II fixed radio with keypad microphone.

3.5 Group Officer

(a) 1 Motorola MTS 2000 III portable radio with 2 batteries and 1 charger **or** 1 Motorola MCS 2000 mobile radio with keypad microphone.

(b) Where operational requirements require a change from the initial provision, the Regional Commander may endorse this change subject to the availability of spare terminal equipment and approval by the Manager Operations Services..

3.6 Deputy Group Officers

(a) 1 Motorola MTS 2000 III portable radio with 2 batteries and 1 charger **or** 1 Motorola MCS 2000 mobile radio with keypad microphone.

(b) Where operational requirements require a change from the initial provision, the Regional Commander may endorse this change subject to the availability of spare terminal equipment and approval by the Manager Operations Services..

3.7 Group Communications Officer

(a) 1 Motorola MTS 2000 III portable radio with 2 batteries and 1 charger **or** 1 Motorola MCS 2000 mobile radio with keypad microphone.

(b) Where operational requirements require a change from the initial provision, the Regional Commander may recommend this change subject to the availability of spare terminal equipment and approval by the Manager Operations Services.

(c) A Fixed MCS 2000 II may also be approved by the Regional Commander and endorsed by the Manager Operations Services to suit identified operational requirements.

3.8 Command Cars/Logistics Vehicles

(a) 2 Motorola MCS 2000 II mobile radios with keypad microphones and 1 extension microphone per vehicle[1];

(b) 1 Motorola MTS 2000 III portable radios with remote extension microphone, 2 batteries and 1 charger;

(c) 1 Motorola MTS 2000 In-vehicle Charger.

3.9 Brigade Station

(a) 1 Motorola MCS 2000 II mobile radio with standard microphone where operational requirement is justified, approved by the Group and endorsed by the Region.

(b) 1 Single unit Motorola MTS 2000 III charger per appliance.

3.10 Brigade Captain

(a) 1 Motorola MCS 2000 mobile radio with keypad microphone **or** 1 Motorola MTS 2000 III portable radio 2 batteries and 1 charger.

(b) Where operational requirements require a change from the initial provision, the Regional Commander may recommend this change subject to the availability of spare terminal equipment and approval by the Manager Operations Services.

3.11 Appliances (Non EMA)

(a) 1 Motorola MCS 2000 II mobile radio with standard microphone and spare user changeable antenna;

(b) 1 Motorola MTS 2000 In-vehicle Charger.

(c) 1 Motorola MTS 2000 III portable radios with 2 batteries.

3.12 Appliances (EMA)

(a) 1 Motorola MCS 2000 II mobile radio with standard microphone and spare user changeable antenna;

(b) 1 Motorola MTS 2000 In-vehicle Charger.

(c) 2 Motorola MTS 2000 III portable radios with 2 batteries.

3.13 Council Plant

(a) Nil.

3.14 Operational Staff Vehicles

(a) 2 Motorola MCS 2000 II mobile radios with keypad microphones;

(b) 1 Motorola MTS 2000 III portable radio with 1 spare battery, In-vehicle Charger.

3.15 Non-Operational Staff Vehicles

(a) 1 Motorola MCS 2000 II mobile radios with keypad microphone

(b) As approved by the Chief Officer.

3.16 Regional Communications Vehicles

(a) 3 Motorola MCS 2000 II mobile radios with keypad microphones and 1 extension microphone per vehicle;

(b) 3 Motorola MTS 2000 III portable radios with 3 spare batteries and 1 mains charger;

(c) 3 Motorola MTS 2000 In-vehicle Charger.

3.17 Staging Areas

(a) One (1) or more fixed Command & Control antennas and antenna cabling, mains outlet(s) suitable for connection of a Command & Control Approved Transportable Radio(s).

(b) Location and number of fixed antennas to be determined by operational requirements.

3.18 Aircraft – Fixed Wing

(a) 1 Motorola MCS 2000 II mobile radio with standard microphone and spare user changeable antenna;

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[1] *This extension microphone allows operation from the rear seat of the vehicle.*

3.19 Aircraft – Rotary Wing

(a) 1 Motorola MCS 2000 II mobile radio with standard microphone and spare user changeable antenna;

3.20 Operational Airbases

(a) Operational airbases may be approved to be issued with fixed and/or mobile MCS 2000 radios, and/or MTS 2000 III portables as recommended by the Regional Commander and approved by the Manager Operations Services.

3.21 Transportable Radios

(a) Number and disposition of Command & Control Approved Transportable Radios to be determined by operational requirements.

3.22 Training Kits (Operational Use Prohibited)

(a) Number and disposition of Command & Control Training Kits to be determined by training requirements and subject to the approval of the Manager Training.

3.23 Remote Extension Microphones for Portables

(a) Remote extension microphones for portables are available where an operational requirement is identified and approved by the Regional Commander.

3.24 Interstate Agencies

(a) Interstate Agencies may also be approved for Command & Control radio allocations as recommended by Regional Commanders, endorsed by the Manager Operations Services and approved by the Deputy Chief Officer.

(b) Funding will be the responsibility of the Interstate Agency unless otherwise agreed with the Chief Executive Officer of the CFS.

4 Command & Control Repeaters – Fixed

To be determined by CFS Communications Contingency Plan.

5 Command & Control Repeaters – Transportable

To be determined by Operational requirements and the CFS Communications Contingency Plan.

6 Fire Ground Voice Terminal Provisioning – Mobile and Portable Radios

In determining the provisioning of Fireground Voice Terminal Equipment, the constraints listed in paragraph 1.5 on page 7 shall be observed.

6.1 Group Officers/Brigade Captains

(a) One (1) Fireground mobile radio **or** one (1) Fireground portable radio with spare battery, remote speaker/microphone, carry case and in-vehicle charger.

(b) Where operational requirements require a change from the initial provision, the Regional Commander may approve this change subject to the availability of terminal equipment.

6.2 Appliances

(a) 1 Fireground mobile radio.

(b) Up to 3 Fireground portable radios with spare battery, remote speaker/microphone, carry case and in-vehicle charger.

(c) Final numbers to be approved by Regional Commanders on a Brigade-by-Brigade basis.

6.3 Specialist Brigades (EMA, HAZMAT, RCR)

(a) By negotiation with Manager Operations Services.

6.4 'Outside of Model' Applications

(a) As identified by Regional Commanders (e.g. Kangaroo Island).

6.5 Command Cars/Logistics Vehicles

(a) 1 Fireground mobile radio.

(b) 2 Fireground portable radios with spare battery, remote speaker/microphone, carry case and in-vehicle charger.

(c) Final numbers to be approved by Regional Commanders on a Group-by-Group basis.

6.6 Bulk Water Carriers and Other Support Vehicles

(a) 1 Fireground mobile radio.

(b) 2 Fireground portable radios with spare battery, remote speaker/microphone, carry case and in-vehicle charger.

6.7 Communications Vehicles

(a) 2 Fireground mobile radios.

(b) 2 Fireground portable radios with spare battery, remote speaker/microphone, carry case and in-vehicle charger.

6.8 Aircraft – Fixed Wing

(a) 1 Fireground mobile radio

6.9 Aircraft – Rotary Wing

(a) 1 Fireground mobile radio

6.10 Operational Airbases

(a) Operational airbases may be issued with fixed and/or mobile Fireground radios, and/or Fireground portables as recommended by the Regional Commander and approved by the Manager Operations Services.

6.11 Operational Staff Vehicles

(a) 1 Fireground mobile radio

(b) 1 Fireground portable radio with spare battery, remote speaker/microphone, carry case and in-vehicle charger.

6.12 Non Operational Staff Vehicles

(a) As approved by the Chief Officer.

6.13 Portable Radio Mains Chargers

(a) Each portable radio shall be supplied with a single unit mains battery charger.

(b) A Multi-bay portable radio charger will be supplied at locations where the number of allocated portables is six (6) or greater.

6.14 Battery Analysers

(a) Battery Analysers shall be provisioned at the same rate as for Command & Control portable radios or as otherwise negotiated.

6.15 Additional Radios

(a) Groups and Brigades may purchase additional radios and accessories at the contracted price for a period of 12 months after the date of Contract Commencement.

6.16 Spares

The number and disposition of spare portable radios and accessories shall be determined by negotiation between Regional Commanders and the Manager Infrastructure and Logistics and shall be subject at all times to the availability of approved funding.

7 Radio Accessories

7.1 Fireground Mobile Radios

Mobile radios shall be supplied with the standard accessories comprising microphone, cab mounted speaker and antenna.

7.2 Fireground Portable Radios

Portable radios shall be supplied with an extension speaker/microphone, spare battery, carry case, and desktop charger.

Other accessories such as additional car chargers, throat activated microphones, headset/microphone sets, etc shall be supplied where approved by the Regional Commander and subject to the availability of funds.

8 Portable Battery Maintenance

To Be Determined.

9 Voice Terminal Equipment Moves and Changes

Moves and changes to fixed and mobile radio terminal equipment shall only be carried out with the approval of the Regional Commander or other CFS Authorised Officer and shall only be undertaken by Approved/Accredited Service Providers operating under a Service Level Agreement with the CFS.

10 SAGRN Conditions of Service

The application and use of Command & Control Communications on the SAGRN Network is subject to the 'SAGRN Conditions of Service' Document issued by the DAIS Telecommunications Services Group and as amended from time to time.