

DRC-1 User Instruction Manual to software version 3.6.



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Unit Description.

The DRC-1 desk-top controller from A.W. Communications embodies the very latest hardware and software technology, thus maximising functionality and reducing physical size to that of a desk-top telephone unit.

The following is a brief description of the facilities available at your fingertips, all of which are designed to enhance the radio facilities and ease the operator burden.

Please Note

The DRC-1 at your desktop will have been configured by your system supplier and as such, may or may not have some of the features described herein enabled for your use. Your supplier will help with any questions you may have regarding correct operation and configuration.

Multiple Audio Paths.

The DRC1 will support operation using the built in loudspeaker and microphone, the handset, which forms part of the unit, a plug in operator headset, and interconnection with the telephone system. The DRC-1 also provides an audio input/output for use with recording devices.

Selective Calling

Selective calling is the ability to call an individual mobile or portable radio sets using a uniquely allocated number. Having called the mobile, your conversation with that mobile will not be overheard by the remainder of the fleet.

In a selective calling system, a mobile wishing to communicate with a control room operative makes a call using the unique number and the DRC-1 will either display the call, or place it into a special queue to await operator call back.

It is also possible for the operator to call Groups of mobiles in order to make a broadcast announcement or request.

Status Information

Status information forms part of the selective calling system. The status of a mobile is indicated by appending one or more numbers to the mobile's call-sign. In a similar way, a control room operative can send a status code to a mobile to command a required readiness state.

Alpha Tags

Alpha tags are text names, which can be allocated to call-signs, status codes, and channels. These tags are intended to make the system readily understandable by translating the numbers used within the system into text . By way of example the incoming code 12349 can be tagged to display "Dog Van 3 Meal Break"

Headset Working

In busy control rooms it may be desirable to achieve quiet operation of the radio system, and this can be achieved by plugging in an operator headset and microphone combination. Once the operator is using the headset, then operation of the keypad Transmit key will cause the operator's voice to be transmitted. In receive mode, the operator can choose to use the internal loudspeaker, or turn the loudspeaker off by pressing the [LS] key.

Common Headset Working

If the operator is equipped with a headset, then the DRC-1 can also be interconnected to the telephone system. This interconnection will have been undertaken by your system supplier. By interconnecting the DRC-1 to the telephone system, the operator can use the same headset to make and receive telephone and radio calls. It is also possible to connect a mobile radio directly to the telephone system – see teleconnect.

Menu System

The menu system provides the operator access to many of the system facilities. The menu is accessed by pressing the menu key and then using the up and down scroll keys to move through the menu options. These are described in greater detail later.

Talk Through

Talk through is the term used for a facility which permits one mobile to speak with another. It would be normal practise for the mobile requiring the talk through facility to ask control to enable the facility. The DRC-1 can command talk through in several ways which will depend upon what type of base station your service uses.

Talk Through [TT] Key

The talk through key will enable the talk-through facility as described above. The key will have been configured by your system supplier and there is no need here to describe how it functions.

Night Service Key

In some services, the control room will not be manned twenty four hours a day. When the control room is unmanned it will be desirable for mobiles to communicate with other mobiles or a temporary control room which will probably consist of a fixed mobile at a duty officer's residence. The night service is used only where selective calling is in operation, and upon receipt of any valid call code will enable the talk through facility.

Facilities.

The [FAC]ilities key which can be found on the lower left hand side of the keypad will have been programmed to control base station facilities. These facilities may be unique to your service and as such is not possible for us to describe them here. By way of example, your base stations may consist of a main equipment set, and a standby equipment set. The standby set can be commanded to take over in the event of equipment failure by operating the facilities key.

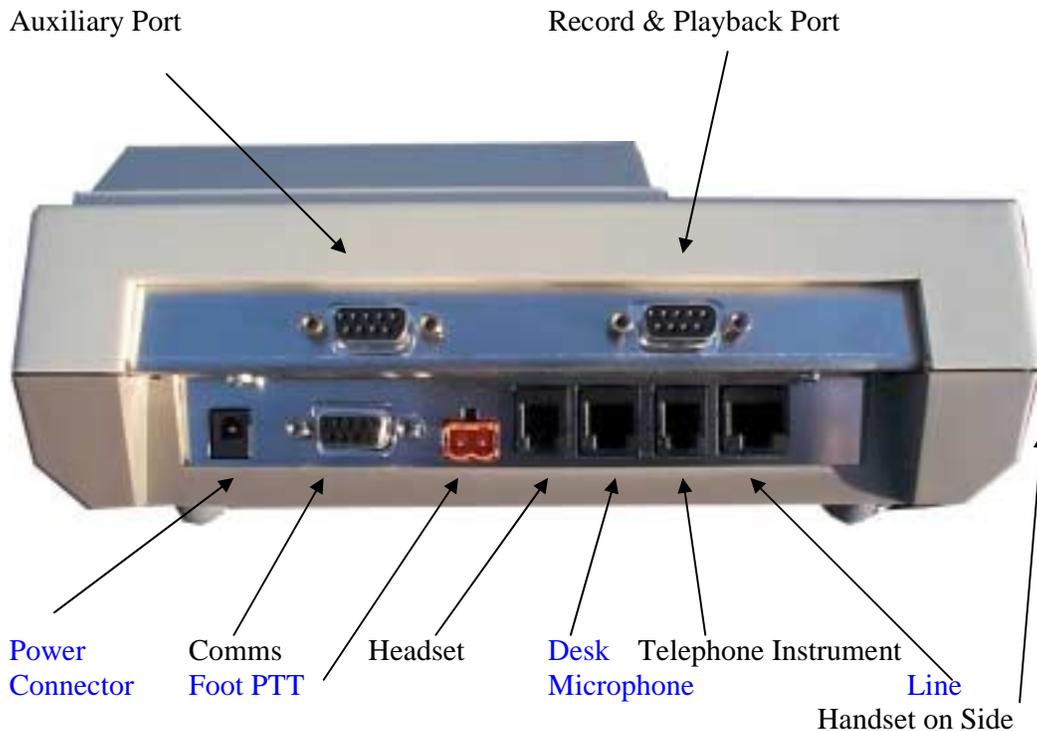
Handset

In any mode of operation, picking up the handset will cause the DRC-1 to recognise and use the handset microphone and ear-piece. For example, a control room supervisor can pick up the handset and immediately communicate with a mobile resource the operator is connected with.

Unit Connections.

The DRC-1 at your desk-top will have been installed and configured by your system supplier. The connection information given below is offered as an aid to recognition should any of the facilities become disconnected.

Rear View of DRC-1



Power Supply Port.

Connection to the supplied modular power supply unit. Use only the supplied power unit.

Auxiliary Port

The auxiliary port is used for connecting third party equipment such as modems.

Record & Playback Port.

Used for connection to recording and or playback devices.

Communication Port.

Used for programming and for system extension to other devices.

PTT.

Connect a foot operated press to talk switch to this port.

Headset Port.

Used for the connection of an operator headset to achieve quiet operation and common headset functionality.

Microphone Port.

Used to connect a desk-top style microphone.

Telephone Line Port.

Used to connect the DRC-1 to a desk-top telephone instrument equipped with a headset port to enable common headset working.

Line Port.

Used to connect the DRC-1 to the radio base station either directly or via a telephone line or other 2 port communication circuit.

Menu System

The operation of the DRC-1 falls into two main categories being:-

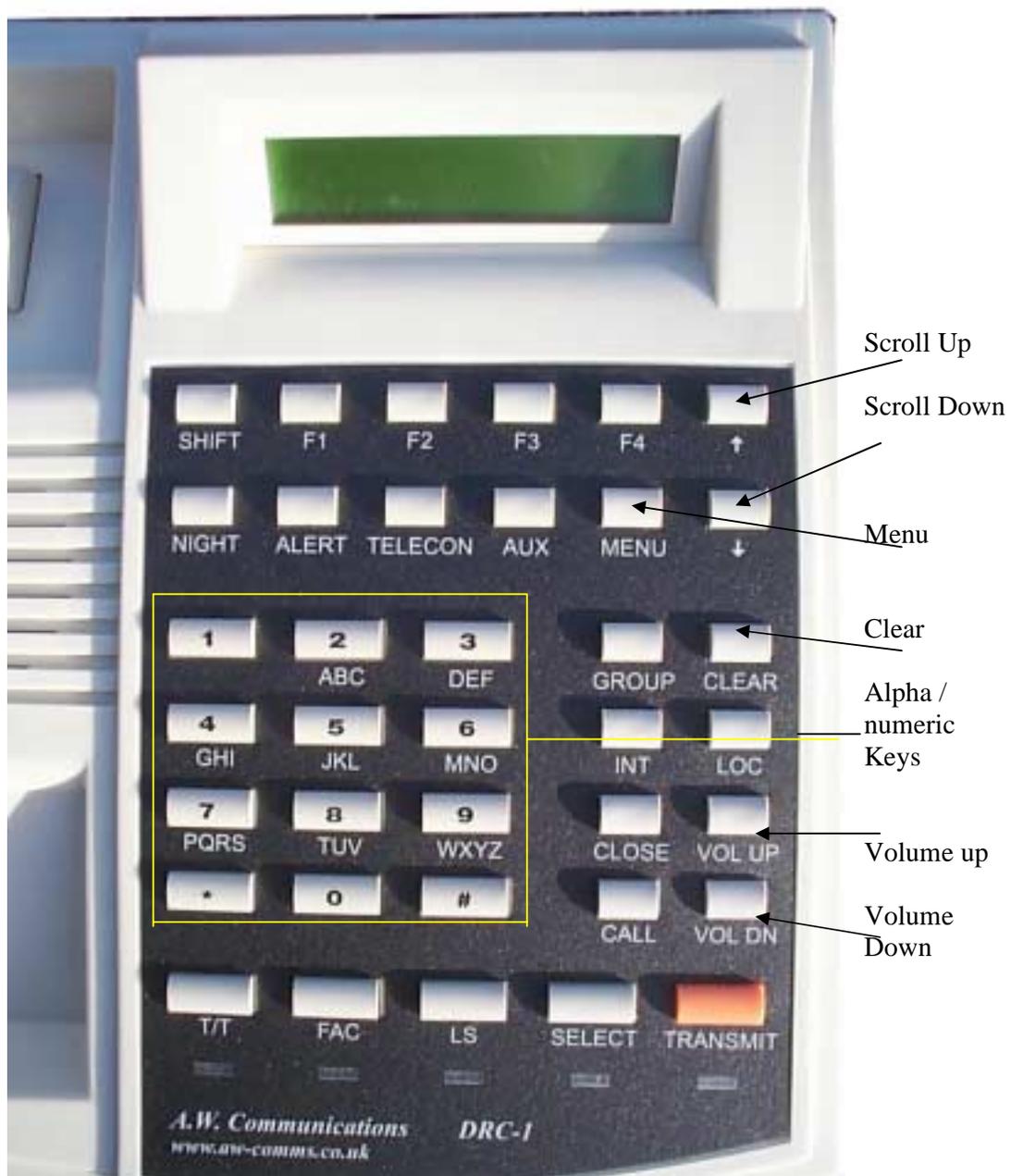
1, Accessing and setting embedded facilities such as volume levels and alpha tags. These would normally be set once and used many times.

2, Using the frequently used facilities such as making and receiving calls from mobiles and from the telephone system.

Access to the items in category one is achieved through the menu system. The menu system is termed a “nested” menu because once the upper menu has been accessed, there are multiple choices which can be scrolled through using the scroll up and scroll down keys.

The menu key itself acts as a select key and indicates to the system what choice the operator is making from the options listed on the screen. The [CLEAR] key acts as a back-step key and its operation takes the operator one step backwards in the selection process.

Keys used in the menu system.

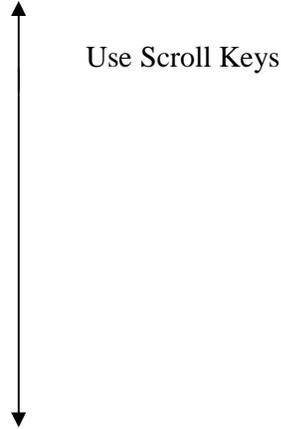


The Menu Architecture.

The menu is nested in the following order.

Press Menu key.

- Set Selcall Status
- Set Radio Channel M80 mode only
- Headset Volume
- Handset Volume
- Default Speaker Volume
- Keypad Beeps
- Set Time
- Set Date
- Display Contrast
- Set Microphone Source
- Lamp & Key Test
- Set Ident Tags
- Set Status Tags
- Set Channel Tags
- Set Default Channel
- F Key Channels M80 mode only
- Software Version



Installation Menu

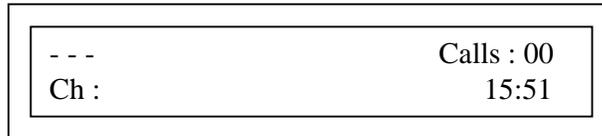
Expert use only

It should be noticed that those functions, which will require frequent adjustment or are operator dependant are placed at the top of the menu, and precede those items which are used less frequently.

The DRC-1 Display.

The DRC-1 is equipped with a two line by twenty character LCD display. The display is backlit for use in a dark environment and also has adjustable contrast for improved visibility in a brighter environment

DRC-1 Display



The DRC-1 display consists of two lines of twenty characters. The display has both static and dynamic information, and its appearance will change depending upon the task being performed. In the example above, the three dash lines at the top left of the display indicate that the selective calling system is enabled and the operator is required to input three digits when using the call facility. One digit per dashed line. Your system may be configured for a different number of digits to be entered, and the number of dashed lines will indicate the quantity of operator entered digits expected by the system. If the selective calling system is not enabled, then the dashed lines will not appear.

The “Ch:” is used to indicate the radio channel the DRC-1 is presently connected to, and may if programmed have an associated alpha tag, e.g. Ch: traffic.

The top right hand “Calls:00” is used to indicate the status of the call stack. The call stack is a queue of identities awaiting contact from control. When enabled, the stack will hold ten calls. The stack has three states, one of which will have been set by your system supplier. These states are 1, off, no stack in use,. 2, Stack depth one call only, i.e. the display will show the latest call received. 3, stack depth ten calls.

The bottom right of the display shows the current time.

User controls

Volume Adjustment - Loudspeaker

The adjustment of the internal loudspeakers volume is achieved by using the volume up [VOL UP], or volume down [VOL DN] keys without the need to access the menu facility.

Volume Adjustment - Headset

Press [MENU] to access the menu system. The first item is “headset volume”, press [MENU] again to select this item. The display now changes to indicate the current volume setting as both a bar-graph and number. Use [VOL UP] and [VOL DN] to adjust volume level. When the desired volume is set, press [MENU] to store the value. The display returns to the top level menu and the user has the choice to scroll to another menu option, or press [CLEAR] to leave the menu system.

Volume Adjustment - Handset

Press the [MENU] key to access the menu system. The first item in the menu system is headset volume and has a chevron indicating the present selection. Use the [↓] key to move down the menu one place to Handset volume. Press [MENU] to select this item then use [VOL UP] and [VOL DN] to adjust volume level. When the desired volume is set, press [MENU] to store the value. The display returns to the top level menu and the user has the choice to scroll to another menu option, or press [CLEAR] to leave the menu system.

Volume Adjustment - Default loudspeaker volume

The default loudspeaker volume setting determines the volume level the loudspeaker will operate at when the unit is powered up. Press the [MENU] key to access the menu system. The first item in the menu system is headset volume and has a chevron indicating the present selection. Use the [↓] key to move down the menu one place to Dflt speaker volume. Press [MENU] to select this item then use [VOL UP] and [VOL DN] to adjust volume level. When the desired volume is set, press [MENU] to store the value. The display returns to the top level menu and the user has the choice to scroll to another menu option, or press [CLEAR] to leave the menu system.

Keypad beeps

The keypad can emit one of two sounds, click or beep, or can be made silent. Press [MENU] to access the menu system, then press [↓] until the chevron points to keypad beeps. Press [MENU] to select this item then use the [↓] or [↑] and place the chevron next to your choice {Pip, Click, or Off}. Press [MENU] to store your selection, then [CLEAR] to exit the menu system.

Set Time

Press [MENU] to access the menu system, then [↓] until the chevron points to Set Time. Press [MENU] to select this item. The display will now expect you to enter two digits for the hour. Pressing clear will backspace and clear a digit at a time should you wish to re-enter the numbers. Use the alpha-numeric keypad to enter the hour figures then press [MENU] to store the numbers entered. Now the display will move down and expect you to enter two digits for the minutes. Enter two digits then press [MENU] to store your selection, and the display will move back to the menu option “set time” press [CLEAR] to exit the menu system.

Set Date

Press [MENU] to access the menu system, then press [↓] until the chevron points to set date. Press [MENU] to select. The display will change and expect you to enter two digits for the day number. Enter two digits then press [MENU] to store your choice, then enter two digits for the month number and press [MENU] to store your choice, and finally, enter two digits for the year and press [MENU] to store your entry. Press [CLEAR] to exit the menu system.

Display Contrast.

To adjust the display contrast, press [MENU] to access the menu system, then [↓] until the chevron points to Display Contrast. Press [MENU] to select this item, then use [↓] or [↑] until the desired contrast level is observed. Press [MENU] to store your settings, then, press [CLEAR] to exit the menu system.

Set Microphone Source

This item is likely to have been set by your system supplier, however circumstances may require you to alter the setting should you connect a headset for the first time, or have a headset failure and wish to revert to using the internal microphone.

Press [MENU] to access the menu system, then press [↓] until the chevron points to Set mic source. Press [MENU] to select this item, then use the [↓] or [↑] to select the microphone source, {Internal, or headset}. When the display indicates your desired choice, press [MENU] to store your selection, then press [CLEAR] to exit the menu system.

Lamp & Key Test.

The lamp and key test feature is a sub program used to test the buttons and illuminate all of the lamps {L.E.D. devices}. This is a program which will run until cancelled. The red "Transmit" key is used to stop the program and exit from this facility.

To access this facility, press [MENU] then [↓] until the chevron points to Lamp + Key test. Press [MENU] to select this item and the sub program will run. The program will illuminate the five lamps which should alternate between red and green in colour. The button test takes the form of the display indicating the "column" and "Row" number of any key pressed. For example, pressing the 3 key causes the display to show 3x because the 3 key is part of the keypad matrix. Pressing the "group" key causes the display to indicate C1.1 because the group key is the first key in column one. Pressing the Transmit key shuts down the program and causes the DRC-1 to reset.

Set "F" Key channels

This is a facility used when M80 signalling is implemented. It allows the operator to set the channel number allocated to the F1-F4 keys. After programming, pressing and F key will cause the base station (only if M80 signalling is implemented and the base station is compatible) to change to that channel. To set an F key, press [MENU], scroll down to "F Key Channels" and press [MENU]. The display will show the F1 settings. Pressing the up / down keys will scroll through the F key numbers 1-4. To change a setting press [MENU] and "new chan (0-15)" will be displayed. Enter the channel number you wish to allocate to that F key, press [MENU] to store, then press [CLEAR] twice to exit the menu system.

Set Ident Name Tags.

Ident name tags are text labels which are associated with selective calling identities, for example selcall ident 23123 may be assigned "John Smith" or "Dog Van".

Press [MENU] to access the menu system then [↓] until the chevron points to "set ident tags". Press [MENU] to select this item. The display will now change and expect you to input the ident number you wish to tag. Be aware that the number of digits expected are indicated by the number of dashed lines appearing in the display, and so if three lines are showing, enter three digits. Having entered your digits press [MENU] to select the ident. Two possibilities now exist.

- 1, An ident has not been previously entered for the chosen ident number, in which case the Tag: line will be empty.
- 2, An existing tag will be in place which you can choose to keep, press [MENU] to keep the existing tag and exit, or [CLEAR] to erase and edit the existing tag.

To enter a tag into a blank space, use the alpha-numeric keypad in the same way you use a cellular telephone keypad to send an SMS. E.g. each press scrolls the key options. The Zero key will insert a text space into your tag. Once the tag has been entered, press [MENU] to store the tag.

To edit an existing tag, use the clear key which will back-space along the existing tag removing one character per press, or press any alpha key to erase the whole tag. At your chosen point, begin to enter your new text as above.

Status Tags.

A status tag is a text label which can be associated with a status code. Status codes are part of the selective calling ident field. Assuming that vehicle ident number 123 has been tagged as “Dog Van”, then the reception of a status code from the same vehicle would indicate Dog Van -Meal Break for status 02 if so tagged.

Press [MENU] to access the menu system, then press [↓] until the chevron points to Set status tag. Press [MENU] to select the item. Enter the status code number you wish to tag. The number of dashed lines will indicate how many digits are to be entered. Having entered the digits press [MENU] to select the code, then enter the text for the tag. When the text is entered, press [MENU] to store the tag, press [CLEAR] to exit the menu system.

Set Channel Tag.

A channel tag is a text name given to the radio channel the DRC-1 is controlling. For example, the connected channel can be simply displayed as “Ch:1”, or “Ch: Town Ctr”. To set a channel tag, press [MENU] to access the menu system, then press [↓] until the chevron points to set channel tag. Press [MENU] to select the item then enter three digits for the channel number. Use leading zeros, e.g. 001 for channel 1. Having entered the three digits press [MENU] to select the channel number and proceed to enter the tag text. Press [MENU] to store the entered text, then press [CLEAR] to exit the menu system.

Software Version

This item simply displays the installed software version number which your support company may request when giving telephone support. Press [MENU] to access the menu system, and scroll down using the [↓] key until the chevron points to Software Version. Press [MENU] to select option and the display will indicate the version information. Press [CLEAR] twice to exit the menu system.

The Installation Menu

The installation menu gives access to critical system settings and is likely to have been pin code protected by your system supplier. There are no user adjustments available within this menu.

Operation.

Taking Telephone Calls on Common Headset.

Your DRC-1 can be interconnected with a local desk-top telephone instrument, via which access to the telephone system can be gained. The desk-top telephone will continue to operate in the same way with the exception that the DRC-1 headset can now also be switched to the telephone.

When the telephone rings, press its pick-up key to answer the call, then press [SELECT] on the DRC-1. Pressing the DRC-1 select key will cause the headset to transfer from radio operation to telephone. The display will show the message “telephone” and the select LED will extinguish. If the DRC-1 operator has turned off the DRC-1 loudspeaker, it will automatically re-engage when the headset is transferred to telephone.

The re-engagement of the loudspeaker provides continued monitoring of radio traffic whilst the operator is using the telephone system. The headset can be returned to radio operation by a second press of the [SELECT] key. It should be noted that the transfer of the headset back to radio will not cause the telephone call to hang-up, and so the operator can swap between radio and telephone call several times to take further telephone information and give command instructions over the radio.

To hang-up the telephone call use the pick-up key or close key on the telephone instrument, and transfer the headset back into radio operation.

Making A Telephone Call

To make a telephone call, press [SELECT] on the DRC-1, and then the pick-up key on the telephone instrument. After dial tone is heard in the headset, use the telephone instrument dial pad to dial the required telephone number. To close the call press the telephone instrument pick-up key and then press [SELECT] on the DRC-1 to transfer the headset back to radio operation. During the progress of the telephone call, the radio traffic continues to be audible through the DRC-1 loudspeaker, and the headset may be transferred back to radio without losing the telephone call by simply pressing [SELECT].

Telephone Patch.

The DRC-1 has the ability to connect a mobile resource via their radio set to the telephone system. The mobile is then able to hear and speak via the radio system onto the telephone system. To achieve this, the operator has to set up the call manually, then transfer the call to the radio system.

If a mobile requests such a call, then whilst the mobile is available on air, press the [SELECT] key to transfer the headset to the telephone system. Press the telephone pick-up key and a dial tone should be heard in the headset. Use the telephone’s dial key pad to dial the number. Speak to the called party and ask them to hold, press the DRC-1 [SELECT] key to transfer your headset back to radio, and speak to the mobile. Press the [TELCON} key to interconnect the mobile radio to the telephone system.

Whilst the connection is in place, the DRC-1 operator can hear both sides of the conversation, but can only speak whilst the [TRANSMIT] key is pressed. Upon conclusion of the telephone to radio patch, close down the call on the telephone by pressing the pick-up key to release the line, then press the [TELCON] key on the DRC-1 to revert to normal operation.

Calling A Mobile From The Keypad.

To call a mobile using the keypad, enter the required number of digits for the ident. Upon entry of the last digit, if an alpha tag has been programmed for this resource, the tag will appear as a confirmation you have entered the correct number. Press [CALL] and the selective calling code will be transmitted.

Depending upon how your selective calling system has been configured, the display will either display “calling” followed immediately by “connected” at which point you should speak to the mobile whilst pressing the [TRANSMIT] key, or

The display will show “Ringing” followed by “connected” or “no answer”. Connected indicates the revertive selcall has been received from the mobile, and speech communication is possible. Use [TRANSMIT] key when speaking, or if “no answer” is displayed, the mobile has not answered and may be out of range, not on air, etc. The operator may press [CALL] again to retry, or press [CLEAR] to close down.

Calling A Mobile From The Memory Stack

The memory stack stores ten received calls. The operator can scroll up and down through the stored calls by using the [↓] and [↑] keys. Whatever call-sign is presently displayed, pressing the [CALL] key will call that mobile.

The system will go through the connected or ringing-connected procedure and a conversation will become possible if the mobile responds. At the end the conversation press [CLOSE] key, at which point the call **will remain in the stack**. To remove the call from the stack, press [CLOSE] once again.

Calling A Mobile From The Keypad When Calls Are Stored In Stack.

Even if the call stack has stored calls awaiting action, using the keypad to enter an ident number will cause the system to switch from looking at the call stack, to using the data entered at the keypad to make the call. The procedure is then identical to that described above {Using Keypad}

Calling More Than One Mobile

The selective calling system enables groups of mobiles to be called. Issuing a group call will not get a ringing- no answer type of response. Connected will always be shown as a result of a group call.

To make a group call the [GROUP] key is pressed as part of the ident input from the keypad. The place within the ident string at which the [GROUP] key is pressed determines how many mobiles are called. By way of example, consider a system where the operator normally inputs three digits for the ident code. Inputting 001 will call mobile number one only. Input 00Group, and the nine mobiles 001 to 009 will be called. Similarly, 0G will call the 99 mobiles between 001 and 099. GG will call 999 mobiles.

Finishing Calls

When a call to a mobile comes to an end, it may be finished and the mobile placed back into standby mode by pressing [CLOSE] key.

Talk Through Facility.

To enable mobiles to communicate directly with each other the talk through facility needs to be turned on. Pressing [T/T] key turns on the talk through facility and the TT led will illuminate. A second operation of the [T/T] key will cancel the talk through facility.

Facility Control

Your system supplier may have configured extended control of your base station unit. This extended control may take several forms, and therefore, is not detailed here. Operation of the [FAC] key will activate whatever extended control has been provided and the Fac led will illuminate.

Night Service

If the radio dispatcher leaves his station or goes off duty, night service will automatically provide talk through for the mobiles. Pressing [NIGHT] will engage night service and the display will show "night service mode". Any valid selective call received when the system is in night service will cause the DRC-1 to issue an all call code {group 999}. All mobiles will then be able to hear the calling mobile's speech, and be able to respond to it.

The talk through facility will cancel when the originating mobile sends a close down code, and or, will time out if the close down call is not set. Night service is cancelled by pressing the [NIGHT] key again.

Alert Tone

Each time a selective call is received, the DRC-1 will alert the operator by audible tone. This tone may be turned off and on by use of the [ALERT] key. Caution, if you turn the alert tone off, then calls may be received and go un-noticed.

Tape Playback.

The DRC-1 has outputs which can be connected to a local tape recorder. Depending upon the connections, the tape recorder can record both incoming and outgoing speech. Pressing the [AUX] key enables playback of the local tape recorder into the DRC-1 headset and loudspeaker.

Operator Selcall Status

An operator may set a default status which can be sent to a mobile. To set an operator status press [MENU] and Selcall Status will be displayed. Press [MENU] to select this item, then enter the digits you wish to set as your status. Press [MENU] to store and press [CLEAR] twice to exit the menu system.

Send Operator Status

The operator can send any status code to a mobile, and the mobile will display the received status code. The operator status is normally set to a default value for most of the time, but can be changed prior to calling a mobile.

To send a specific status code to a mobile, e.g. status 06 to mobile 123 then Press [SHIFT], [2] enter 06 press [MENU], then enter 123 press [CALL]. Mobile 123 if on air will answer, the DRC-1 will display connected, and at this time the mobile will display the status code 06 as received from control. If the DRC-1 displays no answer, then the status code will not have been received. Either communicate with the mobile, or close the call by pressing [CLOSE]. **Do not forget to reset your status** before making further calls.

Location Call

If the mobile is equipped with a GPS location receiver, then it can be interrogated for a location without driver intervention. Enter the ident number of the desired mobile, then press [LOC]. A special selective call is issued to the mobile which will respond without alerting the driver, and send location data.

Back-Light

The display back light may be turned on and of by the key sequence [SHIFT], [3].

Changing Channels.

The channel change is implemented on the base station radio set you are connected to. To change channel a data message is sent to the radio base station. Your system supplier may or may not have implemented this feature.

To change channel press [SHIFT], [1], enter the channel number you require, press [MENU] to implement the change.

