American Peacekeeping Communications (APC)

A01 Global Radio User Guide

Contents of package:

- 1 – Radio
- 2 – antennas, 1 long (VHF/UHF), 1 short (Network/POC)
- 2 – batteries
- 2 – battery clips
- 1 – charger
- 1 – manual

Battery Charging:

Install battery into radio and fully discharge the battery before putting on charge. Once battery has discharged, plug battery in until fully charged. The red LED light indicates battery is charging and will turn green once fully charged. Repeat discharge and recharge of battery two (2) more times to condition battery. The batteries do not leave the factory fully charged, please condition batteries to bet the best performance.

> Caution: If the LED is blinking red while charging, this is due to either the battery being too hot to charge, or the battery is defective/broken.
>
> Caution: If the battery has poor capacity, it may need to be replaced, try reconditioning by discharging and recharging 3 consecutive times. If this doesn't help, the battery will need to be replaced.
>
> Caution: Do not put battery into fire or disassemble. The radio/battery should be charged between 32°F and 104°F, otherwise it may damage or affect the normal capacity of the battery.
>
> Caution: The radio can be cleaned with a neutral or mild detergent or wet cloth after long term use, do not use strong corrosive chemical agents.

Warning: The risk of electrical shock, burn, and/or damage to battery may occur by metal objects such as keys, jewelry, etc. coming into contact with the terminals on the battery pack.

Operating Reference:

Your radio will arrive preprogrammed with predefined American Peacekeeping Communications (APC), Peacekeeping Task Force (PKTF), Continental Marshal Service (CMS) command groups and assigned to your local assembly default groups. Please contact your department management group to be added to department specific groups.

A01 Radio Product Key:

1. Assembled Antenna for Analog
2. Assembled Antenna for Network
3. Power / Volme
4. PTT for Network
5. PTT for Analog
6 &7 & 11. Customized Buttons by Program
8. Universal Connector of Accessories
9. Menu / Confirm
10. Back / Hangup, Long Time Press to Lock / Unlock the Keyboard
12. UP / Down
13. Long Press to Collect Frequency
14. Keyboard, " * " to Switch POC & Analog, " # " Change the Frequency Mode of VFO or CHL

Changing the radio working mode, press the "Menu/Confirm" button to enter the menu. From the menu there are many options to choose from, each are described below.

Work Mode – This is where you are selecting what operation mode the radio will function in. POC, Analog, Mix or Repeater.

POC – when selected is enabling the network side of the radio only. This uses the small antenna and will only work with a network connection, if you do not have a network connection, the radio will not function with predefined groups.

Analog – when selected is enabling the VHF/UHF side of the radio only. This uses the large antenna and will work without network connection; however, this radio mode has limitations to communicate 1-2 miles with near line of sight in heavily wooded areas or terrain with large elevation changes with much farther distances capable in flat terrain with little foliage or obstructions such as farmland or prairies, unless programmed to use existing analog repeaters in your area.

Mix – when selected is enabling both the POC and Analog sides of the radio. This allows for the most robust use case enabling communication with the network work groups and the Analog "localized" talk around channels.

Repeater – when selected is enabling your radio to become a bridge repeater for other radios in your area to "bridge" or connect through to extend the operating distance and capability. This mode disables the 2-way communication function and will only work as a bridge between the POC and Analog radio allowing for analog radios to communicate to a POC group channel as well as a POC group channel to communicate with analog only radio users.

Group (Channel) – This is where you will find all the groups (channels) your radio is a member of which will include the default channel the radio powers up in as well as all other channels the radio is a member of and can be switched over to when needed. Once a channel is entered, the radio will remain on that channel until power cycled, or another channel is selected.

Enter Group – When selecting this option, you are setting the radio to actively receive (listen) and transmit on. Once the radio is power cycled, the default channel will become active again.

Monitor/Remove Monitor – When selecting this option, you are setting the radio to actively monitor the channel or not. If "Remove Monitor" shows when a group is selected, then it is actively monitored so that you receive communications from that channel on your radio, even when not selected as your active channel. If "Monitor" shows, when a channel is selected, the radio is not actively monitoring the channel,

and you will not receive any communications that are transmitted on that channel. These can be user defined based on user or departmental needs.

Quick Call – When selecting this, it gives you the option to set a specific button on the radio to quickly select channel or group member without having to navigate through the menu options. Once set, for the channels you select, to access them, Pres SK1 and then select the programed quick call button for the channel desired and the radio will switch to that channel or group member.

Note: Once a group channel is selected, the radio will stay in that group unless you select a different channel or power cycle the radio. If quick call is set to a group member, when selected, it will create a private call channel that will stay open as long as communicating but will close after 30 seconds of no communication and reverts to the previous group channel.

SK1 – Refer to Product Key #6

SK2 – Refer to Product Key #7

Menu – Refer to Product Key #9

UP - Refer to Product Key #12

Down - Refer to Product Key #12

Exit - Refer to Product Key #10

P1 - Refer to Product Key #11

Member – This menu is where you will find the members that are assigned to the currently selected (active) POC group channel. If you want to open a private channel with a specific user call sign, this is where you will find the call signs. Once the selected call sign is highlighted, key up radio by pressing the PTT for Network (product key #4) button on radio and a private channel will be opened between your radio and the call sign selected. This channel will remain open for limited amount of time before the channel is closed, and previously selected group channel will become active again.

Channel Setting – This menu is where you will find the settings for the currently selected Analog channel of the radio.

Bandwidth – This is where you set the Analog bandwidth at either wide or narrow.

Output Power – This is where you set the analog radio transmit power to either high or low power. Low power is setting the analog radio to transmit at 5W, and High

power is setting the analog radio to transmit at 10W. Caution – It is not recommended to use for extended periods of transmissions when set to high power as exposure to elevated levels of radiation is unhealthy.

RX CTCSS & TX CTCSS – This is the analog radio receiver and transmitter squelch menu for the current selected analog channel. This is where you will set the squelch control of the channel to local repeaters or preset settings to enable radio communications on that channel and filter out chatter on the same frequency.

> **CTCSS** – Continuous Tone-Coded Squelch System, is a feature on two-way radios that filters incoming signals based on a specific sub-audible tone embedded in the transmission. It allows the radio to unmute and play audio only when it detects a signal carrying the correct CTCSS tone, typically ranging from 67 to 254 Hz. This reduces interference by blocking signals from other users or devices on the same frequency that does not include the matching tone. Many repeaters require a Continuous Tone-Coded Squelch System (CTCSS) tone to access them, which is separate from the offset but often programmed alongside it. Essentially, RX CTCSS acts like a gatekeeper, ensuring your radio only "listens" to transmissions with the pre-set tone, improving clarity in crowded radio environments.
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> **NDCS** – Noise Digital Coded Squelch, which serves a similar purpose to CTCSS but uses digital codes instead of sub-audible tones. While CTCSS relies on continuous analog tones (e.g., 67–254 Hz) to filter incoming signals, NDCS uses a digital data stream transmitted alongside the audio to control the squelch. In NDCS systems, the radio's receiver unmutes only when it detects the correct digital code, blocking unwanted signals.
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> **IDCS** – KaYoTom Proprietary Digital Coded Squelch, which serves a similar purpose to CTCSS but uses digital codes instead of sub-audible tones. While CTCSS relies on continuous analog tones (e.g., 67–254 Hz) to filter incoming signals, IDCS uses a digital data stream transmitted alongside the audio to control the squelch. In IDCS systems, the radio's receiver unmutes only when it detects the correct digital code, blocking unwanted signals.

Offset Setting - The frequency difference between a repeater's input and output frequencies, typically expressed in kHz or MHz.

> **Offset Direction** – Indicates whether the transmit frequency is above (+) or below (-) the receive frequency.

Offset Frequency – Set to the offset frequency of the repeater you are connecting to. Standard offsets vary by band and region, but in the U.S., common offsets are:

2-meter band (136–174 MHz): ±600 kHz

70-centimeter band (420–450 MHz): ±5 MHz

Channel Name – Custom user defined field typically set to the name of the repeater station, city of repeater or call sign.

Jumping Frequency – Used to enable frequency hopping on channel. This is not a standard used much, however, if the repeater is set up to use frequency hopping, then enable this for the channel. Otherwise, leave off.

Study Code – Used to learn the sub-tones of a repeater, not traditionally used as radio will be preprogrammed. Not recommended unless radio is in sync with repeaters.

Analog Setting – Used to adjust the analog settings of the radio.

Squelch Level – Adjust from level 0 through level 9 to set sensitivity of the squelch to silence static.

TOT – This is the time-out timer (TOT) setting designed to limit the duration of a single transmission to prevent issues like overheating, channel hogging, or interference.

Power Save – This setting is used to adjust the power saving level, zero (0) is no power saving and three (3) is the highest level of power saving.

Zero – When selected, the radio is in standby mode and does not conserve power.

Level 1 – When selected, the radio will rest for one (1) second and normal standby for one (1) second.

Level 2 – When selected, the radio will rest for two (2) seconds and normal standby for one (1) second.

Level 3 – When selected, the radio will rest for three (3) seconds and be in normal standby for one (1) second.

Level 4 – When selected, the radio will rest for four (4) seconds and be in normal standby for one (1) second.

BCLO – Busy Channel Lockout (BCLO) is a feature that prevents a radio from transmitting on a frequency or channel if it detects an active signal (i.e., the channel is "busy"). This ensures you don't interrupt ongoing communications or cause interference. When you press the PTT (Push-to-Talk) button, the radio checks for an active signal on the current frequency or channel. If a signal is detected (e.g., another station is transmitting), BCLO blocks transmission and may emit a warning tone or display an error (e.g., "Busy" or a beep). If the channel is clear, transmission proceeds normally.

Step Size – This is the increment (in kHz or MHz) by which the radio changes the frequency when tuning in VFO mode. It determines how finely or coarsely you can adjust the frequency when manually selecting a frequency.

Auto Freq Detect – Auto Frequency Detect (AFD) is the radio's ability to automatically identify active frequencies or channels within a specified band (e.g., VHF or UHF). It involves scanning to detect signals or tones to identify CTCSS/DCS sub-tones, allowing the radio to lock onto or configure settings for communication.

Channel Clone RX – Channel Clone RX is the process of copying channel configurations (e.g., frequency, offset, CTCSS/DCS, power level) **to** the radio from a radio of the same model. It ensures the radio channels have identical settings for consistent communication, especially in group scenarios (e.g., family, construction, or emergency use). **Note**: The radio receiving the channels needs to be set up and activated prior to the radio transferring the cloned channels.

Channel Clone TX – Channel Clone TX is the process of copying channel configurations (e.g., frequency, offset, CTCSS/DCS, power level) **from** a radio to another radio of the same model. It ensures the radio channels have identical settings for consistent communication, especially in group scenarios (e.g., family, construction, or emergency use).

POC Setting – Push-to-Talk over Cellular (PoC) uses cellular networks (e.g., 4G LTE) or Wi-Fi to provide instant, walkie-talkie-like communication over vast distances, unlike analog radios limited by radio frequency range. The A01's PoC mode supports global connectivity, group calls, and features like GPS tracking and encryption.

Profile – A predefined audio setting for the radio to reliably work in every environment. The volume of the speaker will change depending on the profile selected.

Outdoor – Speaker audio will be slightly higher than the standard audio specifications.

Standard – Speaker audio profile is set to standard audio specifications.

Indoor – Speaker audio profile is set to slightly less than the standard audio specifications.

Earphone – When selected, this will disable the radio speaker and route it to the earphone or speaker/mic.

Mic Mode – This setting is used to increase or decrease the mic sensitivity in order to be heard more clearly on the receiving (RX) end of the transmission.

Low – This will be a slightly less sensitive and should be selected if users or dispatch are telling you that your audio is too loud.

Middle – This is the default setting of the radio mic

High – This will enable the mic to be slightly more sensitive and should be selected if users or dispatch are telling you that they are having a hard time hearing you come over the radio.

Power Save Configuration – This setting is where you can select your preferred power saving modes.

Power Save Level –

High Performance –

Standard –

Power Save –

Automatic –

Sleep Switch – This setting should not be activated in the current version of radio as this could result in abnormal behavior. Recommended to keep disabled (off).

Super Power Save – This setting should not be activated in the current version of radio as this could result in abnormal behavior. Recommended to keep disabled (off).

SIM Select – This menu gives you the choice to manually select between two different SIM cards, if the radio has more than one installed. Since the AO1 radio

only has a single SIM Card slot, this menu setting and any sub-menu settings are not applicable

SIM1 – A01 Radios are shipped with one active SIM card activated and installed in SIM1 slot.

SIM2 – No SIM2 slot available on A01 radios

Auto SIM Switch – When enabled (on), the device automatically identify which card slot has a SIM card, due to the A01 radio having a single SIM card slot, this setting has no significant impact on the radio.

Beep – This function enables or disables an audible "beep" when pressing the POC PTT button. This can be turned on or off.

Time Zone – Time zones to select for radio clock to reflect correctly. Set to your current Universal Time Clock zone setting. This will ensure the radio time is correctly set. UTC-12 through UTC+14

Sound Quality – This setting is used to select which audio codecs are used. Both RX and TX radios or dispatch console should be using the same sound codec to ensure there are no issues with sound quality.

Standard – When selected, this is setting the radio to use an 4K sound codec.

High Definition – When selected, this is setting the radio to use an 8K sound codec.

APN Auto Conf. – Sets whether the radio is set to automatically acquire the carrier's APN or not. This is set to either on or off.

Dispatcher – This is where you will find SMS messages from dispatch.

Message List – From this menu, you can see all received messages, read messages, see message details and delete individual messages.

Delete All – This will delete all messages from radio.

Phonebook – Used to add, remove and store contacts to make calls on. The SIM card that is provided is just a basic IoT card and only capable of data traffic and cannot make phone calls. If you want to implement the function of making phone calls, you will need to replace

the SIM with one that has voice service capabilities. It is important to verify the version of the A01 software is at v1.08.01.05 or higher. If it is not, the radio will need to be upgraded to support voice services.

Phonebook list – Shows you the list of stored contacts.

New – There is where you add a contact name, number and save them to the phonebook list.

Delete All – This will delete all contacts from Phonebook list.

Call Log – This is where you will find the call history of previous calls.

Settings – This is where you will find general radio settings.

Voice Prompt – When enabled (on), the radio will announce the User Name (call sign) and default group channel when powered on. It will not do so if disabled (off).

Backlight – This is where the screen backlight and call backlight settings for the radio are.

Backlight – Can be set to be on continuous or from five (5) to thirty (30) seconds before the screen turns off.

Call Backlight – Is set to either on or off and only applies to voice calls.

Beep – This setting is either On or Off. When turned on, there will be an audible beep when buttons are pressed; when off, no sounds are heard.

Earphone Recognition – This setting can be set to Automatic or Manual. When in automatic mode, the radio will automatically detect when earphones or a speaker mic is connected to the radio. When in manual mode, you must select whether the radio is using the built in speaker/mic or the radio is used earphones or a remote speaker/mic. Recommended to leave set to automatic as this can cause problems if end user disconnects earphones or remote speaker/mic, the user will not be able to transmit (TX) or receive (RX) any communications except for SMS messages.