



Go Beyond Normal Limits...SM



Quick Assist[®]

WIRELESS CALLBOX TRANSMITTER OWNER'S MANUAL

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ABOUT THE QUICK ASSIST® WIRELESS CALLBOX TRANSMITTER.....

What this Manual Covers

This manual covers basic operation of the Quick Assist® Wireless Callbox Transmitter. For most applications, this is all the information you will need.

General Information

The Quick Assist® is a RITRON Wireless Callbox Transmitter, specialized for indoor retail or commercial use, and pre-programmed to transmit a custom recorded "Assistance Needed" message when the Message push-button is pressed for customer assistance. Personnel know from these message transmissions in which specific areas a customer needs assistance.

The Quick Assist® is easily programmed to transmit on either an existing or a new radio frequency, with the most popular sub-audible coded squelch formats, such as Quiet Call® or Digital Quiet Call®. This enables all your personnel with JOBCOM®, PATRIOT™ or equivalent two-way radios to hear the voice messages instantly.

The Quick Assist® can be installed in a wide variety of indoor locations. Because it's six internal AA Alkaline batteries will power the unit for about a year, the Quick Assist® does not require AC line power.

Quick Assist® Models and Frequencies

There are four Quick Assist® models, one for each of the most popular professional radio communications bands. The model number appears on a label on the bottom of the case, and on a second label inside the case.

MODEL	BAND	FREQUENCY RANGE
RQA-151	VHF-FM	150 to 165 MHz
RQA-151M	VHF-FM	151.820, 151.880, 151.940, 154.570, 154.600 MHz
RQA-451	UHF-FM	450 to 470 MHz
RQA-451-CANADA	UHF-FM	450 to 470 MHz

Ritron manufactures mobile, portable and base station two-way radios and repeaters for use with Quick Assist®. Ritron pioneered the use of Color Dots on radios to identify frequencies.

Factory-programmed, default Quick Assist® frequencies are:

- 151.625 MHz (Red Dot), narrowband, for RQA-151
- 154.570 MHz (Blue Dot), wideband, for RQA-151M
- 467.850 MHz (Silver Star), narrowband, for RQA-451
- 458.6625 MHz, wideband, for RQA-451-CANADA

See page 4 for instructions on changing the Quick Assist® transmit frequency to match an existing radio system.

Quick Assist® Features

- Internal radio transmitter (separate VHF and UHF models).
- User-recorded voice messages; total recording time of 24 seconds.
- Typical range of 1/4 mile.
- Internal battery holder for six (6) AA Alkaline cells.
- Typical operating battery life of 1 year.
- Automatic low battery message.
- Programmable Features:
 - Transmit Frequency;
 - Tone Coded Squelch Encoder (Quiet Call® Interference Eliminator);
 - Digital Coded Squelch Encoder (Digital Quiet Call™ Interference Eliminator);
 - DTMF and Selcall ANI
 - Message transmission schedule and limits.
- Limited One-year Factory Warranty.

For Your FREE copy of the Basic PC Programmer
go to: www.ritron.com/basicprogrammer

Note: Before you begin using the above PC programmer, you will also need the following:

- A USB to Mini B 5-pin cable. You can purchase this cable from Ritron (pn #60201119) or, since this is a commonly used cable, you may want to check to see if you already own a compatible cable.
- Also, your PC will need:
 - Windows XP or newer version and
 - Your PC will need to have a USB port.

IMPORTANT SAFETY INFORMATION.....

NOTICE: The Quick Assist® unit should not be used to report conditions relating to safety of life or property.

To reduce the risk of fire, electric shock or personal injury, follow these basic safety instructions when using this unit.

1. Read and follow all instructions.
2. Disconnect the unit before cleaning. Do not use liquid or aerosol cleaners.
3. Use only approved power sources for the unit.
4. During thunderstorms, avoid contact with this unit and any external antenna system or wiring.
5. If you are unsure whether your installation will be safe, contact an experienced electrician or electronics technician.

PLEASE NOTE THE FOLLOWING WITH REGARD TO RF EXPOSURE FOR THIS PRODUCT.....

EXPOSURE TO RADIO FREQUENCY ENERGY:

RQA-151, RQA-151M, RQA-451, RQA-451-CANADA: This product generates radio frequency (RF) energy when the button on the front of the unit is depressed. This product has been evaluated for compliance with the maximum permissible exposure limits for RF energy at the maximum power rating of the unit when using antennas available from RITRON.

For both the AFB-1545 and the standard internal antennas, at the 20 cm (7.9 inches) minimum expected separation distance and greater, the maximum RF exposure is well below the General Population/Uncontrolled limits. Antennas other than those available from RITRON have not been tested for compliance and may or may not meet the exposure limits at the distances given. Higher gain antennas are capable of generating higher fields in the strongest part of their field and would, therefore, require a greater separation from the antenna. This product is not to be used by the general public in an uncontrolled environment unless compliance with the Uncontrolled/General Population limits for RF exposure can be assured.

To limit exposure to RF energy to levels below the limit, please observe the following:

- Use only the antenna(s) available from RITRON for these models. **DO NOT** operate the radio without an antenna.
- **DO NOT** activate the transmitter when not actually wishing to transmit. These radios transmit recorded messages of a pre-determined length to prevent continuous transmit times.
- When transmitting, make certain that the distance limits for the particular model in use are observed.
- **DO NOT** allow children to operate the radio.

When used as directed, this series of radios is designed to comply with the FCC's RF exposure limits for "Uncontrolled/General Population". In addition, they are designed to comply with the following Standards and Guidelines:

- United States Federal Communications Commission, Code of Federal Regulations; 47 CFR §§ 2 sub-part J.
- American National Standards Institute (ANSI) / Institute of Electrical and Electronic Engineers (IEEE) C95. 1-1992.
- Institute of Electrical and Electronic Engineers (IEEE) C95.1-1999 Edition.

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LISEZ S'IL VOUS PLAÎT LA DÉCLARATION SUIVANTE DE L'EXPOSITION RF POUR CE PRODUIT.

Exposition à l'énergie radioélectrique:

RQA-151, RQA-151M, RQA-451, RQA-451-CANADA: Ce produit génère énergie radiofréquence (RF) lorsque le bouton sur le front de l'unité est enfoncé. Ce produit a été évalué pour le respect des limites de l'exposition maximale admissible pour l'énergie RF à la cote de puissance maximale de l'émetteur lorsque vous utilisez des antennes RITRON.

Lorsque vous utilisez l'AFB-1545 ou les antennes internes standards, à la 20 cm (7,9 pouces) minimum prévu à distance de séparation et au-delà, l'exposition RF maximale est inférieure à la Population générale / Uncontrolled limite. Antennes non-RITRON n'ont pas été testés pour la conformité et peuvent ou peuvent ne pas satisfaire les limites d'exposition à des distances donnés. Antennes de gains plus élevés sont capables de générer des champs plus élevés dans la partie plus forte de leur domaine et nécessiteraient donc une plus grande séparation de l'antenne. Ce produit ne doit pas être utilisé par le public en général dans un environnement non contrôlé, à moins que la conformité avec la Uncontrolled / les limites de l'ensemble de la Population pour l'exposition RF peuvent être assurés.

Pour limiter l'exposition à l'énergie RF à des concentrations inférieures à la limite, veuillez observer ce qui suit :

- Utilisez uniquement des antennes RITRON pour ces modèles. NE fonctionnent pas sans une antenne de la radio.
- N'utilisez pas l'émetteur lorsque vous ne souhaitez pas transmettre. Ces radios transmettent enregistré des messages d'une durée prédéterminée pour empêcher continu transmettent times.
- Lors de la transmission, s'assurer que les limites de distance pour le modèle particulier en usage sont observées.
- NE laissez pas les enfants pour l'exploitation de la radio.

Lorsqu'il est utilisé conformément aux directives, cette série de radios est conçue pour respecter les limites d'exposition RF pour « Incontrôlée / Population générale ». En outre, ils sont conçus pour respecter les normes et lignes directrices suivantes :

- United States Federal Communications Commission, Code of Federal Regulations; 47 CFR §§ 2 sub-part J.
- American National Standards Institute (ANSI) / Institute of Electrical and Electronic Engineers (IEEE) C95. 1-1992.
- Institute of Electrical and Electronic Engineers (IEEE) C95.1-1999 Edition.

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FREQUENTLY ASKED QUESTIONS ABOUT QUICK ASSIST® PROGRAMMING.....

Do I have to program my Quick Assist®?

You may not need to program your Quick Assist® at all. If you purchased a Quick Assist® unit that is factory programmed to your radio system frequency (check the frequency on your radios and the Quick Assist®), and you do not use a form of Quiet Call coded squelch, you can install the batteries and start using Quick Assist®. The factory default voice message is "Assistance Needed". Otherwise, read this manual before programming your Quick Assist®.

Do I need to program every feature?

In many cases, no. The factory pre-programmed settings, explained in the instructions, may meet many of your needs.

How do I program my Quick Assist®?

All programming is accomplished with the RITRON RQA/RQT PC Programmer software available at www.ritron.com.

The programmer software requires Window® XP or greater, and a PC computer with a USB port.

What if I don't find what I need in this manual?

Call Ritron (317-846-1201): we will be glad to help you. For most applications, this manual should cover everything you will need to know. However, the Quick Assist® has more capabilities and features than described here.

Will it harm the Quick Assist® if I program it improperly?

No; however, you may need to erase all programming and start over. Feel free to experiment with the various features and possible configurations.

Can my settings or messages get lost or erased if the battery runs down, or if my Quick Assist® is disconnected?

No. The settings and voice messages you enter are stored in special electronic memory devices in the Quick Assist® that do not require power to hold the information. This means that if the batteries run down or if you remove them, you will not need to reprogram the Quick Assist®. All your settings and messages will be there for you when you install fresh batteries.

What if I need more range?

To increase the range of your Quick Assist® transmissions, we suggest you first relocate the unit. Ritron also manufactures radio repeaters to increase the range not only for your Quick Assist®, but also for your entire radio system.

What is my Radio System Frequency?

Ritron pioneered the Color Dot system to simplify the identification of radio system frequencies for Ritron Jobcom® radios. Color Dots are placed on the bottoms of and inside the enclosures of all Jobcom® radios. Other manufacturers have also adopted this idea.

To identify your assigned frequency if your radios do not have a color dot, locate a label identifying the receiver frequency in megahertz (MHz). Your assigned frequency is also shown on your F.C.C. Station License. Consult your radio user manual, your dealer, or call Ritron for help if you cannot determine your radio's receiver frequency.

Do I need to program my Quick Assist® transmitter frequency?

The original factory-programmed transmitter frequency of your Quick Assist® is marked on the outside of the shipping box. If the Quick Assist® frequency matches your radio system frequency, and if the Quick Assist® has not been reprogrammed since it left the factory, you will not have to program the transmitter frequency.

What is Quiet Call® Sub Audible Coded Squelch?

The Quick Assist® radio transmitter is compatible with two standard communications industry sub audible signaling formats: QC (Quiet Call® Interference Eliminator), and DQC (Digital Quiet Call® Interference Eliminator). Both Quiet Call® formats unlock receivers programmed to require these codes, they screen out interference from other radio systems operating on your same frequency.

QC Quiet Call® is Ritron's trade name for what the communications industry calls sub-audible (below the range of human hearing) tone squelch, or CTCSS (Continuous Tone Coded Subaudible Squelch) or Interference Eliminator. Other radio manufacturers use different trade-names for essentially the same system. You may program a specific QC code into your Quick Assist® to transmit with the voice messages, which will "unlock" the receivers in your radio system.

DQC Digital Quiet Call® is Ritron's digital coded squelch, and works the same as QC, except it is a digital code that is transmitted with the voice messages.

Do I need to program my Quick Assist® with a Quiet Call Code?

Your radio system may or may not use coded squelch signaling. If you have programmed the Quick Assist® to match your radio frequency, and your radios are not receiving Quick Assist® transmissions unless the "monitor" or "test" button is pressed on your radio, your system is probably using Coded Squelch. Refer to your radio manual, or contact your radio dealer or Ritron if you are unsure about this issue.

If your Quick Assist® was previously programmed with a Quiet Call® code and you need to remove it, follow the programming instructions, using No Tone code, "44", as shown in the table.

What is Digital Quiet Call®?

Digital Quiet Call® (DQC) is a digital sub-audible coded squelch system.

Do I need to program my Quick Assist® with a Digital Quiet Call code?

If your radio system does not use Digital Quiet Call®, or any other trade name equivalent, you will not need to program a Digital Quiet Call® code.

What is the purpose of testing the Quick Assist® radio transmitter?

After programming your radio, your Quick Assist® will transmit on the same frequency as your radio receivers, using any coded squelch signals required for your radio system.

Do I need to test my Quick Assist® Transmitter?

Yes; performing this test now will save you time and confusion later.

QUICK ASSIST® PROGRAMMABLE FEATURES

The Quick Assist® can be programmed with unique voice messages and attributes. All programming is accomplished with the RITRON RQA/RQT PC Programmer software available at www.ritron.com.

The programmer software requires Window® XP or greater, and a PC computer with a USB port.

Summary Screen

After reading the radio programming, a summary screen will appear with a tabulated display of the input programming. Double-click on the input column to program the Quick Assist® attributes. Radio-wide features are programmed from the Summary Screen.

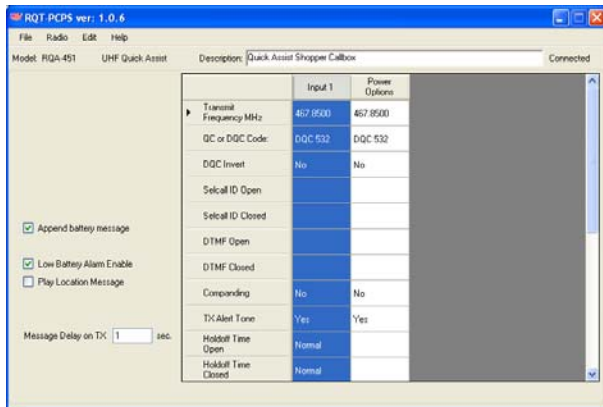


FIG-1: Programmer Summary Screen

Append Battery Messages

If selected, the Low Battery message will play at the conclusion of any “Assistance needed” or “Quick Assist call cleared” message, as well as on the low battery event.

Low Battery Alarm Enable

If selected, a Low Battery message is transmitted when the internal batteries are in need of replacement.

Play Location Message

If selected, the Quick Assist® will transmit a recorded Location message immediately prior to any “Assistance needed”, “Quick Assist call cleared”, or Low Battery message.

Message Delay on TX

This sets a time delay between turning on the Quick Assist® transmitter and playing any messages, or ANI strings.

Description

Enter a brief description (35 characters or less) of the Quick Assist® use, location, customer, etc. This can be useful when reading out the Quick Assist® programming at a later date, or when saving a programming profile for use with other radios.

Input Screen

The Input Screen is used to uniquely program the behavior of the Quick Assist® when the front panel push button is pressed.

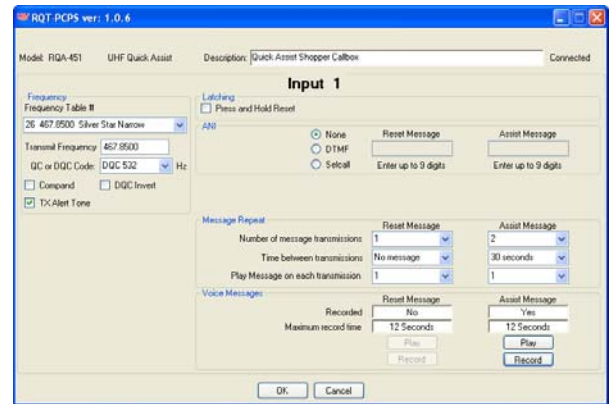


FIG-2: Programmer Input Screen

Frequency Table

To match other RITRON radios, the owner can select from a table of transmit frequencies. Simply “read-out” the Frequency Code of your RITRON portable, mobile or base radio and enter the same code when programming the Quick Assist®. Note that all RQA-151 and RQA-451 table frequencies operate in narrow band mode (12.5 kHz).

Transmit Frequency

Once you have selected a code from the Frequency Table the actual transmit frequency will appear here. If your operating frequency does not appear on the Frequency Table list, a licensed radio service technician will be able to enter other frequencies within the radio’s operating band.

To identify your assigned frequency:

- Read-out the Frequency Code of the RITRON radio you intend to use with the Quick Assist®.
- Check for a corresponding color dot on the radio you intend to use with the Quick Assist®.
- Locate a label identifying the receiver frequency in megahertz (MHz).
- Your assigned frequency is shown on your FCC Station License.
- Call your radio dealer or Ritron for help if you cannot determine your radio’s receiver frequency.
- The original factory-programmed transmitter frequency of your Quick Assist® is marked on the outside of the shipping box.

QUICK ASSIST® PROGRAMMABLE FEATURES

QC or DQC Code

Select from a list of QC and DQC Codes to transmit subaudible squelch tones for interference elimination.

The Quick Assist® radio transmitter is compatible with two standard communications industry sub-audible signaling formats: QC (Quiet Call® Interference Eliminator), and DQC (Digital Quiet Call™ Interference Eliminator). Both Quiet Call formats unlock receivers programmed to require these codes -- they screen out interference from other radio systems operating on your transmit frequency.

QC Quiet Call® is Ritron's trade name for what the communications industry calls sub-audible (below the range of human hearing) tone squelch, or CTCSS (Continuous Tone Coded Subaudible Squelch).

DQC Digital Quiet Call™ is Ritron's digital coded squelch, and works the same as QC, except it is a digital code that is transmitted with the voice messages.

To identify your QC or DQC tone:

- Read-out the Tone Code of the RITRON radio you intend to use with the Quick Assist®.
- Refer to your radio manual.
- Contact your radio dealer or Ritron if you are unsure about this issue.

DQC Invert

The DQC Digital Quiet Call™ code can be inverted for systems that require inversion.

Compand

Some two-way radios have a feature referred to as "companding". It is a way of eliminating background hiss or noise, making the radio sound clearer. "Companding" is a combination of audio "compression" in the transmitter and audio "expanding" in the receiver. The Quick Assist® can be programmed for audio compression. To determine if your existing 2-way radios are using the Companding feature, you can check the radio's User Manual, contact your radio dealer, or call Ritron for help.

If you are unable to determine if your portable radio uses the companding feature, we suggest the following:

1. Leave the radio in the factory default setting with no companding.
2. Activate the transmitter of the Quick Assist® and listen to the message from your portable radio. If the received audio is acceptable, you should not need to set the Quick Assist® for companding.

TX Alert Tone

By default, the Quick Assist® will transmit an alert tone before each voice message transmission. This feature can be disabled via the PC programmer.

Press and Hold Reset

Often it is desirable to repeat the "Assistance message" without limitation until the call has been answered. With Press and Hold Reset enabled the front panel push button can be

held down for 5 seconds to reset the Quick Assist® to the standby condition.

Example: To use a Quick Assist® in a paint department, you want it to re-transmit a message several times after a "Press for Help" push-button is pressed. With the Quick Assist® set for Press and Hold Reset an employee can terminate the message transmissions, and in the process send a "Quick Assist call cleared" message.

ANI

The "Assistance needed" and "Quick Assist call cleared" conditions can each be programmed with a unique 1-9 digit DTMF or 3-7 digit Selcall ANI string. The ANI will be transmitted immediately prior to the Alert Tone and Input message. To program an ANI string, select Selcall or DTMF and enter the string in the value field.

Message Repeat

Number of Message Transmissions

You can set a limit to the number of times the message will be transmitted at a scheduled interval.

Time Between Transmissions

This sets the amount of time the Quick Assist® will wait between repeated transmissions. You can program a different Wait Time for the "Assistance needed" condition, and for the "Quick Assist call cleared" condition.

Example: When the "Press for Help" push-button pressed in the paint department, an "Assistance needed in paint" message is to be transmitted every 30 seconds for 5 minutes. To accomplish this the Quick Assist® is programmed for 10 message transmissions with a time between transmissions setting of 30 seconds.

The Quick Assist® is set at the factory to transmit the "Quick Assist call cleared" message only once.

Repeat Message on each transmission

Your recorded voice message can be programmed to repeat from one time to nine times on each Quick Assist® radio transmission. Urgent messages may require more phrase repeats.

Example: The Quick Assist® is to be used as an emergency call button in a parking garage. If "Repeat on each Transmission" is set to 3, the Quick Assist® would transmit "Emergency in garage level 2, Emergency in garage level 2, Emergency in garage level 2" when the front-panel pushbutton is pressed.

Voice Messages

The Assist and Reset messages are recorded via the Input Screen. Refer to the [Recording Your Quick Talk™ Messages](#) section of this manual for instructions on recording voice messages. The Recorded box indicates whether or not a message has been recorded. The Maximum Record Time for each message is also indicated.

QUICK ASSIST® PROGRAMMABLE FEATURES

Power Options Screen

The Low Battery Alert message can be programmed for unique frequencies, tones, and Voice message.

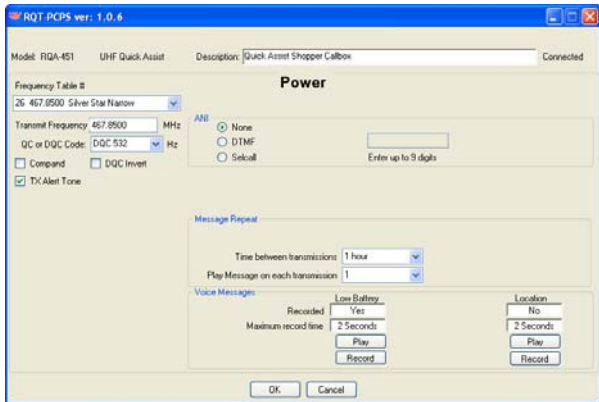


FIG-5: Programmer Power Options Screen

Frequency Table #

To match other RITRON radios, the owner can select from a table of transmit frequencies. Simply “read-out” the Frequency Code of your RITRON portable, mobile or base radio and enter the same code when programming the Quick Assist®.

Transmit Frequency

Once you have selected a Frequency Code the actual transmit frequency will appear here. If your operating frequency does not appear on the Frequency Code list, a licensed radio service technician will be able to enter other frequencies within the radio’s operating band.

QC or DQC Code

Select from a list of QC and DQC Codes to transmit subaudible squelch tones for interference elimination.

DQC Invert

The DQC Digital Quiet Call™ code can be inverted for systems that require inversion.

QUICK ASSIST® DEFAULT PROGRAMMING

TX Frequency	RQA-151	03	151.625 MHz
	RQA-151M	02	154.570 MHz
	RQA-451	26	467.850 MHz
	RQA-451-CANADA	01	458.6625 MHz
QC/DQC Code		44	No Tone
DQC Invert			No
Compand			No
Reset Operation			Reset from Front Panel Button
Reset Button Hold Time			5 sec.
Input Operation			Normal
Latching Input Mode			Yes
Number of Inputs			1

Compand

Set Compand for compression of the transmit audio. “Companding” is a combination of audio “compression” in the transmitter and audio “expanding” in the receiver. To determine if your existing 2-way radios are using the Companding feature, you can check the radio’s User Manual, contact your radio dealer, or call Ritron for help.

TX Alert Tone

The Quick Assist® can transmit an alert tone before each voice message transmission.

ANI

Power Alerts messages can be programmed with a unique 9 digit DTMF or Selcall ANI string. The ANI will be transmitted immediately prior to the Alert Tone and Power Alert message. To program an ANI string, select Selcall or DTMF and enter the string in the value field.

Message Repeat

Time between transmissions

This sets the amount of time the Quick Assist® will wait before re-transmitting a Low Battery Alert message. Keep in mind that the Quick Assist® turns off after all scheduled “Assistance needed” messages have been transmitted. If the Low Battery Alert “Time between transmissions” is greater than the total scheduled assistance time the Low Battery Alert message will not be repeated.

Repeat Message on each transmission

Your recorded voice message can be programmed to repeat from one time to nine times on each Quick Assist® radio transmission, depending on how you program this feature. Urgent messages may require more phrase repeats.

Voice Messages

Refer to the Recording Your Quick Assist® Messages section of this manual for instructions on recording voice messages.

TX Alert Tone	Yes
Battery Saver	Yes
Low Battery Message	Yes
Message Delay on TX	1 sec.
Recorded Messages	
RQA Message	“Assistance needed”
Reset Message	“Quick Assist call cleared”
Low Battery	“Quick Assist battery”
Number of Times Recorded Message is repeated on each Transmission	1 time
Number of Times the Transmission is sent	2 times
Wait Time between Transmissions	30 sec.

PROGRAMMING YOUR QUICK ASSIST® TRANSMITTER FREQUENCY AND TONE.....

The Quick Assist® transmitter operates exclusively on a 12.5 kHz narrow band channel bandwidth. Many of the Frequency Table Codes programmed in your compatible Ritron radios are for 25 kHz wide band channels. If these codes are selected when programming your Quick Assist® radio, the radio will operate at a 12.5 kHz narrow band channel bandwidth. This allows you to use your Quick Assist® with all of your existing radios.

The RQA-151M MURS model radio can only be programmed to the codes listed on Table 1 below. VHF Business band models can be programmed to the codes listed on Table 2 below, or can be programmed to any valid licensed frequency between 150-165 MHz EXCEPT the frequencies listed on MURS Table 1 below.

TABLE 1: MURS model radios only (US)

Code	Frequency (MHz)	Color Dot	Channel Bandwidth
01	154.600	Green Dot	25 kHz
02	154.570	Blue Dot	25 kHz
19	151.820	MURS	12.5 kHz
20	151.880	MURS	12.5 kHz
21	151.940	MURS	12.5 kHz
22	154.600	MURS	12.5 kHz
23	154.570	MURS	12.5 kHz

TABLE 2: VHF Business band models (US)

Code	Frequency (MHz)	Color Dot	Channel Bandwidth
03	151.625	Red Dot	12.5 kHz
04	151.955	Purple Dot	12.5 kHz
05	151.925		12.5 kHz
06	154.540		12.5 kHz
07	154.515		12.5 kHz
08	154.655		12.5 kHz
09	151.685		12.5 kHz
10	151.715		12.5 kHz
11	151.775		12.5 kHz
12	151.805		12.5 kHz
13	151.835		12.5 kHz
14	151.895		12.5 kHz
15	154.490		12.5 kHz
16	151.655		12.5 kHz
17	151.745		12.5 kHz
18	151.865		12.5 kHz
24	151.700		12.5 kHz
25	151.760		12.5 kHz
26	152.700		12.5 kHz

TABLE 3: UHF Business band models (US)

Code	Frequency (MHz)	Color Dot	Channel Bandwidth
01	467.7625	J	12.5 kHz
02	467.8125	K	12.5 kHz
03	464.5500	Yellow Dot	12.5 kHz
04	464.5000	Brown Dot	12.5 kHz
05	467.8500	Silver Star	12.5 kHz
06	467.8750	Gold Star	12.5 kHz
07	467.9000	Red Star	12.5 kHz
08	467.9250	Blue Star	12.5 kHz
09	469.2625		12.5 kHz
10	462.5750	White Dot	12.5 kHz
11	462.6250	Black Dot	12.5 kHz
12	462.6750	Orange Dot	12.5 kHz
13	464.3250		12.5 kHz
14	464.8250		12.5 kHz
15	469.5000		12.5 kHz
16	469.5500		12.5 kHz
17	463.2625		12.5 kHz
18	464.9125		12.5 kHz
19	464.6000		12.5 kHz
20	464.7000		12.5 kHz

TABLE 3: UHF Business band models (US) cont.

Code	Frequency (MHz)	Color Dot	Channel Bandwidth
21	462.7250		12.5 kHz
22	464.5000		12.5 kHz
23	464.5500		12.5 kHz
24	467.7625		12.5 kHz
25	467.8125		12.5 kHz
26	467.8500		12.5 kHz
27	467.8750		12.5 kHz
28	467.9000		12.5 kHz
29	467.9250		12.5 kHz
30	461.0375		12.5 kHz
31	461.0625		12.5 kHz
32	461.0875		12.5 kHz
33	461.1125		12.5 kHz
34	461.1375		12.5 kHz
35	461.1625		12.5 kHz
36	461.1875		12.5 kHz
37	461.2125		12.5 kHz
38	461.2375		12.5 kHz
39	461.2625		12.5 kHz
40	461.2875		12.5 kHz
41	461.3125		12.5 kHz
42	461.3375		12.5 kHz
43	461.3625		12.5 kHz
44	462.7625		12.5 kHz
45	462.7875		12.5 kHz
46	462.8125		12.5 kHz
47	462.8375		12.5 kHz
48	462.8625		12.5 kHz
49	462.8875		12.5 kHz
50	462.9125		12.5 kHz
51	464.4875		12.5 kHz
52	464.5125		12.5 kHz
53	464.5375		12.5 kHz
54	464.5625		12.5 kHz
55	466.0375		12.5 kHz
56	466.0625		12.5 kHz
57	466.0875		12.5 kHz
58	466.1125		12.5 kHz
59	466.1375		12.5 kHz
60	466.1625		12.5 kHz
61	466.1875		12.5 kHz
62	466.2125		12.5 kHz
63	466.2375		12.5 kHz
64	466.2625		12.5 kHz
65	466.2875		12.5 kHz
66	466.3125		12.5 kHz
67	466.3375		12.5 kHz
68	466.3625		12.5 kHz
69	467.7875		12.5 kHz
70	467.8375		12.5 kHz
71	467.8625		12.5 kHz
72	467.8875		12.5 kHz
73	467.9125		12.5 kHz
74	469.4875		12.5 kHz
75	469.5125		12.5 kHz
76	469.5375		12.5 kHz
77	469.5625		12.5 kHz

TABLE 4: Canadian UHF model radios only

Code	Frequency (MHz)	Color Dot	Channel Bandwidth
01	458.6625		25 kHz
02	469.2625		25 kHz

TABLE 5: Quiet Call Tone Codes

Code	Frequency	Code	Frequency	Code	Frequency	Code	Frequency	Code	Frequency
00	None	11	97.4	22	141.3	33	210.7	44	No Tone
01	67.0	12	100.0	23	146.2	34	218.1	45	183.5
02	71.9	13	103.5	24	151.4	35	225.7	46	189.9
03	74.4	14	107.2	25	156.7	36	233.6	47	196.6
04	77.0	15	110.9	26	162.2	37	241.8	48	199.5
05	79.7	16	114.8	27	167.9	38	250.3	49	206.5
06	82.5	17	118.8	28	173.8	39	69.4	50	229.1
07	85.4	18	123.0	29	179.9	40	159.8	51	254.1
08	88.5	19	127.3	30	186.2	41	165.5		
09	91.5	20	131.8	31	192.8	42	171.3		
10	94.8	21	136.5	32	203.5	43	177.3		

Use Code "44" to program No Tone for systems without a Coded Squelch Interference Eliminator feature.

TABLE 6: Digital Quiet Call Codes

Code	Code	Code	Code	Code	Code	Code	Code	Code
023	071	143	225	266	356	452	546	703
025	072	145	226	271	364	454	565	712
026	073	152	243	274	365	455	606	723
031	074	155	244	306	371	462	612	731
032	114	156	245	311	411	464	624	732
036	115	162	246	315	412	465	627	734
043	116	165	251	325	413	466	631	743
047	122	172	252	331	423	503	632	754
051	125	174	255	332	431	506	645	
053	131	205	261	343	432	516	654	
054	132	212	263	346	445	523	662	
065	134	223	265	351	446	532	664	

RECORDING YOUR QUICK ASSIST® VOICE MESSAGES

The Quick Assist® can be programmed to play two unique voice messages, an "Assistance needed" message that is transmitted when the front panel push button is pressed, and a "Quick Assist call cleared" message that is transmitted if the Quick Assist® has been reset.

Voice messages can be recorded into the Quick Assist® using the RQA/RQT PC Programmer and the electret condenser microphone built onto the radio PCB assembly. Voice messages can also be recorded with an incoming audio signal from your computer. This allows you to record and store a message onto your computer and use it for multiple Quick Assist® transmitters.

Assist Message

The Assist message is limited to 12 seconds

When the Quick Assist® front panel push button is pressed, the factory-programmed message "Assistance needed" will be transmitted, and will be repeated per the programmed schedule. By default, the message is sent out twice with a 30 second wait time between transmissions.

Reset Message

The Reset message is limited to 12 seconds

If the Quick Assist® has been programmed for Press and Hold Reset, the user can press and hold the front panel push button for 5 seconds to reset the radio to the standby condition, at which time the factory-programmed message "Quick Assist call cleared" will be transmitted.

Low Battery Message

The Low Battery message is limited to 2 seconds

When it senses the installed batteries are nearly run down, Quick Assist® will transmit the factory-programmed message: "Quick Assist battery". If you maintain several Quick Assist® transmitters within radio range of each other, you may customize this feature to easily determine which unit needs new batteries.

If you use only one Quick Assist® in any area, or if you regularly change Quick Assist® batteries, the factory-programmed message may be sufficient for your application.

Location Message

The Location message is limited to 2 seconds

When installing more than one Quick Assist® on a single frequency it may be desirable to record a unique Location Message to identify each individual Quick Assist®. The Location Message will be played after the TX Alert Tone and before the RQA Message.

Recording Custom Voice Messages

What is the purpose of Recording Custom Voice Messages?

Recording customized Quick Assist® voice messages gives them unmistakable meaning and significance. The standard factory prerecorded messages of "Assistance needed" and "Quick Assist call cleared" require the listener to know exactly where the Quick Assist® is located. However, when a user hears a custom message such as "Assistance needed in the paint department", the meaning is clear.

Do I need to record Custom Voice Messages?

If the factory-recorded messages "Assistance needed" and "Quick Assist call cleared" suit your application, recording custom messages is not necessary.

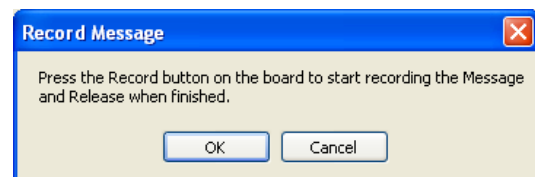
To record a custom message, follow the instructions below. Once recorded, playback the message to be sure you are satisfied with the quality and content of the message.

To record your Quick Assist® Voice Messages using the on-board microphone:

1. Read the existing radio programming.
2. Select Input 1 or Power Option for the message you will be recording.
3. Press the RECORD button for the message to be recorded. The Record Message dialog box will appear.



4. Select Microphone Record.
5. The following dialog box will appear. Record the message per the instructions, then press OK to exit record mode. Message recording will automatically terminate after the allotted Length of Message time if the record button has not been released.



6. The RECORDED checkbox will now indicate that the message is recorded.
7. After you have recorded a message you can review it by pressing the associated PLAY button. The Quick Assist® will transmit the message on the transmit frequency associated with the input selected.

TEST YOUR QUICK ASSIST® PROGRAMMING.....

Once your Quick Assist® has been programmed it will transmit on the same frequency as your radio receivers, and will transmit any coded squelch signals required for your radio system. Before installing the Quick Assist® you should test for communication with your radio receivers.

To test the Quick Assist® radio transmitter:

1. Turn on your radio receiver.
2. Press the front panel push button switch.
3. Quick Assist® will transmit the RQA "Assistance needed" message, which you should be able to hear on your radio receiver.
4. Press and hold the front panel push button switch until the front panel LED blinks rapidly.
5. Quick Assist® will transmit the Reset "Quick Assist call cleared" message, which you should be able to hear on your radio receiver.
6. If you do not hear the messages, you have probably not properly programmed the Quick Assist® transmitter frequency or the Quiet Call® Coded Squelch. In this case, repeat the programming and perform this test again.

NOTE: The Reset message will not be heard if the radio is not programmed for Press-and-Hold Reset.

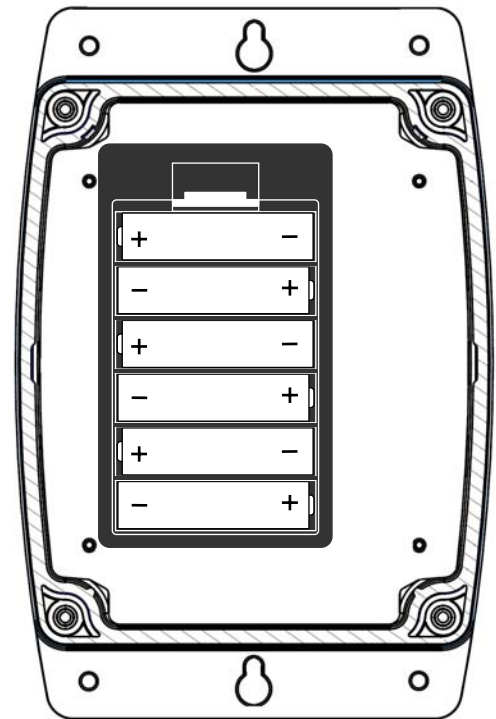
Depending upon your programming, the following sequence describes what you should hear with your radio receiver:

1. The RQA transmitter is activated on the Transmit Frequency and QC or DQC Code programmed when the front panel push button is pressed and released.
2. The RQA will broadcast silence for the programmed Message Delay on TX Time.
3. The RQA will broadcast the TX Alert Tone if it has been programmed.
4. The RQA will broadcast the Location Message if it has been recorded.
5. The RQA will broadcast the recorded RQA Message.
6. The RQA Message will be repeated for the number of times programmed for Repeat Message on each Transmission.
7. The RQA transmitter will turn OFF and the RQA will wait for the period of time programmed for Wait Time between Transmissions.
8. If Repeat Message Transmissions has been programmed for more than one transmission, the RQA transmitter will again be activated and Steps 1 – 7 will be repeated for the programmed number of transmissions.
9. If at any time during this sequence the front panel button is held down until the LED begins flashing rapidly, the RQA will transmit the Reset Message and the sequence will be terminated.

INSTALLATION / REPLACEMENT OF BATTERIES.....

1. Remove the Quick Assist® from the wall or mounting surface.
2. Remove the four corner screws holding the case halves together, located on the back side of the enclosure.
3. Separate the case halves and disconnect the battery holder from the radio printed circuit board by separating the in-line connectors.
4. Remove the lid on the battery holder by pressing the tab at the top, and then remove the old batteries.
5. Install the new batteries. Be sure to observe the correct polarity of the batteries, shown in the bottom of the battery holder.
6. Install the battery holder lid and connect the two polarized, in-line battery connectors.
7. Press the front panel push button and test the Quick Assist® by listening on a receiving radio.
8. Secure the case halves with the four corner screws and re-install on the wall or mounting surface.

NOTE: Be sure to properly dispose of the used batteries removed from the Quick Assist®.



AUTOMATIC LOW BATTERY ALERT MESSAGE.....

By factory default, If the battery voltage drops below approximately 6 Volts, the Quick Assist® transmits a factory prerecorded message, “Quick Assist Battery”, at the conclusion of each transmission. When this occurs, replace the batteries promptly — within a day or so.

What is the purpose of recording a unique Voice Phrase for the Low Battery Message?

When it senses the installed batteries are nearly run down, Quick Assist® will transmit the factory- programmed message:

“Quick Assist Battery”. If you maintain several Quick Assist® transmitters within radio range of each other, you may customize this feature to easily determine which unit needs new batteries.

Do I need to program this feature?

If you use only one Quick Assist® in any area, or if you regularly change Quick Assist® batteries, the factory programmed message may be sufficient for your application.

INSTALLING THE QUICK ASSIST®

Prior to installing the Quick Assist® transmitter, it is important to verify all radio programming to be certain that you have achieved the operation you desire. Re-programming requires the removal of the Quick Assist® from its installed location, which can be time consuming and frustrating.

1. **Install 6 new AA Alkaline batteries into the internal battery holder** and screw the case halves together. Be sure the case halves are pulled tightly together for a good weather seal.
2. **Select a location that provides the best possible radio coverage.**
 - Avoid mounting to metal structures
 - Install as high as possible
 - Be sure the Quick Assist® is in a vertical position
 - Be aware that metal or wires near the Quick Assist® can block or absorb radio transmissions.
3. **Temporarily mount the Quick Assist® using the top keyhole slot.**
4. **Test the radio from this location to be sure you get the necessary radio coverage.** This is achieved by pressing the front panel push button on the Quick Assist® while a second radio-equipped person receives the transmission at the furthest point you will need to cover.
5. **Permanently mount the Quick Assist®** using either the four (4) corner mounts, or the top and bottom keyhole slots.



CARE AND MAINTENANCE.....

Moisture: The Quick Assist® is highly weather- resistant in outdoor environments. Do not immerse the unit in water.

Temperature: The Quick Assist® is designed to operate between -22 and +140 degrees Fahrenheit. Like all electronic equipment, Quick Assist® should not be subjected to extreme heat. A shaded area is an ideal outdoor location.

Vibrations/Shocks: Though the Quick Assist® is designed to be rugged, it cannot be expected to survive extreme abuse.

Chemicals: Do not use harsh, corrosive or abrasive chemicals to clean the Quick Assist® case; use only a cloth moistened with water. Do not attempt to clean the printed circuit board inside the housing.

Batteries: Use only fresh, new alkaline batteries when programming Quick Assist®. Acceptable brands and types are: Duracell MX1500B, Eveready E91, Rayovac 815 or equivalent.

Estimated Battery Life: Starting with a fresh set of AA alkaline batteries, Quick Assist® can transmit about 7,000 voice messages over a period of one year before the batteries will need to be replaced.

IDENTIFICATION OF QUICK ASSIST® CONTROLS AND CONNECTIONS

1 Battery Holder

The battery holder accommodates the six (6) standard AA alkaline cells required to power the Quick Assist®.

NOTE: Always install a fresh set of alkaline batteries before programming the unit.

2 Front Panel LED

The red front panel LED is lit whenever the Quick Assist® is transmitting a message.

3 SMB Antenna Connector

This connects the internal antenna to the radio printed circuit board.

4 External Audio Input

Allows input to the Quick Assist® voice recorder from an external audio source, such as the Line Out audio from your computer.

5 Microphone

Microphone for recording voice messages.

6 USB Programming Connector

Connects the Quick Assist® to the USB port on your computer for programming.

7 Record Button

Press this button to initiate voice recording.

8 Internal Antenna

The internal antenna radiates radio signals.

9 Front Panel Push Button

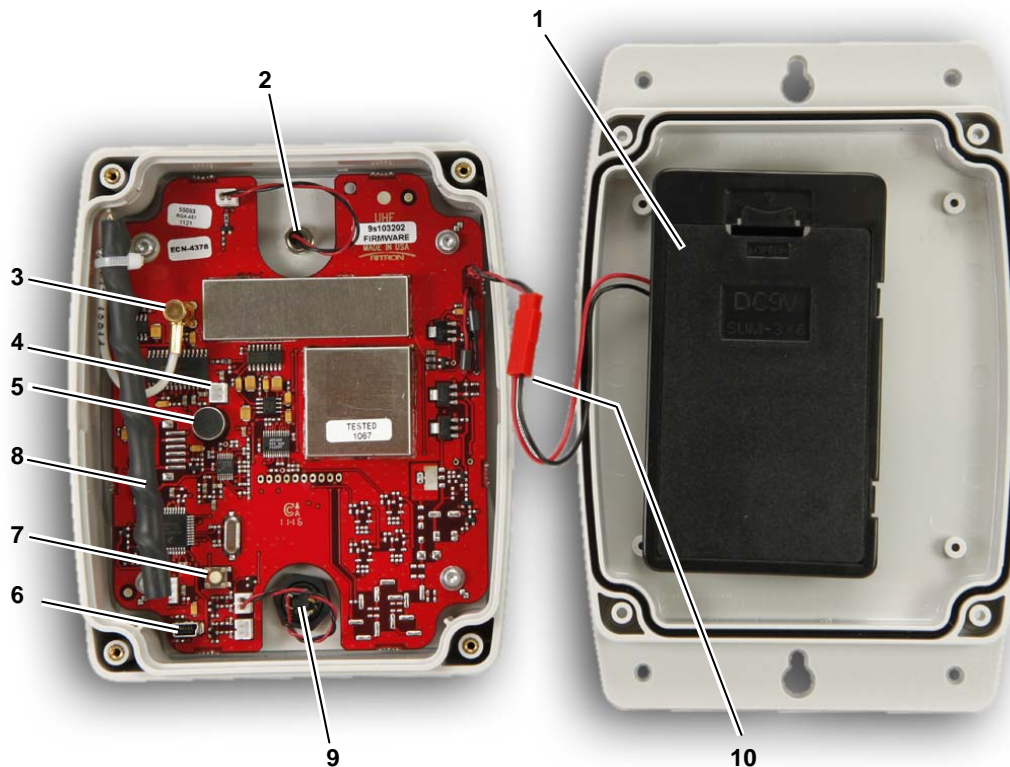
When the front panel push button is pressed the Quick Assist® transmits your pre-recorded voice message. This sealed push button provides a water-resistant enclosure.

10 Battery Connector

In-line connector between the printed circuit board and the battery holder.

IMPORTANT: Do not remove any other fasteners or further disassemble the Quick Assist® unit; doing so risks damage to the unit and voiding the manufacturer's warranty.

FIG-1: CONTROLS & CONNECTIONS



RITRON, INC. LIMITED WARRANTY.....

WHAT THIS WARRANTY COVERS:

RITRON, INC. ("RITRON") provides the following warranty against defects in materials and/or workmanship in **RITRON Radios and Accessories** under normal use and service during the applicable warranty period (as stated below). "Accessories" means antennas, holsters, chargers, earphones, speaker/microphones and items contained in the programming and programming/service kits.

<u>WHAT IS COVERED</u>	<u>FOR HOW LONG</u>	<u>WHAT RITRON WILL DO</u>
Ritron RQA Quick Assist	1 year*	During the first year after date of purchase, RITRON will repair or replace the defective product, at RITRON's option, parts and labor included at no charge.
Accessories	90 days*	<i>*After date of purchase</i>

WHAT THIS WARRANTY DOES NOT COVER:

- Any technical information provided with the covered product or any other RITRON products;
- Installation, maintenance or service of the product, unless this is covered by a separate written agreement with RITRON;
- Any products not furnished by RITRON which are attached or used with the covered product, or defects or damage from the use of the covered product with equipment that is not covered (such as defects or damage from the charging or use of batteries other than with covered product);
- Defects or damage, including broken antennas, resulting from:
 - misuse, abuse, improper maintenance, alteration, modification, neglect, accident or act of God,
 - the use of covered products other than in normal and customary manner or,
 - improper testing or installation;
- Defects or damages from unauthorized disassembly, repair or modification, or where unauthorized disassembly, repair or modification prevents inspection and testing necessary to validate warranty claims;
- Defects or damages in which the serial number has been removed, altered or defaced.
- Batteries if any of the seals are not intact.

IMPORTANT: This warranty sets forth the full extent of RITRON's express responsibilities regarding the covered products, and is given in lieu of all other express warranties. What RITRON has agreed to do above is your sole and exclusive remedy. No person is authorized to make any other warranty to you on behalf of RITRON. Warranties implied by state law, such as implied warranties of merchantability and fitness for a particular purpose, are limited to the duration of this limited warranty as it applies to the covered product. Incidental and consequential damages are not recoverable under this warranty (this includes loss of use or time, inconvenience, business interruption, commercial loss, lost profits or savings). Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitation on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you. Because each covered product system is unique, RITRON disclaims liability for range, coverage, or operation of the system as a whole under this warranty.

WHO IS COVERED BY THIS WARRANTY: This warranty is given only to the purchaser or lessee of covered products when acquired for use, not resale. This warranty is not assignable or transferable.

HOW TO GET WARRANTY SERVICE: To receive warranty service, you must deliver or send the defective product, delivery costs and insurance prepaid, within the applicable warranty period, to **RITRON, INC., 505 West Carmel Drive, Carmel, Indiana 46032, Attention: Warranty Department.** Please point out the nature of the defect in as much detail as you can. You must retain your sales or lease receipt (or other written evidence of the date of purchase) and deliver it along with the product. If RITRON chooses to repair or replace a defective product, RITRON may replace the product or any part or component with reconditioned product, parts or components. Replacements are covered for the balance of the original applicable warranty period. All replaced covered products, parts or components become RITRON's property.

RIGHTS TO SOFTWARE RETAINED : Title and all rights or licenses to patents, copyrights, trademarks and trade secrets in any RITRON software contained in covered products are and shall remain in RITRON. RITRON nevertheless grants you a limited non-exclusive, transferable right to use the RITRON software only in conjunction with covered products. No other license or right to the RITRON software is granted or permitted.

YOUR RIGHTS UNDER STATE LAW: This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

WHERE THIS WARRANTY IS VALID: THIS WARRANTY IS VALID ONLY WITHIN THE UNITED STATES, THE DISTRICT OF COLUMBIA AND PUERTO RICO.