

Operating Manual
SWL IR Remote Control for ICOM IC-R75
For
Firmware Version 1.43

Web Site: <http://www.swl-remotes.com/>

Support email: support@swl-remotes.com

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Overview

Thank you for purchasing the SWL IR Remote. We are confident that you will get many hours of listening pleasure from your R75 using the remote. Don't hesitate to contact us at support@swl-remotes.com if you have any problems or questions. We want your experience with our products to be as positive and enjoyable as possible. We also appreciate any comments on how we can make our products better.

The SWL IR Remote is a microcontroller-based device that decodes the Infrared pulse stream from a Universal Remote control and converts it into the remote commands for shortwave receivers and transceivers. Several versions of the SWL IR Remote are available for different models of Receivers and Transceivers.

The SWL IR Remote is connected to the R75 receiver using a 1/8in (3.5mm) audio type cable connected from the SWL IR Remote to the Remote jack on the receiver.

Power for the SWL IR Remote is provided by the included wall power supply. Alternatively, 9-12Volts DC at 100ma max can be supplied to the power connector. The center pin of the coax power connector is positive. There is a blocking diode in the circuit, so reverse polarity will not harm the SWL IR Remote control unit. Customers in Europe receive a DC cable that connects to the coax power jack on the SWL IR Remote control unit and has pig tail leads on the other end for connecting to a DC power supply.

All keys on the Universal Remote are indicated in this manual with bold type. The keys used for radio control are the digits **0, 1, 2, 3, 4, 5, 6, 7, 8, 9, Mute, Power, Enter**, and **Last** or **Previous**. All references to the **Last** key also refers to the **Previous** key on the remotes that have that key.

Any Universal Remote control should operate the SWL IR Remote. Follow the instructions in the remote manual to set the remote to operate a Sony TV. The remote needs digit keys, **Power**, **Enter**, and **Last** or **Previous** buttons. The remote should be in TV mode to operate properly. Make sure you do not have Cable or VCR modes selected. The codes from the keys when in Cable or VCR mode are different and will not operate the SWL IR Remote.

None of the settings are changed in the radio with the exception of memories that you write with the remote. All settings are temporary in the remote control. You can go back at any time to using your radio from the front panel. Move the AF gain, RF gain, Squelch, and PBT controls back and forth on the R75 until control is restored when returning to manual operation on the front panel.

Keep the Quick Commands Reference sheet by your remote as reference on the SWL IR Remote operation.

Connection to Radio

The ICOM CI-V cable has a 1/8in (3.5mm) audio type plug on each end. Connect the cable to the back of the SWL IR Remote control unit and then connect to the back of your receiver to the connection marked REMOTE. This will be a 1/8in (3.5mm) jack.

Plug in the wall power supply and plug into the back of the SWL IR Remote control box. The power connector is located on the back left hand side of the control unit. The SWL IR Remote draws very little power and does not include or need a power switch.

Note: If you use the RS-232C connector on the back of the R75, leave the SWL IR Remote powered at all times or remove from the CI-V port if not powered. The RS-232C connector will be disabled if the SWL IR Remote is plugged into the CI-V port and not powered on. If the SWL IR Remote is connected and powered, it does not interfere with the normal operation of the radio front panel, or the RS-232C computer port. The default CI-V address is 5A. The default baud rate is 19200. These CI-V and baud rate settings match the default settings for the R75.

Radio Addressing

Be sure that the CI-V settings on the R75 are CI-V address 5A and Auto Baud. These are the default factory settings and should not have to be changed except for special circumstances. If you are unsure about whether or not the R75 is set up correctly, check your user's manual for instructions on how to check and verify these settings. On the R75, the baud rate setting of Auto or 19200 will both work fine. The SWL IR Remote CI-V address and baud rate can be changed if necessary to fit your requirements. Just be sure that the settings match those of your radio.

Remote Control Operation

Description

The following describes the operation of the remote control. Refer to the Universal Remote Commands tables, or the Commands Quick Reference guides for specific features.

Once you begin to use the remote you will get very comfortable with the operation. There is a lot of functionality achieved by just a few remote buttons. You can stick with the basic operations of the remote (volume, frequency, and memory) and still achieve a lot of control over your radio. The biggest problem you will have in the operation of the remote is the **Enter** key. If you do not enter the codes exactly you will end up trying to enter a direct frequency. Direct frequency entry can occur in either VFO or memory modes.

You do not have to use the more advanced features (for example RF Gain, SQL, NR level, and PBT controls) to enjoy the remote. These features are normally used for DXing and are not really necessary for normal broadcast listening. OK, I know some of you tweak these controls to achieve better audio frequency response and eliminate heterodynes. Because you do not have a rotary control for RF gain, squelch and PBT, like on the front panel of the R75, it can get a bit confusing on where you are when setting the advanced controls. Just stick to the basic controls, and advance to these controls as you understand their function and can control them with the remote for the desired effect.

Power

When the R75 is turned off with the remote, certain status is saved to non-volatile memory and restored when power is turned back on with the remote. The current memory selection, volume level, mute status, current tuning step, and the VFO/memory mode are stored in non-volatile memory. The last frequency entered is kept in volatile memory and will be lost when power is removed from the control unit.

Sleep Timer

You can set the Sleep Timer for the R75 with the remote.

The Sleep Timer cannot be started reliably with the CI-V commands, so you must start the Sleep Timer from the front panel of the R75. Use the following key sequence – Clock, V DN, Set, and Clock to turn the Sleep Timer on. The R75 Sleep Timer can be turned off with the remote.

Direct Frequency Entry

When entering frequencies directly, be sure to press a digit key before the first decimal point. The **Mute** button functions to mute the radio, as a decimal point when entering frequencies, and as a clear to abort any key entry to that point. When using the **Mute** button as a clear, be sure to press it enough times to get the LED to blink twice, or for the volume to mute. This is confirmation that the clear command has been accepted. When entering frequencies directly, the **Mute** key will operate as a decimal point only after a digit key has been pressed before the first decimal point. As an example, you can enter **0 Mute 3 Enter** for 300KHz. Pressing the **Mute** a second time during direct frequency entry will then enter 100Hz values. To enter 15.235.500 you would enter **1 5 Mute 2 3 5 Mute 5 Enter**. Zeroes are assumed when not entered. You can enter 15.235.500 by pressing **1 5 2 3 5 Mute 5 Enter**. You can enter the frequency without any

decimal places, but you need to enter all the zeros so the frequency is not misunderstood. To enter 15.235.500 without using the decimal key, enter **1 5 2 3 5 5 0 0 Enter**.

The SWL IR Remote assumes that you are entering frequencies in kHz. Any frequency in kHz can be entered directly. 9565kHz would be entered as **9 5 6 5 Enter**. The decimal place (**Mute**) is not necessary in this case. The decimal place is only needed to save zero entries or optionally when entering a frequency less than 1MHz. When entering frequencies below 1MHz, press a leading zero before the frequency and then **Enter**. For example: **0 7 0 0 Enter** for 700kHz. Or use the **Mute** key as a decimal place before or after the frequency entry. For example: **7 0 0 Mute Enter** for 700kHz or **0 Mute 7 Enter** for 700 kHz.

After a frequency has been entered, you can then use the **CH+/-** to step the frequency in the VFO mode. Frequency steps of 1Hz, 10Hz, 100Hz, 1kHz, 5kHz, 9kHz, 10kHz, 100kHz, and 1MHz can be used to adjust an entered frequency very quickly or step through stations with set frequency spacing. Press a numeric key corresponding to the frequency step desired (see commands below), and then the **CH+/-** and the step frequency will be used. The step frequency is kept and used again the next time the **CH+/-** keys are used. The step is permanently kept when the radio is powered off and back on with the remote **Power** button. The **CH+/-** keys will change the frequency when in the VFO mode, and change memories up and down when in memory mode.

Frequency pacing is the rate at which the frequency is increased or decreased when the **CH+/-** keys are held down. The pacing is a configurable parameter that can be set by the user. You can speed up or slow down the rate at which the frequency changes by setting the frequency pacing.

The **CH+/-** keys are used to step the frequency up and down when in VFO mode. The first press of the **CH+/-** in this mode will be slightly delayed. If the key is held down it will then begin stepping the frequency at the current slewing rate. Use single presses of the **CH+/-** keys to move slowly up or down in frequency. Hold the keys down continuously to step the frequency very quickly.

Last Frequency Recall

The last directly entered frequency can be recalled. Use this when looking for other frequencies being used by a shortwave broadcaster. You can set a frequency directly, enter another frequency, and return to the original frequency. You can then enter another frequency and return, etc. The last frequency entered is lost if power is removed from the remote control unit. It is kept if the radio is powered off.

Tuning Steps

Pre-set Tuning Steps can be selected by entering a single digit before using the **CH+/-** keys on the remote. The tuning step stays until changed again by the user.

Five User Tuning Steps can be defined for special tuning requirements. Set these tuning steps to half the value of your filters. Tuning off frequency by half the filter bandwidth will improve audio response without degrading the signal or losing synch lock. For example if you have a 2.4kHz filter, set User Tuning Step 1 to 1.2kHz and then tune off frequency when the 2.4kHz filter is selected. This procedure is similar to using a PBT control, but you can see on the display how much off frequency you are tuned. With the PBT, you can only adjust and listen for

improved response. You could also set a User Tuning Step to 5Hz and use it to quickly zero-beat the frequency in SSB mode.

Memory Operation

When moving through the memories, you can directly select a memory channel using the **x (x) (x) Last** key sequence. For example, to select channel 23 you would press **2 3 Last**. You can select a memory channel in VFO or memory mode. You can also write the VFO to the currently selected memory. Once the channel is selected, you can move the memory to the VFO using **0 Last**, or move through the channels one at a time using the **CH+/-** keys. The **CH+/-** will change the memory channel when in memory mode only.

There is one idiosyncrasy with memory channels on the R75. The remote keeps track of which memory it has operated on last, but there is no way to know which memory channel is currently selected once a memory scan has been started. At times the memory may seem to be off of where you expect it to be. Just directly select a memory, or move through memories until you have the memory desired. This issue comes about because in the CI-V interface there is no way to query the radio and get the current memory channel selected. The remote will do the best job it can to track the current memory. When the radio is powered off with the **Power** key on the remote, the current memory channel is put into semi-permanent memory so it can be restored even after the remote control unit is powered off.

Mute Operation

There is a lot of functionality in the **Mute** key. The normal operation of the **Mute** key is to mute the radio volume (or AF gain to be more precise). The **Mute** key is used during frequency entry as a decimal point. Any time a digit key is pressed before the **Mute**, the control unit then understands the **Mute** to be a decimal point. At any time you can press the **Mute** key to clear any keys pressed. The **Mute** may have to be pressed several times to get the LED to blink twice, indicating that the keys have been cleared. If the radio mutes then you can be sure that the sequence is cleared. The remote needs to know whether the **Mute** is being used for a decimal or it is intended to be a clear. A clear function is interpreted by the remote control by multiple presses of the **Mute** key.

The **Mute** key is also used to return the **VOL+/-** keys back to volume after using analog controls. There is one situation where the **Mute** clear function is stacked. If you press a numeric button then the **VOL+/-** to control the RF Gain, Squelch, NR, or PBT controls and then start a direct frequency entry and decide to clear the operation, the first press of the **Mute** will return the **VOL+/-** back to volume control, and the second press of the **Mute** will cancel the direct frequency entry. On both presses of the **Mute** the LED will blink twice. The best way to avoid this confusion is to return to volume control before direct frequency entry, or press the **Mute** until the radio Mutes, confirming that all previous operations have been canceled.

RF/SQL and PBT Controls

Press a numeric key to select the control to adjust before pressing the **VOL+/-** to adjust the RF gain, Squelch, and inner or outer PBT. The RF and Squelch controls can be adjusted from full CW (clockwise) with **VOL+** to full CCW (counterclockwise) with **VOL-**. Full CW is the center of the control for the RF gain, and full CCW is the center of the control for the Squelch. The PBT controls can be adjusted from full CW with **VOL+** to full CCW with **VOL-**. When the PBT control is centered the LED will go out and movement of the PBT will cease. When the RF Gain

is full CW or the Squelch is full CCW, the LED will go out and the control movement will cease. Release the **VOL+/-** key and press again to pass over center position or continue in the opposite direction. This will give you feedback that the PBT control is centered and the RF Gain or Squelch is at the end of the control. To exit this mode and go back to the volume control, press **0** and then one of the volume keys, or press the **Mute** key. When you press the **Mute** key to return to volume control, the LED will blink twice.

The RF/SQL and PBT controls can be returned to the center position and NR turned off by pressing **0** then **VOL+/-**. This will return these controls to the center position, turn off NR, and return **VOL+/-** control back to volume. To return **VOL+/-** control to volume without affecting these settings, use the **Mute** key.

You can quickly position the RF Gain, SQL, and PBT controls to their default, minimum, center (PBT), and maximum positions. For example: you can move the Inner PBT control to full CW by pressing the key sequence **4 9 VOL+/-**, and then move in the CCW direction with the **VOL-** key.

The PBT controls can be adjusted together in two separate ways. You can move the Inner and Outer PBTs either in the same direction from the current settings, or in opposite directions from the current settings. Moving the Inner and Outer PBTs together in the same direction is in effect an IF bandpass shift. Moving the PBTs together in opposite directions adjusts the IF bandwidth. Check owner's manual for more information on the effect of PBT adjustments. Only certain IF filter combinations on the R75 can be adjusted in this way.

There is a benefit to controlling the RF Gain and Squelch from the remote. On the front panel of the R75, the RF Gain and Squelch are in one control. Moving the control to the left of center controls the RF Gain. Moving the control to the right of center controls the Squelch. Using the remote for controlling the RF Gain and Squelch lets you adjust them separately. You can adjust the Squelch and then set the RF Gain independently.

You can set up to six User Defined analog settings for each of the RF Gain, Squelch, Inner and Outer PBT, and both PBT controls. You can tune the receiver using the normal or default settings on these controls and then adjust them quickly with the User Defined settings to better receive a station. The User Defined settings let you go immediately to your preferred settings for best reception. Use the **VOL+/-** key for the direction you wish to move. The User Defined analog settings are kept in non-volatile memory and are not changed except by the configuration command to set these values. The User Defined analog control values are set in the range from 0 to 255. The center (12 o'clock) position on the PBT controls is 128. The full CW (12 o'clock) position on the RF gain is 255. The full CCW (12 o'clock) position of the SQL is 0.

Enabling NR (Noise Reduction) and setting NR level

The NR and NR level can be set using the direct entry method. Use **3 x VOL+/-** to enable NR and set the NR level to x. The level can be set directly from 1 to 9 using this direct entry method. Setting the level to 0 will disable the NR. You can also select the NR mode and use the **VOL+/-** to move up and down through the NR level settings. You must press the **VOL+/-** each time you want a level change. Holding the **VOL+/-** key will not continuously move through the levels. Using the **VOL+** moves the level from 1 to 9. Using the **VOL-** moves the level from 9 to 1. Each press of **VOL+/-** will move one level up or down.

You can leave the NR level set and use the **3 VOL+/-** sequence to enable the NR if it is turned off. To turn the NR off and leave the level set use the **3 0 VOL+/-** sequence. If NR is on when you use the **3 VOL+/-** sequence you will move the level up or down depending on the **VOL** key used.

User Analog Control Values

Up to six user values for each analog control can be set. This permits setting the analog controls independently for your preferred listening conditions. The values set are from 0 to 255. The center of the PBT controls is 128. The normal setting of the RF Gain is 255, and the normal setting of the SQL is 0. User settings are stored in non-volatile eeprom memory and will be kept even if power is removed from the control unit. The user values are never reset or cleared. The only way to change these settings is to re-program them using the configuration command.

LCD Backlight Brightness

Adjust the LCD Backlight brightness by using the **9 VOL+/-**. Adjust the level to your liking and then press **Mute** to go back to volume control.

Memory or Programmed Scan

You can initiate a memory scan while in the memory mode, and a programmed scan in the VFO mode by pressing the **Last** key. Pressing keys other than the **VOL+/-**, **Mute** and several of the mode keys (for example mode selection and filter selection) will stop the scan. A memory scan is when the radio scans through the stored memory channels. This is not a select memory scan – all memories are scanned. A programmed scan is where the radio scans the frequency starting at the current frequency. See the radio manual for a description of these modes of scanning and how they operate. The SWL IR Remote only initiates a scan. It has no control over the way the scan operates.

Universal Remote Commands

Radio Power

Power Radio power on /off.

Sleep Timer (When power is on)

h h m m Power Enable the sleep timer and set to **hh** hours and **mm** minutes. Leading zeroes are not required. (0:01 – 23:59).
To start Sleep Timer on R75 press Clock, V DN, Set, and Clock.
0 Power Disable the sleep timer.

Direct Entry of Frequencies (Examples)

0 8 3 0 Enter 830kHz
0 Mute 7 Enter 700kHz
5 0 0 Mute Enter 500kHz
3 Mute 2 5 9 Enter 3259kHz
1 5 Mute Enter 15000kHz
1 5 Mute 2 3 Mute 5 Enter 15230.5kHz
1 5 2 3 5 Enter 15235kHz
9 5 6 5 Enter 9565kHz
3 Mute 5 Enter 3500kHz
Mute (Mute) (Mute) Clear key entry during numeric entry. LED will blink twice.

Frequency and Memory Channel stepping

	<u>VFO Mode</u>	<u>Memory Mode</u>
CH+	Freq+ by tuning step	Memory+
CH-	Freq- by tuning step	Memory-

Tuning Steps

x before **CH+/-** to set a tuning step. It stays until changed again.

1	1Hz
2	10Hz
3	100Hz
4	1kHz
5	5kHz
6	10kHz
7	100kHz
8	1MHz
9	9kHz

User Tuning Steps

0 before **CH+/-** Last Used User Tuning Step
0 x before **CH+/-** User Tuning Step (**x**=1, 2, 3, 4, 5)

Volume Control

VOL+ Volume up.
VOL- Volume down.

Mute Mute on/off. Returns **VOL+/-** to volume control after using RF/SQL NR, or PBT Controls. Setting of the analog controls remains at the current level.

To return to Volume Control after using RF Gain, SQL, NR, and PBT controls.

- 0** before **VOL+/-** (resets RF Gain, Squelch, NR, and PBT to default positions)
Defaults: RF Gain Max, SQL Min, NR off, and PBTs centered
- 3 0 VOL+/-** (turns off NR)
- Mute** (does not reset RF Gain, Squelch, NR, and PBT)

RF Gain Control

1 before **VOL+/-** to adjust the RF gain. The LED will go out when the control is full CW.

SQL Control

2 before **VOL+/-** to adjust the Squelch (SQL). The LED will go out when the control is full CCW.

NR Level

- 3** before **VOL+/-** LED will go out at each level.
- 3 x** before **VOL+/-** Turn on NR and set Noise Level to **x** (1 – 9)

Inner PBT Control

4 before **VOL+/-** to adjust the inner PBT control. The LED will go out when the control is centered.

Outer PBT Control

5 before **VOL+/-** to adjust the outer PBT control. The LED will go out when the control is centered.

Both PBT Controls – Acts as a passband shift

6 before **VOL+/-** to adjust both PBT controls together in the same direction. The inner and outer PBT are adjusted together from their current level. The LED will go out when the inner control is centered.

Both PBT Controls – Adjusts bandwidth

7 before **VOL+/-** to adjust both PBT controls together in opposite directions. The inner and outer PBT are adjusted together from their current level. The LED will go out when the inner control is centered.

Default, Min, Center, and Max on RF Gain, SQL, NR, and PBT

- x 0** before **VOL+/-** Default on RF Gain (**x**=1), SQL (**x**=2), NR (**x**=3), or PBT (**x**=4,5,6,7) controls
Defaults: RF Gain Max, SQL Min, NR off, and PBTs centered
- x 1** before **VOL+/-** Min on RF Gain (**x**=1), SQL (**x**=2) or PBT (**x**=4,5,6) – Full CCW
- 7 1** before **VOL+/-** Bandwidth on PBTs - Inner full CCW, and Outer full CW
- x 5** before **VOL+/-** Center on PBT controls (**x** =4 Inner, **x**=5 Outer, **x**=6,7 Both)
- x 9** before **VOL+/-** Max on RF Gain (**x**=1), SQL (**x**=2), or PBT (**x**=4,5,6) – Full CW
- 7 9** before **VOL+/-** Bandwidth on PBTs - Inner full CW, and Outer full CCW

LCD Backlight Adjustment

9 before **VOL+/-** will adjust the LCD Backlight brightness.

To return to volume control

0 before **VOL+/-** to return to volume control. The RF Gain, Squelch, and NR are reset to default settings. RF Gain and SQL are set to 12 O'clock; the PBT controls are reset to center position;

and NR is turned off. **Mute** will also return to volume control, but will not return the RF Gain, Squelch, NR, and PBT controls to default positions. They are left in their current positions. When **Mute** is pressed the LED will blink twice to indicate you are back to volume control.

User Defined Analog Control Settings

12 before **VOL+/-** user defined RF Gain #1
13 before **VOL+/-** user defined RF Gain #2
14 before **VOL+/-** user defined RF Gain #3
16 before **VOL+/-** user defined RF Gain #4
17 before **VOL+/-** user defined RF Gain #5
18 before **VOL+/-** user defined RF Gain #6

22 before **VOL+/-** user defined SQL #1
23 before **VOL+/-** user defined SQL #2
24 before **VOL+/-** user defined SQL #3
26 before **VOL+/-** user defined SQL #4
27 before **VOL+/-** user defined SQL #5
28 before **VOL+/-** user defined SQL #6

42 before **VOL+/-** user defined Inner PBT #1
43 before **VOL+/-** user defined Inner PBT #2
44 before **VOL+/-** user defined Inner PBT #3
46 before **VOL+/-** user defined Inner PBT #4
47 before **VOL+/-** user defined Inner PBT #5
48 before **VOL+/-** user defined Inner PBT #6

52 before **VOL+/-** user defined Outer PBT #1
53 before **VOL+/-** user defined Outer PBT #2
54 before **VOL+/-** user defined Outer PBT #3
56 before **VOL+/-** user defined Outer PBT #4
57 before **VOL+/-** user defined Outer PBT #5
58 before **VOL+/-** user defined Outer PBT #6

62 before **VOL+/-** user defined Both PBTs #1
63 before **VOL+/-** user defined Both PBTs #2
64 before **VOL+/-** user defined Both PBTs #3
66 before **VOL+/-** user defined Both PBTs #4
67 before **VOL+/-** user defined Both PBTs #5
68 before **VOL+/-** user defined Both PBTs #6

Scan Control

	<u>VFO Mode</u>	<u>Memory Mode</u>
Last	Start/Stop Programmed Scan	Start/Stop Memory Scan

Enter Commands – Toggles/Selects radio features

- Enter** VFO/Memory mode.
- 1 Enter** Preamp 1, Preamp 2, or Preamp off.
- 2 Enter** Attenuator on/off.
- 3 Enter** ANT1 or ANT2 selection.
- 4 Enter** NB on/off.
- 5 Enter** ANF on/off. Only works with DSP (UT-106) option installed.
- 6 Enter** AGC slow /fast; AGC off (configurable).
- 7 Enter** AM/S-AM; FM and CW (configurable).
- 8 Enter** LSB, or USB modes.
- 9 Enter** Wide, Normal, or Narrow filters.
- 0 Enter** Display memory labels on display/display frequency on display in memory mode.
- 0 x Enter** Announce with speech synthesis. Only works with Speech Synthesis (UT-102) option installed.
 - 0** – All data.
 - 1** – Frequency and S-Meter.
 - 2** – Receive Mode.

Direct Enter Commands – Directly Selects radio features

- 1 x Enter** Preamp
 - 0** – Preamp off
 - 1** – Preamp 1
 - 2** – Preamp 2
- 6 x Enter** AGC
 - 0** – Off
 - 1** – S-Fast
 - 2** – Fast
 - 3** – Slow
- 8 x Enter** Modes
 - 1** – LSB
 - 2** – USB
 - 3** – AM
 - 4** – CW
 - 5** – RTTY
 - 6** – FM
 - 7** – CW-R
 - 8** – RTTY-R
 - 9** – S-AM
- 9 x Enter** Filter Selection
 - 1** – Wide
 - 2** – Normal
 - 3** – Narrow

Memory management

- x x Last** Select Memory Channel xx. Used for channels 10 – 99.
or
x Last Select Memory Channel x.
0 Last Memory to VFO. Frequency and mode are transferred from memory to VFO and VFO mode is selected. This will only work when not scanning.
0 0 Last Recall last directly entered frequency and select VFO mode
1 0 0 Last Write VFO Frequency and mode to currently selected memory channel. This will only work when not scanning and in the VFO mode.

Configuration Parameters

- 0 9 1 Enter** Set CI-V address
x x Enter CI-V address set to xx
or
x Mute y Enter y converted to hex (e.g. 1 – A, 2 – B, etc)
5A would be entered as: **5 Mute 1 Enter**
- 0 9 2 Enter** Set Radio Port baud rate
1 9 Enter 19200 Baud (Factory Default)
9 6 Enter 9600 Baud
4 8 Enter 4800 Baud
1 2 Enter 1200 Baud
- 0 9 4 Enter** Set Frequency Pacing
x x Enter Value from 1 to 99 to control pacing. 1 is the fastest and 99 is the slowest.
- 0 9 5 Enter** Set Configuration Parameters to Factory Defaults.
Enter Reset Configuration Parameters to Factory Default.
CI-V 5A
Radio Baud 19200 baud
Frequency Pacing 30
Optional Modes/AGC Disabled
- 0 9 6 Enter** Enable/Disable Optional Mode Selections
0 Enter Disable FM and CW modes in selections.
(Factory default)
1 Enter Enable FM mode in selections.
2 Enter Enable CW mode in selections.
3 Enter Enable both FM and CW in mode selections.
4 Enter Disable AGC off (Factory default).
5 Enter Enable AGC off in AGC selections.
- 0 9 7 Enter** Define User Tuning Steps
x Mute f f f f Enter
The User Tuning step x (1, 2, 3, 4, or 5) is defined as frequency **ffff**, converted to f.fffkHz. You must enter all digits, even zeroes; e.g. define Tuning Step 2 with a value of 1.4kHz would be **2 Mute 1 4 0 0 Enter**. The display on the radio will show the value as 2.140.000Hz when you are done to confirm the entered value. It is best to set these tuning steps with the receiver on and in the VFO mode. These steps are saved in non-volatile memory and are never changed except using this configuration mode.
- 0 9 8 Enter** Define User Analog Control Settings
x x Mute a a a Enter
The User Analog Control xx is defined as **aaa**. The value of **aaa** must be between 0 and 255. You must enter all digits, even zeroes; e.g. define RF Gain User Defined analog setting 6 with a value of 220 would be **1 8 Mute 2 2 0 Enter**. The display on the radio will show the value as

1.800.220Hz when you are done to confirm the entered value. It is best to set these values with the receiver on and in the VFO mode. These values are saved in non-volatile memory and are never changed except using this configuration mode.

LED Operation

The LED provides feedback on the mode and operation of the SWL IR Remote. The LED blinks slowly whenever there is a communications error (such as NAK from ICOM radios) or the communications has timed out waiting for a response when a response is expected. This can also occur if the radio is powered off and you try to initiate commands.

Communications Error

The LED blinks continuously at a slow rate when the communication times out from the radio, or a command is NAK'd. If the radio power is off and you try to initiate any command but power on, the radio will NAK all commands and the LED will indicate a communications error. If this occurs on every function and the radio is powered on and not responding, check the cable connection, the CI-V address and baud rate setting on the radio. Also verify that the SWL IR Remote is correctly configured for the CI-V address and baud rate for the radio. If optional modules are not installed in the radio and you try to use those functions, the radio will NAK the message. An example would be trying to set the NR (Noise Reduction) feature if a DSP module is not installed in the R75. This is normal when the optional modules are not installed and will not cause improper operation or hang up.

Clear Input

After the **Mute** is used to clear key entries the LED will blink twice. The LED will also blink twice when returning to the volume control mode after adjusting the RF/SQL, NR, or PBT controls.

Confirmation of Command

After a valid command has been issued and acknowledged the LED will blink once and go out. The LED will appear to be on continuously when the **VOL+/-** or **CH+/-** in the frequency mode are held because the commands repeat and the LED doesn't always time out.

When using the RF/SQL and PBT controls the LED will be on continuously when the controls are being adjusted, but will extinguish when the RF control is full CW, the Squelch control is full CCW, or the PBT controls are centered. Full CW on the RF and full CCW on the Squelch control are at the 12 o'clock position on the controls.

Configuration Mode

When you enter the parameter configuration mode, the LED will blink continuously at a fast rate until the configuration operation is completed or canceled.

Troubleshooting

Nothing happens when using the Universal Remote.

- Make sure the radio is powered.
- Verify that the Universal Remote is in the TV mode. Check that the remote control box is connected to the wall power supply and that the wall power supply is connected to the AC supply.
- Check the batteries in the Universal Remote and change if necessary.
- Verify that the TV mode of the Universal Remote is set for a Sony TV.

The LED on the remote control unit blinks slowly.

- If no remote operations function, check cable connection to the radio.
- Check CI-V address, and baud rate in the R75 and the SWL IR Remote control box. Use configuration command **0 9 5 Enter Enter** to reset to factory defaults. Then re-program as necessary.
- Verify that the R75 is turned on. If radio is not turned on, the R75 will NAK all commands except power on.
- Check that the CI-V cable on the R75 is connected to the REMOTE jack, which is right next to the DB9 connector.
- Commands that are not implemented in the radio are NAK'd; e.g. initiating speech synthesis without the speech synthesis module will cause the LED to blink.

The LED on the remote control unit blinks fast.

- The configuration mode has been selected and the operation needs to be completed. Push **Mute** to cancel the operation or **x x Enter** to complete the operation. See chart above on the configuration command parameters.

Some buttons on the control work, and some don't.

- Verify that the Universal Remote TV mode is selected. If CABLE or VCR modes are selected, only a few buttons will work. The volume control, power, and mute will work in both modes. None of the other keys will work in cable or VCR mode.
- Operate the buttons with more time between button presses. There is a 100 msec delay between key presses so the remote control unit can tell if the button on the remote is held continuously or has been released and pressed again. Each press of the remote will cause a continuous stream of IR pulses to be sent (the LED on the Universal Remote will be lit continuously). The remote control unit knows that the button has been released if the IR pulse stream stops for 100 msec or longer.

Erratic Operation of the remote

- Check the batteries in the Universal Remote and replace if necessary.
- Be sure to aim the Universal Remote at the front panel of the control unit. The IR sensor is behind the front lens to the left of the LED. This is more critical the further you are away from the remote control box.
- Confirm that the interface cable is connected securely to the radio and the SWL IR Remote control box.

- Check the power connection to the back of the SWL IR Remote control box.

Memory on the radio and the SWL IR Remote are not synchronized.

- If the memories are changed in any fashion other than the Universal Remote, the SWL IR Remote can lose track of the currently selected memory. Use the SWL IR Remote to perform memory operations, or select the memory channel directly with the SWL IR Remote to synchronize the current memory channel after making memory changes other than by using the remote.