

# Entone Nova 4-in-1 Universal Remote Control Basic User Guide (NA/LATAM)



# **Overview**

Your new Entone Nova universal 4-in-1 remote operates your Entone and other set-top boxes and up to three other devices. This remote can provide additional features including support for DVR.

# **Support Notes:**

#### Description:

The Nova remote requires minimum version of firmware in the Entone STB to be supported noted below:

- 2.6.33.1-mvn
- 10.5.105.1-mvn
- 3.3.8.1-mvn
- 1.6.5.1-mvn

Also, the Nova Remote is designed to support Broadcom based STB's and limited support for Sigma STB's. For Broadcom versions, the RC will support both IR and RF; however, for Sigma based Hydra and Amulet-D series, the remote will only work in IR mode. RF requirements for Sigma-based STBs should continue to use the Entone URC.

For customers that have questions regarding these supported versions or other requirements, please contact Entone Support.

# **Installing Batteries**

This Entone remote requires 2 AAA batteries (included). Please remove battery case cover and follow installation diagram inside the battery case area.

When replacing batteries, ensure new batteries are of high quality to provide for best service. Note, the remote upon removal of batteries, will retain all settings for up to 15 minutes.

# **Device Control**

Each device key located at the top of this remote, controls a particular device. To specify a device, review the device codes listed at end of the user guide and complete the following:

- 1. Press and hold the device key (TV, STB, DVD, AUX) until the LED lights up and remains on.
- 2. Enter the five-digit code.
- 3. If the remote recognizes the entered code, the user can press power to determine if the entered code is correct. If no response, then please enter next code for the device brand chosen.

# **Using Your Remote**

Select device you wish to control by pressing one of the device keys located at the top of the remote (TV, STB, DVD, AUX). The device key will blink to acknowledge choice and key functions will work as pressed.

# **Operational Notes**

- 1. This Entone remote introduces 4-new buttons supporting high-value customer usages including (DVD, LIVE TV, MEDIA, VOD) that may require mapping. Please review the following as necessary:
  - All color buttons will work similarly to the URC3.x and URC4.x.
  - For Broadcom based STB, the following INI option is required if operator desires to map these four buttons to the color buttons

HDB72\_PVR\_KEY\_REMAP=0x4b # Map DVR/PVR key to RED, thinkstuff key code:0x4000084 HDB72\_DTV\_KEY\_REMAP=0x49 # Map DTV/LIVE TV key to GREEN, thinkstuff key code: 0x4000085 HDB72\_MEDIA\_KEY\_REMAP=0x4a # Map MEDIA key to YELLOW, thinkstuff key code: 0x4000086

HDB72\_VOD\_KEY\_REMAP=0x4c # Map VOD key to BLUE, thinkstuff keycode: 0x40000087

• For Sigma based STB, there is no action required as these four buttons will be mapped to URC3.x button below:

VOD 0x40000124 same as MOVIES in URC 3.x
DVR 0x40000002 same as RECORD-IT in URC 3.x
Live TV 0x4000009d same as DTV in URC 3.x
Media 0x4000000c same as Media in URC 3.x

- 2. Another important note is that the Nova RC differs from the previous URC remotes in the process of triggering the Entone boot menu. For the Nova RC, please press ".+menu" while the URC remotes required "input+menu".
- 3. It is also important to note that the Nova remote control has a faster repeat rate than the URC and as a result, some customers may see notice the STB receiving two keys when a key is pressed. Entone recommends resolution by either
  - Increasing the "URC Key Delay Second" for each STB, or
  - Using the following INI options

```
HDBCM_KEY_DELAY_TIMEOUT=500000 #500ms
HDBCM_KEY_SIMULATE_TIMEOUT=400000 #400ms
HDBCM_KEYUP_TIMEOUT=350000 #350ms
```

If customer still reports multiple key presses, it is recommended to increase the timeouts as follows:

HDBCM	_KEY_DELAY_TIMEOUT=800000	#800ms
HDBCM	_KEY_SIMULATE_TIMEOUT=400000	#400ms
HDBCM	_KEYUP_TIMEOUT=350000	#350ms

Note: This setting applies only to a deployed STB and that once this option is added, the bootmenu "URC Key Delay" setting will be ignored.

If you have any questions, please contact Entone support.

# **Common Usage Requests**

This section provides programming sequences for common requests by the RC user. Additional details as well as other features are available in the Operational Features section of this document.

# **Remote Registration**

#### **Description:**

Nova remote supports both IR and RF and registration allows user to set for IR or RF. By default the remote is in IR mode.

#### Programming Sequence:

To register the remote to the STB and use RF:

- On the Janus 300 or Amulet 550, press and hold the ""OK"" button on the front panel 5 seconds until the touch panel backlight is flashing
- Press and hold <<SETUP>> and <<STB>> keys together until the STB and AUX LEDs illuminate
- Press <1> or <2> for primary and secondary stream

To reset the Nova remote back to IR mode, here is the steps

- Press and hold <<SETUP>> and <<STB>> keys together until the STB and AUX LEDs illuminate
- Press <0>

# Volume key to STB

#### Description:

Provides means to support volume on the STB as by default the volume -/+ and MUTE are directed to TV.

Programming Sequence:

To direct the volume and MUTE keys to the STB:

- Press and hold <<SETUP>> key until the LED blinks twice
- 2. Press <</MUTE>>

The STB LED will blink 4 times at which time VOL +, VOL – and MUTE are sent to the STB.

# **Learning Function**

Description:

Learning capacity provides the opportunity to control devices not originally designed for the remote control creating increased support for multiple devices. The NOVA remote can receive and store codes transmitted by another device's remote control such that the other device will understand the button requests from the NOVA remote.

Notes:

- Only available in IR mode
- The Record key is excluded in the learning process

#### Programming Sequence:

- Press and hold <<SETUP>> key until the LED blinks twice
- Press <9>, <7>, <5>
- Press <<TV>> or <<AUX>> key [depends on the teaching remote ]
- Hold the teaching remote close to the IR LED
- To learn the following keys (MENU, VOL+, VOL-, INPUT...)
- Press <<MENU>> key
- Continuously press the MENU key on the teaching remote until LED blinks twice
- Repeat step #5 and #6 with VOL+, VOL-, INPUT and some other keys
- Press and hold <<Setup>> key until the LED blinks twice

# **Key Operational Features**

# Library Search: Step N Set (Bi-Directional)

#### Description:

Allows the user to search for a code from the library of codes bi-directionally.

Programming Sequence:

[Mode] → <<SETUP>> (2 blinks) → <9> (1 blink) → <9> (1 blink) → <1> (2 blinks or Blink Error) → [Test Functions] → <Channel Up or Channel Down> (1 blink) → <SETUP> (2 blinks or Blink Error)

LED User Feedback:

- One blink if valid mode key (same as Current Mode) is pressed.
- Three blinks upon completion of searching one complete revolution in either direction.
- Two blinks after last <SETUP> indicates programming success, return back to normal operation.
- The unit shall exit programming state and return to the last preprogrammed code if programming timeout has elapsed.
- Blink error after 991 if Dedicated Mode and ID Locked Mode.

#### Additional Information

- Library Search is not available for STB mode

-If no key is pressed before **Ch up/Ch down** then the default function is to be power.

-User can sample all Functions (0, 1, 2, 3, Power, Volume up, Play, Stop, Mute), the last function that was sampled before the Ch up/Ch down key was pressed will be the designated function to send for each Ch up/Ch down key press.

-After each Ch up/Ch down key press, the user can sample FUNCTIONS again to setup designated functions for Ch up/Ch down key presses.

-In the event that the device code for a particular target unit is unknown, the user shall be able to cycle the remote through the available codes for that device mode and sample functions from each code in order to find the code which properly operates the desired target device. The keys which are available to be sampled (also called FUNCTION here below), provided they are appliSTB to that mode are: 0, 1, 2, 3, Power, Volume Up, Play, Stop and Mute.

-The available FUNCTIONS within a code may be sampled as many times as desired until advancing to the next code by pressing the CH UP key or returning to the previous code by pressing the CH DOWN key. After sampling FUNCTIONS (0, 1, 2, 3, Power, Volume Up, Play, Stop and Mute), the user can continue the search with the previous (CH DOWN) or next (CH UP) code which will send the FUNCTION that was pressed originally after 991.

-The search functions initial "cold start" (when no code is programmed) begins with the most popular brand of equipment to the least popular for the TOP 25 ID's. The IR will illuminate each time a function is sent (when picked with IR). For the remaining ID's it goes sequentially. If the search function is activated after a code has been programmed in, the search cycle begins with the current programmed ID. Pressing either the CH UP or CH DOWN key, will increment or decrement to the next table entry and transmit the power (or other) FUNCTION associated with the currently selected table entry and wait for another

CH UP or CH DOWN key. The Mode LED will blink twice after successful completion of the programming sequence.

-The key function that will be sent out upon pressing <CH UP> or <CH DOWN> is dependent on the FUNCTION selected in the programming sequence above. Repeat pressing <CH UP> <CH UP> <CH UP> (to increment) or <CH DOWN> <CH DOWN> <CH DOWN> (to decrement) until the device responds. The scanning of manufacturer's codes will be circular and completes one revolution. The CH UP key will increment through the database and the CH DOWN key will decrement through the database.

-Scanning of the database will be circular, making one complete revolution in both directions. Once it reaches back to the original ID, it first transmits IR, the mode LED shall blink 3 times and will remain in the Step-N-Set mode.

-Pressing Setup listed at the end of the sequence will store the device code which was last sampled. The remote control exits library search mode with the current device code. The mode LED blinks twice in confirmation. The remote returns to normal operation.

-During the library search process, if 10 seconds has elapsed and no key presses are made the remote will exit library search. The remote control shall be defaulted to the previously programmed valid ID under one of the following conditions:

1. No code selected during the library search process. Any new scans will begin from the last valid stored manufacturer's code.

Note: The user should check before selecting one of the FUNCTION keys (0, 1, 2, 3, Power, Volume Up, Play, Stop and Mute) if the target device has such a key on the original remote control.

#### Example:

To search for a TV code using Volume Up as the function key, advancing forward in the database:

[TV] → <<SETUP>> (2 blinks) → <9> (1 blink) → <9> (1 blink) → <1> (2 blinks or Blink Error)→ [Volume Up]→ <Channel Up> (1 blink)→ <Channel Up> (2 blinks or Blink Error)

To search for a DVD code using Play as the function key, advancing in reverse:

[DVD] → <<SETUP>> (2 blinks) → <9> (1 blink) → <9> (1 blink) → <1> (2 blinks or Blink Error)→ [PLAY]→ <Channel Down> (1 blink)→ <Channel Down> <SETUP> (2 blinks or Blink Error)

**Quick Swap – STB only** 

#### Description:

This feature will allow the remote control to be predefined (default setting) or programmed by user Favorite ID code list for specific mode. Each mode can have its own Favorite ID code list. Quick Swap programing (using 985 sequence) is allowed all devices for storing STB IDs only.

Default Setting: STB default setting: C4437

Action Keys

Action Key	Brand	Default STB ID
A/Yellow	Entone	C4437
B/Blue	Amino	C1898
C/Red	ADB	C2254
D/Green	WNC	C3118

Programming Sequence:

a. Setup Favorite ID list of [Mode]

[Mode] (1 blink)  $\rightarrow <<$ SETUP>> (2 blinks)  $\rightarrow <$ 9> (1 blink)  $\rightarrow <$ 8> (1 blink)  $\rightarrow <$ 5> (2 blinks)

 $\rightarrow$  <A/Yellow> (1 blink)  $\rightarrow$  <ID Code> (2 blinks or Blink Error)

→ <B/Blue> (1 blink) → <ID Code> (2 blinks or Blink Error)

 $\rightarrow$  <C/Red> (1 blink)  $\rightarrow$  <ID Code> (2 blinks or Blink Error)

→ <D/Green> (1 blink) → <ID Code> (2 blinks or Blink Error)

 $\rightarrow$  <<<SETUP>> (2 blinks)

Note: if Blink Error occurs then the programming will exit immediately.

b. Clear Favorite ID list of [Mode] [Mode] (1 blink)  $\rightarrow <<$ SETUP>> (2 blinks)  $\rightarrow <$ 9> (1 blink)  $\rightarrow <$ 8> (1 blink)  $\rightarrow <$ 5> (2 blinks) $\rightarrow <$ 

LED User Feedback:

- One blink after valid key press
- Blink error, exit Quick Swap programming state if:
  - After invalid action keys.
  - Any key is pressed besides a digit keys during entering ID Code.
  - Invalid ID Code (after last digit) assigned into action key.
  - Memory in Data Retention is full after last <<SETUP>>
- The unit shall exit Quick Swap programming state and return to the last preprogrammed code if programming timeout has elapsed.

• Two blinks after successful entry of a valid ID and after last <<SETUP>> indicates programming success, return back to normal operation.

Additional Information

- If user clears the favorite ID list, it will return to the 4 default codes.

-If product is in RF mode, using Quick Swap will switch to IR mode (Switch to programed ID)

Invalid Action Keys	
	Power
	Mode Keys: TV, STB, DVD, AUX
	Setup

Example:

a. Setup Favorite ID list of SAT mode: [STB] (1 blink) $\rightarrow <<$ SETUP>>(2 blinks) $\rightarrow <9>$  (1 blink) $\rightarrow <8>$  (1 blink) $\rightarrow <5>$  (2 blinks)  $\rightarrow <A> \rightarrow <10000>$  (2 blinks, 10000 is a valid STB ID)  $\rightarrow <B> \rightarrow <10010>$  (2 blinks, 10010 is a valid STB ID)  $\rightarrow <C> \rightarrow <11376>$  (2 blinks, 11376 is a valid STB ID)  $\rightarrow <D> \rightarrow <11306>$  (2 blinks, 11306 is a valid STB ID)  $\rightarrow <$ SETUP>> (2 blinks)

b. Clear Favorite ID list of STB mode [STB](1blink)→<<SETUP>>(2blinks)→<9>(1blink)→<8>(1blink)→<5>(2blinks)→<<SETUP>>(2 blinks)

1) Quick Swap ID change – STB mode only

Description:

Allows user to change pre-programmed ID's. This feature is not affected by ID lock Status and is available for execution whether the ID is Locked or Un-Locked. Quick Swap ID Change is allowed only for Physical STB.

Action Keys

Action Key
A/Yellow
B/Blue
C/Red
D/Green

Programming Sequence: Pre-programmed ID 1 [Mode] (1 Blink)→ <<SETUP + A>> (2blinks)

Pre-programmed ID 2 [Mode] (1 blink)→ <<SETUP + B>> (2 blinks)

#### LED User Feedback:

- One blink if valid key is pressed
- Blink Error upon entry of an invalid key sequence and the remote control will return to normal operation.
- The unit shall exit programming state, remain in the current mode and return to normal operation if 10 seconds has elapsed between key presses.
- Two blinks after last <<SETUP>> indicates programming success, return back to normal operation.

Example:

To change pre-programmed STB ID's on the A, B and C keys. **[STB]** (1 blink)  $\rightarrow <<$ SETUP + A >>(2 blinks) **[STB]** (1 blink)  $\rightarrow <<$ SETUP + B>> (2 blinks) **[STB]** (1 blink)  $\rightarrow <<$ SETUP + C>> (2 blinks)

# Simple Set

#### Description:

Simple Set is a new style of brand set for quick setup without reference to a code list. Each of the supported device types will have a list of top 10 manufacturers (or broadcasters for the Set Top Box mode). Each manufacturer will be assigned to a digit key, for example for TV: Samsung on digit 1, Sony on Digit 2, Panasonic on Digit 3 etc. For each manufacturer, there will be up to 12 IDs for the device selected, which will be searched through to find the correct match. The IDs will also be sorted by popularity in descending order – i.e. most popular first. The list will be supplied by the UEI Cypress Database team as an appendix to the spec.

Simple set is not available for STB mode.

# Programming Sequence:

<<SETUP->>(LED or current physical mode LED will blink twice)  $\rightarrow$  <MODE KEY>(LED or current physical mode LED will switch on)  $\rightarrow$ <DIGIT KEY>(LED or current physical mode LED will switch off)  $\rightarrow$ send Power for ID 1) > (LED will turn ON for the duration of tx)  $\rightarrow$  (Send Power for ID 2) LED..) ...(Release Digit Key)

LED User Feedback:

- After pressing a MODE key, any key-press besides a digit key or a digit key not associated in the brand list will cause the unit to display one long blink and exit programming mode.
- The unit shall exit programming state if 10 seconds has elapsed between key presses, remain in the current mode and return to normal operation.
- Once the digit key is pressed LED will go OFF and will blink (ON-OFF) during every code transmitted.
- LED will switch ON once Device key is pressed and remains ON till the digit key press.
- 260ms transmission of power code will be transmitted. Delay between power code transmissions is 3sec. The LED will be OFF during this delay.
- Stuck key timeout is set to 30 sec and is appliSTB to Mode and SETUP keys only.
- During programming if any new key/two key press is found the programming will be aborted with long blink.
- LVW check will happen only during programming entry and while storing the code. If LVW is detected programming will be aborted with error condition.
- The unit will blink twice upon release of the digit key.
- Refer to Programming Sequence section above for more information.

Additional Information:

- Simple Set is not available for STB mode in this Product.
- ID lock on any of the modes will disable UEI SIMPLE SET for that mode. Programming will be aborted after MODE key press if ID lock is detected.
- As the top 10 brand list is hard-coded, it is not possible to upgrade IDs into the lists via 6 Pin.
- If the currently programmed ID is part of brand list, the search will be circular and will begin from (current ID+1) in the brand table, and will end at (current ID − 1). Otherwise the search will start from the first ID to the last ID of the brand table. Please refer the example below. Programming will be aborted once end of table is reached.
- The feature has to scan all the codes present in brand table except the currently programmed code set.
- Only power code will be transmitted during search. The search ID will be skipped if power code is not present in that particular ID
- For device mode where any device type can be programmed, the currently programmed device type will be searched.
- The current device mode of the remote will be changed to new device based on the MODE key press during programming (as per the Nebula Elements project)
- If there is any mode movement, the device mode which is moved will be searched.

See next page for tables

	Т٧	1	2	3	4	5	6	7	8	9	10	11	12
1	Insignia	T2049	T1641	T1326	T1564	T2184	T2002	T1892	T2416	T0171	T1517	T1660	
2	LG	T2731	T1423	T1859	T2358	T2424	T3397	T3941	T4017	T0178	T0017	T1265	T2612
3	Panasonic	T1480	T1291	T0250	T0650	T2264	T1636	T1927	T1924	T1947	T0051	T1941	T1271
4	Philips, Magnavox	T1867	T1454	T2372	T1744	T1455	T2374	T2597	T1866	T0690	T1944	T1365	
5	Samsung	T2051	T0812	T1632	T0702	T0766	T3993						
6	Sanyo	T1142	T1362	T0154	T3488	T0799	T3861						
7	Sharp	T2360	T0818	T2951	T3394	T1602	T2402	T3867	T0093				
8	Sony	T0810	T1300	T1685									
9	Toshiba	T1524	T1656	T2724	T0156	T1156	T1256	T3134	T2006	T1935	T1945	T2684	T1743
0	VIZIO	T1758	T3758	T2707	T2757	T3415	T2512	T1756	T0864	T0885			

#### DVD/Blu-ray

	Bib/Bia iay												
1	Insignia	Y2596	Y2095	Y2428	Y0675	Y0741	Y1013						
2	LG	Y0741	Y1602	Y2135	Y0869								
3	Panasonic	Y1641	Y3641	Y0490	Y1579	Y0703	Y0503						
4	Philips, Magnavox	Y2056	Y2434	Y0539	Y0646	Y2084	Y0675	Y1354	Y1506	Y3488	Y0503	Y1158	
5	Pioneer	Y2442	Y2854	Y1571	Y0142	Y0631							
6	RCA	Y0522	Y2213	Y2919	Y2587	Y1013	Y0717	Y2871	Y1769	Y3464	Y0790		
7	Samsung	Y0199	Y0573	Y2069	Y1075	Y1573	Y1470	Y2113	Y2269	Y2369	Y2329	Y2489	Y1044
8	Sharp	Y2250	Y0630	Y0675									
9	Sony	Y1516	Y1633	Y1033	Y1070	Y0864	Y0772						
0	Toshiba	Y3157	Y2705	Y0503	Y3857	Y2277	Y2006	Y1510	Y1769	Y1608	Y2364		

#### Audio

1	Bose	R1933	R3959	M3708	R1629							
2	Denon	R2857	R1360	R2516	R3347	R2820	M2502	R2279	A2706	A2134		

3	LG	R2197	M3217	R2676	M3996	R2284	R3285	R1293					
4	Onkyo	R1805	R1320	R2730	M3984	R2503	M3992	R0135	R1298				
5	Panasonic	R2967	R1633	M3409	R2452	R3055	R1275	R3309	M3323	R1288	R1763	R2745	R2105
6	Philips	R2459	R0189	R1831	M3962	M2675	R2289	M3282	M4012	R1266	R2311	R1189	A0892
7	Pioneer	R1935	R2432	R1023	M3956	R2612	R1123	R1384	A0823				
8	Samsung	R1868	M2660	R2137	R2809	M2609	R3154	R1500	R1304				
9	Sony	R1622	R1759	M2610	R0158	R2172	M3700	R1758	R1822	R2475	R1058	R2522	R2860
0	Yamaha	R2061	R2467	R3030	R0176	M2458	M2021	M3153	M3917	R1276	R0376	R3580	R1815

#### Example:

Ex: Brand Table DW 0001 DW 0002 DW 0003 DW 0004

Scenario 1: Programmed codeset 0005 Search → 0001-> 3sec →0002→ 3sec →0003→ 3sec →0004→3sec →End with long blink Scenario 2: Programmed codeset 0002 Search→ 0003→3sec →0004→ 3sec →0001→3sec→ End with long blink

# Code Lock/Unlock for TV and STB (982)

#### Modes:

- TV
- STB

#### Description:

Allows creator to lock a specific ID in a specific mode so that ID cannot be accidentally reprogrammed by user. This ID will be locked to the physical mode key.

Default Setting:

• ID locked to STB physical key

#### Programming Sequence:

After a valid code has been set, the code for a specific mode shall be locked and unlocked as follows:

# 

LED User Feedback:

- The unit shall blink 2 times upon being locked and blink 4 times when unlocked.
- One blink if valid key is pressed
- Blink Error upon entry of an invalid key sequence and return to normal operation.
- The unit shall exit programming state, remain in the current mode and return to normal operation if 10 seconds has elapsed between key presses.

Note:

Direct Code Setup and all types of code search will not be allowed when the code has been locked or Dedicated Mode. The QuickSwap feature overrides code lock.

Example: To lock the STB ID: [STB] →<<SETUP>> →<9> →<8> →<2> (2 blinks)

To unlock the STB ID: [STB] →<<SETUP>> →<9> →<8> →<2> (4 blinks)

# Simple Volume Lock

#### Description:

Alternative options for setting the volume lock and unlock status for available devices without requiring a 9-X-X sequence.

Programming Sequence:

Global Volume Lock: <<SETUP>>→LED will blink twice<VOLUME UP> →LED will blink once <Target Device (e.g. TV)> LED will flash 2 times

Device Specific Un-Lock: <<SETUP>>→ LED will blink twice <VOLUME DOWN>→ LED will blink once <Device to be Unlocked> LED will blink 4 times

# Global Volume Unlock: <<SETUP>>→ LED will blink twice <MUTE> LED will flash 4 times

#### LED User Feedback:

- Stuck key timeout is set to 30 sec if any key is held down.
- Blink Error upon entry of an invalid key sequence and return to normal operation.
- The unit shall exit programming state, remain in the current mode and return to normal operation if 10 seconds has elapsed between key presses.
- LVD check will happen only during programming entry and while storing the code. Programming will be aborted with error condition.
- Refer to Programming Sequence section above for more information.

#### Additional Information:

- Even though any new code set is programmed, the volume settings for that device will remain intact.
- If any other device mode is moved using Mode Mover feature, the PT will be in default condition. Volume Lock settings for that device remains unchanged.
- If data is not present for the PT key under destination mode, there will be no IR transmission.
- The current device mode of the remote will revert back to the mode before entering Simple Volume Lock.

Examples:

#### <u>Global Volume Lock:</u> <<SETUP>>→ <VOLUME UP> →<TV>

#### Device Specific Un-Lock: <<SETUP>>→ <VOLUME DOWN >→ <AUX>

Global Volume Unlock: <<SETUP →<MUTE>

# **Global Channel Lock**

#### Description:

Allows user to lock channel control to specific device modes. Keys affected: Channel Up/Down, Digits 0-9, Dot\Delimiter\Dash, and Previous Channel. Channel Control will reset back to default by either 981 or 977 sequence.

#### Programming Sequence

To lock channel control to STB mode (TV channel control disabled):

#### <<SETUP>>→<9>→<7>→<3>→<Channel Up>→<Source>

LED User Feedback:

- The unit shall blink 2 times upon being locked.
- One blink if valid key is pressed
- Blink Error upon entry of an invalid key sequence and return to normal operation.
- The unit shall exit programming state, remain in the current mode and return to normal operation if 10 seconds has elapsed between key presses.

#### Additional Information:

- Modes affected and default setting will vary according to the customer's requirements.
- Returns to default by 980 reset

#### Example: <<SETUP>>→<9>→<7>→<3>→<Channel Up>

# **Global Channel Unlock**

<u>Description:</u> To unlock channel control

<u>Programming Sequence:</u> <<SETUP>>→<9>→<7>→<3>→<Channel Down>

#### LED User Feedback:

- The unit shall blink 4 times upon being unlocked.
- One blink if valid key is pressed

- Blink Error upon entry of an invalid key sequence and return to normal operation.
- The unit shall exit programming state, remain in the current mode and return to normal operation if 10 seconds has elapsed between key presses.

Additional Information:

• Modes affected and default setting will vary according to the customer's requirements.

# Simple Input Lock

Description:

This is a simplified way to lock Input to a specific mode. This feature will affect the input key.

Default Setting: Input Locked to TV.

Programming Sequence:

To Lock:

<<SETUP>> LED will blink twice →<INPUT> LED will blink once→<TARGET DEVICE> LED will blink 2 times

# To UnLock <<SETUP>> LED will blink twice →<INPUT> LED will blink once → <EXIT> LED will flash 4 times

LED User Feedback:

- One blink when a valid key is pressed.
- Two blinks after <Target Device> is pressed denoting Input Lock is successfully activated.
- Four blinks after <Exit> is pressed denoting Input Lock is successfully de-activated.
- Blink Error upon entry of an invalid key sequence and return to normal operation.

#### Additional Information:

- If any new codeset is programmed, the Input key settings for that device will remain intact.
- Stuck key timeout is set to 30 sec if any key is held down.
- The unit shall exit programming state if 10 seconds has elapsed between key presses.
- If data is not present for the PT key under destination mode, there will be no IR transmission.
- LVD check will happen only during programming entry and while storing the code. Programming will be aborted with error condition when LVW is detected.

Example:

Locking Input to TV mode:

<<SETUP>> LED will blink twice  $\rightarrow$ <INPUT> LED will blink once $\rightarrow$ <TV> LED will blink 2 times

To Unlock:

<<SETUP>> LED will blink twice  $\rightarrow$ <INPUT> LED will blink once  $\rightarrow$  <EXIT> LED will flash 4 times

# **General IR Key Punch Through (978)**

Description:

This feature is to allow the operator/programmer to configure the punch through of general IR keys assigned in one dedicated mode into any and all other modes.

Programming Sequence:

<<Setup  $>> \rightarrow <9> \rightarrow <7> \rightarrow <8>$  (LED or current physical mode LED will blink twice)  $\rightarrow$ <Source Mode/Key>  $\rightarrow <$ IR Key>  $\rightarrow <$ IR Key>  $\rightarrow .... <$ Destination Mode/Key>  $\rightarrow$ <Destination Mode/Key>  $\rightarrow .... <<$ Setup>> (LED or current physical mode LED will blink twice)

Now, when the destination modes are selected during programming, the selected IR keys will punch through to the selected source mode.

Notes:

Source mode/key refers to initial key that user will choose to send IR data to destination mode/key, i.e. STB key.

Destination mode/key refers to key chosen to receive source key IR data, i.e. TV key

#### To clear:

<<Setup  $>> \rightarrow <$ 9 $> \rightarrow <$ 7 $> \rightarrow <$ 8 $> (LED or current physical mode LED will blink twice) <math>\rightarrow$ <<Setup >> (LED or current physical mode LED will blink four times)

#### LED User feedback:

- One blink if valid mode key is pressed.
- Blink Error upon entry of an invalid key sequence and return to normal operation.
- The unit shall exit programming state, remain in the current mode and return to normal operation if 10 seconds has elapsed between key presses.

#### Additional Information:

- General IR key punch through will send the original assigned IR data of the source mode the keys selected to the destination mode/key.
- If General IR punch though is setup a second time, it will override the first one.
- The remote control will remain in the current mode upon exit

<u>Example:</u> To punch STB CH+ and CH- to TV and AUX modes: <<Setup >>  $\rightarrow$  <9>  $\rightarrow$  <7>  $\rightarrow$  <8> $\rightarrow$  <STB> $\rightarrow$  <CH+> $\rightarrow$  <CH->  $\rightarrow$ <TV>  $\rightarrow$ <AUX> $\rightarrow$ <<Setup>>

To clear: <<**Setup** >> → <**9**> → <**7**> → <**8**>→ <<**Setup** >>

# Mode Independent Single Level Macro (995)

Description:

This feature allows a sequence of commands (called a Macro sequence) to be programmed onto a designated macro key (called <Macro Key>).

- <Macro Key> must be defined in the product specification.
- <Macro Key> can be a primary key only
- Mode Independent single level macro has one command sequence programmed by the user with up to 15 keystrokes in the sequence.

To program a command sequence onto a macro key, one command at a time: <<SETUP>>  $\rightarrow <$ 9>  $\rightarrow <$ 9>  $\rightarrow <$ 5>  $\rightarrow <$ Macro Key>  $\rightarrow <$ Macro Sequence>  $\rightarrow <<$ SETUP>>

To clear macro set up on a specific key : <<SETUP>> → <9> → <9> → <5> → <Macro Key> → <<SETUP>>

The mode independent macro feature is not mode specific. The macro will end in the last mode specified in the macro sequence. All keys except setup, power, TV, STB, AUX, and DVD key are available for a macro to be programmed on.

- Upon entry of an invalid key sequence, the remote control shall display one long blink and return to normal operation.
- The unit shall exit programming state and return to normal operation if 10 seconds has elapsed between key presses.

LED User Feedback:

- The remote shall exit programming state (without blinking) and return to normal operation if programming timeout has elapsed between key presses.
- One Blink after each valid key press.
- Two Blinks
  - After 1<sup>st</sup> <SETUP>>
  - After <995>
  - After last <<SETUP> and exit programming mode if success.
- Blink Error and exit programming mode if:
  - Invalid key is pressed.

- Length of <Macro Sequence> is over the limit (15 keys).
- Failure to store into Data Retention Area due to memory full or Low Voltage.

#### Macro Playback Operation:

- If a "mode key" is a part of macro sequence, the remote will switch to that mode and all subsequent keys will be in this mode thereafter. The mode can be switched back and forth within macro sequence.
- After the macro sequence completes, the remote remains in the mode last selected by the macro sequence and all shifted states and synthesizer will be cleared.
- Nesting macro is not allowed during macro playback.
- Delay between two keys.
  - 300ms approximately for regular keys.
  - 800ms approximately for Power key.
- Key interrupt will be disabled during macro sequence playback.
- Each IR function of the macro sequence will be transmitted for 260ms (minimum) for most protocols except product specific protocols (e.g. one shot).
- Stuck key timeout will not be applied during macro sequence playback.

# Simple Power Macro

Description:

This feature is a simplified way to allow a sequence of commands (called a Macro sequence) to be programmed onto a Power key. Length of <Macro Sequence> is 4.

Programming Sequence:

<<SETUP>> LED will blink twice → <POWER > LED will blink once → <DEVICE 1> LED will blink once → <DEVICE 2> LED will blink once ... <<SETUP>> LED will blink twice

To delete macro from power key:

<<SETUP>> LED will blink twice → <POWER> LED will blink once → <<SETUP>> LED will blink two times

LED User Feedback:

• The unit shall exit programming state, remain in the current mode and return to normal operation if 10 seconds has elapsed between key presses.

#### Macro Playback Operation:

- To execute Power Macro sequence, user must press and hold Power key for 1.5s.
- Each mode key in macro sequence will be treated as a pair of keys (Mode key & Power key) except mode which is the same mode.
- If a "mode key" is a part of macro sequence, the remote will switch to that mode and all subsequent keys will be in this mode thereafter. The mode can be switched back and forth within macro sequence.

- After the macro sequence completes, the remote reverts back to the mode where before macro sequence start and all shifted state and synthesize will be cleared.
- Nesting macro is not allowed during macro playback.
- Only device key are a valid macro sequence during Power Macro Programing. If same device key s pressed again during Power Macro programing sequence, the 2<sup>nd</sup> time key press will be ignored.
- Delay between two keys.
  - o 300ms approximately for regular keys.
  - 800ms approximately for Power key.
- Key interrupt will be disabled during macro sequence playback.
- Each IR function of the macro sequence will be transmitted for 260ms (minimum) for most protocols except product specific protocols (e.g. one shot).
- Stuck key timeout will not be applied during macro sequence playback.

#### Example:

To program a macro that will power the TV, then DVD, then STB: <<<SETUP>>→<POWER >→ <TV>→<DVD> →<STB>→<<SETUP>>

To delete the macro: <<SETUP>>→ <POWER → <<SETUP>>

# Learning

#### Description:

Learning capacity provides the opportunity to control devices not originally designed for the remote control creating increased support for multiple devices. The NOVA remote can receive and store codes transmitted by another device's remote control such that the other device will understand the button requests from the NOVA remote.

#### Programming Sequence and Notes:

To optimize success, the learning process should be conducted in an area where there is a low level of IR emission. High levels of "natural light" or energy efficient fluorescent lights could interfere with a learning event. The source and target (learner) remotes should be no more than 1 to 2 inches apart during a learning event and the IR LED of the two units should be aligned with each other. The learning operation is initiated as follows:

- 1.  $\langle \langle \text{SETUP} \rangle \rightarrow \langle 9 \rangle \rightarrow \langle 7 \rangle \rightarrow \langle 5 \rangle$  initiates learning mode. (Double blink confirmation)
- 2. Press <mode> → <key to be learned> (appliSTB timeout & backlight, if appliSTB, must be OFF)
- 3. Visible LED flashes rapidly (time out and revert to step 2 if no received signal detected in 5 sec)
- 4. Hold teaching remote close to IR LED and press key to be taught.
- 5. Visible LED goes out. Continue to press teaching key until double blink from visible LED.
- 6. Repeat steps 2 through 5 as often as desired (up to limit of memory)

7. Exit learning mode by pressing <<SETUP>>, or by time out.

At step 5, one long blink indicates learning failure, which could be:

Bad capture (try again) Memory full (delete some other function) Unlearn-able code

At step 1, one long blink indicates low battery or faulty Flash Partition (i.e. the unit will not go into learn mode if either of these conditions exist).

Additional Information:

Target key types for learning:

- Data is stored on Primary Key.
- Learned keys are mode specific.
- Can learn onto any primary or dedicated key. Cannot learn onto programming or device key types. (can't program on Setup, TV mode, STB mode, DVD mode, and AUX mode keys)
- Learned keys can be used in macros, etc., like any other key.
- If the remote is in RF mode, there won't be learning on any keys is STB mode.

#### Learning capacity:

Approximately 16 to 25 keys, depending on code being learned and the FDRA or  $E^2$  size. Learning operation:

To optimize success, the learning process should be conducted in an area where there is a low level of IR emission. High levels of "nature light" or energy efficient fluorescent lights could interfere with a learning event. The source and target (learner) remotes should be no more that 1 to 2 inches apart during a learning event and the IR LED's of the two units should be aligned with each other.

# Limitations on learning:

- There are certain device codes which are not learnable. These include multi-frequency codes (e.g. Telefunken), some high frequency codes, and other unusual formats.
- The learner will support IR codes with carrier frequency up to 135 Khz. Some higher frequency codes can be supported by a special software feature.
- The unit can learn only one code per key. It can't be taught a sequence of several keystrokes on one key. In order to perform a sequence, learn each function onto its own key and then program a macro to use them.
- The maximum code gap is 131,070 micro seconds.
- The placement of the IR LED in the source or target unit may make it difficult to correctly align these units. In some cases it may require the user to re-learn a code if it is not correctly learned.
- Source units which include a lens may require the user to re-learn a code if not correctly learned. When proper alignment is established, the target remote will correctly learn the source data.
- In general, it is not recommended to learn a function to the Record Key.

- Upon entry of an invalid key sequence, the remote control shall display one long blink and return to normal operation.
- The unit shall exit programming state and return to normal operation if 10 seconds has elapsed between key presses.

#### Example:

To learn the TV input function to the input key. <<SETUP>> → <9>→ <7>→ <5>→ <TV>→ <INPUT>→ <<SETUP>>

# **Deleting a learned code (976)**

Description: To delete a learned code.

Programming Sequence:

- 1. <<SETUP>>  $\rightarrow$  <9>  $\rightarrow$  <7>  $\rightarrow$  <6>  $\rightarrow$  initiates delete learning mode.(Double blink confirmation)
- 2. Press **<mode>**  $\rightarrow$  **<key to be deleted>**  $\rightarrow$  **<key to be deleted>** (2 blinks)

#### LED User Feedback:

- One blink if valid key is pressed
- Blink Error upon entry of an invalid key sequence and return to normal operation.
- The unit shall exit programming state, remain in the current mode and return to normal operation if 10 seconds has elapsed between key presses.

#### Additional Information:

• Sending a key's original (preprogrammed) function:

If a function is learned onto a key, then  $\langle SETUP \rangle \rightarrow \langle key \rangle$  will send the key's original function (as long as nothing else has been learned or key moved onto the "shifted" key as well.)

Use of learned keys in macros:

- There are no particular restrictions on use of learned keys in macro sequences. However, functions which are unusually long (e.g. "record" on some Zenith VCRs) may not work because the learner is limited in the number of repeats it sends.
- If a learned function used in a macro is subsequently deleted, the macro will revert to sending the key's original function.

#### Example:

To delete the learned function on the input key <<SETUP>>  $\rightarrow$  <9>  $\rightarrow$  <7>  $\rightarrow$  <6>  $\rightarrow$  <TV > $\rightarrow$ <INPUT> $\rightarrow$ <INPUT>

# **Deleting All Learned Codes within a Given Mode**

<u>Description:</u> Deleting all learned functions within a given mode.

<u>Programming Sequence:</u> <<Setup>>→ <9>→<7>→<6>→<Mode>→<Mode> (2 blinks)

LED User Feedback:

- One blink if valid key is pressed
- Blink Error upon entry of an invalid key sequence and return to normal operation.
- The unit shall exit programming state, remain in the current mode and return to normal operation if 10 seconds has elapsed between key presses.

<u>Example:</u> To delete all learned functions under the TV mode:  $\langle SETUP \rangle \rightarrow \langle 9 \rangle \rightarrow \langle 7 \rangle \rightarrow \langle 6 \rangle \rightarrow \langle TV \rangle \rightarrow \langle TV \rangle$ 

# Low Voltage

Description:

When batteries are below warning level, the unit will blink 5 times after all keys are released. The remote will stop operating when the batteries need replacement. Once the batteries in the remote are replaced with good condition batteries the remote shall return to normal operation. The permanent memory retention ensures that your settings are stored permanently even during battery replacement.

#### Warning Levels:

IR and RF LVD: 2.2 ±100mV (2.1<2.2<2.3V).

NOTE: The Remote allows a key interrupt (Stop 5 blinks) and processes a new key press during 5 blinks of Low Voltage

Low battery voltage detector is set at a nominal voltage based upon the design of the selected IC with a tolerance of 100mV after a diode drop, on the main board.

#### **Normal Mode:**

In normal mode, the voltage level is checked at each key-up event. If low voltage is seen, the unit enters the Voltage Warning Mode.

# Voltage Warning Mode:

On entering the Voltage Warning Mode, the remote programming function is disabled. User shall be able to press any key to interrupt the 5 times flashing during low voltage warning and allow the remote to transmit the IR command.

• If the batteries are replaced and the voltage is above the low voltage threshold, the remote will return to Normal-mode and the warning counter is reset to zero.

- If after the batteries were removed and the remote was completely discharged (either by pressing any key, or after the holding charged capacitor has completely been discharged over time), a replacement of either new or old or the same batteries, the remote will enter a cold power on reset. The remote will then return to normal operation mode afterward.
- During the Voltage Warning Mode, software will NOT allow writing to the E<sup>2</sup> or FDRA. The indication of programming failure will be a long blink and then 5 blinks after release of the key.
- If entering programming mode at Low Voltage Warning level, the unit will blink error and exit programming state.
- If Low Voltage occurs during Programming Mode the unit will blink 5 times and exit Programming Mode.
- When a key is pressed and the software detects a low voltage condition the following occurs:
  - 1.) IR is transmitted
  - 2.) LED Blinks five times
  - 3.) All programming operations are disabled

# LED User Feedback during Voltage Warning Mode (V<sub>dd</sub> < V<sub>LVW</sub>):

- At POR with valid Data Retention, 2 blinks, ~500ms delay, 5 blinks (without key interrupt).
- At POR with invalid Data Retention, continues to blink 5 times with ~500ms delay between each set of 5 blinks.
- At normal operation, blink 5 times after all keys released. User shall be able to press any key to interrupt 5 blinks and process a new key press. The remote will blink error if attempting to enter programming at Voltage Warning Mode.
- If low voltage warning occurs while in programming mode, the remote will blink 5 times & return back to normal operation after all keys release.

# **Code Verification (990)**

# Description:

Blink Back is used to get feedback via LED on the device code selected, primarily when the user has programmed their device to the remote via "Library Search". The user counts the number of LED blinks to determine the device code.

Programming Sequence:

 $<\!\!\text{Mode} > \rightarrow - <\!\!\text{Setup} >\!\!\rightarrow - <\!\!9 > \rightarrow <\!\!9 > \rightarrow <\!\!0 > \rightarrow <\!\!1 > (\text{count blinks}) \rightarrow <\!\!2 > (\text{count blinks}) \rightarrow <\!\!3 > (\text{count blinks}) \rightarrow <\!\!4 > (\text{count blinks}) \rightarrow <\!\!5 > (\text{count blinks}).$ 

The number of blinks after pressing each 1, 2, 3, 4 and 5 keys is the 5 digit ID code set up for that mode. There is a ~500ms second delay between each blink and after each key press. Upon entry of an invalid key sequence, the remote control shall display one long blink and return to normal operation.

#### LED User feedback:

- Blink Error if digits 1 5 are not pressed in numerical order, any other keys or key sequence are pressed, the sequence will be invalid and the remote control shall return to normal operation
- The unit shall exit programming state and return to normal operation if 10 seconds has elapsed between key presses.

#### Example:

To verify the TV code is 01345: <TV> → <<Setup>> → <9> → <9> → <0> <1> - 0 blinks <2> - 1 blinks <3> - 3 blinks <4> - 4 blinks <5> - 5 blink

# Software Blink Back (983)

Also known as: FLASH Software Serial Code Verification

#### Description:

This is used to get feedback on the software serial code programmed into the FLASH. The number of blinks after pressing each 1, 2, 3, 4 and 5 keys is the 5-digit software version code. There is an approximate of 500ms delay between each blink and after each key press.

#### Programming Sequence:

# <<Setup>> $\rightarrow$ <9> $\rightarrow$ <8> $\rightarrow$ <3> (LED will blink twice) $\rightarrow$ <1> (count blinks) $\rightarrow$ <2> (count blinks) $\rightarrow$ <3> (count blinks) $\rightarrow$ <4> (count blinks) $\rightarrow$ <5> (count blink).

LED User Feedback:

- If Digits 1-5 are pressed out of order, the LED shall error blink; the unit shall exit the setup mode and return to the previous code.
- One blink if valid key is pressed
- Blink Error upon entry of an invalid key sequence and return to normal operation.
- The unit shall exit programming state, remain in the current mode and return to normal operation if 10 seconds has elapsed between key presses.
- There shall be an approximate of 500ms delay between each blink and after each key press.

#### Example:

To verify the software serial code programmed into the flash is 3544-X1:

<<Setup>>→<9>→<8>→<3>

<1>→3 blinks <2>→5 blinks <3>→4 blinks <4>→4 blinks <5>→1 blink for X1 release

# **Reset Operations (980, 981, 977)**

2) Operational Features Reset (980)

Description:

Resets all features not related to ID setup back to default settings or back to SIO retention (if existed)

#### Features reset:

Macro, Learned function, Volume Lock, Channel Lock, General IR Punch Through, Favorite ID Table (Quick Swap).

#### Features not reset:

ID Code Setup, ID Lock and SIO Retention, Upgraded codes and Anti-Piracy.

Programming Sequence:

#### $<<\!\!\text{SETUP} \rightarrow \rightarrow <\!\!9 \!\!> \rightarrow <\!\!8 \!\!> \rightarrow <\!\!0 \!\!>$

LED User Feedback:

- The LED shall respond as outlined in this document: section 3.6 Visible LED for User Feedback.
- Blink Error upon entry of an invalid key sequence and return to normal operation.
- The unit shall exit programming state, remain in the current mode and return to normal operation if 10 seconds has elapsed between key presses.
- 3) Manufacturing Reset (981)

Description:

Clears all **SETUP** features including those related to ID code **SETUP**.

The remote resets to the default Id and clears all E<sub>2</sub> or FDRA Prom data including all upgrade codes and SIO retention.

 $\frac{\text{Programming Sequence:}}{<<\text{SETUP>>} \rightarrow <9> \rightarrow <8> \rightarrow <1>}$ 

LED User Feedback:

- The LED shall respond as outlined in this document: section 3.6 Visible LED for User Feedback.
- Blink Error upon entry of an invalid key sequence and return to normal operation.
- The unit shall exit programming state, remain in the current mode and return to normal operation if 10 seconds has elapsed between key presses.
- 4) Basic User Reset (977)

Description:

Resets all setup features back to default setting or back to SIO Retention (if existed).

**Features reset:** 

Current Mode, ID Code Setup, ID Lock and all features reset by Operation reset.

#### Features not reset:

Upgrade Code, Anti-Piracy.

<u>Programming Sequence:</u> <<SETUP>> →<9> →<7> →<7>

LED User Feedback:

- The LED shall respond as outlined in this document: section 3.6 Visible LED for User Feedback.
- Blink Error upon entry of an invalid key sequence and return to normal operation.
- The unit shall exit programming state, remain in the current mode and return to normal operation if 10 seconds has elapsed between key presses.

# **SIO Registration / Retention**

Description:

SIO LOADFILE REGISTRATION allows creator assign a 4 digit code to each unique product SIO to track created SIO files, and is used in conjunction with SIO LOADFILE BLINKOUT. The SIO creator will download the appropriate codes, make the appropriate customizations and assign the appropriate SIO number to the remote.

#### Programming Sequence:

 $\overrightarrow{<\text{Setup}>> \rightarrow <9> \rightarrow <6> \rightarrow <8> (2 \text{ blinks}) \rightarrow <\text{Digit}> \rightarrow <\text{Digit}> \rightarrow <\text{Digit}> \rightarrow <\text{Digit}> (2 \text{ blinks})$ 

Digits will equal the digits of the 4-digit SIO file assigned. SIO creator would then blink back SIO to ensure it matches his/her file

# Additional Information:

- User settings are stored in segment of FDRA for life of remote or until user implements 981 sequence. Consequently, the FDRA can now be "read" and stored as a ".bin" file via UEI software, UEI Loader Board (4433-KIT) or EZ-Updater.
- Following this sequence, if the operator/programmer attempts to override the FDRA settings via the same sequence, it will be considered invalid.
- User cannot program 968 sequence again unless 981 sequence is executed.

LED User Feedback:

- Once 968 programming sequence is executed, user cannot program the sequence again. If attempted the remote will issue an error blink after <8> and return to normal operation.
- One blink if valid key is pressed
- Blink Error upon entry of an invalid key sequence and return to normal operation.
- The unit shall exit programming state, remain in the current mode and return to normal operation if 10 seconds has elapsed between key presses.

Example: Programming SIO registration 1234:

# $<<\!\!\mathrm{Setup}\!\!>\!\!\rightarrow<\!\!9\!\!>\!\!\rightarrow<\!\!6\!\!>\!\!\rightarrow<\!\!8\!\!>\!\!\rightarrow<\!\!1\!\!>\!\!\rightarrow<\!\!2\!\!>\!\!\rightarrow<\!\!3\!\!>\!\!\rightarrow<\!\!4\!\!>$

# SIO Blink Out

Description:

Allows SIO creator to "blink back" the assigned 4 digit SIO, created via SIO LOADFILE REGISTRATION.

Programming Sequence:

<<Setup>> $\rightarrow$ <9> $\rightarrow$ <8> $\rightarrow$ <9> (2 blinks)  $\rightarrow$ <Digit 1>(count blinks)  $\rightarrow$ <Digit 2> (count blinks)  $\rightarrow$ <Digit 3> (count blinks)  $\rightarrow$ <Digit 4>(count blinks).

Additional Information:

• If 968 is not programmed into a unit, the 989 blink back will be 0000 (no blinks), indicating that a SIO number has not been programmed (but doesn't mean a SIO file has not been created).

LED User Feedback:

- Error blink will be indicated when bad FDRA or no FDRA is installed while the SIO registration sequence 968 or recall sequence 989 is programmed.
- One blink if valid key is pressed
- Blink Error upon entry of an invalid key sequence and return to normal operation.
- The unit shall exit programming state, remain in the current mode and return to normal operation if 10 seconds has elapsed between key presses.
- There shall be an approximate of 500ms delay between each blink and after each key press.

Example:

To verify 1234 is the SIO version: <<Setup>>→<9>→<8>→<9> (2 blinks) →<Digit 1>(1 blink) →<Digit 2> (2 blinks) →<Digit 3> (3 blinks) →<Digit 4>(4 blinks).

# Mode LED

Mode LED option allows the customer to have separate LED indicators for each Mode Key. This is useful to show the user what Mode they are in when pressing a key. With each key press, the appropriate Mode Light will blink, indicating for which Mode IR is currently active. While in programming mode, the mode LED of the current mode will blink.

# **RF Support**

#### Description:

The Nova Remote is designed to support Broadcom based STB's and limited support for Sigma STB's. For Broadcom versions, the RC will support both IR and RF; however, for Sigma based Hydra and Amulet-D series, the remote will only work in IR mode. RF requirements for Sigma-based STBs should continue to use the Entone URC.

# **Remote Registration**

# Description:

Nova remote supports both IR and RF and registration allows user to set for IR or RF. By default the remote is in IR mode.

# **Programming Sequence:**

To register the remote to the STB and use RF:

- On the Janus 300 or Amulet 550, press and hold the ""OK"" button on the front panel 5 seconds until the touch panel backlight is flashing
- Press and hold <<SETUP>> and <<STB>> keys together until the STB and AUX LEDs illuminate
- Press <1> or <2> for primary and secondary stream

To reset the Nova remote back to IR mode, here is the steps

- Press and hold <<SETUP>> and <<STB>> keys together until the STB and AUX LEDs illuminate
- Press <0>

**Device Codes** 

AUDIO - AMPLI		LG	33217, 33996	Carver	30189, 30121,
Denon	32706, 32134	Martin Logan	33526	0.1	31189
Durabrand	31568	Onkyo	33984, 33992	Coby	31389, 32748,
Halcro	31934	Panasonic Dhiling	33323, 33409	Curtis	33218
Harman/Kardon Left Coast	30892, 33045 30892	Philips	33962, 32675,	Denon	31389
Marantz		Dinnaala	33282, 34012	Denon	32857, 31360,
Maraniz	32138, 30892, 31892	Pinnacle Speakers	33774, 33728		32516, 33347, 32820, 32279
Memorex	31568	Pioneer	33956	Dynex	32820, 32279 32971
Optimus	30823	Polk Audio	33429	Epworth	30121, 31641,
Parasound	31934	Proficient	33661	Ерионн	30121, 31041, 30158, 30189
Philips	30892	RCA	33969	Gateway	31517
Pioneer	30823	Samsung	32660, 32609	GE	33297
Polk Audio	30892	Sharp	33736, 33097	General Electric	33297
RCA	30823	Sonos	33919	Harman/Kardon	32241, 31304,
Regent	31568	Sony	33700, 32610	Tarman/Naru011	32443, 33418,
Sony	33903	SpeakerCraft	33661		30189, 32670
AUDIO - ACCES		Toshiba	33627	Insignia	32175, 31030,
Apple	31115	VIZIO	32454	moighta	32169, 32472,
AudioSource	33721	Yamaha	32458, 32021,		32929, 32966,
B & W	33943	ranana	33153, 33917		33210, 31077
Bose	33708	ZVOX	32332, 33913,	Integra	31805, 32730,
Boston	33698	210/1	32334	integra	31320, 32503,
Acoustics		AUDIO -	02001		30135, 31298
Bowers &	33943	RECEIVER		JBL	32241
Wilkins		Aiwa	30121, 31641,	Jensen	31389
Curtis	33942		30158, 30189	JVC	31676, 32040,
Definitive	33645	Alco	31390		31374, 32331,
Technology		AMC	31077		32239, 31871,
Denon	32502	Anthem	33294		33115, 33274
Dynavox	33231	Anthem	33294	Kenwood	31570, 31313,
Haier	335 <b>1</b> 6	Statement			30186, 31293
Harman/Kardon	33517	Arcam	31189, 30189	KLH	31390
iLive	33175	Audiotronic	31189	LG	32197, 32676,
Insignia	33951	Audiovox	31390		32284, 33285,
JBL	33756, 33535	Bose	31933, 31629,		31293
JVC	33049		33959	Linn	30189
Klipsch	33915				

McIntosh31289Wards30158, 3018904070, 02414,Micromega31189Yamaha32061, 32467,00876, 03485,Myryad3118933030, 30176,04028, 04030Nakamichi3131331276, 30376,Blue Sky02153, 03997,Norcent3138933580, 31815,Bradford00180	Marantz	31289, 32114,		· · · · · · · · · · · · · · · · · · ·		
30189, 31189Vtrek32426BGH04029, 00898,McIntosh31289Wards30158, 3018904070, 02414,Micromega31189Yamaha32061, 32467,00876, 03485,Myryad3118933030, 30176,04028, 04030Nakamichi3131331276, 30376,Blue Sky02153, 03997,Norcent3138933580, 31815,Bradford00180	Marantz		Venturer	0.1000		
McIntosh31289Wards30158, 3018904070, 02414,Micromega31189Yamaha32061, 32467,00876, 03485,Myryad3118933030, 30176,04028, 04030Nakamichi3131331276, 30376,Blue Sky02153, 03997,Norcent3138933580, 31815,Bradford00180			Venturer			
Micromega31189Yamaha32061, 32467,00876, 03485,Myryad3118933030, 30176,04028, 04030Nakamichi3131331276, 30376,Blue Sky02153, 03997Norcent3138933580, 31815,Bradford00180		30189, 31189		32426	BGH	04029, 00898,
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Norcent 31389 33580, 31815, Bradford 00180	Myryad	31189		33030, 30176,		04028, 04030
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,	Nova	31389		31376, 30186	Britânia	02414
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31288, 31633, Admiral 04030, 03485, Champion 01362			Admiral			
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31308, 31676 Affinity 03717, 03716, Clarion 00180			Affinity			
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	Philips				Coby	03478, 03627,
			Akai			02315, 02344,
						02306, 02314,
						02345, 01634,
	Pioneer					02338, 02326,
						02340, 03629,
						01538, 02347,
Polk Audio         31289, 30189         America Action         00180         02348, 03202						· · · · · · · · · · · · · · · · · · ·
Proscan 31254 Anam 00180 Commercial 01447						01447
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Samsung 31868, 32809, 03707, 04101, Electric	Samsung					00044
33154, 32137, 04169, 04173 Coradir 02844			A			
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Sansui         30189         Apex Digital         00765, 02397,         Crown         00180, 00672           Shame         20480         002740, 04947         000270, 00080         000270, 00080			Apex Digital			
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	Snerwood		A mile		Curtis	03577, 02855,
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	Chamusad					02352, 03895,
		32169				02397, 03939,
		24600 24750	Alvio			01326, 03636,
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			Audiovox		Curtia Mathaa	
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Stereophonics         Store         Otop           Sunfire         31313         00623         Cytron         01326						
			Auria		•	01661, 00623,
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Daytek Dell	02241 01403, 01863,		01447, 01347, 00051, 00178,		01892, 01517, 00171, 00463,
Denen	01264	Osmanal	00765		01385, 01660,
Denon	00145	General	00451, 01547,		01963, 02184,
Digital	01765	Electric	01447, 01347,		02416, 02751, 03227
Lifestyles Disney	01892, 01665		00051, 00178, 00765	Integ	00017
Dukane	01398	GFM	00171, 01665,	iRIS	02189
Dumont	00017		01963, 01886,	IRT	00451, 01661
Durabrand	00463, 00171,		01864, 01865	iSymphony	03429, 03382,
Durabrana	01570, 01665,	Gibralter	00017	loymphony	03118, 03094,
	00178, 00180	GoldStar	00178		03863
Dynex	02049, 01463,	GPX	03980, 03977,	JC Penney	01347, 00051,
	02184		03196		00178, 00156
Electrograph	01755, 01623	Gradiente	01369, 01029	JCM	02189, 02256
Electrohome	00463, 01570,	Grundig	00672	Jensen	01326, 03204,
	01670	Grunpy	00180		00761
Electron	02466, 02855	Haier	01749, 02309,	JVC	01774, 01601,
Elektra	00017, 01661		01748, 03382,		02321, 02271,
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Elite	03867		01570, 03204		04070, 02264,
Emerson	01864, 01394,	Hallmark	00178		00650, 01892
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	00180, 01913,	Harvard	00180	KEC	00180
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Emprex	01765	Himitsu	04179, 00180	KTV	00180
Encross	00876	Hisense	03519, 02183,	Legend	02397, 02309
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	02621		03382, 04029		01859, 02358,
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Epworth	01362		00145, 01145,		03397, 04017,
EQD	02014, 02087,		01345, 03639,		02424, 01265,
	02277		02433, 03697,		03979, 01753,
EQD Auria	02014, 02087,		00679, 02215,		02612, 00017
	02277		02981	LodgingStar	03147
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Fair Mate	01326	Hiteker	03118	MAC	01347
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Funai	01864, 00171,		01286, 01394		01454, 01913,
runu	00180, 01271,	Imperial	04183		01944, 01963,
	01394, 01963	Initial	01990		01455, 01990,
Futuretech	00180	Insignia	02049, 01641,		03708, 00171,
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	01365, 00051,	Norcent	01365, 01589,		01498, 01276,
	01755, 01867		00748, 01590		01538, 01385,
Magnum	04179	Nordmende	03419, 03861,		01767, 03942,
Marantz	01398, 01454		03134, 03327,		04035, 01687,
Matsushita	00051, 00250,		03767, 03835		02121, 00765,
matodomita	00650	Norwood Micro			00865, 01314,
Maxent	01755, 01757	NuVision	02158, 01657		01766, 04074,
MB Quart	01868	Ölevia	01610, 01240,		01286, 01326,
Megatron	00145, 00178		01331, 01144		02002
Memorex	00463, 01570,	Onwa	00180	Portland	01661, 00451
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	00178, 01892,		01913, 01924,		01749
	01665, 00150,		00154, 00650,	Prism	00051
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	01924, 01927	Optique	02189		03577, 02256,
MGA	00150, 00178	Optonica	00093		01447, 03332,
		Orion	00463, 01463,		
Microsonic	01326, 02483,	UTION			03717, 03895,
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Midland	00017, 00051		03650		03429, 03636,
Mintek	01990	Panasonic	01480, 01291,		04035
Miray	03847, 02414,		00250, 00650,	Proton	00178
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Misakai	00171		00154, 00156,		01291, 01927,
Mitsubishi	01250, 00150,		00178, 01271,		01924, 03899,
Electric	00178, 01797,		01347		00650
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Mitsui	04179, 03658,	Panavox	04057		00154
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Motorola	00093	Penney	01347, 00051,		02434, 01447,
Multitech	00180	r onnoy	00178, 00156		04214, 02247,
NAD	01156, 00156,	Philco	03426, 02414,		03577, 01781,
NAD		FTIICO			
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New Acoustic	01156, 00156,		02374, 02597,		02002, 02183,
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Nexus	02183		00690, 00017,		00090, 03121,
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Nikko	00178, 00017,		01944, 01365,	Realistic	00154, 00180,
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	00156		01589	Recco	03847, 00898,
Nimbro	02104	Pioneer	01457, 00679,		01814, 03183
Noblex	01362, 03697,		01260, 01398	RevolutionHD	01623
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Sansei Sansui	04030, 00451 00463, 01892,	Superscan	00864, 01944, 00093, 00171		01330, 01627, 01640, 01755,
Sansu	03540, 01670,	Supersonic	03593, 03154,		02049, 02111,
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Sanyo	01142, 01362,	Sylvania	01864, 01886,		03118, 03429,
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Scotch	00178	Syntax	01610, 01240,		02707, 02757,
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Sears	00154, 00156,	Tandy	00093		01756, 00864,
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0.11	01547	Tol	01756	Vuon	03418
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Semivox	00180		02403, 04178	Westinghouse	01712, 03579,
Semp	01743, 00156	Technics	00051, 00250,		03382, 00885,
Semp Toshiba	01743, 03793,		00017, 01347,		01300, 03949,
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Sens	01865	Techwood	00051		03470, 00889,
Serie Dorada	03814	Teknika	00180, 00150		00890, 01282,
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Sigmac	03477, 03423	Toshiba	01524, 01656,	Weetingheudee	01913
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<b>e</b> (	04182		01935, 01945,	Zenith	00017, 00178,
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Broksonic	00463, 01935,		02372, 01866,		01913, 01886,
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Citizen	01935		00051, 01990	Symphonic	01913, 01944,
Coby	02315, 02344,	Memorex	01938, 00463,	<b>T</b> 1.1	01963
	03627, 02340,		01670, 01924,	Toshiba	02006, 01935,
	01538, 02347,	Mindala	01927		01945, 02684,
Continental	03202, 02314	Mintek	01990		03469, 01524,
Continental	03321	Mitsubishi	00093, 00150,		00156, 01256,
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Emerson	02304 01886, 01864,		00250, 01291,	Zenith	00017, 01909,
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Gateway         21158         Dimension         TCL         22587           GE         20717, 20522         NKS         22834         Teac         20790           General         20717, 20522         Olevia         22331         Technics         20490, 20703           Electric         Onkyo         22147, 21627, 20503, 21769         20503, 21769         20503, 23857, 22705, 20503, 23857, 22705, 20744, 20833, 20490, 21579, 20744, 20833, 20490, 21579, 20744, 20833, 20490, 21579, 20490, 21579, 20464, 21354, 20717         20646, 21354, 20747, 20562, 24244, 20675         21608, 22364           GoldStar         20714, 2069         Philico         20675, 20790         Urban         20503           Greenhill         20717         20666, 21354, 20737         Venturer         20790           Grundig         20539         21506, VIZIO         22563         24188, 20503, Vtrek         22587           Greenhill         20717         20646, 21354, 20675, WB Electronics         22555         23228         21517, 20142, Yamaha         2298, 20497, 20539           Harman/Kardon         20702         20681         20631         20539, 20545, 2055, 23257         20631         20533, 22627, 2056, 22434, 20575           Hitachi         20664, 20573         Pioneer         22442, 22854, 2075, 2298, 20497, 20539         20646, 23337, 20539<						
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