

USER MANUAL

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Zaxcom Nova

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Nova

Front Panel

**Record Key**

Press to put Nova into record. The press duration to go into record is adjusted by setting the KEY HOLD TIME located in the ENG menu. When Nova is recording the REC key will glow red.

Stop Key

Press to stop recording or stop playback. The press duration to stop is adjusted by setting the KEY HOLD TIME in the ENG menu. When stopped the STOP key will glow blue.

Play / Input key

- A quick press will enter the input setup menu.
- Press and hold will play back the last recorded file. The press duration to go into play is set in the ENG menu. When playing back the REC and STOP key will flash green.

TC / Bank key

- A quick press will cycle through the banks and the key will glow the color associated with the fader bank. Please note if nothing is assigned to a bank that bank will not be cycled through.
- Press and hold will open TC menu, additional presses will cycle through the additional TC menus.

Tracks / Trim

- A quick press will cause the TRIM key to blink. When the key is blinking the input trim for the source that is assigned to a fader can be adjusted by turning that fader. Pressing the BANK will allow for adjustments to other input trims for the selected banks. Pressing the TRIM key again will take Nova out of trim adjust mode.
- Press and hold will open the track assign menu.

ZNET / Z-Net

- A quick press will cause the ZNET key to blink. When the key is blinking turning the fader that has a Zaxcom transmitter assigned to it will remotely adjust the input gain for that transmitter via ZaxNet. Pressing the ZNET key again will take Nova out of ZaxNet remote gain adjust mode.
- Press and hold will open the ZaxNet setup menu for the internal ZaxNet transmitter.

Back key

Press to go back one menu.

Multi-Function Keys 1 thru 5

- A quick press will PFL (pre fader listen) to the input that is assigned to that fader. When PFL is engaged the key for the input being listened to will blink.
- Pressing and holding a key will open the menu for that key
 - **F1 - Meta Data Menu** - This is where Meta Data can be entered and edited.
 - **F2 - Cue Menu** - This is where files can be played back from, and Audition and Re-Record can be launched.
 - **F3 - Record Enable Menu** - This is where the Primary and Mirror track are enabled from.
 - **F4 - Output Assign Matrix** - This is where the 6 output busses are assigned.
 - **F5 - Media Menu** - This is where that parameters for the record cards are set.

Multi -Function Keys F6 thru F11

- From the meter screen these are shortcut keys.
 - **F6** - Press to access the headphone setup matrix.
 - **F7** - Go back one headphone preset.
 - **F8** - Advance to the next headphone preset.
 - **F9** - Press to access the Wireless Receiver Menu.
 - **F9** - Press to access the Fader Assign Matrix.
 - **F10** - Press to display the Time Code Slate.
- Navigate within a menu. When a key has a function, it will be labeled in the menu page.

Color LCD Screen

Daylight-readable color LCD screen.

Faders x 5 with LEDs

- Adjust the level for that input.
- When the TRIM key is blinking turning a fader will adjust the trim of the input assigned to that fader.
- When the ZNET key is blinking turning a fader will remotely adjust the input gain of the wireless transmitter assigned to that fader.
- The 15 LEDs around each fader will act as an input meter and will modulate with the audio, the brightest LED will act as a pointer for the fader, the color LEDs will display the bank that is selected. If multiple inputs are assigned to a fader there will be 3 LEDs illuminated. When no LEDs are illuminated that indicates nothing is assigned to that fader. When a transmitter is routed to a fader and the transmitter's battery gets low the top three LEDs will start to blink when the battery has roughly 15 to 30 minutes of charge left. When AutoTrim is engaged the bottom LED will illuminated Blue for the active fader.

Primary and Mirror LEDs

These LEDs will illuminate or flash when the primary or mirror card is being read or written to.

Internal Slate Microphone

When internal sale is selected this will be the slate microphone.

Headphone Volume knob**Star key**

- From the any home meter screen, press it to advance to the next enabled meter screen.
- When in a menu screen, press it to go to the home meter screen.
- In the output bus routing matrix, headphone setup matrix, and card mix matrix pressing it adds phase reverse to the cross-point options, when inverted cross points are enabled in the ENG Setup menu. Please note that INVERTED XPOINTS first needs to be enabled (located in the ENG SETUP menu) to be able to invert a selection.
- If pressed while powering-up, Nova will look for software on the mirror card and start the software update process.

Menu knob

- Press to access the main menu - Press and hold for 2 seconds when in the ENG meter screen.
- Rotate and press to select and enter a parameter.

Tone / Com key

- Press and hold to activate the com microphone.
- Shift (press a hold the MENU key) and press to turn on/off tone.

SLT key

Press and hold it to activate the slate microphone.

SMA antenna x 2

These are the antenna connectors for the internal UHF receivers.

Left Side

**Outputs 1 - 6 (TA-5M) x**

4

Outputs 6 channels of audio via output buses thru 6.

1

All outputs can be individually adjusted from the between Mic Level -35dBu, -10dBu and line level 0dBu. To adjust the levels, proceed to the ENG SETUP MENU and select LEVELS.

- TA5 Out 1/2 carries output busses 1 and 2
- TA5 Out 1A/2A is a duplicate of busses 1 and 2
- TA5 Out 3/4 carries output busses 3 and 4
- TA5 Out 5/6 carries output busses 5 and 6

Return 1-2 (TA-5M)

This input accepts a headphone level or line level signal (range -20dBu and +30dBu) and can act as an additional line level analog input or a camera return.

External Slate Microphone input (1/8" (3.5mm) TRS jack)

This is where the external Com/Slate microphone is connected.

Time Code Input / Output connectors (BNC x 2)**AES Input / Output connector (DE-15F)**

Nova has 4 AES inputs (2 pairs) and 6 AES output busses (3 pairs) available on this connector. There is an input sample-rate converter, allowing each input to have a different sampling-rate. Nova will accept any unlocked AES signal with a sampling-rate of 32 to 96 kHz. The dynamic range of the sample-rate conversion is 124 dB, offering completely transparent conversion of digital audio from one sample-rate to another.

Compact Flash Card Primary and Mirror Media Slot

The Primary card is inserted in the bottom slot with the label to the bottom of the unit.

The Mirror card is inserted in the top slot with the label of the card to the top of the unit.

Headphone (1/4" stereo jack)**Power Switch**

Right Side

**ZaxNet Antenna Connector (SMA)****RS422 connector**

For connecting an external USB keyboard (with proper cable) or to connect to an Zaxcom Oasis or Aria mixing panel.

RF loop thru connectors (SMA) x 2

RF connectors to connect additional receivers. Please note these outputs are post the 35MHz filter - meaning any receiver connected should be in the same operating range that the filter is set to.

Analog Mic/Line input connectors (XLR-3F) x 4**External Power Connector (Hirose-4F) x 2**

The two Hirose connectors are redundant input power connector so that two batteries can be connected at the same time and Nova will automatically switch to the higher voltage source.

Nova will run on 10 to 18 VDC

WARNING: Do NOT connect the external power connector to a source higher than 18.0 VDC.

This is the ABSOLUTE upper limit. Anything higher can damage the unit's power supply.

Rear



Internal Receiver Module x 2

Fan Vents - The fan speed is adjustable in the ENG menu.

Home Screens

Nova has 7 home meter screens. The meter screens can be cycled thru by pressing the STAR key. Individual home screens can be enabled or disabled in the ENG Setup menu.

- **ENG Page** - Displays output busses 1 and 2 and has a buss assign matrix.

To assign and input to a bus rotate the MENU encoder knob to the desired input then press the knob to cycle thru the assign choices: **L** = Bus 1, **C** = Busses 1 and 2, and **R** =Bus 2.

Please note that from this screen to enter the main menu the MENU knob will need to be pressed and held for 2 seconds.

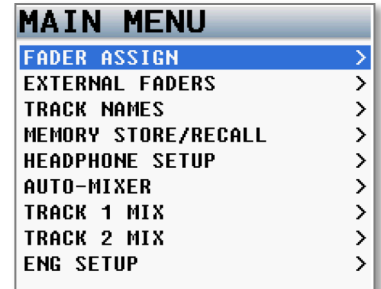
- **6 Output Buses** - Displays the levels of the 6 output busses.
- **Card Tracks** - Displays the record enabled card tracks.
 - A track with an ISO input assigned to it will display a trim diamond showing the trim level for the input assigned to that track.
 - If Auto-Mix is enabled a blue or yellow dot will appear showing the status of the auto mixer for that input.
 - If the track has an internal receiver assigned to it a RF meter for the receiver will appear to the right of the meter.
- **Output Bus 1 and 2 plus Card track** - Displays output busses 1 and 2 and the enabled card tracks.
- **Analog inputs** - Displays analog inputs 1 thru 4, return inputs, and the slate levels.
- **Output plus returns** - Displays the 6 output busses and the 2 return inputs.
- **Digital inputs** -Displays the 4 AES inputs and 6 internal receiver inputs.

Main Menu

To access the MAIN MENU, press the MENU knob.

When in the MAIN MENU scroll the MENU knob to highlight one of the sub menus.

To access the highlighted menu item, press the MENU knob.



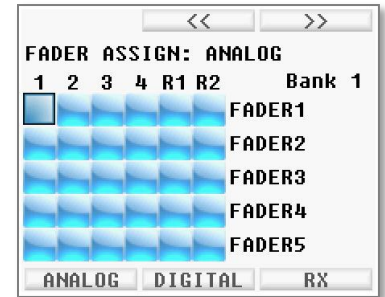
Sub Menus

- **Fader Assign** - This is where the 5 hardware faders are assigned an input. All five fader banks are assignable in this menu.
- **External Faders** - This is where the faders for and Oasis control panels is assigned.
- **Track Names** - The individual track names are assigned from this menu.
- **Memory Store/Recall** - Nova has 3 internal memory presets where the entire setup parameters of the machine can be saved and recalled. The settings can also be saved to, and recalled from, the mirror compact flash card so the settings can be transferred to another Nova. Nova can be reset to factory defaults from this menu. And the faders can be cleared.
- **Headphone Setup** - This is where the 12 headphone presets are created and named.
- **Auto-Mixer** - This is where the parameters of the Auto-Mixer are adjusted from.
- **Track Mix** - This is a shortcut for assigning inputs to record tracks 1 and 2.
- **ENG Setup** - The engineering menu is where Nova's operations settings are adjusted from.

Assigning Inputs to a Fader / Bank

The fader assign matrix is where the five faders are assigned what inputs they will control. All five fader banks are assigned from this menu. Any assortment of analog inputs, digital inputs, or wireless receiver outputs can be assigned to any fader.

Please note if a fader does not have any assignment the LEDs around the fader will not illuminate.



Setting a Cross point

1. Select the type of input to be routed by pressing F9 - Analog, F10 - Digital, F11 - Wireless Receiver.
2. Rotate the MENU knob to scroll through the matrix to the desired cross point.
3. Press the MENU knob to select the cross point.
4. Pressing the F7 and F8 keys to navigate through fader banks.

Changing banks

After the banks are assigned pressing the bank key once will display what is assigned to the faders in the bank. Additional presses will advance to the next bank.

Bank 1 is user selectable to be Red (or Cyan), Bank 2 is Yellow, Bank 3 is Green, Bank 4 is Blue, and Bank 5 is purple.

Assigning Inputs to an Oasis / Aria Fader

The external fader assign menu is where the Oasis / Aria control surface faders are assigned what inputs they will control. All five of the Oasis fader banks are assigned from this menu. Any assortment of analog inputs, digital inputs, or wireless receiver outputs can be assigned to any fader. Please note since Aria is a single bank control surface only bank 1 should be used.

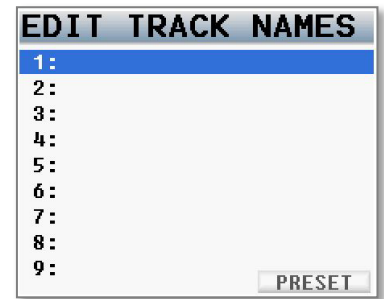
The top knob of each fader strip can also be assigned to control input trim when (+ TRIM) is displayed or it can be assigned to remote control transmitter via ZaxNet when (+ZNET) is displayed.

EXT FADERS		
EXT FADER 1		OFF
EXT FADER 2		OFF
EXT FADER 3		OFF
EXT FADER 4		OFF
EXT FADER 5		OFF
EXT FADER 6		OFF
EXT FADER 7		OFF
EXT FADER 8		OFF
Ext Fader Bank	Bank 1	

Naming Tracks

When a record track is named, that name is displayed within the card meters on Nova and is contained in the file's metadata so post-production can easily identify the source of a recorded track.

Nova also has a list of 20 preset track names that can be created and recalled from. To edit the preset track list go to the TRACK NAME PRESET menu located in the ENG menu.



How to name a track

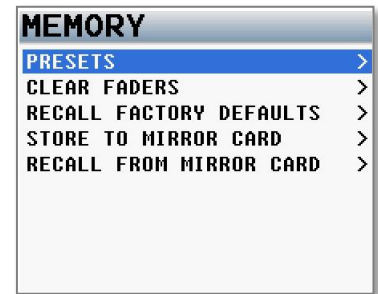
1. Scroll the MENU knob to highlight the desired track to be named.
2. Press the MENU knob to open the on-screen keyboard.
3. After the desired name is entered, click OK.

Selecting from the list of preset track names

1. Scroll the MENU knob to highlight the desired track to be named.
2. Press the F11 Key to display the preset track list.
3. Scroll to the desired preset name.
4. Press the MENU knob to select the name.

Memory Menu

The memory menu has three storage positions where all user settings can be saved and recalled. The settings can also be stored to the mirror compact flash card so the settings can be transferred between another Nova.



Presets

Nova has three preset positions where the all the user settings can be saved to and recalled from. Please note that after doing a factory restore, all stored memories will be erased.

How to store and recall a setup parameter

1. Scroll the MENU knob to highlight the desired store / recall position.
2. Press the MENU knob.
3. Press the STAR key to store / recall or press BACK to exit.
4. To optionally name a setup scroll to the PRESET NAME position and press the MENU knob.

Clear Fader Assigns

Selecting clear faders will clears all the current fader assignments.

Factory Reset to Default

Recall factory defaults resets all of Nova's parameters back to the factory settings. If a factory reset is done, all user setting, will be lost and will have to be re-inputted.

It is generally advised to do a factory reset when updating software.

Please note if Nova is exhibiting odd behavior there may be some conflicting settings so a factory reset is often advised.

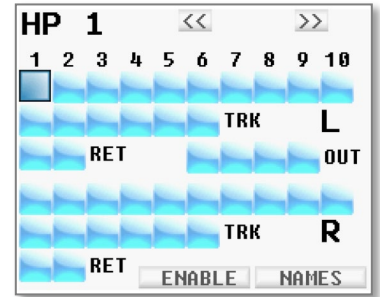
Store / Recall to Mirror Card

Nova has the option to save its settings to (and restore settings from) the mirror compact flash card. This allows settings to be exchanged between multiple machines.

Headphone Setup

Nova has 12 individual headphone setup matrices available. Each matrix can contain any combination of the following:

- 16 Card tracks (TRK)
- 4 Output Buses (OUT) the outputs can be individually assigned to L, R or C.
- 2 Analog return inputs (RET)



Setting up headphone presets

1. Scroll the MENU knob to highlight the desired cross-point.
L selections are sent to the left ear and R selections are sent to the right ear.
2. Press the MENU knob to put an X i desired cross point.
3. When a cross point is selected a green check will automatically appear in the enable tab.
When a preset is enabled that setup will be available when cycling through the headphone presets.
If the preset is not enabled that preset will be skipped over when cycling through the presets.
Pressing the F10 key will toggle between enable / disable.
4. Pressing the F8 key will advance to the next setup, pressing the F7 key will navigate back one preset.
5. To exit the setup menu, press the BACK key.

Naming the headphone setup

1. From the headphone setup matrix press the F11 key to open the headphone naming menu.
2. Scroll to highlight the desired position and press the MENU knob to open the onscreen keyboard.
3. Enter the name and press OK when done.

Please note if a headphone preset is named "BANK1" - when bank 1 is selected the headphones will automatically change to the preset named BANK1. If a preset is named "BANK2" when bank 2 is selected the headphone will change to bank 2, etc.

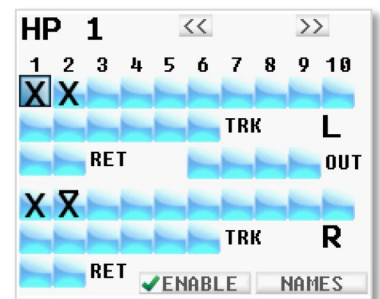
The automatic switching will also work if a preset has "@" followed by the bank number in the name. So, for example if a preset is named "NAME@1" that preset will automatically be recalled when bank 1 is switched to.

Inverting the phase of a selection

1. When in the headphone set up matrix when pressing the STAR key, "ALLOW INVERT" will appear.
Please note that INVERTED XPOINTS needs to be enabled (located in the ENG SETUP menu) to be able to invert a selection.
2. Then when selecting a cross point in the matrix press the MENU knob a second time will invert the phase.
3. When the phase is inverted the cross point, the X will appear with a line over it.

Headphone matrix setup to decode MS stereo

The following is the proper setting for M-S headphone decoding. This example uses card track 1 as the mid and card track 2 as the side.



Auto-Mix

The auto mixer takes several inputs (pre-fader or post-fader) and creates a mono mix of all the selected inputs summed onto a card track and / or output buses. Each individual input channel is attenuated by an amount, (in dB) equal to the difference (in dB) between that channel's level and the sum of all channel levels.

When the Auto-Mixer is enabled each enabled ISO track will display a yellow dot in the track meter. The yellow dot shows that the input is included in the Auto-Mix. The dot will turn blue when it becomes the primary open microphone. Please note that an input with a yellow dot may also have an open microphone in the mix depending on its level in relation to the other microphones.

Auto-Mix Mode

Enables Nova Auto-Mixer and sets if the Auto-Mixer will work pre-fade or post-fade.

- **Pre-Fader** - The Auto-Mixer gets its audio from the pre-fader inputs in the audio chain so only the trim control will affect the microphone levels. Since the Auto-Mixer is before the faders the faders have no effect on the Auto-Mix levels.
- **Post-Fader** - The Auto-Mixer uses audio from the post-fade bus in the audio chain and is inserted after the faders so both the trim and the faders will control the levels of the microphones. In post-fade mode a microphone can be pulled out of the mix by lowering the fader and will keep pre-fade ISO tracks unaffected.
- **Post-Bypass** - The Auto-Mixer is disabled but lets the post-fader mix still make it to the selected buses / tracks. This setting would be useful if the Auto-Mixer is set and the user decides to bypass the Auto-Mix.
- **NR Only** - The post fade mix is sent to the selected buses / tracks without the processed Auto-Mix algorithm. This allows the noise reduction algorithm to be added to the mix with no Auto-Mixer processing

Out/Track

- **Add** - The processed Auto-Mix audio will be added to what is already assigned to the buses and / or tracks.
- **Replace** - The processed Auto-Mix audio will replace what is already assigned to the track and / or output bus.

Meter Mode

When the Auto-Mixer is enabled each enabled ISO track will display a yellow dot in the track meter. The yellow dot shows that the input is included in the Auto-Mix. The dot will turn blue when it becomes the primary open microphone. Please note that an input with a yellow dot may also have an open microphone in the mix depending on its level in relation to the other microphones. The dots can be turned off by selecting "No Dots".

Attack

Sets how fast the microphone ramps up to full level when a speaker starts to talk. Please note that a microphone will engage immediately regardless of the attack setting. The attack can be set anywhere between 10 and 100ms.

Decay

Sets how long a microphone will stay active after a person stops talking. Decay can be set anywhere between 10 and 500ms.

Noise Reduction

Sets how much the noise floor is attenuated when no one is talking. Noise Reduction can be set anywhere between -20dB and 0dB - with 0dB being off. 3dB to 6dB is a typical setting.

Noise Reduction Threshold

The noise reduction threshold setting determines the level at which the noise reduction starts to be applied. It is applied independently to each input and it only affects the auto-mixers mono mix and it does not affect any ISO tracks. If the threshold is set to -20dB any signal above -20dB on the input meter will not be affected. Once the audio levels start to go below -20dB full scale, the level of each input will be attenuated gradually. This will reduce the noise of an input when no one is talking. It will also aid in reducing feedback in a room with a PA system. Set to -20dB for a more aggressive noise reduction if it is set to -30 to -40 the noise reduction will be more subtle.

Auto-Mix Enables

The Auto-Mix enables matrix sets which inputs are included in the Auto-Mix.

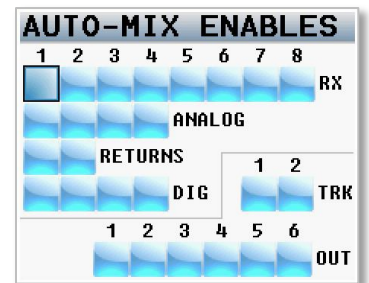
When an input is selected to be included in the Auto-Mix an “A” will be displayed to the right of the track meter on the meter screen.

The record tracks and output buses where the Auto-Mix will be routed to is also located in this matrix. The Auto-Mix can be routed to record tracks 1 and 2, and all 6 output busses.

When the Auto-Mix is assigned to a track or output bus a lower case “a” will be displayed to the right of the meter indicating that the Auto-Mix is assigned there.

The color of the “a” will indicate the Auto-Mixers mode.

- Purple - Auto-Mix is pre-fade.
- Green - Auto-Mix is post-fade.
- Red - Auto-Mix is post-bypass.



WARNING: When assigning Auto-Mix to a track or output bus that track or bus should not have anything assigned to it. If audio is assigned to that track, it will not be attenuated or processed by the auto-mixer. In addition, do not assign unused inputs to the auto-mixer.

Track Mix

The Track Mix 1 and Track Mix 2 menus are a shortcut to assign what is recorded to tracks 1 and 2. The track mix can be assigned any combination of receiver inputs, analog inputs, return inputs, digital inputs, or output buses.

Please note the Track Mix menu function the same as the Track Assign menu for tracks 1 and 2.

Essentially any changes in the Track Mix menu are reflected in the Track Assign menu and any changes to tracks 1 and 2 in the Track Assign menu are reflected in the Track Mix.

While the Track Mix menu can be used from Nova directly it was designed to be a track assignment menu for the Aria Mixer.



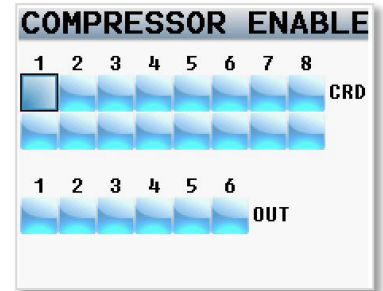
ENG Menu

The Engineering menu is where Nova's operations settings are adjusted from.

Compressors

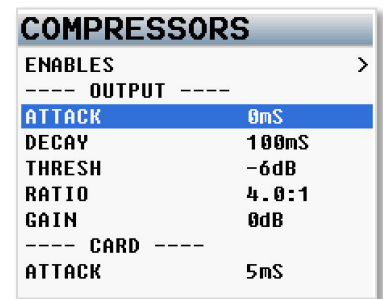
Compressor Enable

Placing an X in the matrix will enable the compressor for that card track or output bus. Please note that input compressors are enabled in the input setup menu for each input.



Compressor Parameters Set

This is where the compressor parameters are set for the outputs, card tracks and input parameters. The attack, decay, threshold, and ratio settings can be adjusted. Makeup gain can be added to the output and card compressors if desired.



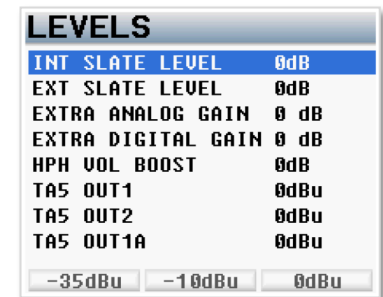
Levels

Internal & External Slate Levels

This is where the internal and external slate microphone levels are adjusted. The levels are independently adjustable in 1 dB steps from -12dB to 21dB.

Extra Input Gain

The extra input gain adds 10dB of digital gain to the analog inputs, the return inputs, and or the digital inputs independently. The extra input gain is global, meaning that when engaged the gain is applied to all inputs of that type.



Headphone Volume Boost

This adds 6dB of digital gain to the headphone amplifier so that high impedance headphones can be used.

Please note that adding headphone gain can potentially cause clipping to headphones that may not be heard on the output or card tracks.

TA5 Output Levels Adjust

This menu manages the output audio levels for the TA5 output connectors. Each TA5 connector can carry 2 outputs. Each output can be independently adjusted to one of the following output levels:

- **0dBu** - Line Level
- **-10dBu** - Tape / Consumer Level
- **-35dBu** - Mic Level

The F9, F10 and F11 keys will be a shortcut to assign all 8 TA5 outputs a global level.

Sample Rate Select

This is where the sample rate is set. The sample rate can be set to 48000, 48048, 88200, or 96000.

Please note if a sample rate of 48048 or higher is selected Nova is limited to 8 record tracks or less. It is advised to turn off compressors when recording at 96000.

Please note that Nova will need to be rebooted after the sample rate has been changed.

Prerecord

From the point the Nova is powered up, all inputted audio is being processed. When prerecord is enabled, up to 10 seconds of that processed audio is held in a prerecord buffer. Then when the record key is pressed that stored audio, with its time code, is included the current take. Prerecord does not use any additional battery power.

Please note the prerecord buffer is dumped after any of the following settings are changed: sample-rate, time code frame rate, user-bits, or record enables. After these parameters are changed the buffer will start to re-build.

TC Transport

- **NORMAL** - Nova will go into record when the REC key is pushed.
- **AUTO LOAD** - Nova will automatically go into to record when it senses record run time code coming from an external source. Please note to use Auto-Load, time code needs to be set to record run both from the incoming source as well as in Nova.

LCD Brightness

This is where the brightness of the LCD screen is adjusted from. The screen brightness can be set from 1 to 11 with 11 being the brightest.

LED Brightness

This is where the brightness of the LEDs is adjusted from. Please note this is a global setting, meaning that all LEDs will be set to the same brightness. The LED brightness can be set from 0 to 11 with 0 being off and 11 being the brightest setting.

Slate Microphone Source

- **INTERNAL** - The slate microphone located on the front panel of Nova will be used for the slate and com.
- **EXTERNAL** - An external slate microphone connected to the 3.5mm microphone input connector on the side of Nova will be used for the slate and com.

Multi-Trim

When turned on the Multi-Trim allows multiple inputs to be controlled with a single fader.

When a fader has multiple inputs assigned to it instead of a single LED a group of 3 LEDs will illuminate as the pointer.

The fader will still be assigned its inputs from the fader assign matrix.

GP Remote Roll Enable

This enables a remote roll switch. The GPI will need to be wired to pin 4 on the AES I/O DB15 port Nova.

- **OFF** - Remote roll will not be enabled.
- **POSITIVE** - Remote roll will engage when there is a low to high voltage transition.
- **NEGATIVE** - Remote roll will engage when there is a high to low voltage transition.

USB Keyboard

- **KEYBOARD** - A USB keyboard can be used with Nova. Please note an interface cable will be necessary – please see the wiring and pin configurations section of this manual. T
- **OASIS** - A USB keyboard can be used when connected via an Oasis.

Punch-In

- **ALLOWED** - When Punch-In is allowed a new segment can be created while recording by pressing the REC key. If the Rec/Stop warning option is enabled there will be an audible beep when a new file is created in the headphones. The beep is heard in the headphones only and is not sent to the record tracks or output busses. Please note regardless of this setting Nova will create a new file when the current file reaches 2GB.
- **DISABLED** - A new file cannot be created while recording. To create a new segment STOP must be pressed first.

Tone Frequency Adjust

The frequency of the reference tone can be adjusted here. The tone frequency is adjustable from 20 to 20,000 Hz in 200Hz increments

Tone Level

The level of the reference tone can be adjusted from this menu. The tone level is adjustable between -90 to 0dB in 1 dB increments.

Transport Keys

- **PRESS** - The REC and STOP and PLAY keys will respond with a quick press.
- **HOLD** - The REC and STOP and PLAY keys will need to be pushed and held to go in to record and stop recording. The button hold time is set in the KEY HOLD TIME menu.

This would be used to prevent Nova from accidentally going into or out of record.

Key Hold Time

This is the time in milliseconds that the transport and multifunction keys will need to be held to access the second (shifted) function. The hold time is adjustable from 300 milliseconds to 800 milliseconds in 1ms increments.

Inverted Xpoints

- **ON** -The cross points in the track assign, output buss assign, and the headphone set up matrix will have the option to invert the phase for the assignment by pressing the STAR key.
- **OFF** - Pressing the STAR key will not give the option to invert the phase.

Track Name Preset

This is where the preset track names are entered and edited. There are 20 track name presets available. Existing names can be edited, and new track names can be created. To edit a track name, scroll the MENU knob to the desired preset position. Then press the MENU knob to open the on-screen keyboard.

Note Presets

This is where the preset notes are entered and edited. There are 20 note presets available. Existing notes can be edited, and new notes names can be created. To edit a note preset scroll the MENU knob to the desired preset position. Then press the MENU knob to open the on-screen keyboard.

Fan Speed

Sets the speed of the internal cooling fan when Nova is not recording. The fan can be set to OFF, AUTO or a constant on speed from 1 thru 10. For normal operations it is not necessary to turn on the fan, it is recommended to leave the fan speed set to AUTO. When set to auto the fan will automatically turn on when the internal temperature reaches approximately 130° F (55°C).

Bank Keys

Allows the F6, F10 and F11 keys to directly access a desired bank.

- **Normal** - Use the BANK key to toggle through active banks.
- **F10, F11** - Select bank 1 by pressing the BANK key, select bank 2 by pressing the F10 key and select bank 3 by pressing F11 key.
- **F10, F11, F6** - Select bank 1 by pressing the BANK key, select bank 2 by pressing the F10 key, select bank 3 by pressing F11 key, and select bank 4 by pressing the F6 key.
- **ONCE** - Pressing the BANK key will immediately change the bank to the next bank and no pop up will be displayed.

PFL Keys

- **Single** -Only 1 input can be listened to pre fader at a time. When another input is selected the previous input will disengage and will no longer be heard.
- **Multi** - Multiple inputs can be listened to simultaneously. Pressing an additional PFL key will add that input to what is being listened to. To disengage an input, press the PFL key again.

PFL Source

- **Pre-Fader** -The input will be listened to pre-fader.
- **Post-Fader** - The input will be listened to post-fader.

AutoTrim

AutoTrim is a feature that allows the menu knob to act an individual trim knob. When AutoTrim is turned on and a fader is adjusted the blue LED to the lower right of the fader will illuminate indicating the input routed to that fader will be trimmed when rotating the menu knob. When another fader is nudged, the trim function will move to that input. Please note AutoTrim is only active when the meter screens are displayed, except for the ENG meter screen.

About Nova Menu

This page provides information about Nova including the serial number, software and hardware versions as well as the CPU usage and internal temperature.

Warnings Setup

This menu manages the alerts that pop up on the screen and turns on and sets the level of an audible alert that is sent to the headphones.

Audible alerts can be turned on for low battery, low card and when Nova goes into and out of record.

After a warning pops up, press the BACK knob to acknowledge and dismiss the warning.

WARNINGS SETUP		
EXT BATT WARNING		OFF
EXT BATT THRESHOLD	10.50	
HP BEEP LOUDNESS	20	
HP BEEP BATTERY		OFF
HP BEEP LOW CARD		OFF
HP BEEP REC/STOP		OFF

Power Setup

- **ANALOG INPUT** - Enables / disables the analog to digital converter on the inputs. When an analog input is unused it can be disabled. When analog inputs are turned off Nova will use less battery power.
- **TEMPERATURE** - Sets the temperature scale to either Fahrenheit or Celsius.
- **RECORD FAN SPEED** - Sets the behavior of the fan when Nova is recording. It is recommended to leave the record fan speed set to AUTO. When set to auto the fan will automatically turn on when the internal temperature reaches approximately 130° F (55°C).

Advanced Setup

Prevent Empty Pan

Prevent empty pan removes the blank (no assign) leaving only the L, C, R option while cycling through the panning in the ENG pan matrix.

Update Bootloader

The bootloader is part of the software that boot up Nova. Generally, the boot loader will not need to be updated. If the boot loader needs to be updated there will be a note released with the software to do so. The boot loader software is already contained within Nova's software.

Update IFB Module

The IFB module is updated from this menu. Generally, the IFB module will not need to be updated, if it does need to be updated there will be a note released with the software to do so. The IFB module software is already contained within Nova's software. The update will take about 5 minutes, when the update is complete "DONE. RESTART NOW" will be displayed.

Update Mixer Panel

The Aria Mixer panel is updated from this menu. The Aria software is already contained in the Nova software.

Debug Bits

Debug bits a factory diagnostic menu and should stay set to 0.

Allow Logging

Allow logging will turn on an internal logging feature which will allow Nova to keep a log of warning and error messages which then can be used by the factory to diagnose the unit. The logged messages are displayed on the log screen. Please note if logging is not turned on then Nova will not log the errors. Allow logging is generally set to off.

Log Screen

The log screen is where Nova displays the logged errors and warnings.

Upgrade Code

This would be used to enter any future upgrade codes.

Trim Cal Chans

This is a factory adjustment menu item.

Trim Calibrate

This is factory adjustment menu item.

Slate Always On

- **NORMAL** - This is the typical setting that would be used. With this setting pressing and holding the slate key will activate the slate microphone.
- **FORCED** - When the slate microphone is activated the forced setting locks the slate microphone in the on position. To deactivate the slate microphone power cycle Nova.

Meter Peak Hold

The peak hold sets the duration the peak indicator (the white vertical bar within the meters) is held after the audio hits the peak. The peak hold range is from 100MS to 4000MS with a step value of 100MS.

EXT Meter Decay

This adjusts the decay of the Oasis / Touch meters in milliseconds.

EXT Meter Hold

This adjusts the hold time of the Oasis / Touch meters in milliseconds.

Slate Delay

Delays the visual time code slate by the selected number of samples. The slate can be delayed or advanced.

Battery Calibration

Adjusts the battery calibration on Nova.

1. Connect Nova to a DC power supply.
2. Using a voltmeter determine the voltage of the supply while under load.
3. Adjust the battery calibration number until the voltage displayed on the screen matches the voltage on the meter.
4. Press the STAR key to save the setting.
5. Power cycle Nova to make sure the calibration took. If it did not repeat the calibration process.

Extra Shortcut Menu

When extra shortcuts are turned on, the menus that were accessible only via the multi-function key will be available in the main menu as well.

Bank 1 Color

Sets the LED color of bank 1 to either Purple, Cyan or Red.

Receiver Type

This is where the internal receiver type can be set. QRX 212 or MRX can be chosen.

Choose MRX to prevent power cycling of antenna combiner when no modules are inserted

Function key hint time

Sets how long the F6 thru F11 function key assignments will appear on the home screen. The time can be set to OFF or from 1ms to 2500ms in 1ms intervals.

Mirror Speed

Normal or Fast 2. Fast 2 over clocks the processor and increases the mirroring speed by approximately 20 percent. When changing mirroring speed Nova will need to power to be power cycled. Please note regardless of the mirror speed setting to speed up mirroring avoid staying on a page containing meters.

Walkie Setup

Walkie Enable

Turning on walkie enable allows output number 6 to interface with a walkie talkie so that when the COM key is pressed the com microphone will be routed to the walkie. Please note that COM will need to be routed to output 6, and output 6 need to be set to mic level.

Voltage for On

This the voltage needed key the walkie. The voltage can be set from 0.1 volts to 3.0 volts.

Voltage for Off

This the voltage needed to un-key the walkie. The voltage can be set from 0.1 volts to 3.0 volts.

Setup Outputs

- **NORMAL** - The output busses will always output what is assigned to them.
- **MUTE** - The output busses can be set to muted when Nova is recording, playing back or stopped. Different combinations can also be chosen.

Home menus

Individual home meter screens are enabled from this menu. Only the meter screens that are turned ON will be displayed when cycling thru screens.

Setting the Input parameters

To enter the input, configure menu press the INPUT key.

Navigating the input setup menu

- Pressing F7 and F8 keys will navigate through inputs.
- Pressing the F9 key will jump to the analog inputs, the F10 key will jump to the digital inputs and the F11 key will jump to the internal receiver inputs.
- When in the input set up menu pressing the PFL keys (F1 thru F5) will jump to the setup page for the input that is assigned to that fader for the current selected bank.

Adjustable Parameters

- **Input Trim** - Adjusts the input trim.
- **Input Type** - Selectable between mic level and line level (analog inputs 1-thru 4 only).
- **Input Compressor** - Turns on the input compressor and set compressor groups. The compressor settings are adjusted in the MODE menu.
- **48 Volt Phantom Power** - Turns on or off phantom power (analog inputs 1 thru 4 only).
- **AES-42 Power Enable** - Turns on power for AES - 42 microphones. AES power can be turned on independently for AES inputs 1/2 and AES inputs 3/4 (digital inputs only).
- **Delay / Delay Value** - Turns on and adjust the input audio delay. The input delay is variable from .0MS to 100MS in .1MS increments.
- **High Pass Filter / HPF Frequency** - The HPF frequency adjusts a software filter that is adjustable between 40Hz to 230Hz in 10Hz increments.
- **Two Variable Notch Filters** - Notch filters with independent adjustable frequencies.
- **Phase Invert** - Allows for the phase of the input to be reversed.
- **ZaxNet ID** - Sets the ID code for a Zaxcom transmitter that would be associated with that input. This allows the input gain of a transmitter to be remote controlled with the fader that input is assigned to.
- **ZaxNet Trim** - Remotely adjusts the input trim of the transmitter routed to that input. Please note the ZaxNet ID code on the transmitter needs to match the ID code set for the input.
- **TRX Frequency** - Used to remotely adjust the frequency of the transmitter that is routed to that input. Please note the ZaxNet ID code on the transmitter needs to match the ID code set for the input.

Input Compressor Linking

When using a stereo or surround microphone the input compressors (limiters) should be linked to ensure that the spatial integrity of the signal is maintained. Nova has three separate compressor groups.

For example, a stereo microphone on inputs 1 and 2 may have their limiters set to Group A. So, if the signal on input 1 needs compressing, the compressor on both 1 and 2 will activate together rather than just channel 1.

Time Code

To enter the TIME CODE menu - SHIFT (press and hold the MENU key) and then press the BANK key.
Or press and hold the BANK key for the duration that the button hold time (in the ENG menu) is set to.

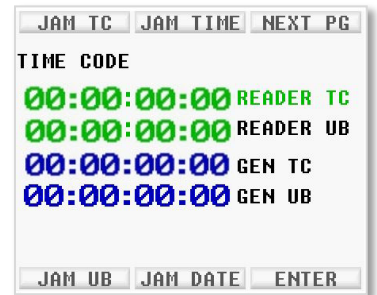
Jamming Time Code and User Bits

Pressing the TC key will open the time code jam menu.

This page displays the time code and user bits that are being received from a source that is connected to the time code in on the BNC connector (READER). Also displayed is the time code and user bits from the internal time code generator (GEN).

From this page the time code and user bits can be jammed from a connected time code source or, jammed from Nova's internal clock and calendar.

- **JAM TC** - Jams Nova's time code from an external source, such as a camera or a master time code unit.
- **JAM TIME** -The time code is created from Nova's internal clock.
- **JAM UB** - Jams Nova's user bits from an external source, such as a camera or a master time code unit.
- **JAM DATE** - The user bits are created from Nova's internal calendar.



Manually Entering Time Code and User Bits

Pressing the F11 key will open the ENTER TIME CODE page. This is where the time code and user bits can manually be entered.

Entering time code

1. Press the MENU knob to highlight ENTER TC.
2. Rotate the MENU knob to select the desired position.
3. Press the numeric FUNCTION keys (F1 thru F9, and F10 for 0) to enter the desired number.
4. When done press the MENU knob.

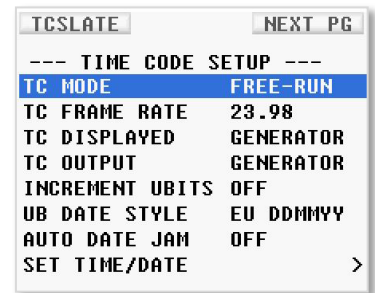
Entering user-bits

1. Press the MENU knob to highlight ENTER UB.
2. Rotate the MENU knob to select the desired position.
3. Press the numeric FUNCTION keys (F1 thru F9 and F10 for 0) to enter a numeric value.
4. To enter A - F, double click the numeric FUNCTION keys 1 - 6.
5. When done press the MENU knob.



Time Code Setup Menu

Pressing the BANK key again (or the F8 Key) advances to the time code setup menu.



TC Mode

- **FREE-RUN** - Time code runs continuously.
- **REC-RUN** - Time code will start to run when Nova begins to record and will stop when recording stops.
- **CJAM** - Time code and user bits are continuously updated from a connected external source.
- **CJAM TC** - Time code only is continuously updated from a connected external source.
- **CJAM UB** - User bits only are continuously updated from a connected external source.

TC Frame Rate

This is where Nova's time code framerate is set.

Nova supports all standard SMPTE framerates: 23.98, 24, 25, 29.97, 29.97DF, 30, 30DF

TC Displayed

Sets what time code will be displayed on the home meter screen.

- **GENERATOR** - Displays the time code from Nova's internal time code generator.
- **CARD** - Displays the time code from the card that is being recorded or playing back.

TC Output

Sets what time code will be sent to the time code output BNC connector.

- **GENERATOR** - Outputs time code from Nova's internal time code generator.
- **CARD** - Outputs time code from the card that is being recorded or playing back.

Increment User Bits

- **ON** - User Bits will automatically increase by 1 with each take.
- **OFF** - User Bits will stay the same for each take.

UB Date Style

If the date from Nova's internal calendar is being used as the User Bits this determines how the date is displayed.

- **EU** - European (DDMMYY)
- **US** - United States (MMDDYY).

Auto Date Jam

- **ON** - The user bits will automatically be jammed to the internal date upon boot up.
- **OFF** - The user bits will stay as previously set.

Set Time and Date

This is where Nova's internal clock and calendar is set.

Please note Nova's date and time is maintained by an internal battery that keeps accurate time even if Nova is powered down for an extended time. The internal 3volt CR 2330 coin cell battery should last between two to three years.

Time Code Slate

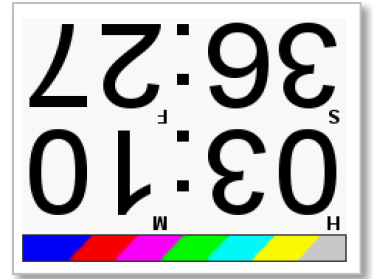
Pressing the F6 key tab will display the visual time code slate.

This is used to provide a visual sync for the camera so that picture and sound can be synced.

When the time code slate is displayed pressing the MENU knob will freeze the time code display will freeze and a 1-frame beep tone will be sent to any bus that has tone routed to an output.

Pressing any one of the function keys (F6 thru F11) will flip the orientation of the slate.

The slate can also be quickly accessed from the home screen by pressing the F11 key.



Assigning inputs to the record tracks

To enter the TRACK ASSIGN menu - SHIFT (press and hold the MENU key) and then press the TRIM key.

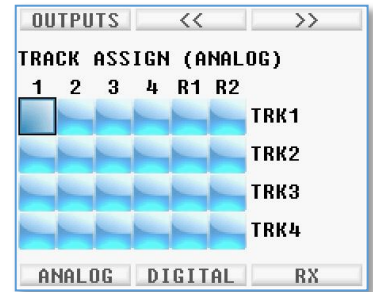
Or press and hold the TRIM key for the duration that the button hold time (in the ENG menu) is set to.

Navigating the track assign matrix.

- Press the F6 key to assign **OUTPUT BUSES** to a card track.
- Press the F9 key to assign the **ANALOG INPUTS** to a card track.
- Press the F10 key to assign the **DIGITAL INPUTS** to a card track.
- Press the F11 key to assign the internal **RECEIVERS** to a card track.
- Pressing the F7 and F8 key will navigate through the tracks (1 thru 16).

Setting a record cross point

1. Select the type of input to be routed by pressing the desired function key.
2. Rotate the MENU knob to scroll through the matrix to the desired cross point.
3. Press the MENU knob to select the cross point.



ZaxNet Setup Menu

From the ZaxNet setup menu the parameters of the ZaxNet transmitter are set up.

To enter the ZaxNet setup menu - SHIFT (press and hold the MENU key) and then press the BANK key.

Or press and hold the ZNET key for the duration that the button hold time (in the ENG menu) is set to.

ZAXNET SETUP	
ZAXNET	OFF
TX CHANNEL	2403
IFB AUDIO SRCE	OUT1
ENCRYPTION	OFF
GROUP CODE	0
TX POWER	0
TRANSPORT CMDS	OFF
POWER-ROLL MODE	ALWAYS LOW
TRX OFF-ON	ON

ZaxNet Enable

- **ON** - The ZaxNet transmitter module is turned on and Nova can transmit audio, time code and wireless transmitter commands. Please note, be sure to attach a ZaxNet antenna whenever the module is turned on. If not, RF can potentially leak into the microphone preamps.
- **OFF** - The ZaxNet transmitter module is turned off and power is saved.

TX Channel

This is the frequency that the ZaxNet transmitter in Nova will use to transmit IFB audio, time code and ZaxNet commands on. The ZaxNet frequency range is from 2.403 GHz to 2.475 GHz. All ERX receiver and transmitters receiving ZaxNet commands from Nova will need to be set to this frequency.

IFB Audio Source

This selects which output bus / bussess will be transmitted over ZaxNet to the ERX receiver(s).

Encryption Enable

This is where the ZaxNet audio encryption is turned on. If the encryption is turned on the transmitted ZaxNet audio will be encrypted and can only be listened to if the ERX receiver has the matching encryption code entered. When a receiver is getting an audio signal, and the codes do not match, all that will be heard is white-noise or silence.

The encryption code is set in the receivers RX SYSTEM menu.

Group Code

This is where the ZaxNet group code for Nova's ZaxNet transmitter is set. ZaxNet uses group codes to allow a specific "group" of transmitters to be controlled. For example, setting the group code to 1 allows Nova to control all group 1 transmitters. Setting it to 2 allows all group 2 transmitters to be controlled. Group codes can be set from 1 to 99. Please see the transmitter manual for setting the group code in the transmitter.

TX Power

TX power adjusts the output power level of the ZaxNet transmitter. The power range is 0 through 7 with 7 being the highest.

Transport Commands

- **SLAVED** - Zaxcom wireless transmitters that are being controlled via ZaxNet will start/stop recording each time Nova starts/stops recording.
- **OFF** - The record status of Nova will have no effect on the internal recorder in the transmitter.

Power-Roll Mode

Power-Roll allows the transmitter(s) that are being controlled via ZaxNet to increase the output power setting when Nova goes into record and decrease to a lower power setting when recording stops. By

decreasing the power level when not recording allows the transmitter to conserve battery power. To use POWER-ROLL the transmitter POWER ROLL setting must be set to "DEVA TRIGGER". The transmitters can also manually be adjusted by switching between the LOW and HIGH settings.

- **ALWAYS LOW** - The transmitter will run at the low power setting.
- **DYNAMIC** - The transmitter will run at low power when Nova is not recording and automatically go into high power when Nova goes into record. Please note power roll needs to be enabled on the transmitter(s). Please see the transmitter manual for further information on enabling power roll.
- **ALWAYS HIGH** - The transmitter will always be run at the high power setting.

TRX Off-On

This controls the standby status of the wireless transmitter(s) being controlled via ZaxNet.

- **ON** - When set to ON the transmitter(s) will transmit as normal.
- **WAKE UP** - When WAKE UP is selected any transmitter that has its power up mode set to "REMOTE STANDBY" will wake up.

A transmitter that is set to Remote Standby, in the transmitter's set up menu, will boot up to an ultra-low power mode. Then when the wake command is sent from here the transmitter(s) wakes up to normal transmit mode. This setting is useful for conserving battery power when a transmitter needs to be turned on for an extended period of time before it will be needed. The only way to put the transmitter back into remote standby is power cycle the transmitter. Please see the transmitter manual for more information on enabling REMOTE STANDBY.

- **LOW (OFF)** - When a transmitter is put in LOW mode the RF power amplifier, RF board, and mic preamps are disabled. This cuts the power consumption of the transmitter and extend its battery life. Transmitters can be put into and taken out of LOW mode at any time.

Send ERX Delay

The audio being transmitted to the ERX receiver(s) can be delayed. This would be useful to sync audio to picture when there is a video processing delay. This setting only delays the audio being sent to the ERX receivers and does not affect any other audio. Please note that this is a global setting, meaning that all ERX receivers will receive the same delay. Delay can be set up to 400ms in 5ms increments.

ZaxNet TC Out

- **ON** - The time code being outputted from Nova will have embedded ZaxNet commands. ZaxNet TC out should be on when feeding timecode to another Zaxcom device via the BNC output.
- **OFF** - The time code output will not have embedded ZaxNet commands. ZaxNet TC out should be set to off when feeding time code to a non Zaxcom device.

IFB Test Tone

When turned on a 1K test tone will be sent to the ERX receiver(s).

Update IFB Module

This is where the firmware for the ZaxNet transmitter module is updated from. Please see the firmware update section of this manual for more information.

IFB Debug

This is a factory diagnostic menu.

Metadata Menu

The Scene, Take and Note metadata is entered from this page.

To enter the metadata menu - SHIFT (press and hold the MENU key) and then press the F1 key.

Or press and hold the F1 key for the duration that the button hold time (in the ENG menu) is set to.

META DATA	
SR:96000	TC:23.98 PRE:OFF
Ready: 31GB free	
Mirroring (100%)	
rec time 00:06:14	
FOLDER 2001 (5 segs)	
EDIT SEGMENT: 3	
S:123A	T:100
N:I LOVE NOVA	

Entering / Editing Metadata

1. Using the MENU knob select the desired segment to be edited.
2. Scroll the MENU knob to highlight one of the data fields:
(S=Scene, T=Take, N=Note)
3. Press the MENU knob to open the onscreen keyboard.

Note Preset

Nova has a 20-position preset note list that can be selected from. The note list can be edited from the ENG menu.

How to select and enter a note from the preset list of notes

1. From the metadata page highlight the NOTE field.
2. Press the F1 key to display the preset note list.
3. Using the MENU knob scroll to highlight the desired note.
4. Press the MENU knob to select the note.

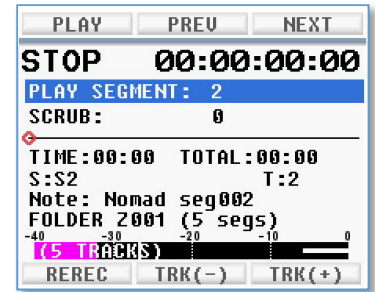
Cue / Playback Control Menu

This menu is where the files are played back from.

The wireless audition and re-record feature are launched from this menu as well.

To enter the cue menu - SHIFT (press and hold the MENU key) and then press the F2 key.

Or hold the F2 key for the duration that the button hold time (in the ENG menu) is set to.

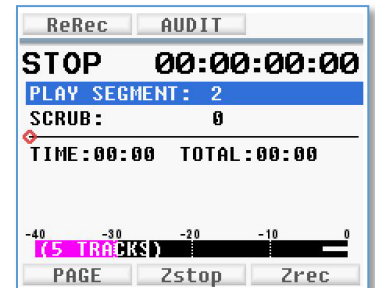


Playing Back a File

1. Using the MENU knob select the desired segment number.
2. Press the F6 key to play.
3. Use the F7 key to jump back one segment and the F8 key to advance one segment.
4. Using the MENU knob highlight scrub to scrub the file. Pressing and turning the MENU knob will increase the scrub rate X 10.
5. Using the F10 and F11 key will toggle thru will tracks to be monitored. All 16 tracks can be selected as well as individual ISO tracks.

Wireless Audition and Re-Record

Wireless audition and Re-Record allow for audio recorded on Zaxcom wireless transmitter(s) to remotely sync up to a specific cue, mute the live audio from the transmitter, and transmit the recorded audio so the scene can be re-recorded.



How to audition and Re-Record a file

Please note to use Re-Record Nova's user bits must match the transmitter's user bits for the selected segment.

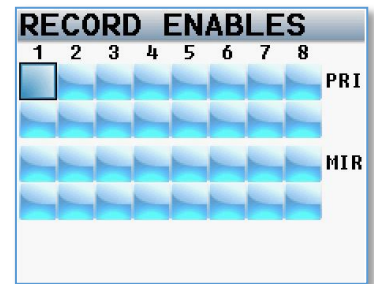
1. From the CUE menu and press the F9 key to open the Re-Record and Audition menu.
2. If the transmitters are recording press the F10 key to stop the recording.
3. Select the desired segment.
4. Using the MENU knob scrub file to a specific cue. Pressing and turning the MENU knob will increase the scrub rate X 10.
5. To audition press the F7 key. When auditioning the live audio from the transmitter(s) will be muted and the recorded audio will be sent. The segment can be played back as many times as desired by simply repressing the F7 key again.
6. To Re-Record press the F6 key. When Re-Recording the live audio will be muted and the recorded audio will be played back, and Nova will go into record so the playback audio will be Re-Recorded. If desired the scene can also be re-mixed as it is being Re-Recorded.
After the scene is Re-Recorded the note field in the metadata for that new segment will contain the timecode offset so that post production can move the segment to the proper place in the timeline to replace the original recorded segment. The segment can be Re-Recorded as many times as desired by simply pressing the F6 key again.
7. When finished press the F11 key to send the record commands to the transmitters.

Record Enables Matrix

The record enable matrix is where the primary and mirror tracks are enabled.

To enter the record, enable menu - SHIFT (press and hold the MENU key) and then press the F3 key.

Or hold the F3 key for the duration that the button hold time (in the ENG menu) is set to.



Enabling record tracks

To enable the primary or mirror tracks rotate the MENU knob to the desired cross point and press the MENU knob to select the cross point. When an "X" appears in the matrix that track is enabled.

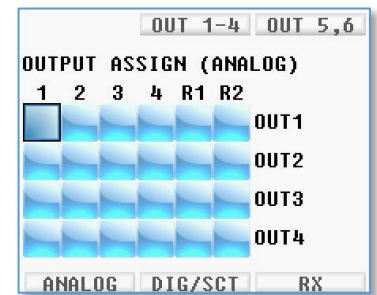
Please note that it is not necessary to remove any cross points from the mirror matrix because if a primary card track is not enabled nothing will be recorded on the primary card and therefore nothing will be written to the mirror card for that track. So, as a shortcut all the mirror tracks can be left enabled at all times.

Output Assign Routing

The output assign matrix is where audio is routed to the output busses.

To enter the output assign menu - SHIFT (press and hold the MENU key) and then press the F4 key.

Or hold the F4 key for the duration that the button hold time (in the ENG menu) is set to.



Navigating the output bus matrix

Output busses 1 thru 4:

Analog, digital and receiver inputs can be assigned to these busses 1 thru 4

- Press the F9 key to assign an analog input to an output bus.
- Press the F10 key to assign a digital input to an output bus. Slate, com and tone are also assigned from here.
- Press the F11 key to assign the internal receivers to an output bus.

Output busses 5 and 6

Card tracks, output busses, return inputs, slate, com and tone can be assigned to busses 5 and 6.

- Press the F8 key to toggle between busses 5, 6.

Setting a Cross point

1. Select the type of input to be routed by pressing the desired function key.
2. Rotate the MENU knob to scroll through the matrix to the desired cross point.
3. Press the MENU knob to select the cross point.

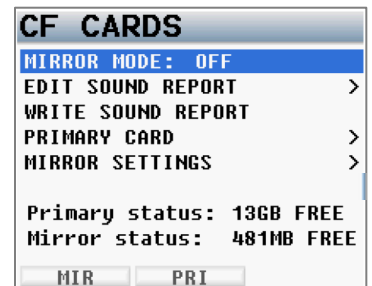
Media Menu

The Media menu is where the record parameters for the primary and mirroring card are set.

To enter the Media menu - SHIFT (press and hold the MENU key) and then press the F5 key.

Or hold the F5 key for the duration that the button hold time (in the ENG menu) is set to.

Please note that Nova will automatically create a new file when the file size reaches 2GB. This will be a seamless transition with no loss of audio. A letter will be added to the take number each time Nova creates a new file. So, for example if the first take is over 2GB the take numbers would be Take1 and Take 1a.



Mirror Mode Options

- **OFF** - Nova will not mirror any files.
- **ON** - Nova will only start to mirror a file when recording stops. Please note if a file is being mirrored and Nova goes into record the mirroring will pause and pickup once stop is pressed again.
- **CONTINUOUS** - When Nova is recording, the audio is copied to the mirror card immediately after it is written to the primary card. Depending on the track count and amount of processing taking place the mirror card may lag a bit. If mirroring is lagging too far behind many times, there are un-needed resources that are on taking the processing power. These items will divert processing power from the mirroring and can often be shut off to conserve the processing power and speed up mirroring. Check to see that some of these items are not unnecessarily on - bus assignments cross points, compressor enables (input, output and card), high pass filters, notch filters, and delays.

Edit Sound Report

This is where the user information for the sound report is entered.

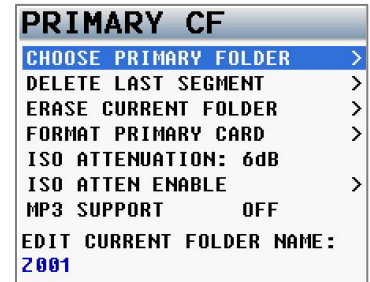
Write Sound Report

When WRITE SOUND REPORT is selected Nova will create a sound report of the recorded files from the current folder and write the report to the mirror compact flash card. The sound report will contain the metadata for those files.

Primary Card Menu

The primary compact flash menu is where the parameters of the primary record card are adjusted from.

The Primary card will record the files as MARF files - Mobile Audio Recording Format. MARF is Zaxcom's lossless fault tolerant recording system. MARF is a very robust system where the files never need to be closed or finalized. So, if power is lost during recording, all audio right up to the point the power is lost will be preserved. MARF is often immune from viruses and corruption that can affect standard recording formats. MARF files can easily be converted to WAV or MP3 files using ZaxConvert. The latest version of ZaxConvert can be downloaded for free at www.zaxcom.com.



Choose Primary Folder

All files are recorded into folders. The record folder is chosen from this menu. To select a folder, scroll the MENU knob to highlight the desired folder then press the MENU knob to select the folder. At that point a green check will appear, the green check will indicate the folder that will be recorded to.

The folder can be named for easy identification. Please note while a named folder can have up to 19 characters only the first 9 will be shown in the folder list.

Delete Last Segment

Delete last segment will delete the last recorded segment. The segment number and the folder name of the file that will be deleted will be displayed on the screen.

To delete the segment, press the STAR key. Or press the BACK key to ignore and exit.

Erase Current Folder

Erase current folder erases the entire contents of the selected folder from the compact flash card. The folder that will be deleted will be displayed on the screen.

To delete the segment, press the STAR key. Or press the BACK key to ignore and exit.

WARNING: If a folder has been mirrored, remove the mirror card before erasing. If not, the folder will be erased from both the primary and mirror card.

Format Primary Card

This is where the primary CF card is formatted. To start the format process, press the STAR key. Nova will then display a screen to confirm that the primary card is about to be formatted and will wait until the STAR key is pressed again to format. Pressing the BACK key will ignore the format and exit the format menu. After the primary card is formatted Nova will need to be rebooted.

ISO Attenuation

The NeverClip™ inputs allow large signals to travel through the digital mixing engine using 32 bit floating point numbers. Once these large signals are recorded into a 24-bit WAV (or MARF) file, the advantage of floating-point math is lost, and these signals can clip if not using a card limiter.

ISO Attenuation allows the ISO record tracks to be attenuated by a user selectable amount of 6, 12, 18 or 24 dBs. This allows audio to be recorded unclipped even if its dynamic range would normally be too large. This gain reduction amount is stored in the metadata of the WAV file so post production can restore the amplitude of the ISO tracks when necessary.

ISO Attenuation Enable

The ISO attenuation matrix is where the card record tracks that will be attenuate are enabled.

A cross point with an “X” will designate that the track will be attenuated.

MP3 Support

When MP3 support is turned on, each time the Nova goes into record it records an MP3 file onto the primary card in a separate area called the MP3 loop file. When desired, the MP3 files can be copied very quickly to the mirror card.

To record an MP3 file

- Turn MP3 support on.
- Format the primary card while MP3 is on so that the formatting process knows to leave extra room for the MP3 loop file.
- Once the primary card is formatted with MP3 support, MP3 mode can be turned on or off. Please note if MP3 support is off during a recording there will be no MP3 file available to mirror later.
- To mirror MP3 files, turn off mirroring and change the file type to MP3 in the mirror settings menu.
- Change the start segment to the desired start segment and turn on mirroring. Once the MP3 mirroring finishes turn off mirroring and reset the file type.

Edit Current Folder Name

Each record folder can be named to identify its contents.

A folder name can be up to 19 alpha numeric characters and cannot contain any spaces or symbols.

Editing a Folder Name

1. Scroll down to the Edit Current Folder Name.
2. Press the MENU knob to access the on-screen keyboard.
3. Using the keyboard name the folder.

Mirror Settings

The mirror compact flash menu is where the parameters of the mirror card are adjusted from.

Mirroring is the copying of the audio files from primary compact flash card to the mirror compact flash card. The mirror compact flash card is formatted as FAT32 and is fully compatible with all Mac & PC platforms and is generally used as a deliverable format to post production. The mirrored files will be recorded as BWAV files.

MIRROR	
MIRROR MODE	OFF
FOLDER TO MIRROR	>
START SEG	1
END SEG	999
FILE TYPE	BWAV MONO
FILE RESOLUTION	24 BITS
FILE NAME	Z001001
FOLLOW PRIMARY	NONE
MIRROR OPTIONS	>

Mirror Mode Options

- **OFF** - Nova will not mirror any files.
- **ON** - Nova will only start to mirror a file when recording stops. Please note if a file is being mirrored and Nova goes into record the mirroring will pause and pickup once stop is pressed again.
- **CONTINUOUS** - When Nova is recording, the audio is copied to the mirror card immediately after it is written to the primary card. Depending on the track count, the mirror card may lag a bit. Please note if mirroring is lagging too far behind many times there are un-needed resources that are on taking the processing power. These items will divert processing power from the mirroring and can often be shut off to conserve the processing power and speed up mirroring. Check to see that some of these items are not unnecessarily on: bus assignments cross points, compressor enables (input, output and card), high pass filters, notch filters, and delays.

Folder to Mirror

The folder to mirror menu specifies which folder the audio will be mirrored (copied) to. For continuous mirror, this folder needs to match the primary folder. Please note if FOLDER CHANGE is set to "AUTOCHANGE" anytime the primary folder is changed the mirror folder will automatically follow.

Start Segment

The start segment number will be the first segment that Nova will mirror or re-mirror. When recording the start segment will automatically increase with each file.

End Segment

The end segment number will be the last segment that Nova will mirror or re-mirror.

File Type Select

The file type select sets the file format type Nova will write the audio as.

- **BWAV MONO** A BWAV MONO file is 1 file per track. So, if only 1 track is recorded, 1 file will represent that "take" from the time record is pressed to the time stop is pressed. If 2 tracks were to be recorded 2 tracks, Nova will produce 2 files, one representing track 1 and the other representing track 2.
- **BWAV POLY** A BWAV POLY file creates one file for that take, even if the take was recorded has multiple tracks. So, with a POLY file if a take is only 1 track, the file would be 1 track. If the take was 2 tracks, it would still be one file with both tracks. This is often referred to as being "2 tracks wide". Similarly, if 6 tracks were recorded it would still be only one file, 6 tracks wide

File Resolution (bit rate) Select

The bit depth that Nova will mirror the files at is set here. Nova can record files as 16 bit or 24 bit.

File Naming Protocol

File naming sets the way the individual files are named.

- **Z001001** - Creates a file name in the format of - **Folder Name** and **Segment Number**. This is the default and recommended naming protocol.

So for example folder Z001 (or whatever name was created) and segment (for example 018) would be Z001018.WAV (folder name / file number). The next file would be Z001019.WAV.

- **1 T2 Z001** - Creates a file name in the format of - **Scene**, **Take**, **Folder Name** and **Segment Number**. For example scene "1", Take "2" in folder "Z001" and segment number "18", the file name will be "1_T2_Z001018.WAV". **Warning - when using this naming protocol do not create a scene or take with any characters other than letters or numbers.**
- **1 T2** - Creates a file name in the format of - **Scene** and **Take** separated by and underscore. For example, scene "1", Take "2" in folder "Z001" and the segment number is "18", the file name will be "1_T2.WAV". **Warning when using this naming option avoid creating duplicate file names within a folder, if duplicate file names are created the files will not mirror properly.**
- **1T2** - Creates a file name in the format of - **Scene** and **Take** with no separation. For example, scene "1", Take "2" in folder "Z001" and the segment number is "18", the file name will be "1T2.WAV". **Warning when using this naming option avoid creating duplicate file names within a folder, if duplicate file names are created the files will not mirror properly.**

Please note that all segment numbers will be a three-digit number. The first file in a folder will always be 001.

Follow Primary

- **Auto Change** - When changing the primary folder, the mirror folder will automatically change to follow the selected primary folder.
- **None** - When changing the primary folder, the mirror folder will not change.

Mirror Options

Remember mirror options after power cycle allows Nova to stay in the last mirror mode setting before being powered off. If this option is set to OFF, any time Nova is powered down the mirror mode will default to OFF and will need to be turned back on. Please note that even if Nova is setup to allow mirroring mode to be remembered after a power cycle if a CF card is not installed in the mirror slot after the unit boots-up - mirror mode will be turned off and must be manually turned on after a mirror card is inserted.

Time Code Offset

The time code offset is used to create an offset for the mirror files. An offset can be set from -500ms to +500ms in 1ms increments.

Format Mirror Card

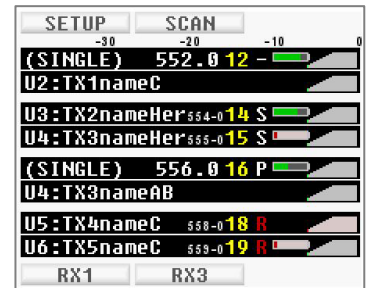
This is where the mirror CF card is formatted. To format press the STAR key. Pressing the BACK key will exit the format page.

Mirror File List

The mirror file list displays the files that have been mirrored in the selected folder.

Wireless Receivers

Pressing F9 key for any meter screen will open the wireless receiver view menu.



Receiver View

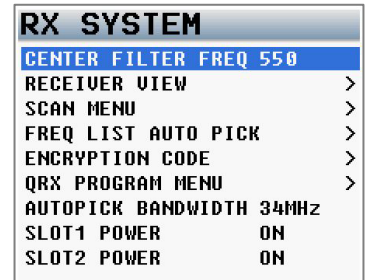
Nova's internal receiver settings can be viewed from this menu.

This screen displays one sector for each transmitter. If the receiver is set to single mode two sectors will show the information for that receiver. Each sector will display the following information:

- **Unit code** - This is the individual ZaxNet unit code that the transmitter is set to. Having individual unit codes allows each transmitter to be controlled individually.
- **Transmitter name** - This is name of the transmitter. Each transmitter can be given a unique identifying name that will be displayed and added to the met. Please see the transmitter manual for more information on how to change the name of transmitter. The factory default name is the transmitter's serial number.
- **Frequency** - The frequency that the receiver is set to.
- **Gain** - This is the gain, in dB's, that the receiver is set to.
- **Transport status** - The transport status of the transmitter's onboard recorder will be indicated just above the RF signal strength meter:
 - S - Recording / Playback is stopped
 - R - The transmitter is recording
 - P - The transmitter is playing back
- **Battery level** - A battery indicator will display the approximate battery level for each transmitter. A fully charged battery will display green and then turn red as the battery depletes its charge. When a transmitter is routed to a fader and the transmitter's battery gets low the top three LEDs will also start to blink. The battery icon and LEDs will start blinking when the battery has roughly 15 to 30 minutes of charge left. Please note that when the battery is low the transmitter may not go into record.
- **RF Signal strength** - Each module has two RF meters, one for each receiver. The meters show the amount of RF signal being received in green. The signal level is visually displayed in the ramp shaped RF meter icon. As the shading increases from the left to the right the more signal is present. If the icon is shaded red when the transmitter is powered down that means the receiver is seeing unwanted RF from a source other than from the corresponding transmitter.
- **Audio meter** - Each module will display an audio meter(s) for each signal received. If the module is set to single mode one large meter will be shown. If the module is set to dual mode two meters will be shown. If the module is receiving a signal from a stereo transmitter the large meter will be split in half into two smaller meters, representing the left and right audio of the transmitter. The meters will show the audio modulation in dBFS. Within each meter the signal level will be green (up to -20dBFS), yellow (from -20dBFS to -10dBFS), and red (above -10 dBFS).

Setup Menu

From the receiver view menu pressing the F6 key will open the receiver setup menu.



Center Frequency Set

Nova’s internal receivers have a 35MHz tracking front end filter that eliminates unwanted the stray RF which can desensitize the receiver and result in poor performance. The center frequency is the middle frequency of the 35MHz window.

After deciding on the 35MHz operating range the center frequency should be the middle of that range. Therefore, the best RF performance will be frequencies 17.5MHz above and 17.5MHz below the center frequency. Please note that this is a global setting for both receiver modules meaning that that the 35MHz window will be the same for both modules.

To adjust the center filter, rotate the menu encoder knob to the desired frequency, or manually enter the desired frequency using the numeric function keys (f1 thru F10). Please note that the center frequency must be an even number.

Receiver View

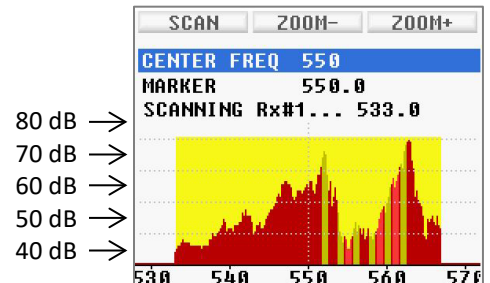
Switches to the receiver view menu.

Scan Menu

From the receiver view menu pressing the F7 key will open the scan menu. A scan is where Nova can search the spectrum to determine what RF is present. Scanning will aid in finding clear operating frequencies. After a scan the RF that is found will be represented in the graph by a series of vertical lines extending from the baseline up, the higher line the stronger the RF signal is.

The horizontal lines show the strength of the signal in decibels. Any stray RF below 40dB shouldn’t have too much effect on the performance.

- The yellow area shows the 35MHz window of the front end filter.
- The colored vertical lines will show the frequencies that that the QRX212 / 414 modules are currently set to.
- The marker is for visual identification to examine a specific frequency within the scan. To adjust the marker, rotate the menu encoder knob or manually enter the desired frequency.



Scanning

- Pressing the F7 and F8 key will zoom in and out to adjust how much of the spectrum is scanned, the front-end filter will track with the scan.
- Press the F6 key to imitate a scan.
- After the scan is preformed pressing the F9 key will open the Auto-Pick menu.

Frequency List -Auto Pick

After a scan is done Nova can choose the best frequencies and send those frequencies to the transmitters and receiver modules.

CHOOSE FREQS			
RX1AB	SINGLE	552.0	✓
RX2A	DUAL A	554.0	✓
RX2B	DUAL B	555.0	✓
RX3AB	SINGLE	556.0	✓
RX4A	DUAL A	558.0	✓
RX4B	DUAL B	559.0	✓
RX5A	DUAL A	560.0	
RX5B	DUAL B	561.0	
<input type="button" value="PICK"/>		<input type="button" value="SEND"/>	

How to use Auto-Pick

1. After a scan is done press the F9 key.
2. Select a receiver by rotating the menu encoder knob.
3. Press the encoder knob to select the receiver. That will put a green check mark to the right of the frequency that will be changed.
4. After all the desired receivers are selected, press the F9 key to let Nova choose a frequency with the cleanest scan for each receiver.
5. Press the F11 key to send those frequencies to the transmitter and receiver simultaneously. Please note the unit code in the input configure menu for the transmitter needs to match for the frequency to be changed.

Encryption Set

This is where the encryption code is set for both the UHF receivers and the ZaxNet transmitter. If the corresponding transmitter, that is sending audio, has encryption turned on Nova can only listen to it if it has the same matching encryption code entered. When the codes do not match, all that will be heard is white noise.

Each receiver module and the ZaxNet transmitter will share the same encryption code therefore if encryption is turned on all transmitters will need to have encryption enabled as well.

The encryption code should always be set to 000000 for normal un-encrypted operation.

QRX Program

This menu is where the QRX modules firmware are updated from. Upon entering the program menu, the current firmware that each receiver is running will be displayed. Pressing the STAR key to enter program mode. Please see the firmware update instructions at the back of this manual for further information

Auto pick Bandwith

This menu is where the band width of auto pick is set.

So, for example if the auto pick band width is set to 10 MHz Nova will only choose frequencies +/- 5 MHz from the center frequency. If the band width is set to 35 MHz Nova will choose frequencies +/- 17.5 MHz from the center frequency.

Slot Power mode

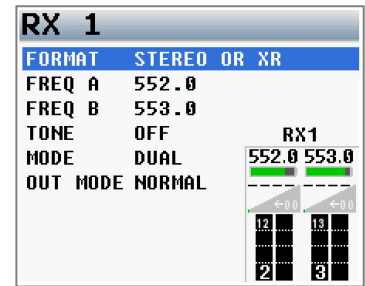
This is where the power for each module is turned on from. It is recommended to turn off power to modules not in use to conserve battery power.

Receiver Configure Menu

The receiver configure menu is where the receiver is set-up.

Once in the receiver configure menu other receiver modules can be accessed by pressing the F7 and F8 keys.

The status of each transmitter appears on the lower right. The frequency, battery level, transport status, RF strength meter, audio meter and transmitter gain level can be seen.



Format

This is where the modulation for the receiver is set. The receive modulation needs to match the modulation that the transmitter is set to. Please note when the modulation is changed Nova will automatically reboot the receiver, Nova itself will not be rebooted.

Frequency

This is the frequency of each receiver is set.

Tone

When turned on a 1K reference tone is sent from the receiver outputs.

Mode

- Single - The receiver will only receive signal from one transmitter.
- Dual - The receiver will receive signal from two transmitters.

Output Mode

- Stereo - Used when receiving a signal from a stereo transmitter.
- Mono - Used when receiving a signal from a mono transmitter.

Adjusting Input Trim and Remote Transmitter Gain

Adjusting the Input Trim

Press the TRIM key to engage the trim function - the TRIM Key will flash when trim is engaged. When the TRIM key is flashing the faders will adjust the input trim for input that is routed to the fader. The trim can be adjusted for additional banks by pressing the BANK key.

Using Auto-Trim

AutoTrim is a feature that allows the menu knob to act as an individual trim knob. When AutoTrim is turned on and a fader is adjusted the blue LED to the lower right of the fader will illuminate indicating the input routed to that fader will be trimmed when rotating the menu knob. When another fader is nudged, the trim function will move to that input. Please note AutoTrim is only active when the meter screens are displayed, except for the ENG meter screen.

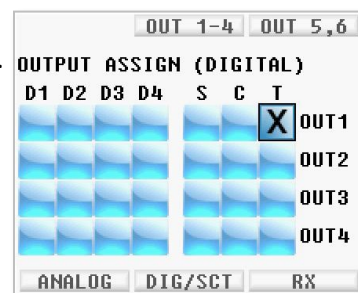
Adjusting the Transmitter Gain

Press the Z-NET key to engage the ZaxNet remote gain function - the Z-NET Key will flash when remote gain is engaged. When the Z-NET key is flashing the faders will adjust the gain for transmitter that is routed to the fader. The gain can be adjusted for additional banks by pressing the BANK key. Please note the ZaxNet ID code for the transmitter to be controlled must be set in the INPUT CONFIGURE menu for the input.

Setting Up and Engaging Tone

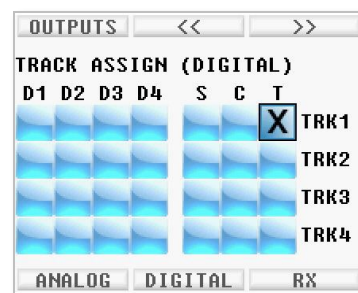
Assigning Tone to output busses

To assign tone to an output bus, press the F4 key to go to the output bus assign matrix. When in the matrix press the F10 key (DIG/SCT) and select which output bus will receive tone when tone is engaged by setting a cross point in the "T" row. Please note that only the busses with tone routed to it will output the slate tone when the visual time code slate tone is activated.



Assigning tone to card tracks

To assign tone to card tracks, press the TRIM key to go to the track assign matrix. When in the matrix press the F10 key (DIGITAL) and select which card tracks will receive tone when tone is engaged when tone is engaged by setting a cross point in the "T" row.



Adjusting the tone frequency and level

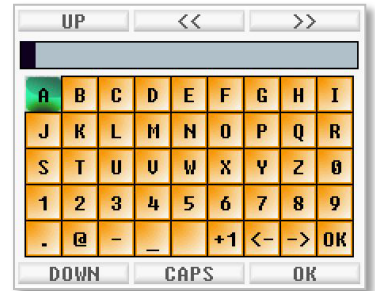
Tone level and frequency can be adjusted in the ENG setup menu. Please note it is advised to keep the tone level at -20dB for most operations.

Turning on/off tone

To turn on / off the tone generator - SHIFT (press and hold the MENU key) and then press the TONE / COM key

Using the Onscreen Keyboard

- Scrolling the MENU knob will move the cursor laterally. When at the end of a row the cursor will transition to the next lines.
- Use the F6 and F9 keys to move the cursor up and down.
Pressing and turning the MENU knob simultaneously will also move the cursor up and down.
- Pressing the F7 and F8 keys will position the pointer within the text.
- Pressing the F10 key will toggle between upper and lower case characters.
- When done select OK or press the F11 key.



USB Keyboard

A USB keyboard plugged into an adaptor can be used to start and stop recording, navigate menus, select and adjust menu items, enter metadata and adjust input trim.

Using the Keyboard

After the keyboard is identified Nomad can be navigated and controlled with shortcuts from the below list. Some shortcuts have two key options - this is for smaller keyboard that may have limited keys.

Keyboard Shortcuts

Menu Access			
Main Menu	ALT+M	ENTER	Press ↑↓ keys to navigate through menus and then press ENTER to select a menu item.
Headphone Matrix	ALT+H	H	To toggle through additional matrices press > to advance or < to go back.
Time Code Menu	ALT+T	T	
Input Menu	ALT+I	I	
Bus Matrix	ALT+B	B	
Metadata Menu	ALT+M	M	
Cue Menu	ALT+C	C	
Record Enable	ALT+E	E	
Output Assign	ALT+O	O	
Mirror Menu	ALT+Q	Q	
Slate Display	ALT+S		
ZaxNet	ALT+Z	Z	

Edit Metadata			
Scene	S		Then use the USB keyboard to enter scene information and press enter when done.
Take	T		Then use the USB keyboard to enter take information and press enter when done.
Note	N		Then use the USB keyboard to enter note information and press enter when done.

Transport Control			
Record	CTRL+R		Starts recording.
Stop	CTRL+S		Stops recording or playback.
Play	CTRL+P		Starts playback.

General Navigation			
Go home	HOME		Jumps directly to the home meter screen.
Back	ESC		Jump back one menu.
F-11 thru F-12			Acts like the function keys on Nova
Number keys 1 - 5			Select fader banks
Period Key	.		Acts like the F8 Key which will increment.
Comma Key	,		Acts like the F7 key which will decrement.
Up	↑	→	These keys move the cursor up as well as increase a numeric value.
Down	↓	←	These keys move the cursor down as well as decrease a numeric value.
Toggle HP Presets	<	>	These keys toggle through the headphone matrices

Additional			
Enable Tone	CTRL+T		Toggles tone on and off.
Enable Slate	CTRL+V		Toggles the slate microphone on and off
Enable Com	CTRL+C		Toggles the com microphone on and off

Monitoring

Changing Headphone Presets

- From the meter screen press the F7 key to go back to the previous enabled set up.
- From the meter screen press the F8 key to advance the next enabled set up.

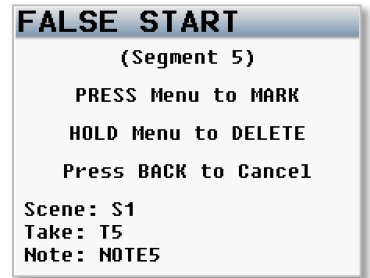
Pre Fader Listening

The audio routed to a fader can be listed to pre-fader by pressing the function key associated with that fader (F1 thru F5). To listen to an input, press a PFL key - when pressed the key will blink and the headphone monitor name will display what input is being listened to.

- When the PFL Keys menu item located in the ENG Setup menu is set to "Multi" Additional inputs can be simultaneously listened to by pressing additional PFL keys.
- When the PFL Keys menu is set to "Single" only one input can be listened to at a time
- To remove an input, press the PFL key again or press the BACK key.

False Start

Pressing STOP key after stopping will open the false start page. From this page a take can be marked as a false start or just delete the file.



Compact Flash Cards

Currently we recommend using SanDisk or Transcend compact flash cards. Any size card 4 to 128GB will be fine. For normal operation it is not necessary to use fast speed cards as it will not make Nova write any faster.

We do not advise using Lexar, Kingston, Delkin or off brand cards from questionable manufacturers. And please only buy cards from reliable sources and avoid questionable retailers, because counterfeit cards do exist and can be unreliable and cause crashing.

If planning to record at 96 kHz or 192 kHz, choose a card that claims 10 MB per second sustained write speed maximum write speed does not count.

It is recommended to test the cards before use, even if it is a brand/size that has been used in the past. To test the cards simply perform a record test for 15 to 20 minutes. If Nova stops recording or causes a crash it is most likely a result of bad media.

Syncing Nova to a Denecke Slate

The LTC stream out of the Nova has a “jitter” in the time code signal at 29.97 fps and 23.976 fps. This can result in the Denecke TS-C or the TS-3 slates identifying the wrong code, if the slate is set to “Auto Set” (Position 5). In addition, if “Auto Set” is used the slate can experience a time code drift.

So, when setting the slate to receive time code at 29.97 or 23.976, do not use the auto set mode. Just simply set the rotary dial to the corresponding time code frame rate. When syncing the slate “Sync Err” will be displayed. Simply ignore it. The slate will accept the sync and the slate and Nova will stay in perfect sync with each other.

Nova Connector Assignments

Audio Input / Output Connectors (XLR-3)

- Pin 1 - Ground
- Pin 2 - Signal (+)
- Pin 3 - Signal (-)

Audio Output Connectors (TA-5)

- Pin 1 - Ground
- Pin 2 - Channel A (Left) (+)
- Pin 3 - Channel A (Left) (-)
- Pin 4 - Channel B (Right) (+)
- Pin 5 - Channel B (Right) (-)

Slate Microphone Input Connector (1/8" TRS)

This is a balanced input and can be used with dynamic microphones. It can also be used unbalanced with low voltage microphones.

- Tip - (+) / Hot – Biased to 5 Volts
- Ring - (-) / Cold – Biased to 5 Volts
- Sleeve - Ground

Headphone Output Connectors (1/4" TRS)

- Tip - Signal Left
- Ring - Signal Right
- Sleeve - Signal ground

Power Connectors (Hirose-4 Connector)

- Pin 1 - Ground (-)
- Pin 2 - Not Connected
- Pin 3 - Not Connected
- Pin 4 - DC (+)

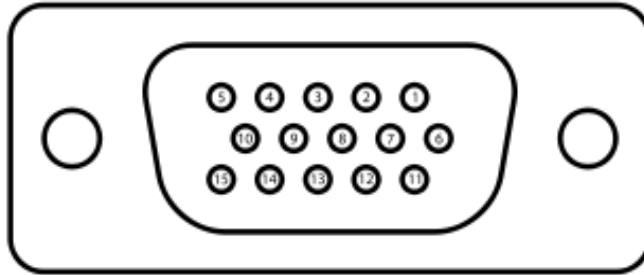
Walkie Interface Connector (TA-5) – Connects to output bus 5/6

- Pin 1 - Ground
- Pin 2 - No Connection
- Pin 3 - No Connection
- Pin 4 - Microphone Audio and PTT
- Pin 5 - No connection

The return audio from the walkie can be optionally routed back into Nova

AES Digital Input / Output Connectors (DB-15)

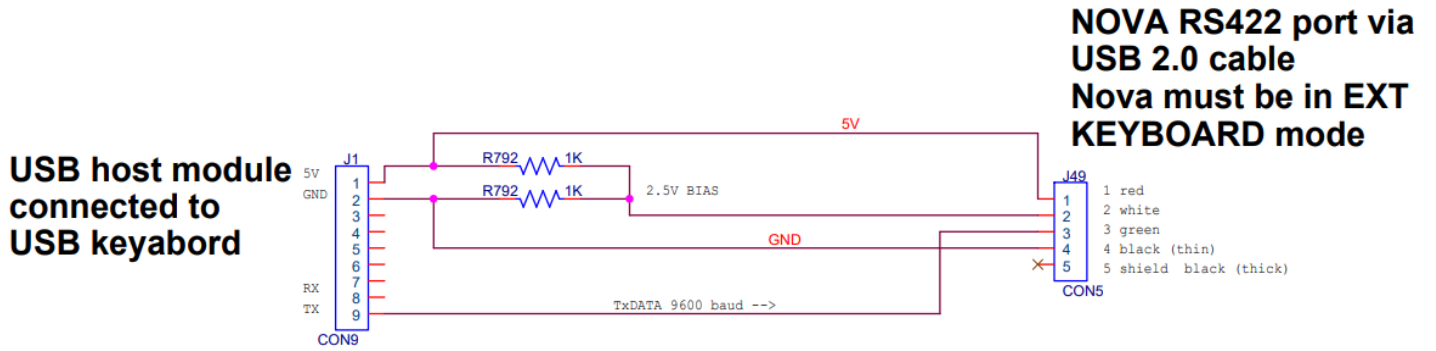
Nova uses a mini DB-15 (DE-15) connector for the AES (digital) inputs and outputs. This connector is where a GPI remote roll switch would be connected to.



Top row pins: 5, 4, 3, 2, 1
 Middle row pins: 10, 9, 8, 7, 6
 Bottom row pins: 15, 14, 13, 12, 11

DB -15 Pin Number	IN / OUT	AES PAIRS	Connects to XLR Pin
1	IN	3 / 4	2 (+)
2	IN	1 / 2	2 (+)
3	OUT	5 / 6	2 (+)
4	GPI OUT		
5	N/C		
6	OUT	1 / 2	3 (--)
7	OUT	1 / 2	2 (+)
8	GROUND	GROUND	1
9	OUT	3 / 4	3 (--)
10	OUT	3 / 4	2 (+)
11	IN	3 / 4	3 (--)
12	IN	1 / 2	3 (--)
13	OUT	5 / 6	3 (--)
14	GPI IN		
15	N/C		

USB Keyboard



Updating Firmware

Each Nova is shipped with the latest firmware version installed. When newer firmware becomes available, it can be downloaded from the Zaxcom website: <http://www.zaxcom.com/software/updates>

Newer version of beta software may be found on the Zaxcom Forums: <http://www.zaxcom.com/forum>

Updating Nova's Firmware

1. Format a compact flash card in the Mirror slot. A PC or Mac can be used as well.
2. Using a PC or Mac download the new software named (NovaProgFile_vX.XX.bin) and copy it to the card.
3. With Nova powered down, insert the CF card containing the .bin file into the mirror slot. Please make sure that only one .bin file is on the card.
4. Press and hold the STAR key while powering on Nova.
5. Once the "Preparing to burn ROM" line is displayed, the STAR key can be released.
6. After the "POWER DOWN NOW" is displayed, cycle the power.
7. Verify that Nova is running the version just installed in the about Nova menu.

Updating the ZaxNet Firmware

1. The ZaxNet firmware is contained in the Nova firmware so no separate file is needed.
2. Press and hold the ZNET key to enter the ZaxNet set up menu and choose UPDATE IFB MODULE.
3. Press the STAR key.
4. After "POWER DOWN NOW" is displayed cycle the power.

Updating MRX-414 or 214 modules firmware using a Zaxcom transmitter

1. Set the modules to single mode.
2. Set the modulation to MONO.
3. Make sure the IFB is not in transmit mode.
4. Confirm that the encryption code is set to off on Nova and on the transmitter.
5. Set the frequency on all the receiver modules to the same frequency that the transmitter that is being used to send the firmware is set to and make sure the all the modules are receiving the signal
6. Go QRX program menu in the RX SYSTEM menu.
7. Press the star key, each module should then display that it is "WATTING" for firmware.
8. Copy the MRX firmware on to a micro SD card and insert it into a LA3 transmitter (running software version THD-218P or THD-304 or higher) or a ZMT or Flex (running ZMT-304 or higher).
9. At the transmitter:
 - Make sure the transmitter has fully charged batteries installed.
 - Proceeded to the send QRX program menu.
 - Press the INC key.
 - The transmitter will indicate that it found the program on the card and has started sending it.
10. "FILLING" will be displayed followed by "BURNING".
11. When each module is updated "SUCCESS" will be displayed. It is very important that nova is not powered down before this is displayed.
12. If a module does not receive all of the sectors wait, the transmitter will begin resending the firmware again on its own and will continue to transmit until manually stopped.
13. When all the modules are updated, you may stop the transmitter.
14. Power cycle Nova and confirm that each module is running the updated firmware.

Product Support

- Register** your product with Zaxcom: <http://zaxcom.com/support/product-registration/>
- Download the latest **Firmware** from: <http://zaxcom.com/support/updates/>
- Download the latest **User Manuals** from: <http://zaxcom.com/support/updates/>
- Submit Technical Questions** at: <http://www.zaxcom.com/submit-a-technical-question>
- Submit information for **Repair Services** at: <http://www.zaxcom.com/support/repairs>
- Join the **Zaxcom User Forum** at: <http://www.zaxcom.com/forum/forum.php>
- Join the **Zaxcom Face Book User Group** at: <https://www.facebook.com/groups/682199065139938/>

Nova Specifications

Analog In

Inputs: 4 Mic/line-level with 48V phantom power and 2 line-level
Connector: 4 x XLR-3F
Mic level input range: -56 to -26 dBu
Line level input range: -10 to +8 dB
Distortion: 0.0015%
ADC bit-depth: 24 bits
Dual ADC input dynamic range: 140 dB with NeverClip™
Clipping level: +28 dBu
Frequency response: 28 Hz to 22 kHz (48 kHz sampling-rate)
THD + noise: 0.0015%

Analog Out

4 Balanced TA5 (6 bus) - 0dBu, -10dBu and -35dBu
Headphone: 1/4 inch stereo bus
Output level: 0 dBu @ -20 dBFS
Output clipping level: +20 dBu
DAC Bit-depth: 24 Bits
DAC Dynamic Range: 115dB
Impedance: 30 ohm

Digital In / Out

AES / AES42 in: 2 Pair (4 Channels)
AES Out: 3 Pair (6 Busses)
Connector: DB-15 mini (DE-15)
AES Sample rate conversion: 32-96 KHz

ZaxNet RF Interface

2.4 GHz Transmitter: 50mW output power
Frequency Range: 2.403 to 2.475 GHz
Modulation Type: Spread Spectrum
Bandwidth: 1MHz
Connector: SMA female

Receiver

QRX212 / 414 Receiver module slots: 2
RF Connectors: 2 SMA
RF Impedance: 50 ohm
RF Amp Noise Figure: .5 dB
RF Amp IP3: +30 dB input
RF Filter Band Pass: 35 MHz
RF Tuning Range: 512 - 698 MHz

QRX212 / 414 Module

Receivers Channels per Module: 2
Receiver Modulation: Zaxcom Proprietary Digital
Tuning Range: 512 - 698 MHz
Power Consumption: 200 ma @ 12 VDC
Size: 5" x 3" x .8" (L x W x H)

Recording

Track count: 16
Bit-depth: 24 bits
(192 4-track maximum)
Head room: 20 to 44 dB
Format: MARF II, BWF
Max Pre-record duration: 10 seconds

Data Storage

Internal: Dual Compact Flash
Mixer Type: 32 bit floating point DSP
A-D / D-A resolution: 24 bit

Effects

Delay: 0 to 60 mS in .1mS steps
Notch filter: 2 band, 20 Hz to 20 kHz frequency range adjustable
Compressor type: soft knee with side chain
High Pass Filter: 20 Hz to 230 Hz

Timecode Reader/Generator

Timecode type: SMPTE
Connector: BNC x 2
Input Voltage: 1-4VPP
Output Voltage: 2VPP
Clock Accuracy: 1.54 PPM
Timecode Frame-rates: 23.98, 24, 25, 29.97NDF, 29.97DF, 30NDF, 30DF

Power

External: 8 to 18 VDC
Power Connector: Hirose
Battery Meter: Yes, on LCD display

Physical

Size (H x W x D) 2.0" x 8.25" x 6.0"
Weight: 2 lbs. 9 oz. without QRX212/214 modules / 3 lbs. 7 oz. loaded with 2 x QRX212/414 modules

Misc.

Tone Level Selectable: -12 to -20 dB FS
Display: Full color sunlight readable LCD
Meters: Output / Input / Card
Slate Mic: Internal / External

Zaxcom Warranty Policy and Limitations

Zaxcom Inc. values your business and always attempts to provide you with the very best service.

No limited warranty is provided by Zaxcom unless your Nova ("Product") was purchased from an authorized distributor or authorized reseller. Distributors may sell Product to resellers who then sell Product to end users. Please see below for warranty information or obtaining service. No warranty service is provided unless the Product is returned to Zaxcom Inc. or a Zaxcom dealer in the region where the Product was first shipped by Zaxcom.

Warranty Policy

The Product carries a Standard Warranty Period of one (1) year.

NOTE: The warranty period commences from the date of delivery from the Zaxcom dealer or reseller to the end user.

There are no warranties which extend beyond the face of the Zaxcom limited warranty. Zaxcom disclaims all other warranties, express or implied, regarding the Product, including any implied warranties of merchantability, fitness for a particular purpose or non-infringement. In the United States, some laws do not allow the exclusion of the implied warranties.

Troubleshooting & Repair Services

No Product should be returned to Zaxcom without first going through some basic troubleshooting steps with the dealer you purchased your gear from.

To return a product for repair service, go to the Zaxcom Repair Services page <http://www.zaxcom.com/repairs> and fill in your information; there is no need to call the factory for an RMA. Then send your item(s) securely packed (in the original packaging or a suitable substitute) to the address that was returned on the Repair Services page. Ensure the package, as we cannot be held responsible for what the shipper does.

Zaxcom will return the warranty repaired item(s) via two-day delivery within the United States at their discretion. If overnight service is required, a FedEx or UPS account number must be provided to Zaxcom to cover the shipping charges.

*Please note a great resource to troubleshoot your gear is the Zaxcom Forum: <http://www.zaxcom.com/forum>.

Warranty Limitations

Zaxcom's limited warranty provides that, subject to the following limitations, each Product will be free from defects in material and workmanship and will conform to Zaxcom's specification for the particular Product.

Limitation of Remedies

Your exclusive remedy for any defective Product is limited to the repair or replacement of the defective Product.

Zaxcom may elect which remedy or combination of remedies to provide in its sole discretion. Zaxcom shall have a reasonable time after determining that a defective Product exists to repair or replace a defective Product. Zaxcom's replacement Product under its limited warranty will be manufactured from new and serviceable used parts. Zaxcom's warranty applies to repaired or replaced Product for the balance of the applicable period of the original warranty or thirty days from the date of shipment of a repaired or replaced Product, whichever is longer.

Limitation of Damages

Zaxcom's entire liability for any defective Product shall, in no event, exceed the purchase price for the defective Product. This limitation applies even if Zaxcom cannot or does not repair or replace any defective Product and your exclusive remedy fails of its essential purpose.

No Consequential or Other Damages

Zaxcom has no liability for general, consequential, incidental or special damages. These include loss of recorded data, the cost of recovery of lost data, lost profits and the cost of the installation or removal of any Product, the installation of replacement Product, and any inspection, testing or redesign caused by any defect or by the repair or replacement of Product arising from a defect in any Product.

In the United States, some states do not allow exclusion or limitation of incidental or consequential damages, so the limitations above may not apply to you. This warranty gives you specific legal rights and you may also have other rights, which vary from state to state.

Your Use of the Product

Zaxcom will have no liability for any Product returned if Zaxcom determines that:

- The Product was stolen.
- The asserted defect:
- Is not present,
- Cannot reasonably be fixed because of damage occurring when the Product is in the possession of someone other than Zaxcom, or
- Is attributable to misuse, improper installation, alteration, including removing or obliterating labels and opening or removing external covers (unless authorized to do so by Zaxcom or an authorized Service Center), accident or mishandling while in the possession of someone other than Zaxcom.
- The Product was not sold to you as new.

Additional Limitations on Warranty

Zaxcom's warranty does not cover Product, which has been received improperly packaged, altered or physically abused.

Zaxcom Nova is protected under following patent #'s:
11,089,430/10,230,342/8,842,854/8,878,708/11,089,430

For a full list of patent information, please visit: <https://zaxcom.com/company/patents/>