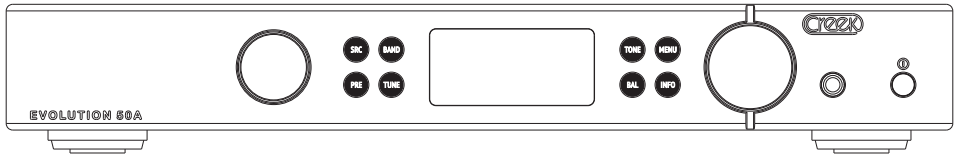


# RUBY DAC



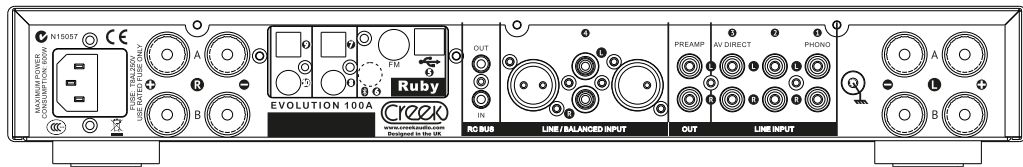
Installing the RUBY DAC and FM Tuner module into the EVO 50A or EVO 100A Amplifier in brief.

The RUBY DAC and FM Tuner module is an upgrade option, suitable only for the Evolution 50A and Evolution 100A Integrated Amplifiers. It should be fitted by your supplying dealer, but if that is not possible, or you bought your amplifier remotely, these instructions are designed to help you install the DAC module without danger.

The function and operation of the RUBY DAC is deceptively simple and these instructions are limited, so please go to the Creek Audio website for further instructions.

[www.creekaudio.com/instructions/ruby-dac-manual.pdf](http://www.creekaudio.com/instructions/ruby-dac-manual.pdf)

Read all the following instructions carefully before installing or operating the RUBY module. Keep this User Manual so you can refer to these safety instructions later if required.



## **FITTING THE RUBY DAC AND FM TUNER MODULE**

**Safety first! Please disconnect the amplifier from the mains power supply before removing the cover.**

Remove the top cover from the EVOLUTION 50A or 100A integrated amplifier, by un-screwing the 4 side screws and 3 rear screws. Be careful to retain these screws and the cutting washers for re-fitting. Pull the cover up on one side only to avoid bending the cover in the middle.

The RUBY cannot be fitted to EVOLUTION 50A version 1 amplifiers with serial/batch numbers, '***EVO50A S/B 1315 0500***'.

EVOLUTION 50A amplifiers with serial/batch numbers later than quoted above and EVOLUTION 100As, will have an extra pair of RCA sockets, marked LINE INPUT 5, mounted on the rear panel in the 'expansion slot'. Input 5 sockets are mounted on 90 x 36mm (3.5 x 1.4") plate. Input 5 mounting plate is held-on with two Torx 7 screws. Remove the outer two screws that hold the plate to the back panel. Remove the plate from the back panel and pull-out the flat foil cable from the Pre-amp PCB socket, underneath it, marked **MODULE**.

Insert the 110mm Flat Foil Cable (FFC) exiting from the RUBY module, into the similar socket on the Pre-amp PCB below it, marked **MODULE**.

The RUBY's PCB should now be held upside-down (*components facing down, bare PCB facing upwards*) with the sockets facing backwards towards the rear panel. Fold the loose FFC under the module. Lower the module into the 'expansion slot' in the rear panel. It is a tight fit, so it may require you to wiggle it into place. Using the 2 screws previously removed, fix the RUBY module firmly onto the rear panel, using the Torx 7 screw driver, supplied in the pack.

Replace the cover as before, making sure to put the cutting washer back on the same screw position.

N.B. It is very important that the cable exiting the module goes straight down to the Pre-amp without being twisted or rotated. If the cable is twisted and the amplifier is switched on, an internal fuse will be blown and it will be necessary to return the amplifier to the retailer or importer to be repaired, so please take care.

## **DIGITAL INPUTS**

The RUBY module contains a very high-quality digital to analogue converter (**DAC**) capable of accepting digital signals up to a word length of 24 bit and a maximum sample rate of 192 kHz. This will convert signals from various digital sources into an analogue format that the amplifier can handle.

**INPUTS:** #8 and #10, are **COAX** sockets for connecting from a suitable SPDIF digital source, with a maximum resolution of 24 bit 192 kHz, i.e. CD player, Satellite receiver, etc.

**2 TOSLINK** sockets, #7 and #9, also provide inputs for SPDIF digital signals with a maximum resolution of 24 bit 192 kHz. Optical connections are effective in isolating ground paths between the source and amplifier that could possibly create interference or reduce performance.

**USB** type B socket #5, (printer type) enables the amplifier to be connected to a computer and used as an external sound card. The USB input will be powered by the computer, so care should be taken to avoid using non-standard cables or cables longer than 3m (10 feet). Once connected to a computer which must at first be connected to the internet. The USB circuit will search for a suitable driver, to enable your computer to communicate with the RUBY. After a short time, your computer should report that it has installed a generic USB driver for use with the RUBY DAC.

OSX devices have the potential to play high resolution signals natively, or without specialist drivers. However, it may still require plug-ins to enable this to happen. A quick internet search will point-out various options to make this happen. Creek Audio cannot accept responsibility for stability or optimisation of external devices, such as computers or operating systems.

PCs can pass high resolution signals via USB only if specialist drivers are loaded. These will not be free of charge. Creek cannot accept responsibility for the stability of proper working of any external devices or software. Please consult your dealer or supplying vendor for more information.

While dedicated Remote APPs may offer flexible options to navigate and play your computer based music library, Creek have programmed the RUBY to have certain HID functions (Human Interface). Using the EVOLUTION remote handset, it is possible to Play, Stop, Pause or force tracks forward and backwards. This limited functionality is not displayed on the EVOLUTION product, so it is no substitute for having a monitor or display connected to your computer, or a remote APP running on a handheld device, such as a smart phone or tablet, to navigate more easily.

## **BLUETOOTH**

The RUBY's Bluetooth module will be inside the amplifier's metal case, so it is effectively shielded and cannot receive wireless BT signals unless a short antenna screwed into the golden F socket #6. Please find the short black antenna supplied in the packaging and screw it into the socket. It can be then bent into a position to allow other cables to pass without obstruction.

The RUBY has a Bluetooth receiver that can receive music signals from various devices. It is first necessary to look at the settings of your source device, such as a smart

phone or tablet, to search for the appropriate BT device. When you see the EVOLUTION BT device listed, select it and it will be remembered on that device. If required, the smart device can also be made to forget the EVOLUTION BT if required. Normally, if the amplifier's input selector is set for BT input, it will allow the RUBY to pair with the chosen device and enabled it to pass music signals, up to a distance of 10 – 15 metres. Buildings will have different construction techniques, so depending on the materials used and the amount of obstructions in the way, reception distance may be either greater or shorter. Other wireless devices operating on or near the BT frequency may also affect the reliability of signal reception.

## **FM RADIO: CONNECTING ANTENNA**

To get you started quickly, Creek Audio has included a 1.5 metre length of wire with a coax plug at one end, to act as a temporary **FM** antenna. Adjust the position of this temporary antenna for best results. However, to obtain the best **FM** signal, use a high quality, multi-element, directional external **VHF - FM** antenna. If in doubt consult your supplying Hi-Fi dealer, or a specialist antenna installation company for advice.

## **GETTING STARTED IN YOUR REGION**

To select the best setting for your region: Power-**OFF** the **Receiver**; Press and hold the **MENU** button and then press the **POWER** button to turn the Receiver-**ON** again. When the OLED display lights-up and the CREEK logo disappears, release the **MENU** but-

ton and the display will show a Set-Up menu, including Broadcast Region. Rotate the left-hand control knob, to select Broadcast Region. Press the knob once, to show all the available regions. Select your region with the control knob and press it once again. To return to normal operation, press the **MENU** button once more. After a couple of seconds delay the Receiver will work with the correct settings for your region.

## **EVOLUTION 50A FRONT PANEL CONTROLS & OPERATION**

Most of the RUBY's Tuner functions are controlled by the left-hand control knob and 3 push buttons. To switch from Line inputs to the Tuner press any of the three Tuner buttons. To return to the amplifier's **LINE** inputs, press the SRC (Source) button.

**BAND**, also selects Tuner mode, when the Receiver was previously in Line input mode, but the **RUBY** only operates on the **FM** band.

**TUNE** selects between manual tuning mode and automatic **SEEK** mode. Press **TUNE** and rotate the left-hand knob to increment the frequency up or down to the desired station. Press the knob briefly to initiate **SEEK/SEARCH** in the direction last travelled by the rotary control.

**PRE** switches to a station preset mode. Turn the left-hand control knob to step through 99 available preset locations. Presets can be populated manually or automatically. Both methods are detailed in the paragraphs bellow.



Storing a station in a Preset location can be done several ways with the Receiver.

1. Seek or manually tune to a station; Press and hold **PRE** button until a Preset location number flashes on the screen in place of **FM**. The flashing number indicates the preset location immediately following the last one in use, making it convenient to program a series of presets in a row. If you wish, you can change the offered preset location by turning the control knob. To confirm and store the tuned frequency into the selected preset location, press **PRE** again briefly. The received station is now stored in your chosen location. N.B. The flashing number will time-out and the preset store operation will be cancelled in about 9 seconds, without any user input.
2. Repeat the steps above for any subsequent station(s).
3. Automatically **SEEK** and store all stations of a usable quality in Preset locations starting from the last one in use. Press **PRE** and **TUNE** together and hold down for about 3 seconds, until the Receiver starts to **SEEK** automatically starting from the currently tuned frequency up and wrapping around the band edge to complete the seek throughout the entire active band. All stations with a reasonable signal strength and quality encountered during seek will be memorised and given a Preset number in succession.
4. To clear all stored Pre-sets (along with all the Receiver preferences), select Factory Defaults from the **SETUP MENU**. See details.

**RDS** (RBDS in the USA) means Radio Data Service or Radio Broadcast Data Service. Most international **FM** stations broadcast RDS. If the received signal is strong enough and if the station is broadcasting RDS data, the OLED display will switch from showing frequency to RDS information. See further details in the MENU section.

**DISPLAY** The EVOLUTION 50A or 100A's OLED display shows the following status of the RUBY Tuner and Amplifier:

1. Pre-Set station number 01 -99
2. Frequency
3. **BAND** has no function with the RUBY
4. **RDS**
5. Radio metrics show at the top of the display, in a graphical form.
6. Signal strength, is shown as an antenna with a bar graph.
7. Signal Quality, is shown as Q next to a bar graph.  
Q is a combinations of Signal, noise & multipath.
8. Stereo is shown as full width **STEREO**, partial stereo and **MONO**.
9. **PS**, means Program Service, indicating that station name is available.
10. **RT**, means Radio Text is available.  
Up to 64 characters of textual information about the station,
11. **CT**, means Time data is available.

**TIME** will normally transmit the 'real time' in your area. The default RDS info shown in

the screen does not include TIME, so press INFO once. From the Remote control handset, press TIME or INFO buttons once.

**INFO**, operates in Tuner mode, to display the different pages of information, available from the tuner and RDS data. To display the different pages, it is necessary to toggle the INFO button several times to call-up: Pre-Set number, Frequency, Tuner metrics, (PS, RT, CT, see DISPLAY for details)

**STEREO/MONO** RUBY automatically adjusts the Left/Right separation to maintain good signal to noise ratio.

The EVO 50A and 100A amplifiers are supplied with an EVO remote control handset. For details about remote control operation of the RUBY tuner, and a complete User Manual please visit the EVO 50A or 100A page on the Creek Audio website, where a pdf download allows you to print the full instruction manual and view an instructional video.

We hope you enjoy your RUBY DAC and Tuner. If you have any questions, please contact your supplying dealer or importer.

*Please note that a QR code on the back page will quickly take you to the correct web page.*

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