Signature

Echo

PROBABLY THE FINEST COLLECTION OF VINTAGE AND CONTEMPORARY ECHO SOUNDS AVAILABLE ANYWHERE TODAY

Hall and Collins

better by experience

MADE IN BRITAIN

OWNERS INSTRUCTIONS

FCC - PART 15 RADIO FREQUENCY DEVICES

Unintentional Radiators

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Hall and Collins operate a policy of continual improvement and reserve the right to make changes as required without notification.

KEY FEATURES

- Quality steel casing with attractive two tone burgundy and grey powder coated finish for superior ruggedness and long life.
- Attractive angled panel design with sunken control area to help protect critical control settings during use.
- Ease of operation while still including advanced features.
- Large size backlit LCD display panel with two rows of characters showing patch information or editing features.
- Two patch banks, Preset and User, each with 64 echo patches.
- Three footswitches for one step or fast scrolling of up/down echo patch selection and echo on/off control with red LED indicator.
- All analogue solid state preamp emulating closely the sound and harmonics generation of valve/tube stages of the Echomatic 2 echo unit.
- All analogue solid state emulation of typical distortion and compression characteristics found in magnetic oxide recording systems, with user variable control of the echo drive signal level.
- A choice of easy settings or advanced real time adjustment, via five rotary controls for Dry Level, Echo Drive, Echo Output, Feedback, and Wow & Flutter.
- Digital echo design with highly advanced programming code to emulate many sought after echo and delay sounds.
- Fast and easy editing of patches without requiring connection to any computer or other device.
- Patches can be assembled in any required order into the User bank.
- Powered by separate AC power adaptor to help eliminate frustrating earth (ground) loop hum problems. Does not require any kind of battery power.
- Concept, design and testing by Charlie Hall and John Collins.
- Manufactured entirely in the UK.

INTRODUCTION

Congratulations on your purchase of the Hall & Collins Signature Echo. You will be rewarded with what we consider to be the finest collection of vintage and contemporary echo sounds available anywhere today in one compact unit, the result of more than four years of painstaking development by a skilled team of musicians, and equally skilled engineers, who totally understand how world class performance and sound can be appreciated by discerning musicians and audiences alike.

STORY OF DEVELOPMENT

Charlie Hall, based near Cambridge in the UK, is a guitarist and audio electronics designer with over 50 years of experience in both fields. Charlie started writing echo patches for various digital effects units in 1994. He has supplied echo patches to Hank Marvin and to Peter Frampton for use during recording and live performances. Charlie also worked on, and finalised the design of, a signature guitar amplifier for Hank Marvin.

Always experimenting with design ideas, Charlie developed valve/tube emulation with solid state technology some time before the "Hall & Collins Signature Echo" was conceived. He was always frustrated with the lack of features of existing effects units that prevented highly accurate emulation of specific echo sounds, sounds that originally came from units that have been unobtainable for nearly half a century, so he often hoped to be involved with developing a dedicated unit that could include the features needed to reproduce these sounds extremely accurately.

On the other side of the globe, in New South Wales, Australia, John Collins began a lifelong involvement with guitars and music at age 12. He played guitar and bass

with bands throughout his teens and 20s – guitar instrumentals were often featured in the play lists. John also developed an early interest in electronics, and some of his first construction projects were guitar related – "fuzz boxes" "wah-wah pedals" etc. He completed a Diploma in Electronics and has had a long career as a Technical Specialist, maintaining Telecommunications equipment for Telstra (Telecom Australia). As the digital age progressed, he took a keen interest in programming and digital circuit design, and some of his projects started using microprocessors and digital audio techniques. John learnt of Charlie's web forum from a friend, and it was this chance encounter that rekindled an interest in the guitar sound obtained from the old Echo units. Shortly after this, he started experimenting with some basic digital circuits in an effort to replicate some of those old echo patterns.

And so it was in March 2010, after some encouraging initial results, that John sent Charlie an email with details of his experiments. Charlie offered John some tips on how to improve the echo sounds of John's basic digital design, and then Charlie saw the opportunity to realise his long-time dream of helping to develop an echo unit that could emulate echo sounds to an accuracy that had never been reached with other effects processors. He offered to work with John as a team to develop the unit, so after nearly five years of research and development, and continual improvements and fine tuning, the "Hall & Collins Signature Echo" became a reality.

We trust you will enjoy the fruit of our endeavours and welcome your feedback at feedback@hallandcollins.com

OPERATING INSTRUCTIONS

Please read the operating instructions before using the Hall & Collins Signature Echo for the first time to understand its features for the best results.

The input sensitivity and impedance is suitable primarily for use with an electric guitar, however, other signal sources can be used provided the maximum signal level at the input does not exceed around 0.6 volts peak (1.2 volts p-p), which could cause unwanted distortion. Keep in mind that distortion on loud signal peaks may not be very audible with certain sound sources (eg. a distorted guitar) and certain sound reproduction equipment (eg. a guitar amplifier with limited bandwidth).

The signal path throughout this echo unit is mono, as was the case with most of the echo units emulated by the Hall & Collins Signature Echo.

Please refer to the diagrams below for identification of controls and connections. The amplifier should initially be switched off or set to standby so that it cannot produce sound.

Check the power adaptor mains input voltage specification is consistent with the known mains voltage in your location. A socket adaptor may be required in some locations.

Connect the power adaptor to a mains power socket. It is best to connect to the same mains power source as your amplifier.

Connect the 12volt AC plug of the power adaptor to the power input socket on the rear panel. The unit will power up when the mains power is live. An introductory screen display will flash three times, then the last used patch will be active, as shown on the display panel. The red LED indicator will be lit, indicating that the echo effect will be heard.

Connect a signal cable from the **OUTPUT** jack socket to your amplifier input.
Connect your guitar cable to the **INPUT** jack socket.
Set all five rotary controls in the front recessed panel to a nominal setting based on the 3 o' clock position (facing to the right, as indicated by the arc at each control).

The amplifier can be powered up and its controls set as required.

A play test can commence as soon your amplifier is producing sound.

The Hall & Collins Signature Echo has a **Preset Bank** and a **User Bank** with 64 patches in each bank. The Preset Bank patches are numbered P01 to P64. The User Bank patches are numbered U01 to U64. To access the other bank from the currently shown bank, simply select a patch location before 01 or after 64. The Preset Bank contains patches that can not be changed, however any patch can be edited and/or copied to any location in the User Bank (which will overwrite the patch currently at that location). With a new unit, the patches in the Preset Bank are duplicated in the User Bank and numbered similarly. A unit that has had its patches edited can also be reset to its original configuration if so desired.

To change from the selected patch to the next patch, press and release the right footswitch. Pressing and holding down the right footswitch will initiate a fast scrolling forwards patch selection which is stopped by releasing the right footswitch.

To change from the selected patch to the preceding patch, press and release the left footswitch. Pressing and holding down the left footswitch will initiate a fast scrolling backwards patch selection which is stopped by releasing the left footswitch.

Pressing and releasing the middle footswitch will turn the echo effect off or on. The red LED will be lit when the echo effect is on.

The dry unaffected signal will not "drop out" whilst changing patches or turning the echo effect on or off, so live performance is never totally interrupted.

CONTROL SETTINGS FOR PERSONAL SOUND VARIATIONS

The 5 rotary controls are described from left to right:

The **DRY LEVEL** control adjusts the gain of the dry signal. Normally this should be set for unity gain (this is when the dry signal is the same loudness as when your guitar is connected directly to your amplifier, ie. with no gain or loss of volume) and this will be found to be when the control is at the nominal 3 o' clock position.

If this control is not set for unity gain, the **ECHO LEVEL** may also need corresponding adjustment so the balance of dry signal to echo is still as required for each patch. This control can be turned anticlockwise to the minimum setting if only the echo signal is required at the output, for example with a recording desk effects send and return.

The **ECHO DRIVE** control adjusts the level of signal reaching the magnetic oxide emulation circuit and therefore the amount of compression and distortion of the echo signal, independent of the patch selected. Keep in mind that higher drive settings will result in a louder echo effect on notes with a soft pick attack but may not be perceived as louder with a harder pick attack because of compression. The usual setting for this control is at the nominal 3 o' clock position.

The **ECHO LEVEL** control adjusts the amount of echo mixed with the dry signal. This is useful for re-balancing the echo amount in case the **ECHO DRIVE** control or other controls are set to other than the 3 o'clock position, or if your amplifier has less or more mid range frequencies than would be considered normal, or if your amplifier compresses the sound at higher volume levels. The amount of echo can also be controlled by editing a patch, thus it is possible to have each patch set up for the required amount of echo without having to adjust this control again. The usual setting for this control is at the nominal 3 o' clock position, except under the conditions noted above.

The **FEEDBACK** control adjusts the amount of feedback, or regeneration, of the echo and delay. The amount of feedback can also be controlled by editing a patch, thus it is possible to have each patch set for the required amount of feedback without having to continually adjust this control, furthermore, the amount of feedback is limited by the amount set in the patch. Thus if a patch is set for no feedback, this control will not change that. The usual setting for this control is at the nominal 3 o' clock position.

The **WOW & FLUTTER** control adjusts the amount of wow and flutter. The usual setting for this control is at the nominal 3 o' clock position, where the amount of wow and flutter has been fixed to be authentic for each patch.

EDITING PATCHES

The patches are grouped in various types as shown below:

P01 to P07	**ECHOMATIC**
P08	**ECHOMATIC HIGH SPEED**
P09 to P11	**MODEL J**
P12 to P23	**ECHOMATIC 2**
P24 to P28	**ECHOMATIC (later type)**
P29	**FACTOTUM SPECIAL**
P30 to P33	**LONG TOM**
P34 to P43	**RE-301**
P44 to P56	**ECHOREC 2**
P57 to P60	**KLEMT NG51**
P61	**PEARL ECHO ORBIT EO-301**
P62 to P64	**MODERN DELAY**

You should understand that settings such as wow and flutter, as well as other settings, are fixed in the patches and cannot be edited. There is good reason for this; editing patches is simplified, and it ensures that a patch can not deviate in a bad way from the sound of the unit it emulates. Therefore when a certain sound is required you must start editing with a patch that is nearest to that type of sound and so the grouping above will help with that choice. For example, an Echomatic patch will not sound like an Echorec patch, and neither patch can be made to sound exactly like the other.

Overview of Editing:

Editing of the patches is quite straightforward, however there are a few simple concepts to keep in mind, which will help make the editing process an easy and enjoyable one.

The Echo unit has two modes of operation; **Play Mode** and **Edit Mode**. The unit will always power up into Play Mode, which is the normal condition for playing. When you wish to change or copy a patch, you will need to activate the unit's Edit Mode. Before doing this, the patch that you wish to edit, or copy to another location, must be currently selected – ie visible in the display window. Then Edit Mode is activated by briefly pressing the **ENTER** button from Play Mode. Once in Edit Mode, changes are made by navigating through menu options in the display, and selecting the required options to copy or make changes to that patch.

When a menu option calls for parameters to be input, the + and - foot switches are used to cycle up and down through a range of values. Parameters such as Individual Head Echo levels and Feedback levels (in decibels, or dB), Head timings (in milliseconds, or mSec), can be viewed and changed. Importantly, the results of these changes can be heard instantly. The dB levels used in the device are all referenced to a maximum level setting of 0dB. Other dB values therefore are always negative values, so representing attenuation from the maximum level of 0dB.

When the desired sound is achieved, the edited patch can be copied, or saved, to any desired location in the **User Bank** ie. U01 to U64 by using the + and - footswitches to cycle up or down to the **User Bank** location where you wish to **Save** the patch, and the Patch Name can be edited if required. Note that whenever the unit returns to Play Mode from Edit Mode, it will return to the patch number that was selected when Edit mode was engaged.

The four switch functions in Edit Mode are:

ENTER	To initiate Edit Mode, and to execute menu options in Edit Mode.
NEXT	To cycle through the various menu options shown in the current view.
PATCH UP (+)	To cycle UP through parameter values when editing patch settings.
PATCH DOWN (–)	To cycle DOWN through parameter values when editing patch settings.

Available Editing Functions:

1. Copy (**Save**) a patch from the **Preset Bank** or the **User Bank** to any position in the **User Bank**
2. **Edit** the **Name** of a patch.
3. **Edit** the overall Echo (**O/P Trim**) level and Feedback (**F/B Trim**) level of a patch.
4. **Edit** individual **Heads** parameters of a patch – **DELAY** time, **ECHO** level, **F/BK** level. Note that each Patch has up to six Heads available for editing.
5. Reset the **User Bank** to default (ie. the same as the **Preset Bank**).

STEP-BY-STEP INSTRUCTIONS FOR THE EDITING FUNCTIONS

1. To Copy (Save) a patch to the User Bank

In Play Mode, select the patch you want to copy.

Press and release the **ENTER** button. The options **Edit**, **Save**, & **Exit** will be seen. An underscore (cursor) will be seen under the **Edit** option and the first character (in this case **E**) will have its background flashing.

Press and release the **NEXT** button until the cursor is under **Save**.

Press and release the **ENTER** button. The screen will read **SAVE THIS PATCH?** and the cursor will now be under **Save** on the lower row.

To abort the **Save** without changing the patch, press and release the **NEXT** button so the cursor is under the **Exit** option, then press and release the **ENTER** button to revert to Play Mode.

To continue to **Save**, press and release the **ENTER** button.

The screen will change to **Save to UXX +/–** (where XX is the patch number) with **Ok** and **Back** on the lower row.

If you wish to Save to a different location than shown, use the **+** and **–** footswitches to select the required location.

Press and release the **NEXT** button until the cursor is under **Ok**.

Press and release the **ENTER** button. The screen will briefly flash **SAVING** and then display **EDIT PATCH NAME?** with **No** and **Yes** displayed on the lower row with the cursor under **No**.

If you do not wish to alter the patch name, press and release the **ENTER** button, and the patch will be saved with its name unchanged, and the unit will return to Play Mode.

If you do want to change the patch name press the **NEXT** button so the cursor is under **Yes**. Press and release the **ENTER** button. After brief instructions are seen the cursor will be under the first editable character of the patch name.

Use the **+** and **–** footswitches to scroll through the character set to find the desired character. The character set includes upper and lower case letters, numbers and symbols (including space).

Use the **NEXT** button to move the cursor to the next character location.

Use the **+** and **–** footswitches and the **NEXT** button as required until the patch name is as required on both rows of characters.

When you have finished editing the name, or wish to cancel the name change, press and release the **ENTER** button. The display will read **SAVE CHANGES?** with **Yes** and **No** options on the lower row with the cursor under **Yes**.

If you change your mind and do not want to save the new name, press and release the **NEXT** button so the cursor is under **No**. Press and release the **ENTER** button to revert to Play Mode.

To Save the changes, press and release the **ENTER** button. The screen will briefly flash **SAVING** and the unit will revert to Play Mode.

Note that the displayed patch will still be on the unaltered patch you had selected for editing. If the patch was saved to a different location, use the **+** and **–** footswitches if you need to navigate to it, for example to check your work.

2. To Edit the Name of a User patch

In Play Mode, select the User patch you want to rename. Note: Patches in the **Preset** bank cannot be re-named.

Press and release the **ENTER** button. The options **Edit**, **Save**, & **Exit** will be seen.
An underscore (cursor) will be seen under the **Edit** option and the first character (in this case **E**) will have its background flashing.

Press and release the **ENTER** button. The screen will read **EDIT Heads Name** and on the lower row **Trim More Exit**.

Press and release the **NEXT** button until the cursor is under **Name**.

Press and release the **ENTER** button. After brief instructions are seen the cursor will be under the first editable character of the patch name.

Use the **+** and **–** footswitches to scroll through the character set to find the desired character. The character set includes upper and lower case letters, numbers and symbols (including space).

Use the **NEXT** button to move the cursor to the next character location.

Use the **+** and **–** footswitches and the **NEXT** button as required until the patch name is as required on both rows of characters.

When you have finished editing the name, or wish to cancel the name change, press and release the **ENTER** button. The display will read **SAVE CHANGES?** with **Yes** and **No** options on the lower row with the cursor under **Yes**.

If you change your mind and do not want to save the new name, press the **NEXT** button so the cursor is under **No**. Press and release the **ENTER** button to revert to Play Mode.

To Save the changes, press and release the **ENTER** button. The screen will briefly flash **SAVING** and the unit will revert to Play Mode.

3. To Edit the overall Echo (O/P Trim) level and Feedback (F/B Trim) level of a patch

In Play Mode, select the patch you want to change.

Press and release the **ENTER** button. The options **Edit**, **Save**, & **Exit** will be seen. An underscore (cursor) will be seen under the **Edit** option and the first character (in this case **E**) will have its background flashing.

Press and release the **ENTER** button. The screen will read **EDIT Heads Name** and on the lower row **Trim More Exit** and the cursor will be under **Heads**.

Press and release the **NEXT** button until the cursor is under **Trim**.

Press and release the **ENTER** button. The display will read something similar to **O/P Trim – X.XdB** (where **–** and **X.X** represent the overall echo output level for the patch in the range from -54.0dB to 0.0dB) and on the lower row **Back Next Done**.

To change the echo output level (**O/P Trim**) use the **+** and **–** footswitches. Monitor the echo level while you play test the patch and adjust until you are happy with the echo level.

Press and release the **NEXT** button until the cursor is under **Next** (if you want to edit the overall feedback level) or **Done** (if you are happy that no further changes are needed to the patch).

If you chose **Next** then press and release the **ENTER** button. The display will read something similar to **F/B Trim – XX.XdB** (where **–** and **X.X** represent the overall feedback level in the range from -54.0dB to 0.0dB) and on the lower row **+/– Back Done**.

To change the feedback level (**F/B Trim**) use the **+** and **–** footswitches. Monitor the echo sound while you play test the patch and adjust until you are happy with the feedback level.

Press and release the **NEXT** button until the cursor is under **Back** (if you want to make further changes) or **Done** (if you are happy that no further changes are needed to the patch).

Press and release the **ENTER** button. The display will read **SAVE THIS PATCH?** and on the lower row **Save Exit** with the cursor under **Save**.

Press and release the **ENTER** button. The screen will change to Save to **UXX +/–** (where **XX** is the patch number) with **Ok** and **Back** on the lower row.

If you wish to Save to a different location than shown, use the **+** and **–** footswitches to select the required location in the User area.

Press and release the **NEXT** button until the cursor is under **Ok**.

Press and release the **ENTER** button. The screen will briefly flash **SAVING** and then display **EDIT PATCH NAME?** with **No** and **Yes** displayed on the lower row with the cursor under **No**.

To finish without changing the patch name press and release the **ENTER** button. The screen will briefly flash **SAVING** and the unit will revert to Play Mode.

4. To Edit individual Heads parameters – DELAY time, ECHO level, F/BK level

In Play Mode, select the patch you want to change.

Press and release the **ENTER** button. The options **Edit**, **Save**, & **Exit** will be seen. An underscore (cursor) will be seen under the **Edit** option and the first character (in this case **E**) will have its background flashing.

Press and release the **ENTER** button. The screen will read **EDIT Heads Name** and on the lower row **Trim More Exit** and the cursor will be under **Heads**.

Press and release the **ENTER** button. After brief instructions are seen the display will show **H1 DELAY XXX.XmS** (where **XXX.X** is the delay time) and on the lower row **Back Next Done**. The cursor will be under the **1** of H1 which is Head 1. Pressing the **+** footswitch will scroll through Heads 1 2 3 4 5 and 6 in a continuous cycle (the **–** footswitch will cycle in a reverse order) and the delay times for each Head are shown in milliseconds and tenths of a millisecond.

With the Head you want to change showing, press and release the **NEXT** button until the cursor is under the hundreds of milliseconds figure. The **+** and **–** footswitches are used to change this figure.

Press and release the **NEXT** button until the cursor is under the tens of milliseconds figure. The **+** and **–** footswitches are used to change this figure.

Press and release the **NEXT** button until the cursor is under the units of milliseconds figure. The **+** and **–** footswitches are used to change this figure.

Press and release the **NEXT** button until the cursor is under the tenths of milliseconds figure. The **+** and **–** footswitches are used to change this figure.

Press and release the **NEXT** button until the cursor is under **Back**. Pressing and releasing the **ENTER** button goes back to the previous menu. Skip this step if you do not need to go back.

Press and release the **NEXT** button until the cursor is under **Next**. Pressing and releasing the **ENTER** button goes the **ECHO** level menu that reads something similar to **H1 ECHO – X.X dB** (where **–** and **X.X** represent the Head level in the range from Off dB to -54.0dB to 0.0dB) and on the lower row **Back Next Done**. The cursor will be under the **1** of H1 which is Head 1. Pressing the **+** footswitch will scroll through Heads 1 2 3 4 5 and 6 in a continuous cycle (the **–** footswitch will cycle in a reverse order) and the **ECHO** levels for each Head are shown in dB.

Press and release the **NEXT** button until the cursor is between the **ECHO** and dB figures. The **+** and **–** footswitches are used to change the dB figure.

Press and release the **NEXT** button until the cursor is under **Back**. Pressing and releasing the **ENTER** button goes back to the previous menu. Skip this step if you do not need to go back.

Press and release the **NEXT** button until the cursor is under **Next**. Pressing and releasing the **ENTER** button goes the **F/BK** (feedback) level menu that reads something similar to **H1 F/BK – X.X dB** (where **–** and **X.X** represent the individual Head feedback level in the range from Off to -54.0dB to 0.0dB) and on the lower row **Back Done**. The cursor will be under the **1** of H1 which is Head 1 (or the appropriate Head number if you had already changed it from 1). Pressing the **+** footswitch will scroll through Heads 1 2 3 4 5 and 6 in a continuous cycle (the **–** footswitch will cycle in a reverse order) and the feedback levels for each Head are shown in dB.

Press and release the **NEXT** button until the cursor is between the **F/BK** and dB figures. The **+** and **–** footswitches are used to change the dB figure.

Press and release the **NEXT** button until the cursor is under **Back** (if you want to make further changes) or **Done** (if you are happy that no further changes are needed to the patch).

Press and release the **ENTER** button. The display will read **SAVE THIS PATCH?** and on the lower row **Save Exit** with the cursor under **Save**.

Press and release the **ENTER** button. The screen will change to **Save to UXX +/–** (where **XX** is the patch number) with **Ok** and **Back** on the lower row.

If you wish to Save to a different location than shown, use the **+** and **–** footswitches to select the required location.

Press and release the **NEXT** button until the cursor is under **Ok**.

Press and release the **ENTER** button. The screen will briefly flash **SAVING** and then display **EDIT PATCH NAME?** with **No** and **Yes** displayed on the lower row with the cursor under **No**.

To finish without changing the patch name, press and release the **ENTER** button. The screen will briefly flash **SAVING** and the unit will revert to Play Mode.

5. To reset the User Bank to default (ie. the same as the Preset Bank)

Press and release the **ENTER** button. The options **Edit**, **Save**, & **Exit** will be seen.
An underscore (cursor) will be seen under the **Edit** option and the first character (in this case **E**) will have its background flashing.

Press and release the **ENTER** button. The screen will read **EDIT Heads Name** and on the lower row **Trim More Exit** and the cursor will be under **Heads**.

Press and release the **NEXT** button until the cursor is under **More**.

Press and release the **ENTER** button. The screen will read **Reset Patches** and on the lower row **Back Exit**. The cursor will be under **Reset**.

Press and release the **ENTER** button. The display will read **Reset User Area?** and on the lower row **No Yes**. If you decide you do not want to go ahead with the Reset then press and release the **ENTER** button now to revert to Play Mode.

To go ahead with the Reset, press and release the **NEXT** button until the cursor is under **Yes**.

Press and release **ENTER**. The display will momentarily read **Resetting** and on the lower row **Please Wait**, and then the display will read **User Area Reset** and on the lower row To **Default** and then the unit will revert to Play Mode.

Here are some of the most popular patches for popular shadows tunes

Hall and Collins

better by experience

An extensive and constantly updated list that also covers other artistes is available for download from our site:

www.hallandcollins.com/downloads

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and distributed by
Electromech Assemblies
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