

Working with Level Blocks and Remote Controls

Before You Begin

The Storage (offline) configurations for all of the examples discussed in this article are available from Rane's website (<http://www.rane.com>). Download or copy these files to your computer, and add them to a new or existing Project.

NOTE: Drag Net 3.0 or higher is required to view these device configurations. The latest version of Drag Net can be downloaded from <http://www.rane.com/dragnet.html>

To add Storage configurations to a Project:

- 1) Right-click anywhere within the Project window and choose **Add File(s)**.

- or -

Click on the **File** menu, choose **Project**, then select **Add File(s)**.
- 2) Browse to the location of the Application Example files (.rx file extension, where xx is the device type - .r88 for RPM 88, as an example) on your hard drive.
- 3) Select one or more of the files from the list, then choose **Open**. The configurations then appear as entries under the Storage folder of the Project window.

Drag Net Files Required

- Level_Blocks.r22
- Level_Blocks.r22.mem
- Level_Blocks.r22.lnk.xml

Concepts Presented in this Example

- Assigning a Level block to a Smart Remote (SR 2, SR 3) for remote volume control.
- Assigning a Level block to a VIP pin for "pot-on-a-wall" remote volume control.
- Scaling a Level's range and using the **Off at Minimum** feature.
- When to store Level blocks as part of a Preset...and when not to.

Problem

Drag Net devices support a variety of remote volume controls, ranging from simple, analog "pot-on-a-wall" devices (Rane's [VR 2](#)) to RW 485-based "Smart" remotes (Rane's [SR 2](#) and [SR 3](#)). With all of these remote possibilities (pun intended), it's a worthwhile exercise to review some of the basics of working with Level blocks and remotes.



Solution

Smart Remotes and VIP pins are assigned to one or more Level blocks placed on the Processing Map by means of Groups on the Remote Map. These groupings are Preset-sensitive, essentially allowing you to re-map a remote's functionality with the press of a button (or turn of an LCD page on the SR 3).

Important Note: it is now possible, with Drag Net version 3.0, to build the Remote Map on a Live device.

Equally as Important Note: deleting a block from the Remote Map removes all references to that block's control assignments from all Presets.

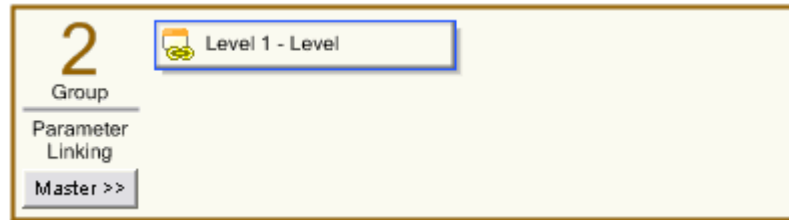
Group 'Em, Danno!

Place one or more Level blocks on the Processing Map. Then, to associate a Smart Remote with a Level block's level parameter (for volume control):

1. Switch to the **Remote Map**. Make sure the Parameter window (View > Parameter) is visible.
2. Browse the parameter tree and locate the Level parameter to be controlled.



3. Drag the Level parameter from the Parameter window to an empty Group on the Remote Map.



4. Locate the appropriate Smart Remote Level parameter within the parameter tree. Add a remote if necessary.



SR 3 remotes have a single Level parameter.



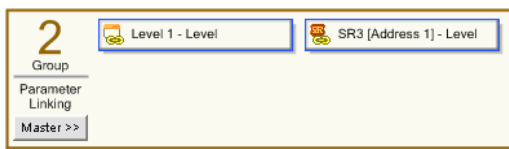
SR 2 remotes have two Level parameters.



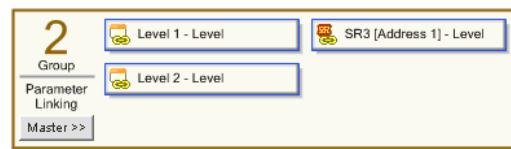
5. Drag the Smart Remote Level parameter into the same Group as the Level block's Level parameter.



A Group can contain any combination of Smart Remotes and Level blocks: one remote controlling one Level, one remote controlling many Levels, many remotes controlling one Level, or many remotes controlling many Levels.



One remote controlling one Level



One remote controlling many Levels



Many remotes controlling one Level



Many remotes controlling many Levels

If multiple remotes control the same Level(s), the remotes track each other - changing a Level using one remote automatically updates the status of the other remote(s). Remotes will also track any changes made using Drag Net's on-screen controls.

Smart Remote blocks can not be renamed.

VIP Treatment

Assigning Levels to VIP logic input pins for 0 V to 5 V continuous control ("pot-on-a-wall") is equally as easy.

VIP Single-Pin mode is used for remote control of Level blocks.

To associate a VIP pin with a Level block's level parameter (for volume control):

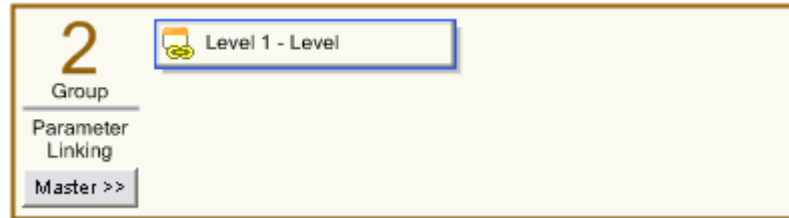
1. Switch to the Remote Map. Make sure the Parameter window (View > Parameter) is visible.



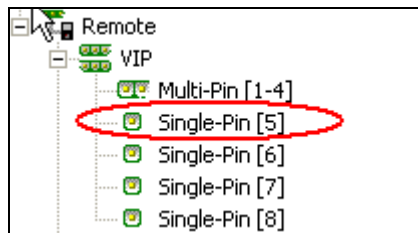
- Browse the parameter tree and locate the Level parameter to be controlled.



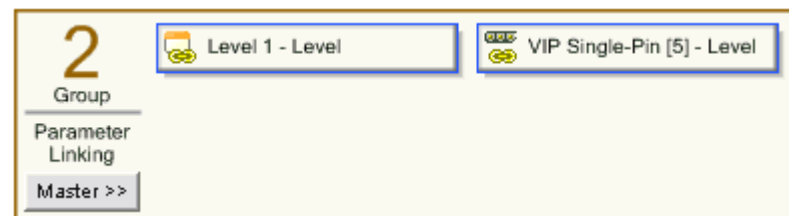
- Drag the Level parameter from the Parameter window to an empty Group on the Remote Map.



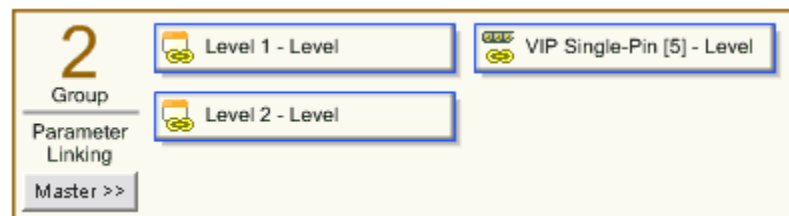
- Locate the appropriate Single-Pin VIP within the parameter tree. We'll use Pin 5 in this example.



- Drag the VIP pin from the Parameter window to the same Group as the Level parameter. You're done!



A Group can contain one or more Level blocks (one potentiometer controlling many Levels), but only one VIP block per Group is permitted.



VIP blocks can not be renamed.



Keeping it Under Control: Scaling and Off at Minimum

Double-click a Level block on the *Remote* Map to display its Properties dialog (Figure 1).



Figure 1 Level block properties dialog (Remote Map).

Adjust the **Maximum** and **Minimum** settings to scale (or limit) the potentiometer range. From the user's perspective the remote still operates over its full range, with the *actual* adjustment range being constrained within the RPM device. These settings are also Preset sensitive, allowing you to tailor the control range to accommodate different situations (when the system is used by an inexperienced operator versus an experienced operator, for example).

Double-click a Level block on the *Processing* Map to display its Properties dialog (Figure 2).

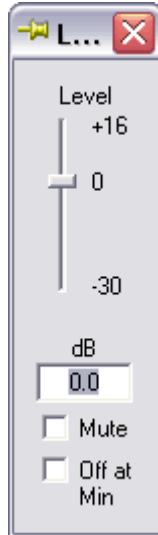


Figure 2 Level block properties dialog (Processing Map).

Selecting **Off an Min** provides the user with a full off (mute) setting when the remote - SR or analog potentiometer – is at its minimum (normally fully counter-clockwise) position.



Level Blocks: To Store or Not to Store

In most applications it is not necessary to store Level blocks as part of a Preset. The only time Level blocks should be stored to a Preset is when you:

a) want the Level to always go to a specific “starting point” from which the user then makes adjustments. Note that this is only possible when using Smart Remotes; the measured voltage from a VIP/potentiometer combination will always override a preset Level value.

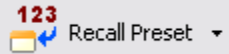
- or -

b) need to move Level blocks between Groups on the Remote Map (e.g., in room combining applications, where Levels are grouped and ungrouped depending on the room configuration).

Remotes: To Store or Not to Store

If the remote always controls the same Level regardless of the currently selected Preset, then there is no need to store the remote as part of a Preset. As long as the remote is grouped with the Level you wish to control, you’re done!

The example Drag Net file Level_Blocks.r22 demonstrates one scenario in which you *would* want to store the remote as part of Presets. In this example we’ll use a single SR 3 to control different Levels, depending on the currently recalled Preset.

Open the file in Drag Net and switch to the Remote Map. Find the  icon in the toolbar and choose **Recall Preset 1**. In this Preset the SR 3 controls the Microphone Level, because the two items are grouped together.

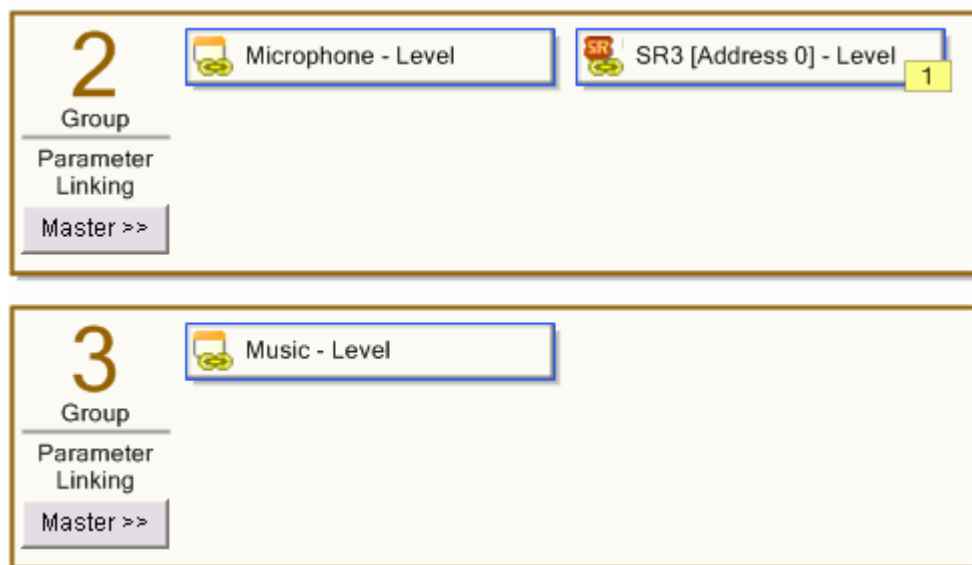


Figure 3 Level_Blocks.r22 Remote Map - Preset 1.



Now recall Preset 2. In this Preset the SR 3 controls the Music Level. Theoretically, each of the sixteen pages available on an SR 3 can control a different Level, assuming the appropriate Presets are set up, of course.

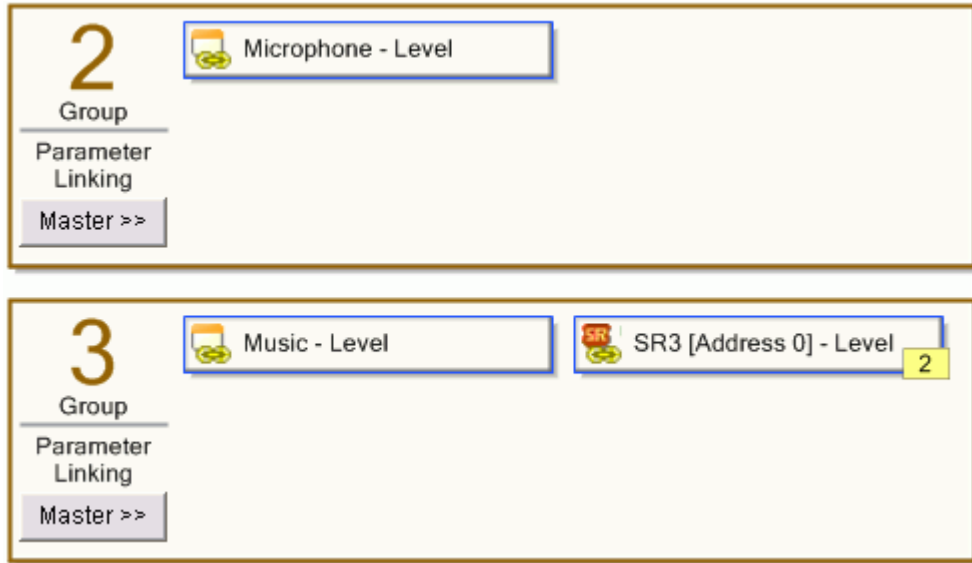


Figure 4 Level_Blocks.r22 Remote Map - Preset 2.

