

Technical Support Department **Technical Bulletin**

RKM-1+ Programming for Feedback

General Overview:



The RKM-1+ is designed for control of a single source with multiple inputs. The figure to the left illustrates how the eight inputs are organized. This inwall device also provides feedback as to the state of the source being controlled. Information includes volume, bass, treble, power state, as well as what input the user is on at a particular time.

Note: Treble and Bass menus can be accessed by pressing and holding the "Select Music" button on the RKM-1+ for 10 seconds. The "Select Music" button is not shown on this graphic. Press and hold the "Select Music" button for another 10 seconds to toggle between Treble and Bass.

The sources can be adjusted through the Device properties of the RKM-1+

Notes:

- RS-485 wires must be connected for two way control.
- Update firmware to latest version
- Update software to latest version



Output Properties:



Assigning Variables:

Device Properties			? 🛛	
Output	Sources	Bar G	iraph	
Source Variables	Global Keys	Flag Names	Notes	
Current Source -				
Variable: Not S	5et			
-Variable Value	e Mapping			
AM -	-1 💙	FM -1	*	
σ	-1 💙	MP3 -1	~	
XM -	-1 💌	SAT -1	~	
CBL -	-1 💌	AUX -1	~	
Set any sour	ce to -1 to unmap) it from the vari	able.	
Power (On/Off) Variable: Not Set				
	ок	Cancel	Help	

When creating a system that will request information from the source being controlled it is important that you enable the output mode of "Two-Way Trigger Codes for Control System"

In addition you will see a "Two-Way Options" section which should default to RS-485

The Source Variables tab is split into 3 sections, the first being the Current Source. This field allows the software to not only see the device being controlled but apply the information being supplied by said device.

Below the Current Source is the Variable Value Mapping section. This allows the user to assign the number to the correct input.

Note:

- The "-1" means the input does not have a variable assigned to it. This is important because if the variable for an input remains at "-1" then the RKM-1+ will not properly reflect the state of the device.
- When the device being controlled switches to the "cable" input, it doesn't send the name of the input, it sends a number.
- If you don't know the number associated with each input. See if the driver has a "General Input" variable. This is explained in greater detail at the end of this tech bulletin.

Once the numbers for each input being used have been determined they need to be assigned in the Variable Value Mapping section. This will mean that the RKM-1+ will illuminate the LED for a source if it sees's the corresponding number from the device being controlled.

The Power On/Off field is used to assign the variable for the power state of the device. This way when the device is off, the RKM-1+ will be able to reflect the power state



Device Properties	;		? 🗙
Source Variables	Global Keys	Flag Names	Notes
Output	Sources	Bar G	raph
Volume			
Variable: Not	Set		
Minimum: 0	🛟 Max	kimum: 0	*
S	now Volume Bar w	hen RKM-1 is off	
Bass			
Variable: Not :	5et		
Minimum: 0	🛟 Max	imum: 0	*
Treble			
Variable: Not	Set		
Minimum: 0	🗘 Max	kimum: 0	•
	ок	Cancel	Help

The Bar Graph tab allows the Volume, Bass, and Treble variable information to be assigned to the RKM-1+ for the device being controlled.

The minimum and maximum information is set when you assign the appropriate variable. The software does allow you to adjust those levels but it is not recommended.

Once the variable information has been properly assigned, the RKM-1+ will then reflect the proper state of the device being controlled. This is important because it allows the end user to not only turn up the volume but know where it was just turned up to.

"Show Volume bar when RKM-1+ is off" checkbox allows the end user to see the volume level of the device they are controlling before they turn it on.

Notes:

- The default for the volume buttons on the RKM-1+ is for them to be global. The global assignment extends past the main eight inputs and also includes the treble and bass pages. This means that when you assign the volume command it will be the command on the volume buttons for the treble and bass pages. The workaround is to assign the appropriate volume command to the volume button when it is global and then remove the global feature. This will then allow the programmer to change the bass and treble pages individually.
- If it isn't important to use the volume keys to adjust treble and bass then using the play and stop commands, or the arrows left and right is also an option. It is assumed that the treble and bass is something that will only be adjusted by the installer which is the reason for the navigational path to those pages.
- Treble and Bass menu's can be accessed by pressing and holding the "Select Music" button on the RKM-1+ for 10 seconds. The "Select Music" button is not shown on this graphic. Press and hold the "Select Music" button for another 10 seconds to toggle between Treble and Bass.



Programming Example:

The following is an example of an RKM-1+ being programmed to control and reflect the state of an Onkyo© Receiver. This example is utilizing the RKM-1+ In-wall controller, XP-8 Processor, Integra© 2.0 Driver, and an Onkyo Receiver.

1. Add devices to the system file.



2. Add the driver to the XP processor



When the XP processor is open in Integration Designer navigate to the Drivers tab and select "Add Driver". Locate the appropriate driver on your PC and open/attach the file.



3. Many drivers will give you the option of connecting to the device over TCP or Serial. For the sake of this example we are connecting to the Onkyo receiver via RS-232. Make sure that the Connection Type is assigned appropriately and also make sure that you have the correct RS-232 port assigned to this driver.

📟 Control Sys	tem [Untitled XF	>-8] *			
🚔 Add Driver	🎇 Delete Driver	🖓 Update Driver	🤲 Rename Driver	ở Get Info	
Loaded Drivers:					
Integra Receive	r	Connection			
		Connection Ty	pe	XP-8 Serial Port	~
		TCP Address		Network (TCP)	
		TCP Port		XP-8 Serial Port	
		Serial Port		[RS-232] Port 1	
		Connection Ty	pe		
		The method used by the XP-8 to communicate with the unit			
System Macros	Events Expansion	Drivers			

Note: It is important to assign the RS-232 port correctly; otherwise there won't be any communication. It is also important to not have any other driver assigned to the same port as another device. Any unused drivers should be removed to ensure proper functionality.

4. Assign the label set that corresponds to the systems configuration.

Device Properties	;	? 🛛
Source Variables Output	Global Keys Fla Sources	ag Names Notes Bar Graph
Label Sets		
AM FM CD AM FM CD AM FM CD AM FM CD AM FM CD TNR CD iPo TNR CD XM TNR CD XM TNR CD XM TNR CD XM	MP3 XM SAT (MP3 XM NET 1 MP3 NET SAT 1 iPod MP3 SAT 1 iPod NET SAT 2 d MP3 XM SAT (MP3 TV SAT (iPod MP3 NET SAT (MP3 NET SAT (MP3 TV SAT (CBL AUX TV AUX TV AUX TV AUX TV AUX CDL AUX CDL AUX CDL AUX CDL TV SAT CDL CDL TV VET AUX
Active Sources	EM	
NET	SAT TV	
	OK Can	cel Help

After the correct label set has been selected there is also the option of making only certain sources active on the RKM-1+.

Make sure to have all used inputs active otherwise navigating to that input will not be an option.

5. Next verify that the Output settings are appropriate for the RKM-1+. The Output Mode should be set to Two-Way Trigger Codes for Control System and the Two-Way Transport should have defaulted to RS-485.



Device Properties	:		? 🗙			
Source Variables	Global Keys	Flag Names	Notes			
Output	Sources	Bar G	raph			
⊂Default Output M	lode					
🔘 Standalone						
Macros run sent directi	on the remote and ly by the remote.	d IR codes are				
💿 Two-Way Tri	gger Codes for Cor	ntrol System				
ORF (One-Way	/) Trigger Codes fo	r Control Syste	m			
🔵 IR Trigger Co	des for Control Sy	stem				
Macros run are sent fr	on the control system on the control system	tem and IR cod tem's output po	es rts.			
Default Sys	tem: Untitled XP-	8	~			
Two-Way Option:	s					
Two-Way Transp	port: RS-485		~			
IR Trigger Code (IR Trigger Code Options					
System IR Trigger Code Frequency: 40.0 📚 KHz						
OK Cancel Help						

6. The Source Variables tab will allow the RKM-1+ to reflect the state of the Onkyo receiver as well as the current input being used. The images below reflect a before and after.

Device Properties	Device Properties	K
Output Sources Bar Graph Source Variables Global Keys Flag Names Notes	Output Sources Bar Graph Source Variables Global Keys Flag Names Notes	
Current Source Variable: Not Set Variable Value Mapping AM -1 V FM -1 V	Current Source Variable: Receiver\Input and Output Selectors)	
CD -1 V MP3 -1 V XM -1 V SAT -1 V CBL -1 V AUX -1 V Set any source to -1 to unmap it from the variable.	CD 35 V iPod 64 V NET 40 V SAT 1 V TV 32 V AUX 3 V Set any source to -1 to unmap it from the variable.	For a full description of how these numbers were determined see the "Finding
Power (On/Off) Variable: Not Set	Power (On/Off) Variable: Main Power (Integra Receiver\General;	Number"
OK Cancel Help	OK Cancel Help	



7. The Bar Graph tab allows the user to assign the appropriate variables for volume, bass, and treble to the RKM-1+ so that it correctly reflects the state of the device being controlled on the LED bar graph.

vice Properties	5	[2 🛛	Device Propert	ies			?
Source Variables	Global Keys F	lag Names Not	es	Source Variable:	s Global Key	/s F	lag Names	Notes
Output	Sources	Bar Graph		Output	Source	es	Bar G	Graph
Volume				Volume				
Variable: Not	Set	•		Variable: N	1ain Volume (Int	egra Rec	:eiver\Gener	a 🕨
Minimum: 0	🗧 Maximu	m: 0		Minimum:	82 🛟	Maximu	ım: 18	*
si	now Volume Bar when	RKM-1 is off			Show Volume E	ar when	RKM-1 is off	:
Bass				Bass				
Variable: Not	Set	•		Variable: Fi	ront Bass (Integ	ra Recei	ver\Tone)	►
Minimum: 0	S Maximu	m: 0 🗘		Minimum: ⁻¹	.0	Maximu	m: 10	*
Treble				Treble				
Variable: Not	Set	•		Variable: F	ront Treble (Int	egra Rec	eiver\Tone)	
Minimum: 0	Maximu	m: 0		Minimum:	10	Maximu	ım: 10	*
						_		
L	OK Car	ncel Help			ОК	Car	ncel	Help

8. Make sure that the correct driver commands have been assigned on the hard buttons as well as the sources LED graphics. It is also important to go to the treble and bass pages to assign the appropriate bass and treble commands.

