

VMC-102 Studio Monitoring Controller

User's Manual

version 4.x

April, .2018

Welcom

Thank you very much to have a VMC-102 Studio Monitor Controller.

This manual describe the operation how to setup and use VMC-102 Studio Monitor Controller firmware version 4.x.

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1 Contents

This package includes follows items.

- VMC-102 Studio Monitor Controller
- +12V DC Power supply unit
- AC lead



2 General

What is VMC-102 Studio Monitor Controller?

VMC-102 is stand-alone Studio Monitor Controller unit that has 128 channels I/O with MADI interface. VMC-102 can support any kind of multi channel audio format up to 64 channels monitoring system with lots of flexible functions.

VMC-102 version 4.x update overview

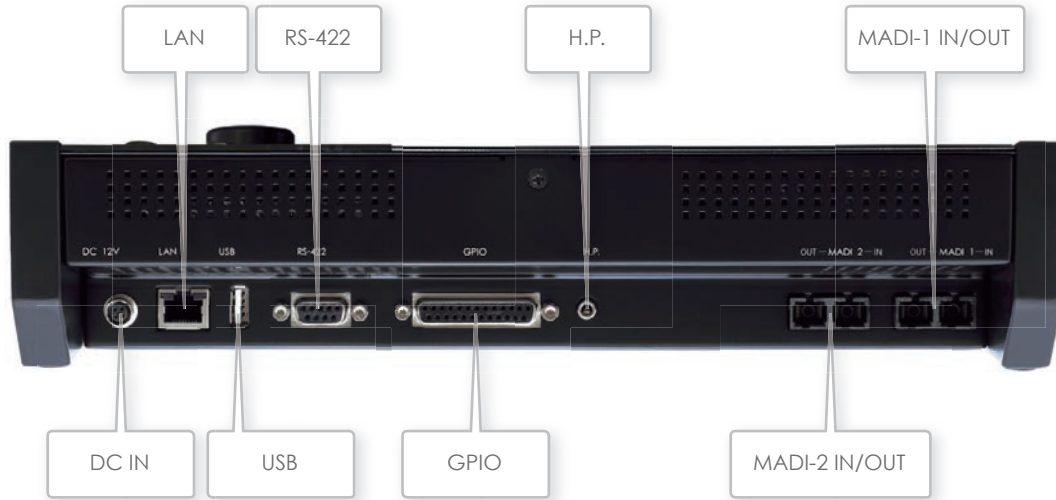
VMC-102 version 4 has a new possibility to control gain for all 128 channels on MADI output. That allows VMC-102 to be a complete standalone monitoring controller with lots of functionality.

Front Panel



- **Touch Panel** ; Multi-touch display for Source select, Solo/Mute, Function buttons, Meter display, Setup Menu.
- **Talk back mic** : Microphone for the Internal Talk back.
- **Cue Lamp** ; Switch goes out GPIO CUE (Pin 15).
- **Option Select** ; Select Program switch 1 -4 to 5 - 8.
- **Program switches** ; Assignable function switches copied from the buttons on touch display.
- **Speaker Select** ; Select the control room monitor sets (Main/Alt/Mini/AUX-1/AUX-2/AUX-3)
- **Function Switches** ; Function switches for each page on touch display.
- **Set Reference** ; Set the level of control monitor volume to reference level
- **Talk back** ; Activate the internal talk back.
- **Volume** ; Control the control room monitor volume.
- **Mute** ; Mute the control room monitor volume.
- **Dim** ; Dim the control room monitor volume.

Rear Panel



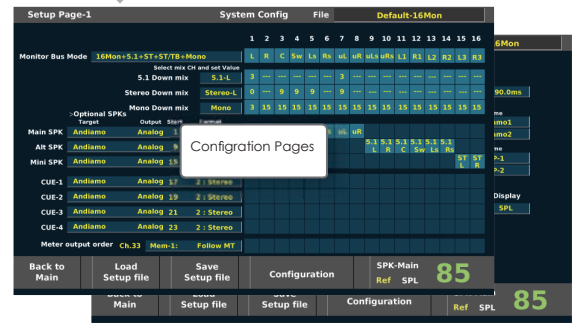
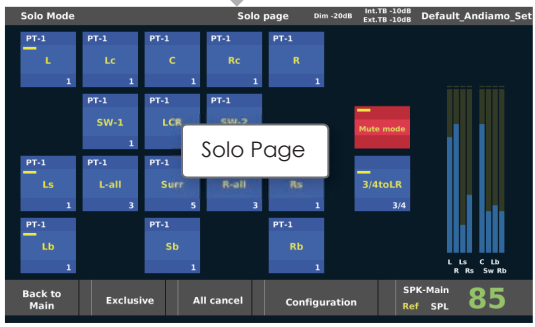
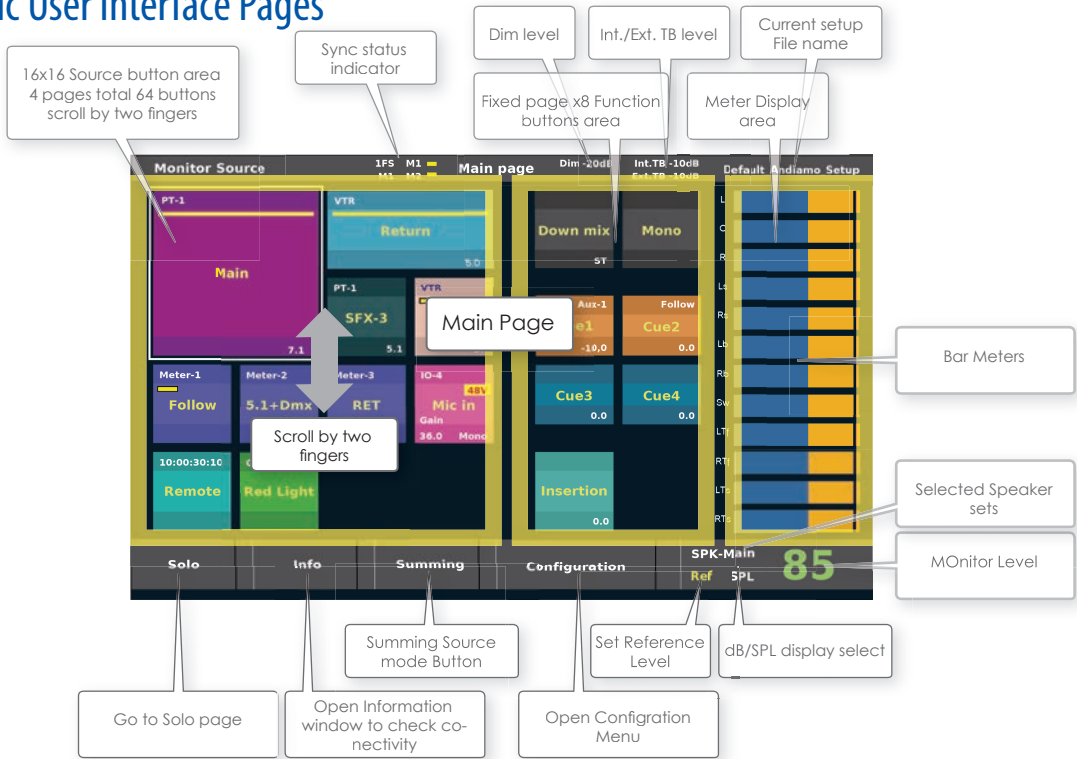
- LAN ; Ethernet LAN connector to control recommended external I/O. (RJ45)
- RS-422 ; RS-422 serial communication port to interface optional function. (D-sub 9 pin)
- H.P. ; Headphones output. (ϕ 3.5mm stereo jack)
- MADI-1 IN/OUT ; MADI IN/OUT optical SC Multi mode.
MADI-1 output support Delay function.
- DC IN ; DC +12V power input. (Hirose HR-10)
- USB ; USB2.0.
- GPIO ; GPIO for Ext. Mute/Dim/TB/LB.
- MADI-2 IN/OUT ; MADI IN/OUT optical SC Multi mode. (No Delay function on this port)

Touch screen display

VMC-102 has 7 inch multitouch screen display.

Display area has Main, Solo operation pages and categorized Setup pages on Configuration Menu.

Graphic User Interface Pages



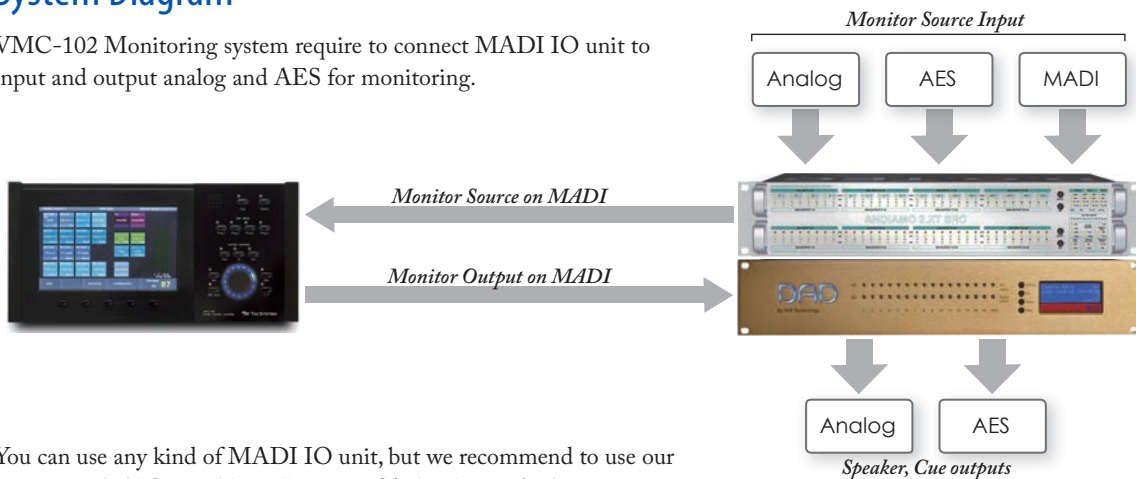
3 Quick Guide

Install VMC-102

VMC-102 should be connected with some MADI (SC multi-mode) to analog or digital audio i/O unit to connect speaker sets in a studio. You can use any kind of MADI I/O for basic system setup and with using specific I/O (Directout Technologies: ANDIAMO series, NTP: AX-32/Penta series, Avid MTRX etc.), you have more flexible function. Please see follows system diagram to install VMC-102 in your studio.

System Diagram

VMC-102 Monitoring system require to connect MADI IO unit to input and output analog and AES for monitoring.



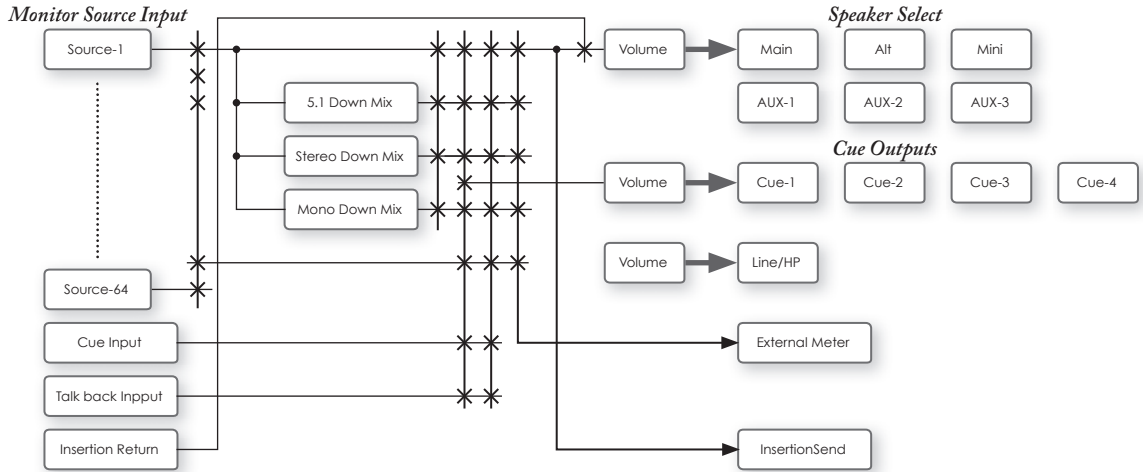
You can use any kind of MADI IO unit, but we recommend to use our recommended IO unit like as Directout Technologies Andiamo series or NTP PENTA/AX-32 or Avid MTRX series to use full functionality.

Please connect any signal for monitoring source with MADI IO unit on Analog/AES/MADI/HD-SDI and set routing source signal input to MADI output to VMC-102.

Please connect Speaker sets , Cue system, Meters to monitoring from MADI IO unit and set routing from MADI input of MDI IO to each output on MADI IO unit. In case of using recommended IO, please see routing on VMC-102.

Block Diagram

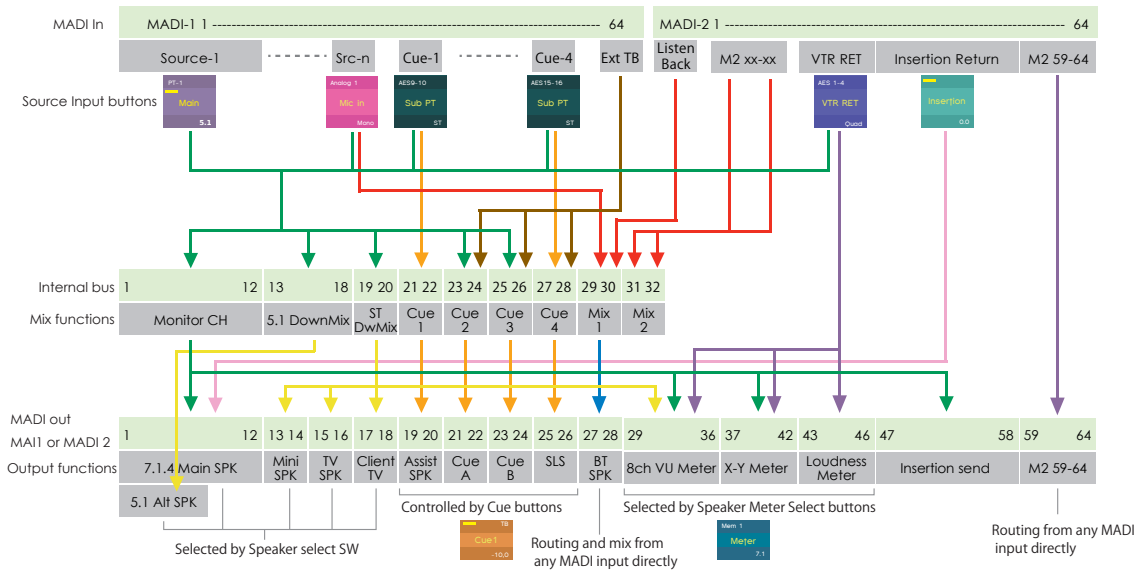
VMC-102 has fully digital patch from MADI in to MADI out that configured as this block diagram.



Signal Flow

VMC-102 has 32 channels internal mix bus. All MADI input channels can mix to mix bus, All MADI output channels can be routed from Mix bus and MADI input channels.

VMC-102 internal routing architecture



Setup with General MADI I/O

Connecting with General MADI I/O

Connect MADI IN of VMC-102 to MADI OUT of MADI IO unit, connect MADI OUT to MADI IN of MADI IO unit with optical SC multi mode cable.



Load Setup file - EX. "General_7.1"

VMC-102 has many kind of default setup files fit to your system. We recommend to load a certain setup file match with your system to start installation. Please see the Default setup list.

For standard case, please load "General_7.1" for any kind of MADI I/O when use VMC-102 as a complete standalone monitoring controller.



Default Setup List

General_7.1

“General_7.1” setup fit to standard 7.1 surround system with Main 7.1/ Alt 5.1/ Mini Stereo speakersets and 4 Cue outputs.

General_7.1.4

“General_7.1.4” setup fit to Dolby Atmos Home 7.1.4 surround system with Main 7.1.4/ Alt 5.1/ Mini Stereo speakersets and 4 Cue outputs.

General_22.2

“General_22.2” setup fit to NHK 22.2 surround system with Main 22.2/ Alt 5.1/ Mini Stereo speakersets and 4 Cue outputs.

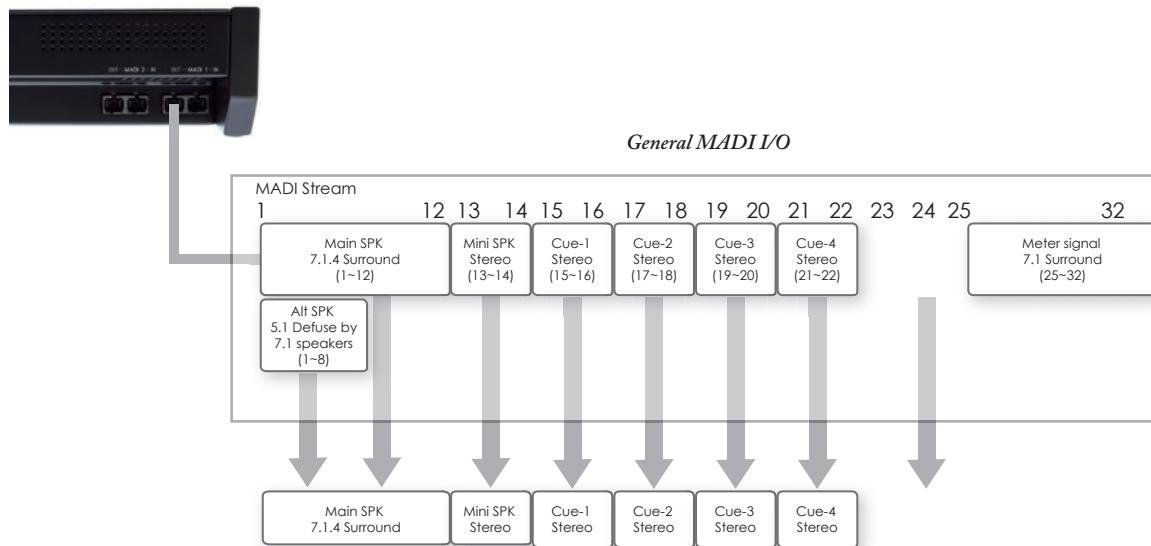
General_64

“General_64” setup fit to Dolby atmos speaker control with Main 64ch(MADI-1) and Alt 5.1/ Mini Stereo speakersets and 4 Cue outputs and Meter outputs(MADI-2).

System diagram with loading up setup file “General_7.1.4”

When load setup file “General_7.1.4”, VMC-102 output signals as fully volume controlled signal for speakersets and cues on MADI output. You can rout those signal to speaker ports and cue ports simply depends on your system.

VMC-102 MADI out



※ You can see this configuration on ‘System Config-1’ page, and you can modify all routing.

Setup with ANDIAMO

※ if you would like to use Andiamo routing and level control function or initial load setup from VMC-102, please follow this instruction.

Connecting with Directout Technologies ANDIAMO series

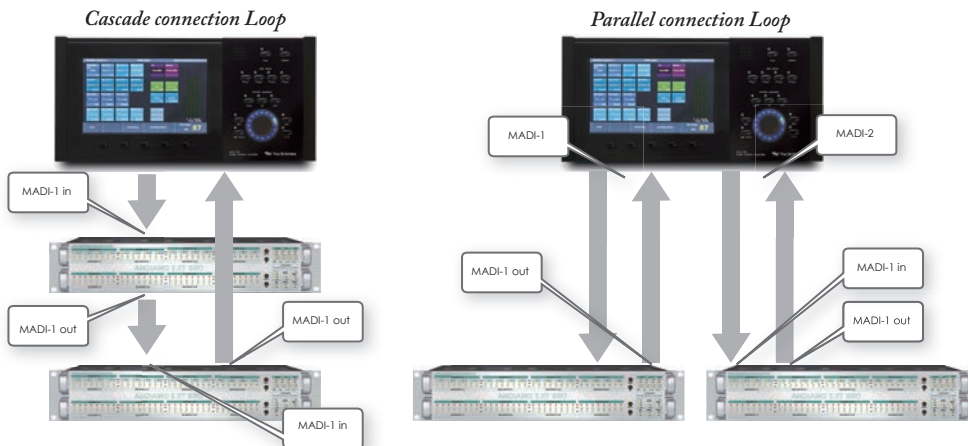
Connect MADI IN of VMC-102 to **MADI-1 OUT** of Andiamo unit, connect MADI OUT to **MADI-1 IN** of Andiamo unit with optical SC multi mode cable.



Serial Control via MADI loop

VMC-102 control Andiamo series by serial on MADI.

The connection between VMC-102 and Andiamo should be looped. In case of setup multiple Andiamos, please connect as follows diagram.



Setup on ANDIAMO (Important !!)

- ※ Please setup follows parameter first on Andiamo using “Andiamo remote PC application” before connecting VMC-102.

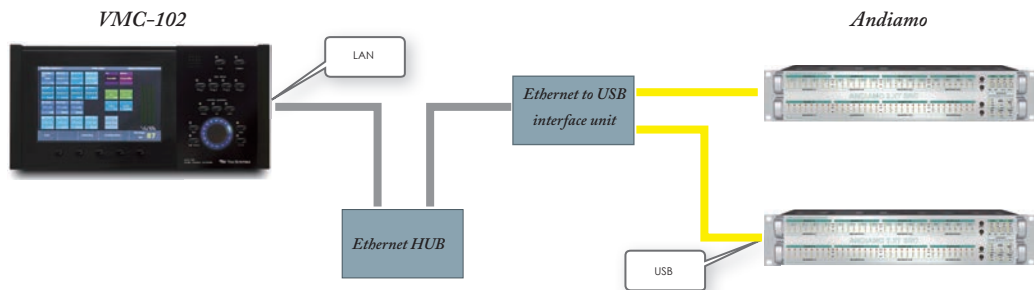
Parameter	Value	
Redundancy Mode	Prior to MADI-1	※Must setup First
Serial on MADI	MADI-1	※Must setup First
Enable Matrix	Check 'Enable'	(Possible to set up on Andiamo Setup page)
Extend Matrix	Check 'Extend'	(Possible to set up on Andiamo Setup page)
Enable Gain	Check 'Enable'	(VMC-102 set 'Enable Gain' automatically)
Output Gain for all analog and AES channels	Set to '0dB'	Recommend to avoid level trouble. Because all output gain when set 'Matrix mode' set '-1dB' as default.

- ※ Please rout matrix the monitor sound sources input ports to MADI-1 port to send monitoring signal to VMC-102.

Control via Ethernet to USB interface

VMC-102 control Andiamo series from USB port on Andiamo via Ethernet to USB interface that is optional hardware provided from Tacsystem.

VMC-102 connect LAN port to Ethernet to USB interface unit using LAN Hub, and connect USB port on Andiamo from Ethernet to USB interface unit as well.



Register Your Andiamo Unit as a Target IO

VMC-102 can control a couple of Andiamo units as control target devices.

Please register your Andiamo on VMC-102 to control Andiamo on VMC-102 “System Config-2” page.



※ If the device has been connected properly correct via MADI, the serial number of connected Andiamo unit will appear on the window.

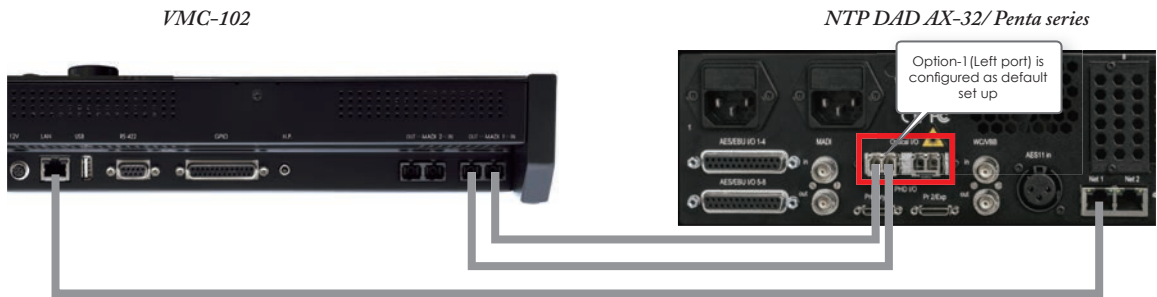
Setup with DAD AX-32/Penta, Avid MTRX

- ※ if you would like to use AX-32/Penta or Avid MTRX routing and level control function or initial load setup from VMC-102, please follow this instruction.

Connecting with NTP DAD AX-32/Penta series or Avid MTRX

Connect MADI IN of VMC-102 to one of optional MADI OUT of DAD AX-32/ Penta unit, connect MADI OUT to optional MADI IN of DAD AX-32/ Penta unit with optical SC/LC multi mode cable. Connect LAN cable from VMC-102 LAN port to DAD AX-32/ Penta LAN port.

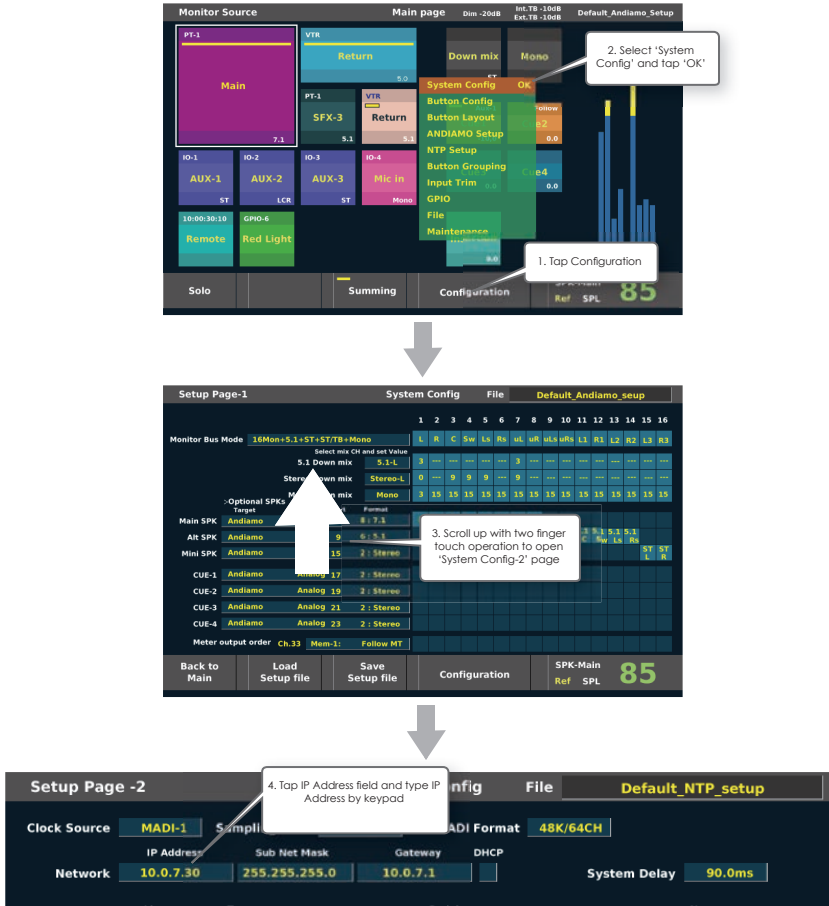
- ※ The **Optical MADI option is required** to connect MADI with VMC-102.
- ※ The **ProMon option license is required** VMC-102 to control matrix and level on DAD AX-32/Penta.



- ※ VMC-102 control NTP DAD AX-32/ Penta series by DADman protocol via Ethernet. It's possible to share DADman application on PC or Mac.

Setup VMC-102 IP Address

Please setup VMC-102 IP Address on same subnet with target NTP DAD AX-32/ Penta unit on VMC-102 “System Config-2” page.



※ NTP DAD AX-32/ Penta series' default IP address is "10.0.7.20". When load "Default_NTP_setup", VMC-102 set own IP address as "10.0.7.30" for easy connection.

Register Your NTP DAD AX-32/ Penta Unit as a Target IO

VMC-102 can control a couple of NTP DAD AX-32/ Penta units as control target devices.

Please register your NTP DAD AX-32/ Penta unit on VMC-102 to control NTP DAD AX-32/ Penta on VMC-102 “System Config-2” page.

1. Tap Configuration

2. Select 'System Config' and tap 'OK'

3. Scroll up with two finger touch operation to open 'System Config-2' page

4. Tap IP Address field

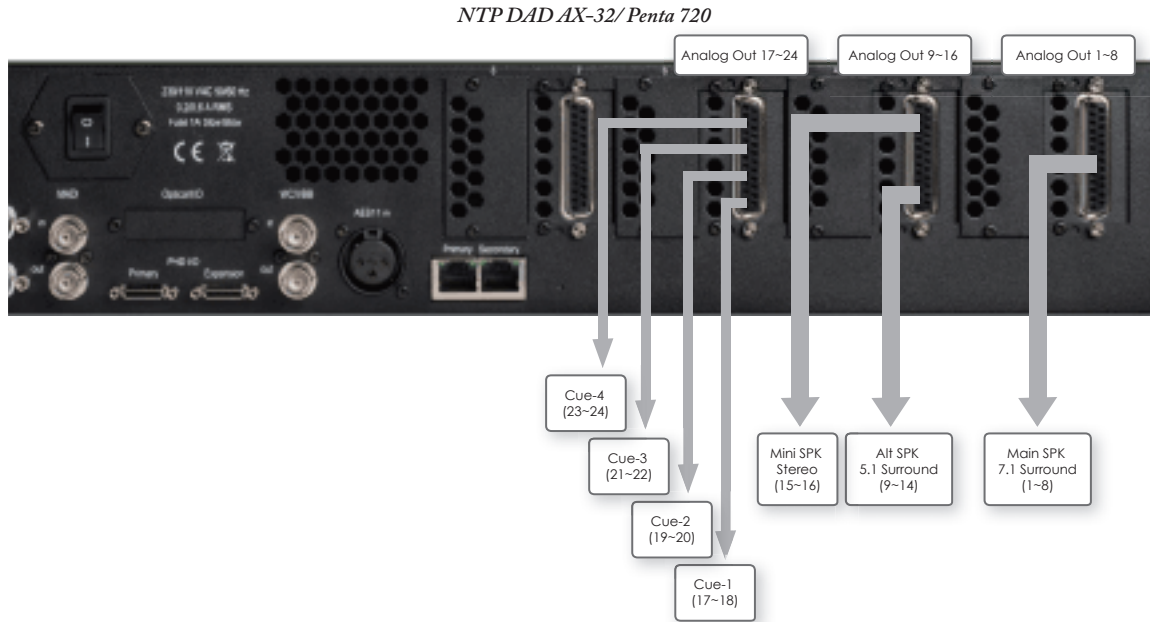
5. Select device and Tap OK

Type	Serial	DHCP	IP Address	Sub net mask	Gateway
NTP -1	Penta720	0012345	10.0.7.20	255.255.255.0	10.0.7.1
NTP -2	AX 001	Penta	720	0012345	10.0.7.20
Connect port from VMC	MA 001	Penta	720	0012347	10.0.7.21

※ If the device has been connected properly correct via MADi, the serial number of connected Andiamo unit will appear on the window.

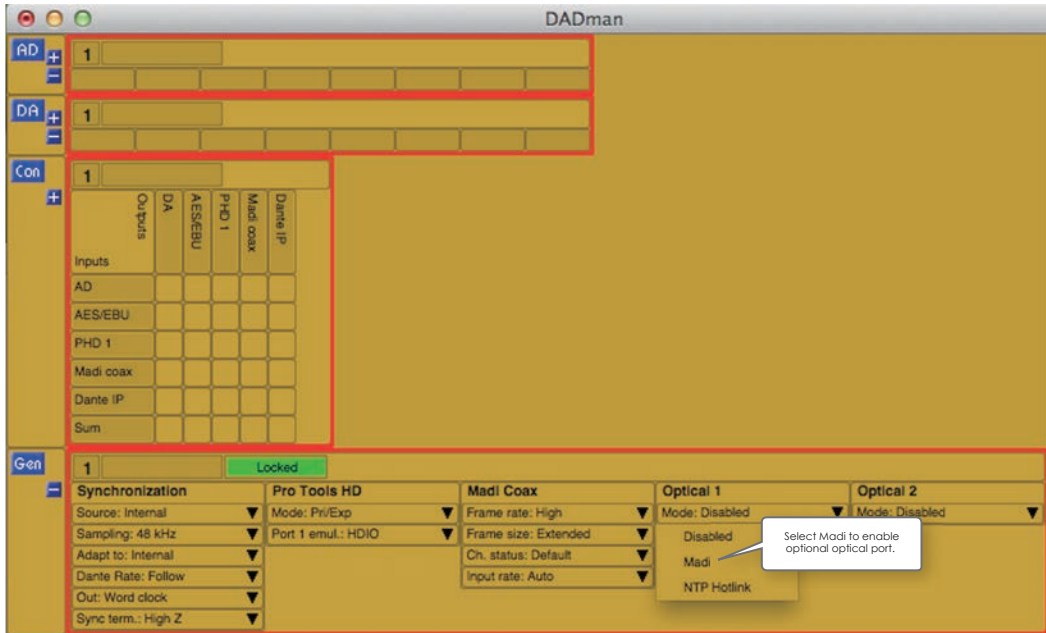
System diagram with loading up setup file “Default_NTP_setup”

When load setup file “Default NTP_setup”, NTP DAD AX-32/ Penta will be assigned Speaker Sets and Cues as this system diagram. It will be easy to start setup. You can arrange to configure any output to any channels on NTP DAD AX-32/ Penta depends on your system.



NTP DAD AX-32/ Penta Unit by DADman

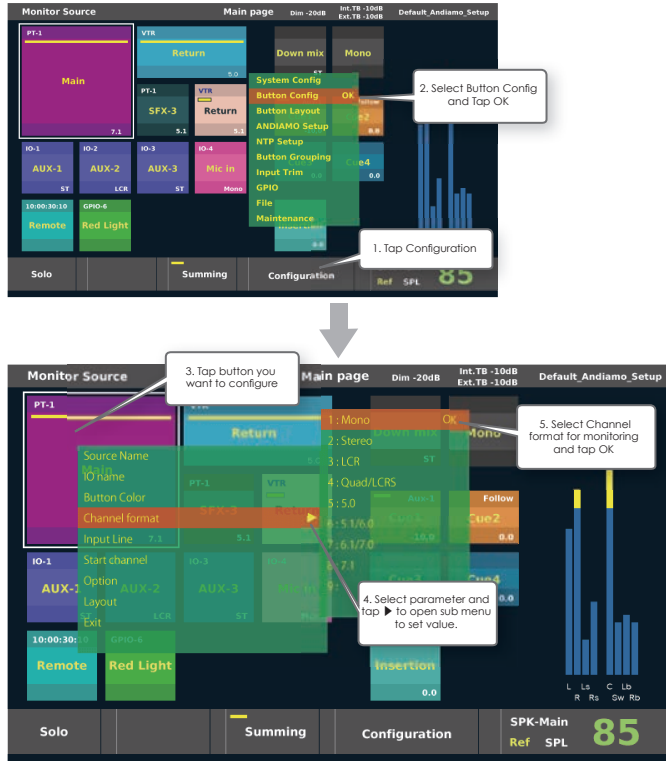
In order to connect optical MADI option port to VMC-102, you should enable optional optical port for MADI. Please enable optional optical port that you use by DADman software on PC or Mac.



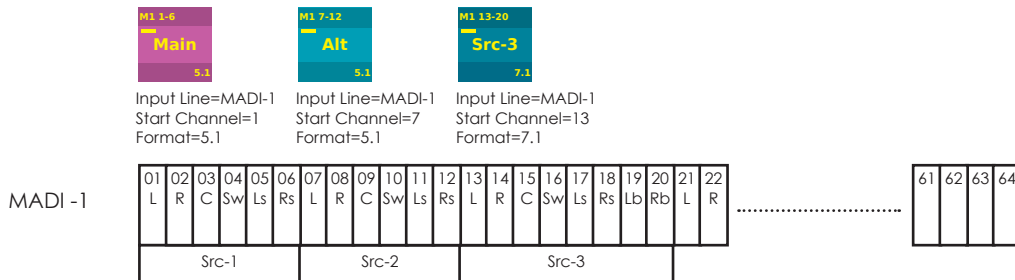
- ※ Please route matrix the monitor sound sources ports to MADI optical port to send monitoring signal to VMC-102.

How to setup Monitor Source to Source input button

You can configure up to x64 Monitor source buttons on touch screen on Button Config mode.



※ You can connect source input signal from MADI input channel to each button with Start channel and channel format.



Rout Monitor Source signal to VMC-102

You should rout monitor source signal to connected MADI output of IO unit.

Routing from Directout Technologies ANDIAMO to VMC-102

You can rout any signal to MADI-1 port using by “Andiamo Remote” PC application or Andiamo Setup page on VMC-102 as follows.

Step 1: Tap Configuration

Step 2: Select Button Config and Tap OK

Step 3: Tap Output Field

Step 4: Select MADI-1 to send signal to VMC-102

Step 5: Tap Input Field

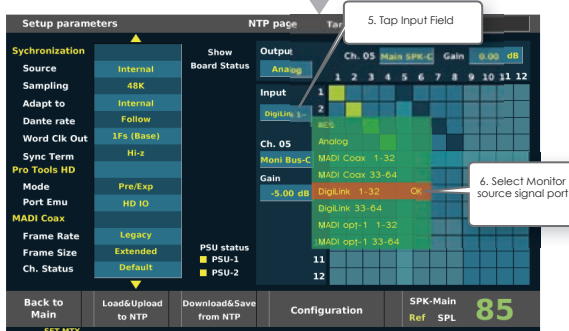
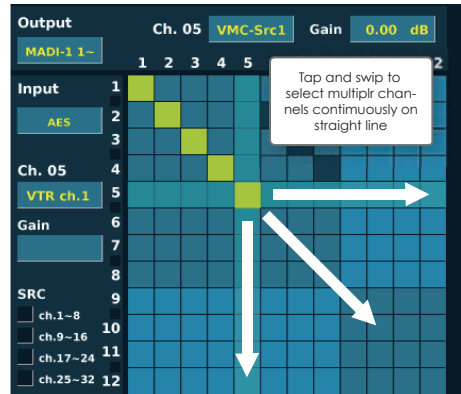
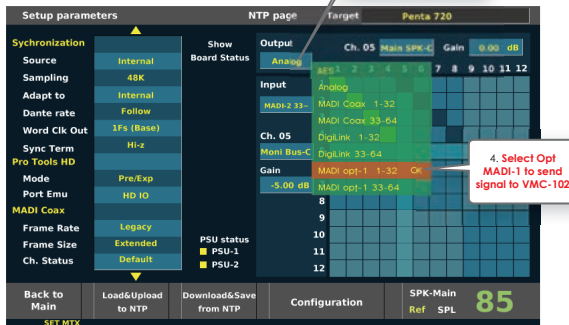
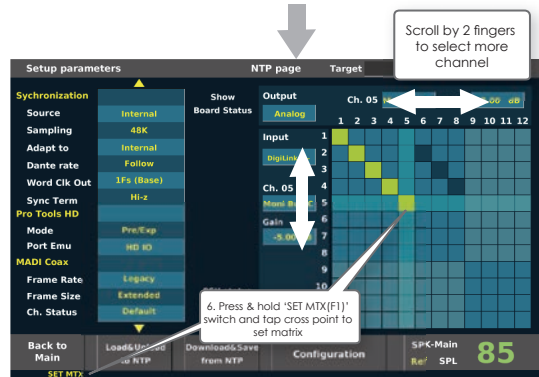
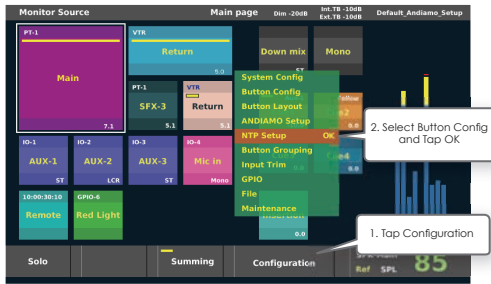
Step 6: Select Monitor source signal port

Additional Instructions:

- Scroll by 2 fingers to select more channel
- Press & hold 'SET MTX(F)' switch and tap cross point to set matrix
- Tap and swip to select multiple channels continuously on straight line

Routing from Directout Technologies NTP DAD AX-32/ Penta to VMC-102

You can rout any signal to Optical MADI-1 port using by “DADman” PC application or NTP Setup page on VMC-102 as follows.



Add, Move, Layout buttons

You can layout buttons and add new button on Button layout mode.



Button Functions

VMC-102 has follows Buttn Functions.

Function	Value	Description
Input Source		Select Input Source
Speaker Select	Main/Alt/Mini/ (AUX1/AUX2/ AUX3)	Select Speakersets
Cue	Cue1/2/3/4/Line HP	Cue output control Follow/Cue in TB mix
Meter Select	Meter1/2/3/4	Select Metering order
Down Mix	5.1DwnMix/ST DwnMix/ Mono DwnMix	Switch downmix signal to Monitor channel
Set Volume		Set Monitor Level
GPIO	Mute/ Dim/ Ext TB/ Listen Back/ Cogh_Alt-1/2/3/4	Activate GPIO function
Set IO Routing		Set External IO routing matrix
Insertion		Switch Insertion Return signal to Monitor channel
Talk Back	Internal/ External	Activate Talk back and adjust TB level
Delay		System delay ON/OFF
OSC	1KHz/10KHz/400Hz/ Pink(Dolby)/ White	OSC insertion to Monitor channel
Summing Mode		Enable/Disable Summing mode
Api		Activate Api command file for external control
Machine Control	Stop/Play/FF/Rwd/Rec/ Cue up/Loop/Remote Window	(Option) Control 9pin device via RS-422 port
M.1K2 Remote	CH MTX/Port MTX/Snap- shot Recall	(Option) Control Directout Technologies M.1K2 via LAN port

How to use VMC-102

This section describe how to use VMC-102 quickly.

Control Monitor Speaker sets

■ Select Speaker sets

Push Monitor speakers switch on remote panel to select Speaker sets alternatively.

■ Control Monitor Volume

Turn volume knob to adjust monitor level.

VMC-102 control volume for each speaker sets separately.

Turn volume knob fast to change level with speed curve, Turn volume knob slowly to change level 1dB step.

■ Dim, Mute Control Monitor

Push Mute switch to cut Control monitor.

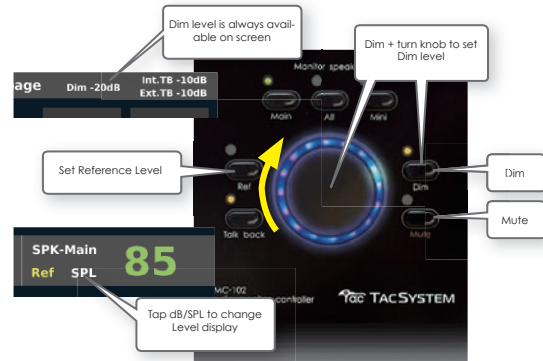
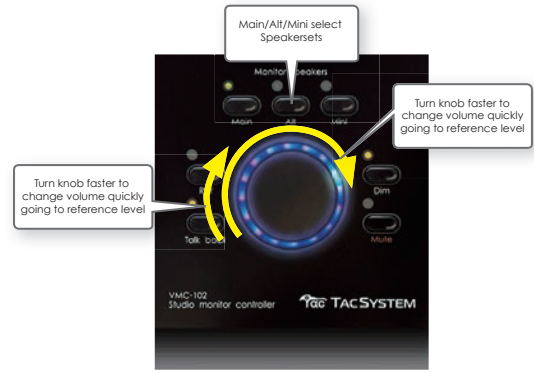
Push Dim switch to dim Control monitor.

Push Dim and hold + turn knob to adjust Dim level.

■ Set Reference level

Push Ref switch to set control monitor to reference level.

Tap dB/SPL to change level display.



Select monitor sources

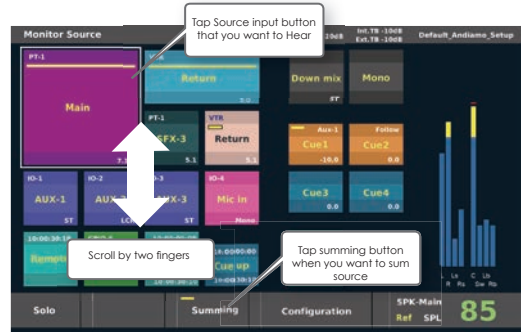
■ Select Monitor source

Tap monitor source input buttons on touch screen display.

You can configure maximum x64 Input buttons on the left side scrollable 4 pages area and fixed right side area.

■ Summing Monitor source

Tap Summing buttons on, and tap monitor source input buttons you want to sum.



Control Cue output

- On/Off Cue send

Tap Cue 1~4 buttons on touch screen display to on/off cue send.

- On/Off Cue send

Tap Cue 1~4 and hold + turn knob to adjust each Cue level.



Control Internal Talk back

- On/Off Talk back

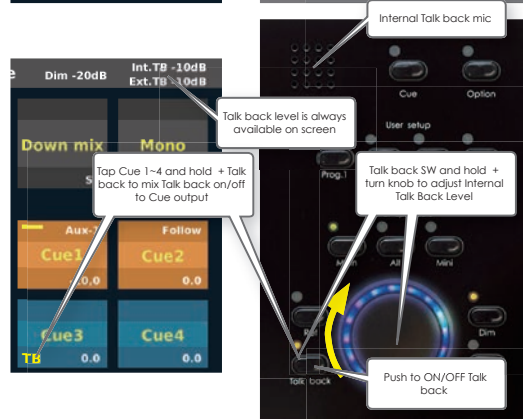
Push Talk back switch and hold to talk. (Talk back switch doesn't latch.)

- Adjust Internal Talk back level

Push Talk back switch and hold + turn knob to adjust Internal Talk back level.

- Mix Talk back to Cue 1~4

Tap Cue 1~4 and hold + Talk back switch to mix talk back signal on/off to Cue output.



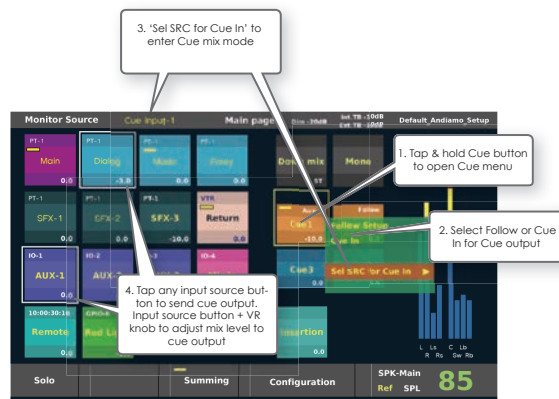
Select Cue Source

- Select Follow monitor or Ext Cue In to Cue output

Tap Cue 1~4 and hold 2 seconds to open Cue select menu window and select Follow or select Cue in.

- Select External Cue Input Source signal

In order to set Cue source as Cue In, please select 'Sel SRC for Cue In'. Then LCD display Cue mix mode to select and mix cue signal from any Input source button.



Solo speaker

■ On/Off Solo

Tap each Solo button to solo speaker.

You can add multiple solo speakers.

■ Solo Exclusive

Tap Exclusive button on to solo speaker exclusively.

■ Select Solo/Mute mode

Tap Mute Mode button to change Mute mode.

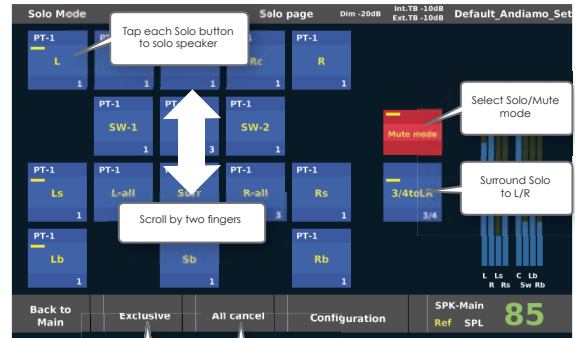
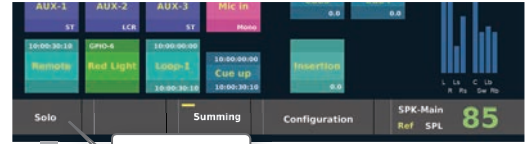
On Mute mode, Muted speaker buttons light.

Cancel all Solo/Mute

Tap All Cancel button to clear all Solo/Mute.

■ Surround to L/R Solo

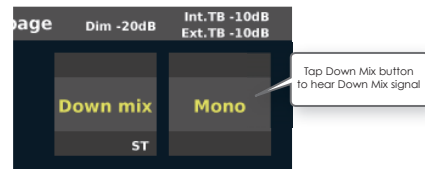
Tap Surround to L/R button to hear each pair of surround speaker sound on front L/R speakers.



Down Mix

Switch Down Mix signal

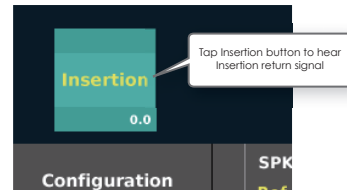
Tap Down Mix button to hear down mix signal on speaker sets.



Insertion

Switch Monitor Insertion signal

Tap Insertion button to hear the Insertion return signal on speaker sets.



Program Switches

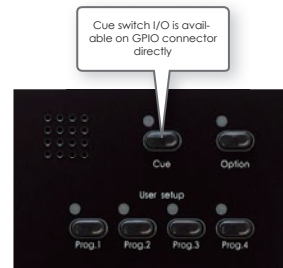
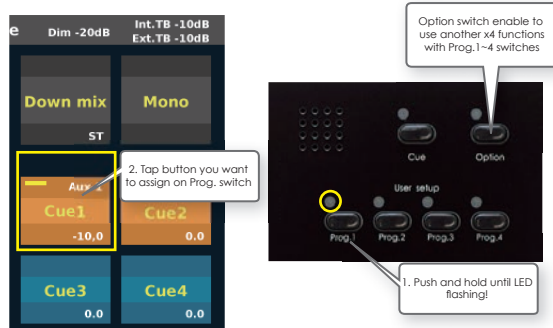
■ Assign function on Program Switches

Push and hold over +3 sec Prog.1~4 switch that you want to assign function on Prog.1~4 switch.

The LED on Prog. switch will be flashing to ready to assign function.

Tap button on screen that you want to assign on Program switch.

This Program switch function available with Prog.1~4 and Option + Prog.1~4, total x8 functions.



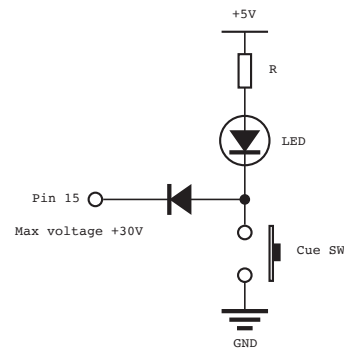
Cue Lamp Switch

■ Drive Cue lamp by Cue Switch

Push Cue switch to drive connected Cue Lamp directly.

See below.

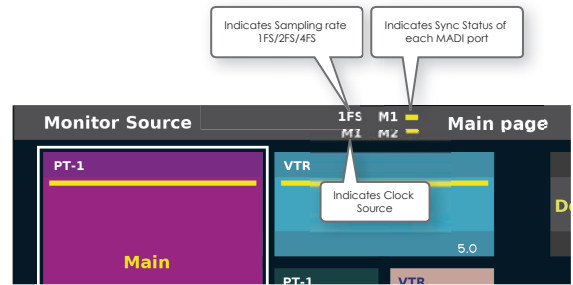
Pin No.	Signal	Pin No.	Signal
1	GPO-1: Mute tally	14	GPI-1: Ext. Mute
2	GND	15	CUE I/O
3	GPO-2: Dim tally	16	GPI-1: Ext. Dim
4	GPO-3: Talk back tally	17	GPI-1: Ext. Talk back
5	GPO-4: Listen back tally	18	GPI-1: Ext. Listen back
6	GPO-5: Cough/Alt-1 tally	19	GPI-1: Cough/Alt-1 In
7	GPO-6: Cough/Alt-2 tally	20	GPI-1: Cough/Alt-2 In
8	GPO-7: Cough/Alt-3 tally	21	GPI-1: Cough/Alt-3 In
9	GPO-8: Cough/Alt-4 tally	22	GPI-1: Cough/Alt-4 In
10	Line out-R (HOT)	23	Line out-R (COLD)
11	Line out-R (GND)	24	Line out-L (HOT)
12	Line out-L (COLD)	25	Line out-L (GND)
13	NC		



Sync status

- Check sync status of MADI connection

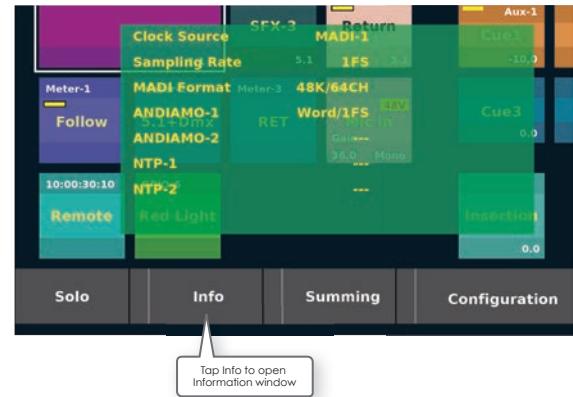
Sync status indicates current sampling rate, clock source and sync status of each MADI port.



Information Window

- Check current connection

Information window shows current internal clock setup and connected IO setup. You can check connectivity at a glance.



4 General Specifications

General Specification

Items	Value	Discription
Dimensions	W=318.8mm D=154.4mm H=64.73mm	290.0mm without side panel 152.0mm without side panel
Weight	3Kg	
Power Consumption	30W	DC +12V 2.5A

I/O

Items	Value	Discription
MADI-1 In/out	Optical SC Multi-mode	64ch@48/44.1KHz, 32ch@96/88.4KHz, 16ch@192/176.8KHz
MADI-2 In/out	Optical SC Multi-mode	64ch@48/44.1KHz, 32ch@96/88.4KHz, 16ch@192/176.8KHz
DC IN	Hirose HR10-7R-4S	DC +12V
RS-422	DE-9S	RS-422A
USB	USB-A	USB2.0 Host
LAN	RJ-45 8c8p	10/100 Base-T Ethernet TCP/IP
GPIO	DB-25S	Input; 8bit, Photo coupler (max reverse voltage 5V) Output; 8bit, Open Collector (max current 500mA/ch) Stereo Line output (Balanced -10dB) (CH.1/2 of TASCAM format pin assign)
H.P.	3.5mm Stereo Jack	

Functions

Items	Value	Discription
Monitor Source input	128 channels x64 sources buttons	Supporting format; Mono/Stereo/... /64ch
Internal Mix bus	32 channels	@44.1~192KHz
Internal bus CH function	Monitor CH DownMix CH Mix CH CUE	Mix Slected monitor source with summing function Down mix selected monitor source by DownMix parameter Mix fixed MADI input channels Mix follow source or Cue input source
Control Monitor Speakers	x6 Speaker sets (Main/ Alt/ Mini/ Aux1~3*)	Supporting format; Mono/Stereo/... /64ch
Cue Output	x4 Cue outputs (With or without TB)	Supporting format; Mono/Stereo/... /5.1ch
Line/H.P. Output	x1 Stereo output	With or without TB
Solo Speaker	x80 Solo buttons	Solo/Mute mode
Down Mix	x16 Down mix	
Monitor Insertion Return	x1 Monitor Insertion Return Input	Supporting format; Mono/Stereo/... /64ch
Talk Back	Internal Talk back External Talk back	TB mic on front panel Mix to Cue, Speaker sets, Line/HP output Ext. TB mic signal must be connected on MADI IO unit to send MADI input of VMC-102.
GPIO	Cue Lamp Ext. Mute Ext. Dim Ext.TB Listen Back Cough/Alt-1~4	Un-used GPIO channel is possible to use just GPO switch controlled by button on screen for Red light etc. Cough/Alt function is switching Matrix routing on recommended IO for A/B switching signal pass.
External Meter order assign	x4 program memory	Assignable to any MADI output channel
Andiamo Control	x2 devices	Control via MADI serial or via LAN to USB
NTP Control	x2 devices	Control via LAN
Setup memory	Internal/Andiamo/NTP Setup files	
Import/Export setup data	USB memory	Output file format=CSV file

5 Update Firmware

How to update VMC-102 Firmware

VMC-102 can update firmware very easy using USB memory stick. Please check the latest firmware on our web site and download firmware to update VMC-102.

■ Download firmware

Please download the latest firmware from our web site.

Un-wrap downloaded firmware file(MoniSelUpdate_ xxxx) and copy to USB memory.

■ Plug in USB stick and Power on or Restart

Plug on USB stick that includes update file folder.

Then restart VMC-102.

■ Execute update

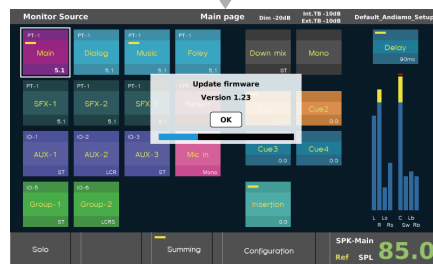
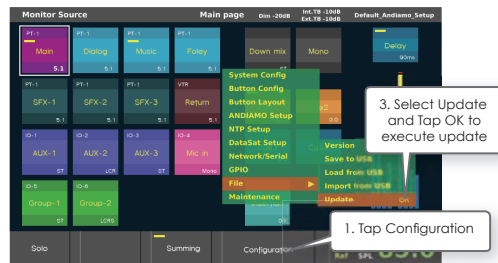
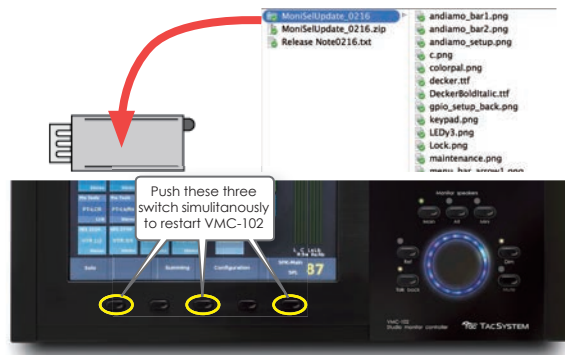
Tap Configuration button to open main menu and select

File Menu and tap ► to to open sub menu.

Select Update and tap OK, then open dialog window with target version number in USB stick.

Tap OK to execute firmware update.

Do not reset or power off during update.



6 Parameters

How to setup Parameters

Tap Configuration button to open main menu and select Menu that you want to setup and tap OK to go configuration mode or page.

Main Menu

■ System Config

Go to System Config page-1, 2 to Setup Monitoring system. Load, Save configuration data. Monitor bus mode, Down Mix, Speaker sets, Cue output, Meter order, Sampling rate, MADI format, Delay, Connection for Andiamo, Connection for NTP, Dim level, Internal Talk back level, Reference level, Ext. Cue input

■ Button Config

Enter Button Configuration Mode. Source Name, IO Name, Button Color, MADI Line, Start Channel, Channel Format, Option

■ Button Layout

Enter Button Layout Mode. Add Button, Delete Button, Button Function, Source Name, IO Name, Button Color

■ Button Grouping

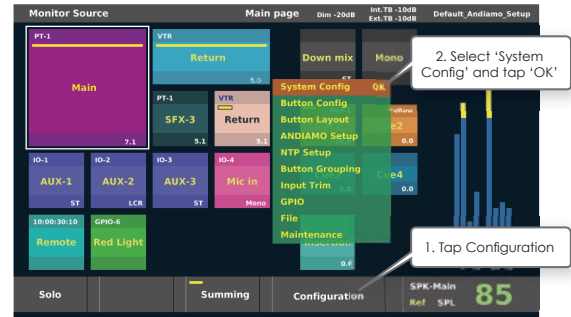
Enter Button Grouping Mode

■ Input Trim

Enter Input Trim Mode

■ Andiamo Setup

Go to Andiamo Setup page to brows connected Andiamo data. Upload, download Andiamo setup data to/from



connected Andiamo.

■ NTP Setup

Go to NTP Setup page to brows connected Penta/AX-32/ Avid MTRX data. Upload, download Penta/AX-32/ Avid MTRX setup data to/from connected Andiamo.

■ GPIO

Go to GPIO Setup page to configure GPIO functions. Save, Load Configuration data. Ext. Mute, Ext. Dim, Ext. Talk back, Listen back, Cough/Alt-1~4

■ File

Import, export configuration data, update firmware. Version NO., Save to USB, Load from USB, Import from USB, Update, Update from Back up file, Initialize

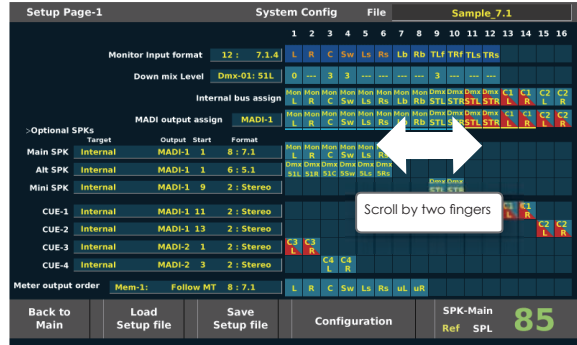
■ Maintenance

Maintenance menu, activate option software, set password

System Config-1

On System Config-1 is the main setup page which define internal and/or external signal routing for the basic monitoring system.

- Monitor Input format
- Down mix level
- Internal bus assign
- MADI output assign
- Monitor Speaker Sets
- Cue output
- Meter output order
- Load, Save Setup File



Define Monitor input format

You should define the maximum channel number of monitor signal that is possible to monitor. 'Monitor Input format' defines the channel number of monitor source channel list on internal routing parameters and number of channel for downmix from monitor source.

- Monitor input format

Value: 1~64

Tap Monitor input format field and select channel number.



Arrange Monitor input channel order

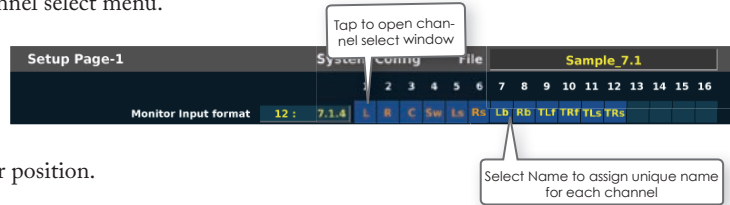
The channel order of Monitor bus is the system format of VMC-102 system. You can modify Monitor bus channel order. Tap each channel box to open channel select menu.

■ Channel select

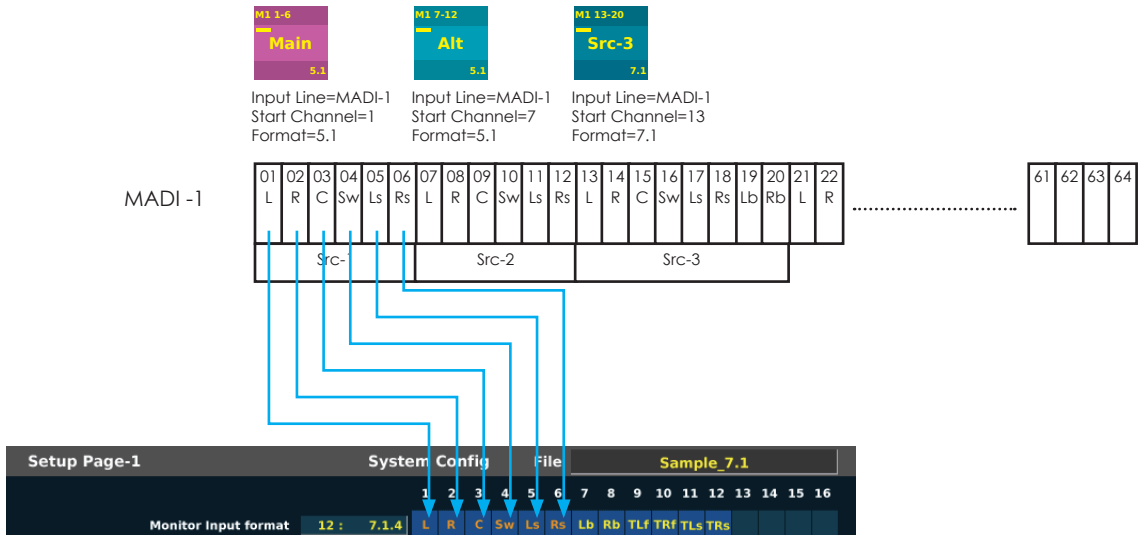
Value: *L, R, C, Sw, Ls, Rs, Name*

L, R, C, Sw, Ls, Rs assign on single order position.

Please define unique name for other channels by Keypad. These names appear as signal source menu on output select menu. The each name can define name with up to 3 characters. (ex. Top Left Surround as TLS.)



※ **This channel order is the reference order of this system related with monitor source input channel order. You should rout monitor source signal on MADI to VMC-102 with this channel order.**



Adjust DownMix level

VMC-102 has 16 kinds of DownMix Level independently to mix on internal bus. You can use these DownMix signal for speaker/cue output source or any MADI output.

- Select DownMix Channel

Value: 1~16

Tap Down mix Level field and Select DownMix channel which you want to adjust DownMix level.

- DownMix Channel Name

Value: Type in

Tap 'Name' to open keypad window and type in any name.

- DownMix Level

Tap each matrix box to open adjust window and turn volume knob to adjust.

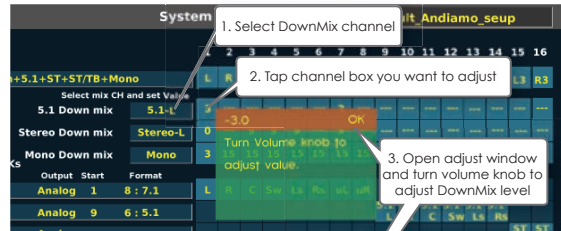
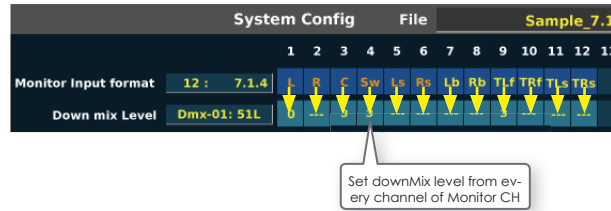
※ **if you want to output only talk back signal, define one of DownMix channel as 'TB' and all downMix level of this channel set off(-Infinity). And assign this 'TB' DownMix channel to internal bus with TB mix option.**

- Function Switch on DownMix setting

The function of F1~F5 on Internal bus setting.

Using Function Switch allow to set value speedy.

SW	Function	Description
F1	-∞	Set DownMix level to - Infinity
F2	0dB	Set DownMix level to 0dB
F3	MTC CH-	Set Value and move to next channel
F4	MTX CH+	Set Value and move to previous channel
F5	Enter	Set Value



Define Internal bus

VMC-102 has 32 channels internal bus that is user assign function such as,

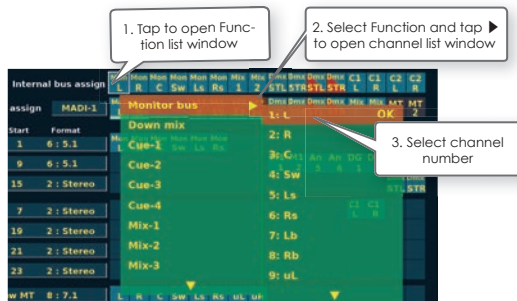
Function	Value	Description
Monitor CH	Input CH list 1 : (Name) 64: (Name)	Select or summing each individual channel which is follow selected Input Source button.
Down Mix	DownMix CH list Dmx01 : (Name) Dmx16: (Name)	Select or summing and mix with defined DownMix level which is follow selected Input Source button.
Cue-1 Cue-4	Input CH list 1 : (Name) 64: (Name)	Cue mixing signal defined by Cue setup.
Mix-1 Mix-8	M1-01 M1-64 M2-01 M2-64	Mix any multipul MADI input channel with unity level.

Internal bus assign	Mon	Mon	Mon	Mon	Mon	Mon	Mix	Mix	Dmx	Dmx	Dmx	Dmx	C1	C1	C2	C2
	L	R	C	Sw	Ls	Rs	1	2	STL	STR	STL	STR	L	R	L	R
Monitor CH Name																
Monitor CH																
DownMix CH Name																
DownMix CH																
Mix CH No.																
Mix CH																
Cue CH Name																
Cue CH																

Any Internal bus can be mixed with Tack back signal.

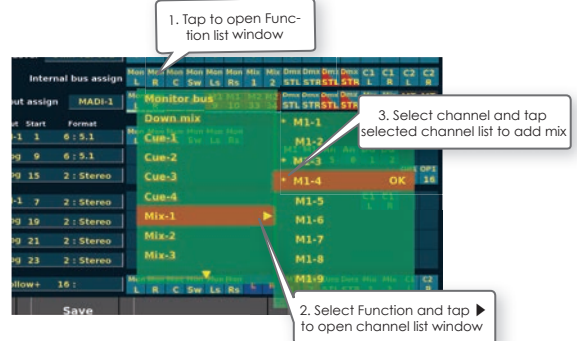
Define Monitor CH, DownMix, Cue

Tap Internal bus channel box and select function and channel on the list.



Define Mix-1~8 CH

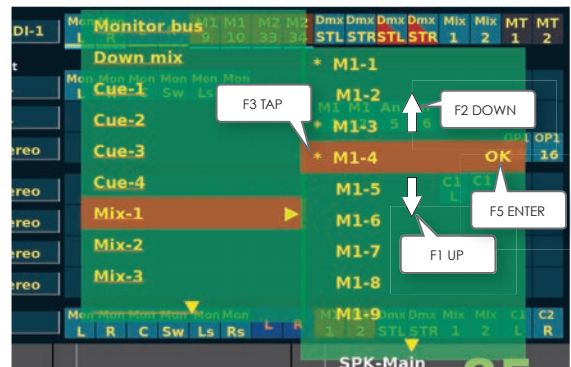
Tap Internal bus channel box and select function (Mix-1~8) and tap selected channel on the list. It is possible to add multiple channel on the list to mix. The selected mix channel indicates (*) mark on the left side of the list.



Using F1~F5 switch to select channel

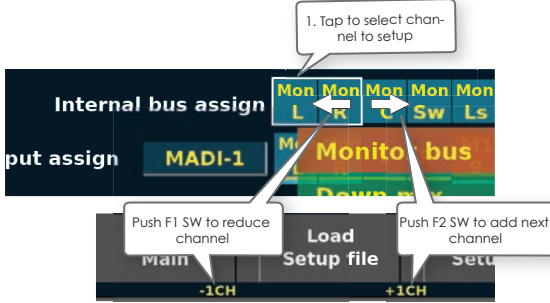
The function of F1~F5 on Internal bus channel list window.

SW	Function	Description
F1	UP	up select channel
F2	DOWN	Down select channel
F3	TAP	Tap selected channel to add mix to internal bus
F4		n.a.
F5	Enter	Set Value



■ Define multipule channel simultanously

Tap Internal bus channel box to select channel on the list and push F2 to add next channel to set up simultanously. It allows you to setup number of channels quickly.



■ Function Switch on Internal bus setting

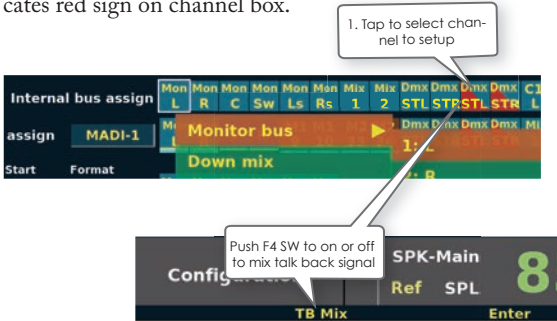
The function of F1~F5 on Internal bus setting.

SW	Function	Description
F1	-1CH	Reduce channel selection
F2	+1CH	Add channel selection
F3	n.a.	n.a.
F4	TB Mix	Mix Talk back sinal on selected internal bus channel
F5	Enter	Set Value

■ Mix Talk back signal to Intrnal bus

Tap Internal bus channel box to select channel on the list and push F4 to mix on or off talk back signal on this channel.

When Talk back 'ON' on internal bus channel, it indicates red sign on channel box.



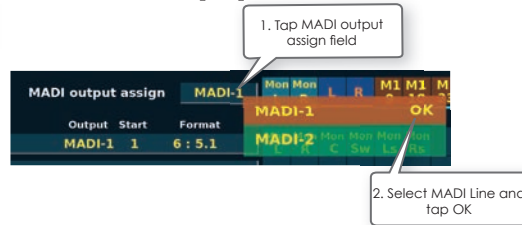
Define MADI output

VMC-102 allows to define routing and delay function (only on MADI-1) for all MADI output channels individually.

■ Select MADI port

Value: MADI-1, MADI-2

Tap MADI output assign field and Select MADI-port which you want to configure. The channel matrix display selected MADI output port.

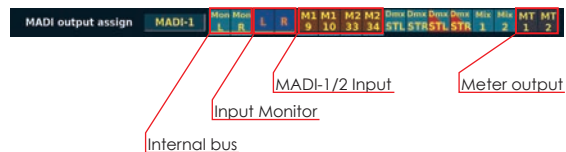


■ MADI output signal functions

Each MADI output channel is routed from MADI-1/2 input and internal bus with follows function.

Function	Value	Description
Internal bus	Internal bus CH list 1 : (Name) 32: (Name)	Connect internal bus signal to MADI output.
Input monitor	Input CH list 1 : (Name) 64: (Name)	Input Monitor output channel is connected from MADI input channel directory which is follow Selected Input source button.
MADI-1 MADI-2	1 64	Connect from MADI-1/2 input channel directly.
Meter	1 64	Connect signal defined with Meter output order setup (Meter-1~4).

MADI output channel box is colored depends on routed signal function.



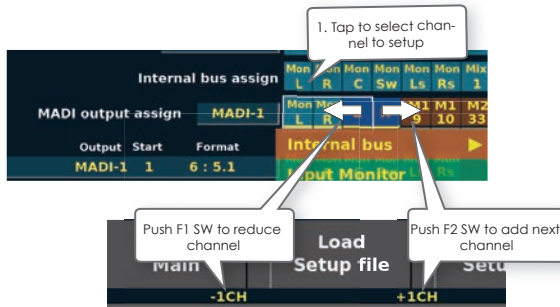
■ Define MADI output signal

Tap MADI output channel box and select function and channel on the list.



■ Define multiple channel simultaneously

Tap MADI output assign channel box to select channel on the list and push F2 to add next channel to set up simultaneously. It allows you to setup number of channels quickly.



■ Function Switch on MADI output setting

The function of F1~F5 on Internal bus setting.

SW	Function	Description
F1	-1CH	Reduce channel selection
F2	+1CH	Add channel selection
F3	n.a.	n.a.
F4	SET SYSTEM DELAY	Set System Delay function on selected MADI output channel
F5	Enter	Set Value

■ The delay function on MADI-1 output signal

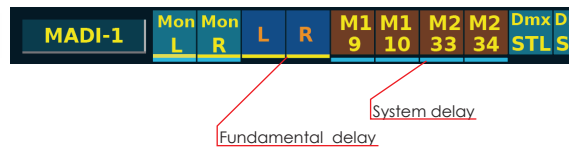
VMC-102 is possible to assign 3 kinds of delay function only on MADI-1 output signal.

Delay Function	Value	Description
Fundamental delay	0~200ms	The Fundamental delay function is always effective on MADI-1 output.
System delay	0~200ms	The System delay function is effective when activated System delay by System delay button or selected input source button which defined system delay option on it.
Speaker delay trim	0~200ms	The Speaker delay trim function is activated by speaker select. This parameter is defined on speaker setup. (see SPK setup page) This function is activated only case defined speaker output routing related with MADI-1 output.

※ **The maximum delay time is 200msec which is total time of Fundamental delay + System delay + Speaker delay trim.**

■ Display delay function on MADI-1 output signal

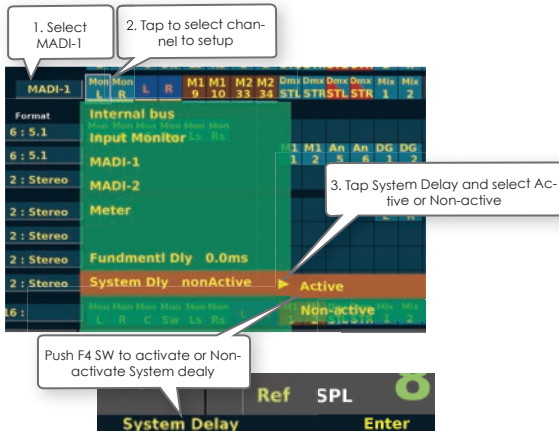
When selected MADI-1 on MADI output assign, the delay function is indicated under channel box, yellow as fundamental delay and blue as system delay.



■ Set System delay on MADI-1 output

Tap MADI-1 output channel box to open MADI output assign window and select System delay and set Active.

or push F4 to mix on or offtalk back signal on this channel.



■ Set Fundamental delay on MADI-1 output

Tap MADI-1 output channel box to open MADI output assign window and select Fundamental delay and turn volume knob to set delay time.

Push and turn volume knob allow to set 0.1ms digit.



Assign Speaker sets

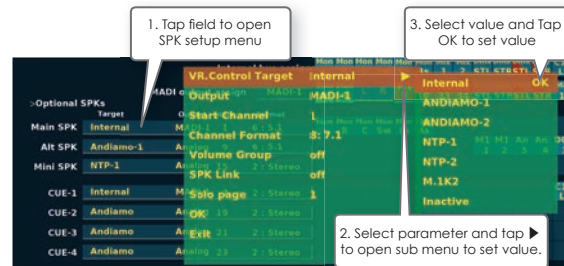
VMC-102 has the possibility to control x6 speaker sets that all support maximum 64 channel format.

Tap Main SPK, Alt SPK, Mini SPK field to define output I/O and channels for Speaker output.

It allows to assign same I/O port from deferent speaker sets.

Parameter	Value	Description
Volume control target	Internal Andiamo1 Andiamo2 NTP1 NTP2 M.1K2(option) Inactive	The target hardware to control speaker volume.
Output	(see another table)	Define output port on IO, depends on Volume control target,
Start channel	1 64	Define the first channel for speaker sets on IO output.
Channel format	1 64	Define channel number of speaker sets.

※ **If you want to control speaker volume on Andiamo or NTP, you should setup communication with Andiamo or NTP. (See System Config-2 page)**



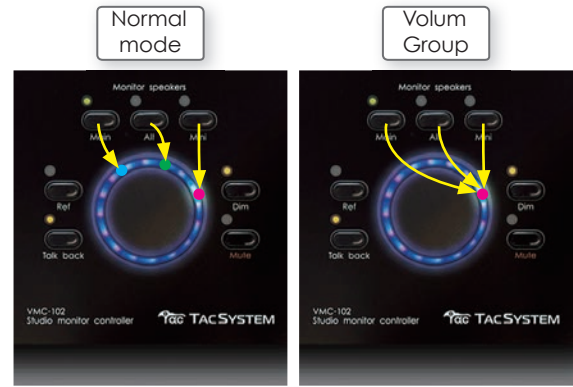
■ Output I/O list

Volume control target	Value for output	Description
Internal	MADI-1 MADI-2 Internal bus Line/HP	MADI-1 allows to use delay function Line out on GPI port and Headphones output
Andiamo1/2	Analog AES	
NTP1/2	Analog DA AES Dante MADI coax MADI option1 MADI option2 PTHD Slot1: xxx Slot8: xxx	Option DA card(Digital domain) Option DA card(Analog domain) Onboard AES port Dante option card On board MADI coax Optional MADI mini module Optional MADI mini module On board Pro Tools HDX port Optional card slot xxx = AD/DA/SDI/AES/MADI-1/ MADI-2
M.1K2 (option)	Port Gain CH Gain Port-1 CH Gain Port-16	Port Gain doesn't have channel assign

Volume Group

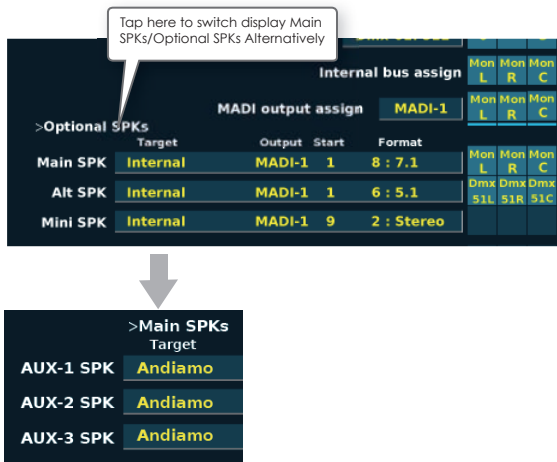
VMC-102 has a 3 Volume groups. Normary each speaker level is set individually. Volume Group set same volume level for grouped speakersets when switch speaker sets.

Parameter	Value	Description
Volume Group	Off Group 1 Group 3	Each speaker sets can be assigned on one Volume Group.



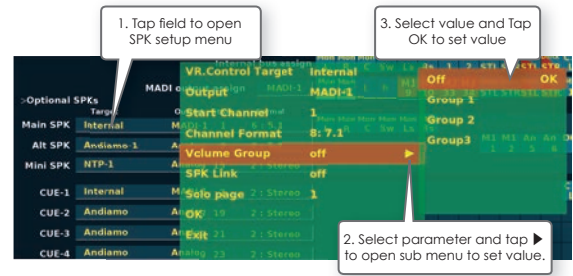
Assign Optional Speaker sets

Tap Optional SPKs to switch display for setup optional speaker sets, AUX-1 SPK/ AUX-2 SPK/ AUX-3 SPK.



■ Set Volume Group

Tap each speaker setup field to open Speaker setup window and select Volume Group and select Group number.



Speaker Link

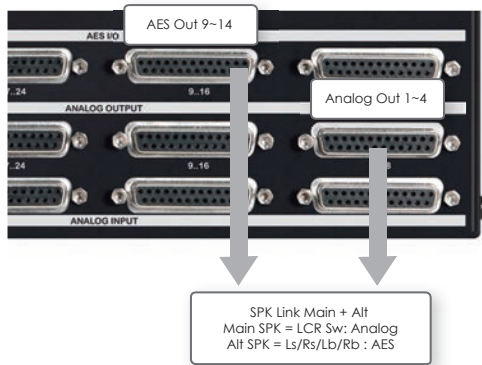
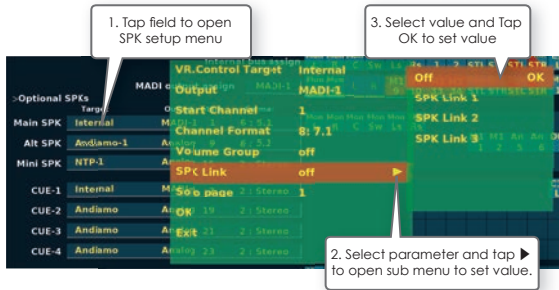
SPK Link allows you to use multiple speakersets as one speakersets. It's useful to use deferent kind of outputs for one speakersets.

It allows you to have more speakersets or different configuration with same speaker sets. It's also useful to use deferent kind of outputs for one speakersets with SPK Link function.

Parameter	Value	Description
SPK Link	Off SPK Link 1 SPK Link 3	Each speaker sets can be assigned on one SPK Link.

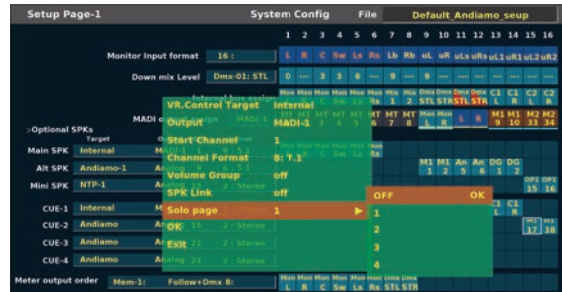
■ Set SPK Link

Tap each speaker setup field to open Speaker setup window and select SPK Link and select SPK Link number.



Solo page

Each speaker sets is possible to link to assined Solo page to switch automatically when when open solo page.

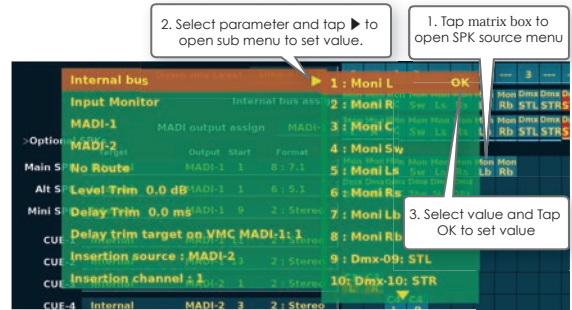
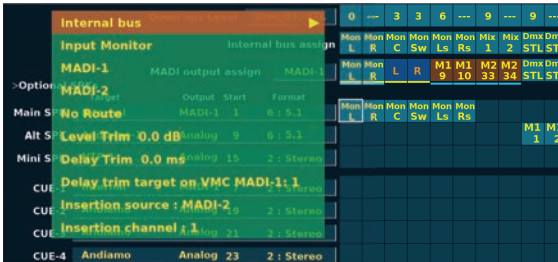


■ Assign Solo page to each speakersets.

Parameter	Value	Description
Solo page	OFF 1 4	Assign solo page number to access suitable for each speakersets. Assigned Solo page layout should be related with this speakersets.

Define each Speaker source input

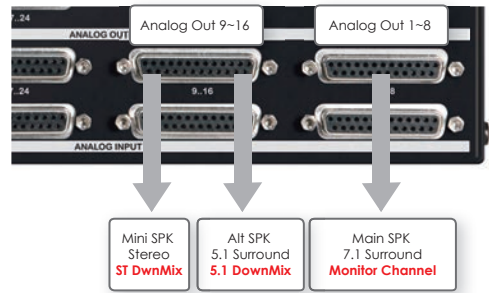
Each speaker output is assignable from which sound source port and channel to speaker output port with trim level, delay time for each speaker and define Insertion source channel for activated Insertion function.



※ The Speaker matrix menu is different depends on Volume control target IO.

- Assign routing monitor source to speaker output @ Target=Internal

SPK source Menu	Value	Description
Internal bus	Internal bus CH list 1 : (Name) 32: (Name)	Connect from Internal bus to speaker output allows to use internal bus mixing function to monitor. Usually, assign Monitor CH on internal bus for Main monitor to use monitor summing function, also assign DownMix CH to Mini SPK.
Input Monitor	Input CH list 1 : (Name) 64: (Name)	Input Monitor mode is connected from MADI input channel directory which is follow Selected Input source button.
MADI-1	1 64	Always route from MAD-1 input channel to SPK output, not related with Source input button.
MADI-2	1 64	Always route from MAD-2 input channel to SPK output, not related with Source input button.
No Rout		Doesn't care routing at selecting SPK.



- Assign routing monitor source to speaker output @ Target=Andiamo1/2

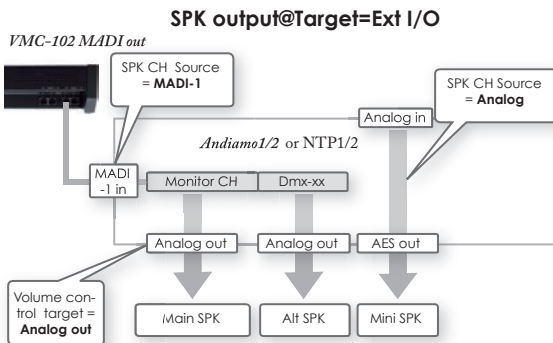
SPK source Menu	Value	Description
MADI-1	1 64	Typically, VMC-102 connected with MADI-1 port of Andiamo unit. Assign monitor source channel from VMC-102.
MADI-2	1 64	Same as above.
Analog	1 32	It allows to use VMC-102 as just remote of Andiamo. Any port connect to speaker output with volume control.
AES	1 32	Same as above.
No Rout		Doesn't care routing at selecting SPK.

※ In case of Volume target is Andiamo1/2, this parameter define which port of Andiamo is routed to speaker output port. This parameter define routing inside of Andiamo unit.

- Assign routing monitor source to speaker output @ Target=NTP1/2

SPK source Menu	Value	Description
Analog	1 8/16/24/32 /40/48	It allows to use VMC-102 as just remote of Andiamo. Any port connect to speaker output with volume control.
AES	1 16	Same as above.
Dante	1 64	Same as above.
MADI Coax	1 64	Same as above.
MADI-option1	1 64	Typically, VMC-102 connected with MADI-1 port of Andiamo unit. Assign monitor source channel from VMC-102.
MADI-option2	1 64	Same as above.
PTHD	1 64	Normally, Pro tool port isn't useful for Speaker output.
Slot 1: xxx Slot 8: xxx	1 64	Optionally visible when the card inserted.
No Rout		Doesn't care routing at selecting SPK.

- ※ In case of Volume target is NTP1/2, this parameter define which port of NTP is routed to speaker output port. This parameter define routing inside of NTP unit.



- Assign routing monitor source to speaker output @ Target=M.1K2 (Option)

VMC-102 control M.1K2 Port Gain or Channel gain.

Port Gain is controllable all MIDI channel of port with same gain.

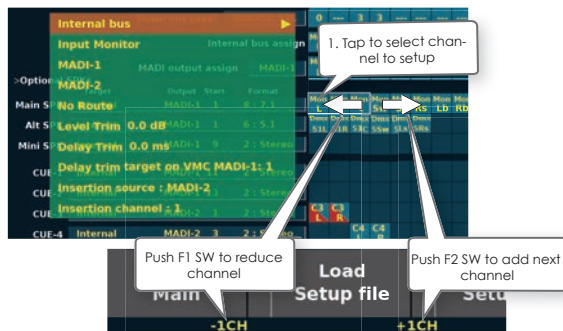
Channel Gain is controllable all individual channel on MADI port separately.

SPK source Menu	Value	Description
Port	1 16	This value defines which MADI port is connected to speaker output.
Channel	1 64	This parameter is available only for Output = CH Gain Port-1~16. This parameter defines which MADI channel of above port is connected to speaker output.
No Rout		Doesn't care routing at selecting SPK.

- ※ In case of Volume target is M.1k2, this parameter define which port of M.1k2 is routed to speaker output port. This parameter define routing inside of M.1k2 unit.

- Define multipule channel simultanously

Tap SPK matrix box to select channel on the list and push F2 to add next channel to set up simultanously. It allows you to setup number of channels quickly.



■ Function Switch on MADi output setting

The function of F1~F5 on Internal bus setting.

SW	Function	Description
F1	-1CH	Reduce channel selection
F2	+1CH	Add channel selection
F3	n.a.	n.a.
F4	n.a.	n.a.
F5	Enter	Set Value

Adjust each Speaker level trim

Each speaker output is adjustable level to compensate reference SPL level.

■ Adjust Level Trim

Parameter	Value	Description
Level trim	-Infinity +18.0dB	Each speaker level should be compensated SPL on your listening point. Turn knob 1 dB step/ Turn knob with pushing knob 0.1 dB step

※ In case of 'Volume target = Andiamo, 1dB step

1. Tap matrix box you want to trim.

2. Select parameter and tap to open sub menu to set value.

3. Open adjust window and turn volume knob to trim each speaker level or delay and tap OK to set value.

VMC-102 Studio monitor controller TAC TACSYSTEM

Adjust each Speaker delay trim

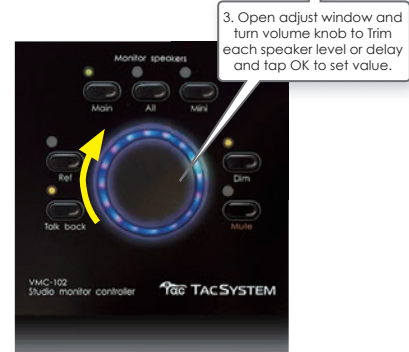
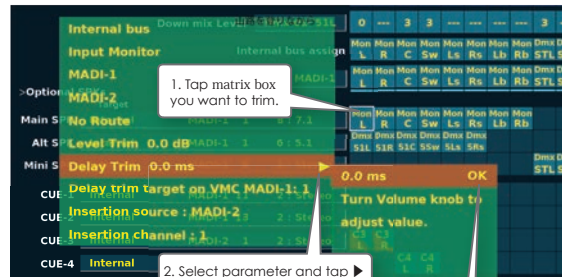
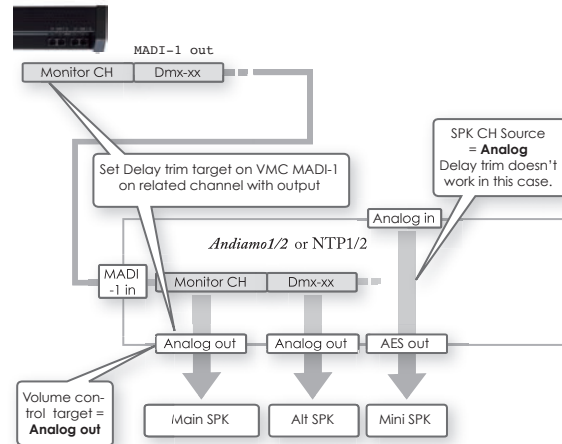
Each speaker output is adjustable level and delay to compensate speaker distance.

■ Adjust Delay trim

Parameter	Value	Description
Delay trim	0.0 200.0ms	Delay time for each speaker should be compensated distance from listening point to speaker. Turn knob 1msec step/ Turn knob with pushing knob 0.1 msec step
Delay trim target on VMC MADI-1	1 64	This parameter is necessary to setup in case of setting Volume target on external IO such as Andiamo1/2, NTP1/2 or M.1K2. Define Monitor source channel on MADI-1 routed to speaker port finally.

- ※ **Delay function is available only on MADI-1 output.**
- ※ **The maximum delay time is 200msec which is total time of Fundamentaln delay + System delay + Speaker delay trim.**

Delay trim target on VMC MADI-1 out

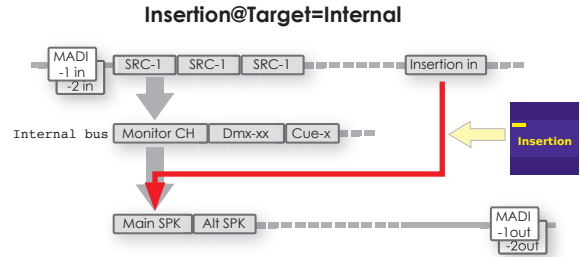


Define Insertion Source Channel

Monitor insertion switching is important for checking the sound through decoder system. 'Insertion button' activate switching monitor signal from original monitor source to insertion source for the volume control targetport.

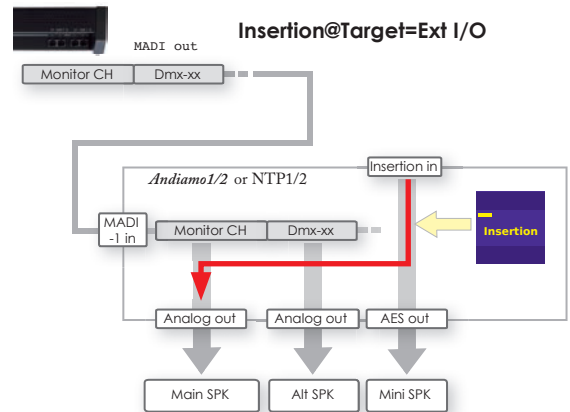
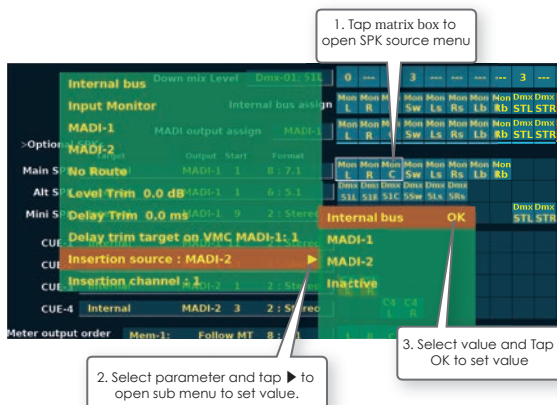
- Define insertion source channel @Target=Internal

Parameter	Value	Description
Insertion source	Internal bus MADI-1 MADI-2 Inactive	
Insertion Channel	Internal bus CH list 1 : (Name) 32: (Name) 1 64	In case of Insertion source = Internal bus In case of Insertion source = MADI-1/2



- Define insertion source channel @Target=Andiamo1/2, NTP1/2, M.1k2

Parameter	Value	Description
Insertion source	This parameter depends on target IO. Please see table of Speaker matrix source.	Insertion source is the port which is switched to input port of insertion return signal.
Insertion channel	1 64	The number of channel depends on target IO and input port.



Assign Cue Outputs

VMC-102 has x4 Cue output for providing monitor signal to booth or external monitor.

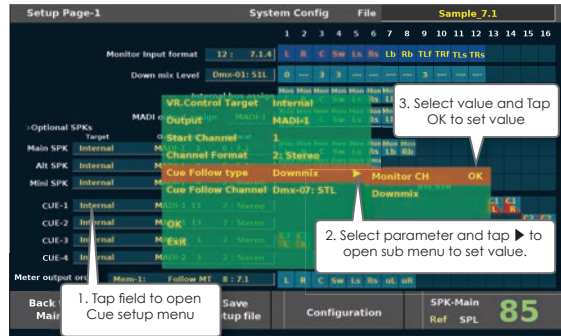
Tap Cue 1~4 field to define I/O and channels for Cue outputs.

■ VR.Control Target

Parameter	Value	Description
Volume control target	Internal Andiamo1 Andiamo2 NTP1 NTP2 M.1K2(option) Inactive	The target hardware to control Cue volume.
Output	(see Output I/O list table)	Define output port on IO, depends on Volume control target,
Start channel	1 64	Define the first channel for speaker sets on IO output.
Channel format	1 64	Define channel number of Cuev.

■ Output I/O list

Volume control target	Value for output	Description
Internal	MADI-1 MADI-2 Internal bus Line/HP	MADI-1 allows to use delay function Line out on GPI port and Headphones output
Andiamo1/2	Analog AES	
NTP1/2	Analog DA AES Dante MADI coax MADI option1 MADI option2 PTHD Slot1: xxx Slot8: xxx	Option DA card(Digital domain) Option DA card(Analog domain) Onboard AES port Dante option card On board MADI coax Optional MADI mini module Optional MADI mini module On board Pro Tools HDX port Optional card slot xxx = AD/DA/SDI/AES/MADI-1/ MADI-2
M.1K2 (option)	Port Gain CH Gain Port-1 CH Gain Port-16	Port Gain doesn't have channel assign

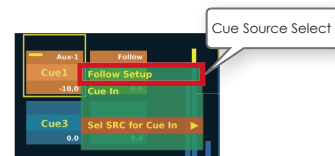


※ If you want to control Cue volume on Andiamo or NTP, you should setup communication with Andiamo or NTP. (See Setup with Andiamo page or Set up with DAX AX-32/Penta page)

Cue Follow type

Cue Follow type define what kind of mix to each cue channel assigned on Internal bus in case of each Cue button set as 'Follow'.

Cue output source is related with Cue button setup. When setup "Follow Setup" on Cue button setup, Cue output signal follows 'Cue Follow Type'.



■ Cue Follow type

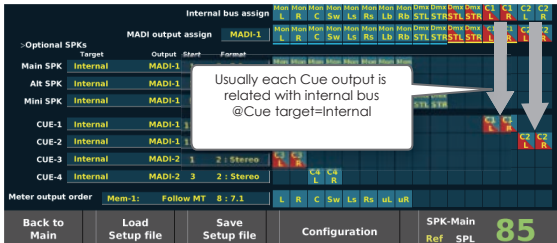
Parameter	Value	Description
Cue Follow type	Monitor CH Downmix	Same mix with Monitor CH Same mix with Downmix
Cue Follow channel	Monitor CH list 1 : (Name) 64: (Name) or Downmix list 1 : (Name) 16: (Name)	Define start channel of above Value.

Define each Cue source input for Ext I/O control

In case of Cue control target is internal, always each Cue output source is related with Internal bus Cue-1~4. So, no setup menu for Internal Cue control.

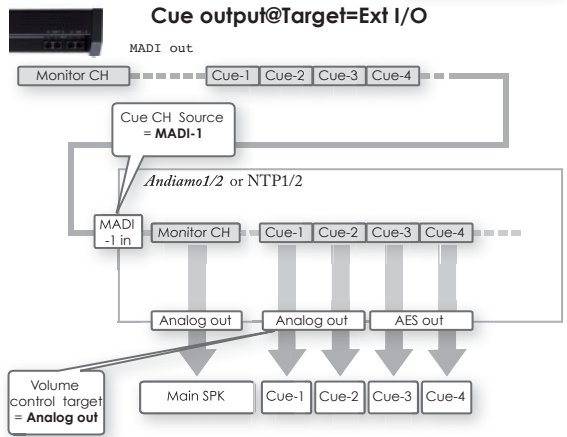
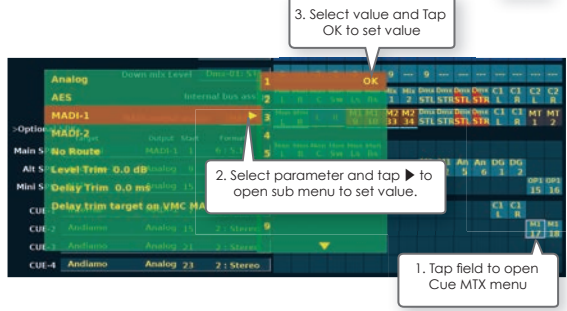
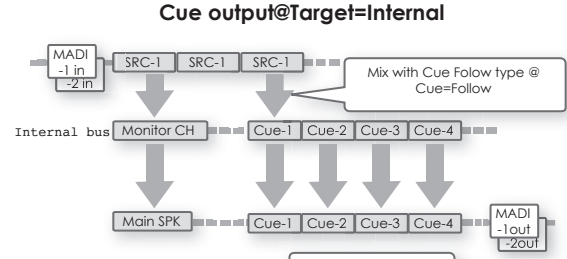
In case of Cue control target is external I/O (Andiamo1/2, NTP1/2 or M.1K2), it is necessary to define which input port is the cue output source.

※ **The Cue input source menu is different depends on Volume control target IO.**



■ Assign routing source to cue output @Target=Internal

SPK source Menu	Value	Description
Internal bus	Internal bus CH list 1 : (Name) 32: (Name)	Connect from Internal bus to cue output allows to use internal bus mixing function to monitor. Usually, assign Cue 1~4 on internal bus for cue output.
Input Monitor	Input CH list 1 : (Name) 64: (Name)	Input Monitor mode is connected from MADI input channel directory which is follow Selected Input source button.
MADI-1	1 64	Always route from MAD-1 input channel to cue output, not related with Source input button.
MADI-2	1 64	Always route from MAD-2 input channel to cue output, not related with Source input button.
No Rout		Doesn't care routing for cue.



※ **The Cue channel source is same with SPK source menu. Please see SPK source menu for Target=Andiamo, NTP, M.1K2.**

※ **In case of control Cue volume on Andiamo or NTP, you should setup communication with Andiamo or NTP. (See Setup with Andiamo page or Set up with DAX AX-32/Penta page)**

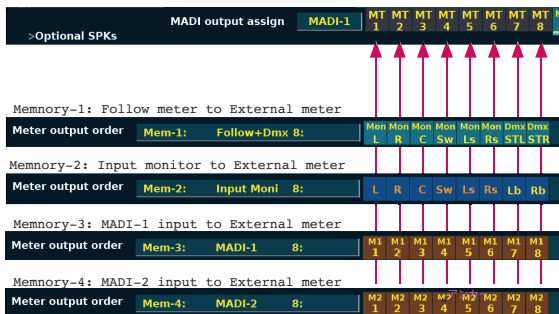
Meter Output Order

Meter output order define channel source and order for external meter output assigned on MADI output. VMC-102 has four setup memory for Meter output order. This meter memory setup can be selected by 'Meter Button' on Main page.

Parameter	Value	Description
Memory	1 4	Select setup memory for meter output order.
Name	Type entry by keypad	Define memory name
Format	1 64	

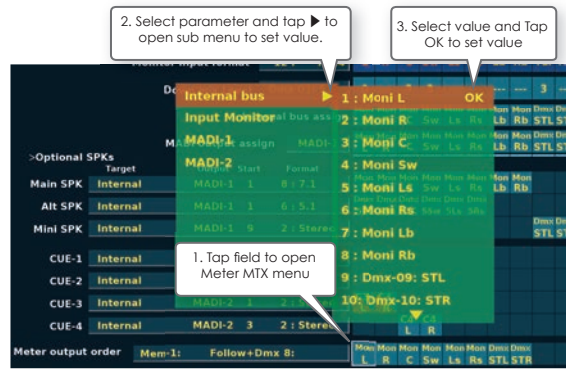
Meter button switch routing to MADI output channel which assigned as Meter out(MT1~64).

Also Meter button can be configured to change meter display on VMC-102 by Meter button configuration.(See Meter button setup)



Set matrix for meter order

Function	Value	Description
Internal bus	Internal bus CH list 1 : (Name) 32: (Name)	In order to see the standard follow monitor signal with summing function on Meter, select Monitor CH on Internal bus.
Input monitor	Input CH list 1 : (Name) 64: (Name)	Input Monitor also follow selected input monitor source (without summing function). You can check input signal directly.
MADI-1 MADI-2	1 64	This function indicates fixed channel signal on the meter.



Function Switch on Meter matrix setting

The function of F1~F5 on Meter matrix setting.

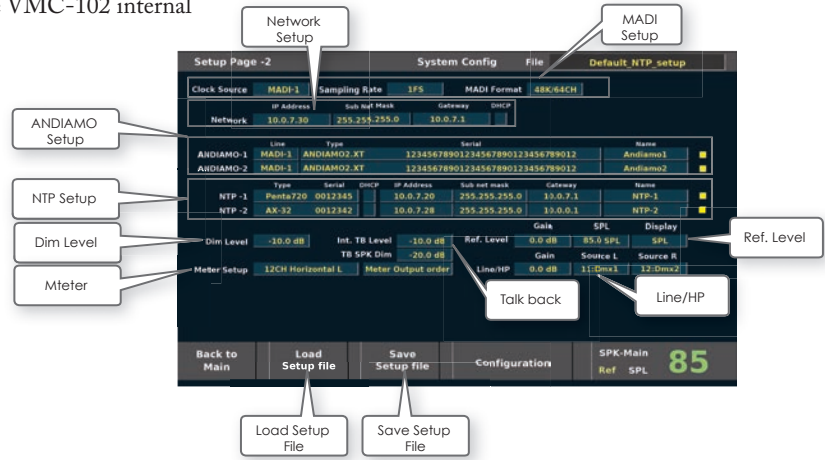
SW	Function	Description
F1	-1CH	Reduce channel selection
F2	+1CH	Add channel selection
F3	n.a.	n.a.
F4	SET SYSTEM DELAY	Set System Delay function on selected MADI output channel
F5	Enter	Set Value



System Config-2

System Config-2 page is to define VMC-102 internal setup.

- MADI Setup
- IP setup
- Andiamo setup
- NTP setup
- Dim, Int. TB, Reference Level
- Cue Input, LineHP output
- Meter setup
- Load, Save Setup File



MADI setup

Parameter	Value	Description
Clock Source	MADI-1 MADI-2 Int48k Int44.1K	Clock source should be follow MADI input in the system.
Sampling Rate	1Fs 2Fs 4Fs Follow IO(Andiamo1) Follow IO(Andiamo2) Follow IO(NTP1) Follow IO(NTP2)	On setup 'Follow IO', sampling rate follow target I/O unit setup. 'Follow IO' has sub menu to select the target I/O unit.
MADI Format	48k/64ch, 48k/56ch, 96k/64ch, 96k/56ch, Follow IO(Andiamo1) Follow IO(Andiamo2) Follow IO(NTP1) Follow IO(NTP2)	On setup 'Follow IO', sampling rate follow target I/O unit setup. 'Follow IO' has sub menu to select the target I/O unit.

Network setup

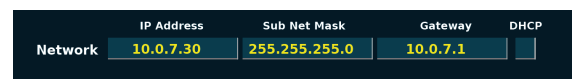
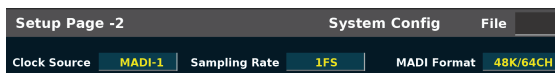
■ Network

Enter fixed IP address by keypad.

In order to control NTP device, you should set IP address in same network group with NTP device.

Please see “Quick guide# Setup with NTP Penta/AX-32 page.

Parameter	Value	Description
IP Address	Type entry bu keypad	
Sub Net Mask	Type entry bu keypad	
Gateway	Type entry bu keypad	
DHCP	Check box	



Andiamo Setup

If you use Directout Technologies ANDIAMO series, you must set connection first.

Also please see “Quick guide” Setup with Andiamo page.

VMC-102 can control a couple of ANDIAMO units as target I/O.

Parameter	Value	Description
Line	MADI-1 MADI-2	Select MADI port that connected with target Andiamo.
Type/Serial	Display list of connected Andiamo	Select target Andiamo unit on the list to define target IO.
Name	Entry by keypad	Add unique name for target Andiamo for you to recognize unit on other menus on VMC-102.

Line	Type	Serial	Name		
ANDIAMO-1	MADI-1	ANDIAMO2.XT	12345678901234567890123456789012	Andiamo1	
ANDIAMO-2	MADI-1	ANDIAMO2.XT	12345678901234567890123456789012	OK amo2	
	Type	ANDIAMO2.XT	12345678901234567890123456789012	Name	
NTP -1	Penta720	0012342	10.0.7.27 255.255.255.0	10.0.0.1	NTP-1
NTP -2	AX-32	0012342	10.0.7.28 255.255.255.0	10.0.0.1	NTP-2

The Penta/AX-32 unit will restart automatically when change IP address by this menu.

NTP Setup

If you use NTP Penta/AX-32 series, you must set connection first. Also please see “Quick guide” Setup with NTP Penta/AX-32 page. VMC-102 can control a couple of Penta/AX-32 units as target I/O.

If you want to change IP address on Penta/AX-32 unit, You can entry IP address, sub net mask, Gateway to connected Penta/AX-32 device.

When enter IP address, activate IP address, sub net mask, gateway on the unit.

Parameter	Value	Description
Line	MADI-1 MADI-2	Select MADI port that connected with target Andiamo.
Type/Serial	Display list of connected NTP Penta/DAD AX-32	Select target Penta/AX-32 unit on the list to define as target IO.
DHCP	check box	If you will connect Penta/AX-32 with DHCP setup, check this box.
IP Address, Sub Net Mask, Gateway	Entry by keypad	
Name	Entry by keypad	Add unique name for target NTP for you to recognize unit on other menus on VMC-102.

Type	Serial	DHCP	IP Address	Sub net mask	Gateway	Name
NTP -1	Penta720	0012345	10.0.7.20	255.255.255.0	10.0.7.1	NTP-1
NTP -2	AX	001	Penta 720	0012345	10.0.7.20	OK NTP-2
	001	Penta	720	0012347	10.0.7.21	

Dim Level

Parameter	Value	Description
Dim Level	-25 ~ +0dB (1 dB step)	Tap field and turn volume knob to adjust. Control monitor dim level that activated by Dim switch on front panel.

Dim level is possible to adjust on front panel quickly.
Push Dim+turn volume knob to adjust Dim level.

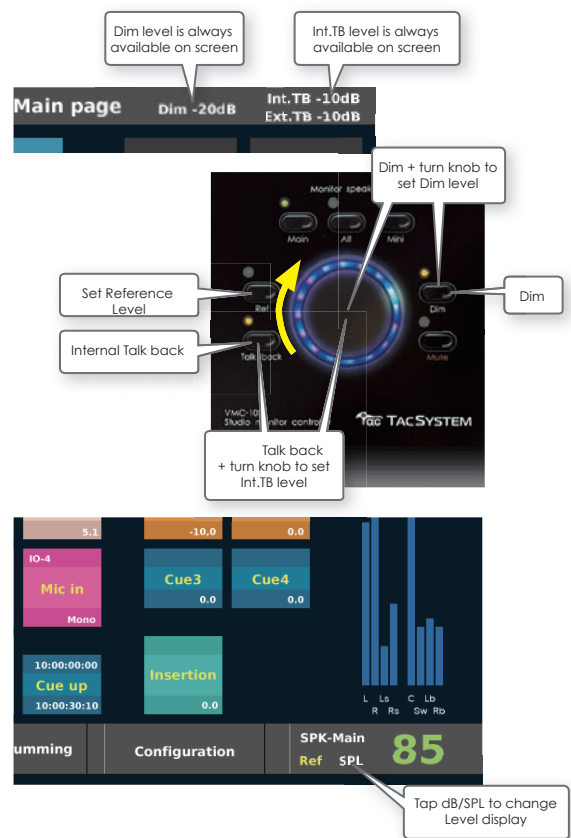
Int. TB Level

Parameter	Value	Description
Internal Talk back Level	-Infinity ~ +18dB (1 dB step)	Tap field and turn volume knob to adjust. Build in Talk back mic level that activated by Talk back switch on front panel.
TB SPK Dim	-Infinity ~ 0dB (1 dB step)	Dim Main SPK when TB is active.

Int. TB level is possible to adjust on front panel quickly.
Push Talk Back+turn volume knob to adjust Int. TB level.

Reference Level

Parameter	Value	Description
Gain	-Infinity ~ +18dB (1 dB step)	Set reference level for monitoring. Tap field and turn volume knob to adjust.
SPL	0 ~ 125SPL (1SPL step)	Define SPL display value to match with reference level.
Display	dB SPL	Define dB or SPL display when launch.



Line/HP

Headphones output and Line output on GPIO connector output same signal in parallel. Line/HP level is controlled by Line/HP button on Main page.



Parameter	Value	Description
Gain	-Infinity ~ +18dB (1dB step)	Adjust Line/HP output level.
Source L	Internal bus CH list 1 : (Name) 32: (Name)	Select output source for Line/HP output L CH.
Source R	Internal bus CH list 1 : (Name) 32: (Name)	Select output source for Line/HP output R CH.

If Line/HP output is assigned as Speaker sets, this parameter is disabled.

Pin No.	Signal	Pin No.	Signal
1	GPO-1: Mute tally	14	GPI-1: Ext. Mute
2	GND	15	CUE I/O
3	GPO-2: Dim tally	16	GPI-1: Ext. Dim
4	GPO-3: Talk back tally	17	GPI-1: Ext. Talk back
5	GPO-4: Listen back tally	18	GPI-1: Ext. Listen back
6	GPO-5: Cough/Alt-1 tally	19	GPI-1: Cough/Alt-1 In
7	GPO-6: Cough/Alt-2 tally	20	GPI-1: Cough/Alt-2 In
8	GPO-7: Cough/Alt-3 tally	21	GPI-1: Cough/Alt-3 In
9	GPO-8: Cough/Alt-4 tally	22	GPI-1: Cough/Alt-4 In
10	Line out-R (HOT)	23	Line out-R (COLD)
11	Line out-R (GND)	24	Line out-L (HOT)
12	Line out-L (COLD)	25	Line out-L (GND)
13	NC		



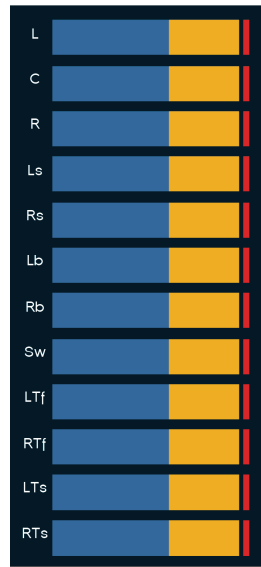
Meter Setup

Meter setup define how to display meter on front panel at launch.

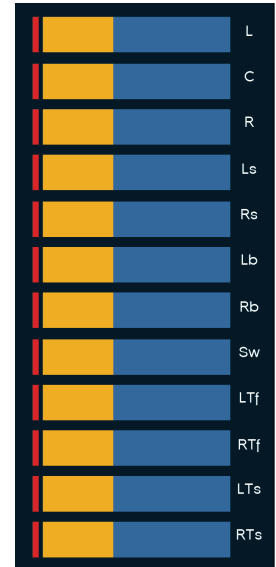
Parameter	Value	Description
Meter setup-1 (Format)	8CH Vertical 12Ch Vertical 12CH Horizontal-L 12CH Horizontal-R 32CH Horizontal-L 32CH Horizontal-R 64CH Horizontal-L 64CH Horizontal-R	Define display format of meter display on front panel,
Meter setup-2	Follow Monitor CH Follow input monitor Meter output order	Meter display source for meter display on front panel

Meter setup for display on monitor is also configured by Meter button.

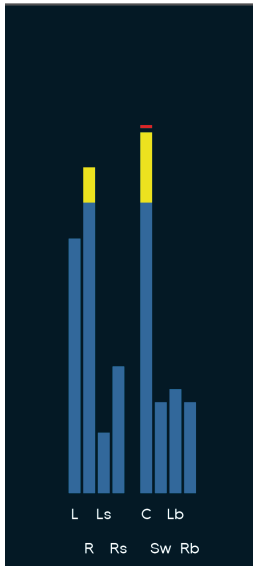
12CH Horizontal-L



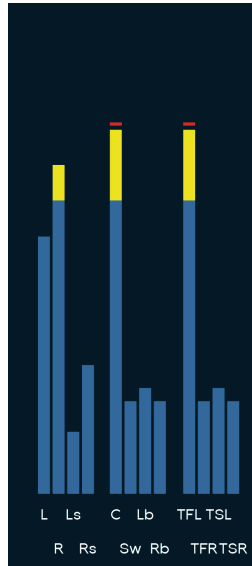
12CH Horizontal-R



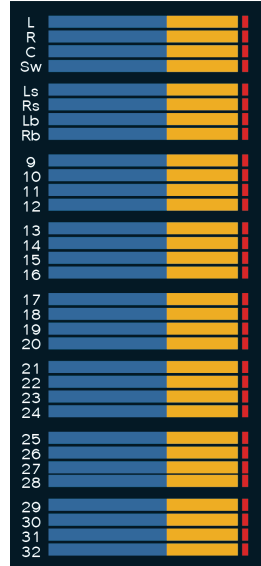
8CH Vertical



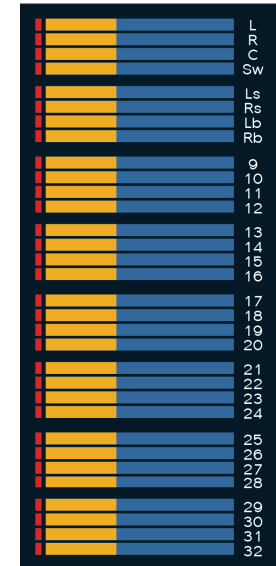
12CH Vertical



32CH Horizontal-L



32CH Horizontal-R



64CH Horizontal-L

L		33		
R		34		
C		35		
Sw		36		
Ls		37		
Rs		38		
Lb		39		
Rb		40		
9		41		
10		42		
11		43		
12		44		
13		45		
14		46		
15		47		
16		48		
17		49		
18		50		
19		51		
20		52		
21		53		
22		54		
23		55		
24		56		
25		57		
26		58		
27		59		
28		60		
29		61		
30		62		
31		63		
32		64		

64CH Horizontal-R

	L		33	
	R		34	
	C		35	
	Sw		36	
	Ls		37	
	Rs		38	
	Lb		39	
	Rb		40	
	9		41	
	10		42	
	11		43	
	12		44	
	13		45	
	14		46	
	15		47	
	16		48	
	17		49	
	18		50	
	19		51	
	20		52	
	21		53	
	22		54	
	23		55	
	24		56	
	25		57	
	26		58	
	27		59	
	28		60	
	29		61	
	30		62	
	31		63	
	32		64	

Button Layout

Select “Button Layout” on the main menu to enter Button Layout mode. On button layout mode, you can drag any button to any

position.

Tap “+” and hold to add button.

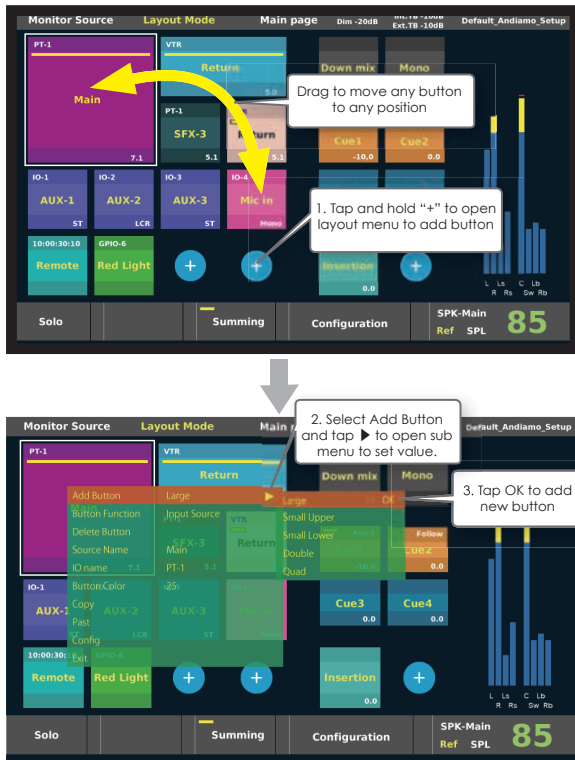
Tap button you want to configure to open Button Layout menu and select parameter.

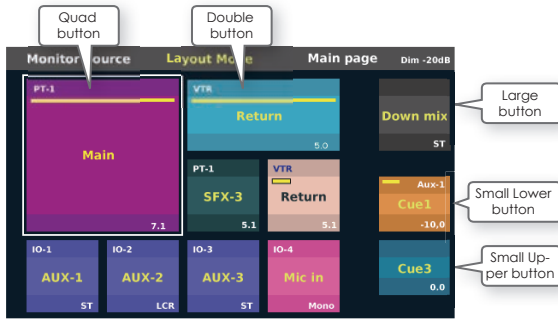
Select Value and Tap OK to set Value.

Button Layout Menu

Tap and hold button to add or edit button function.

Parameter	Value	Description
Add Button	Large Small Upper Small Lower Double Quad	Select button size to fit your layout
Button Function	Input Source Speaker Select Down Mix Cue Meter Select Insertion Talk back Delay GPIO Set Volume Set IO Routing OSC Summing Mode API M.1k2 remote (Option) Machine Control (Option)	Select button function you want to operate
Source Name	Entry by keypad	Select “Source Name” on menu to open keypad window. Type any name in input field of keypad. (see Button Config)
IO Name	Entry by keypad	Select “IO Name” on menu to open keypad window. Type any name in input field of keypad. (see Button Config)
Button Color	Select by Color palette	Select “Button Color” on menu to Color palette window. Tap color to set button color. (see Button Config)
Layout		move layout mode





Button Config

Select “Button Config” on the main menu to enter Button Config mode.

Tap button you want to configure to open Button Config menu and select parameter.

Select Value and Tap OK to set Value.

Button Config menu is different depends on each button functions.

■ Function Switch on Button Layout mode

The function of F1~F5 on Button Layout mode.

SW	Function	Description
F1	OPEN MENU	Tap any button to edit and push F1 to open Button Layout menu.
F2	BUTTON CONFIG	Move to Button Config mode
F3	PREVIOUS BUTTON	Open Button layout menu of previous button.
F4	NEXT BUTTON	Open Button layout menu of next button.
F5	EXIT(OK)	Set Value and exit Layout mode

Button Function		
	Input Source	
	Speaker Select	
	Down Mix	
	Cue	
	Meter Select	
	Insertion	
	Talk back	
	Delay	
	GPIO	
	Set Volume	
	Set IO Routing	
	OSC	
	Summing Mode	
	API	
	M.1k2 remote (Option)	
	Machine Control (Option)	

■ Function Switch on Button config mode

The function of F1~F5 on Button config mode.

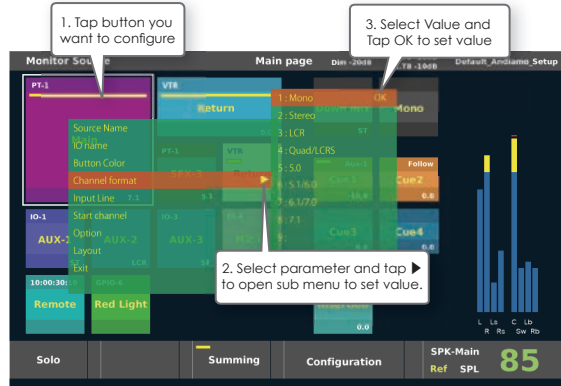
SW	Function	Description
F1	OPEN MENU	Tap any button to edit and push F1 to open Button Layout menu.
F2	BUTTON LAYOUT	Move to Button Layout mode
F3	PREVIOUS BUTTON	Open Button config menu of previous button.
F4	NEXT BUTTON	Open Button config menu of next button.
F5	EXIT(OK)	Set Value and exit buttonconfig mode

Input Source Button

Input Source button select monitoring source sound from MADI inout line. Input source button activates exclusively.

Summing mode allow to select multiple source with mix function.

Parameter	Value	Description
Source Name	Entry by keypad	Select "Source Name" on menu to open keypad window. Type any name in on input field of keypad.
IO Name	Entry by keypad	Select "IO Name" on menu to open keypad window. Type any name in on input field of keypad.
Button Color	Select by Color palette	Select "Button Color" on menu to Color palette window. Tap color to set button color.



Function Switch on keypas window

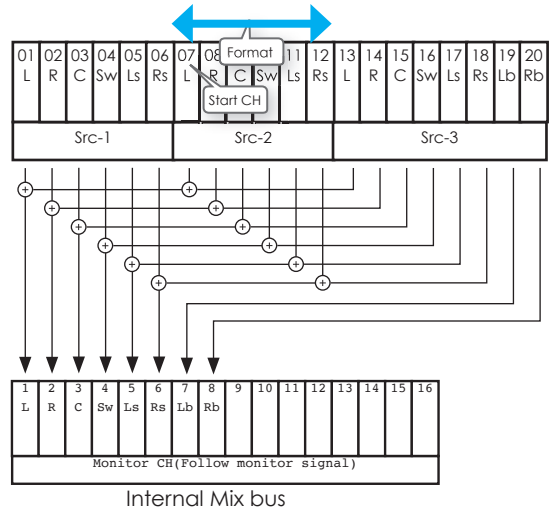
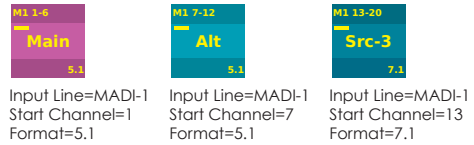
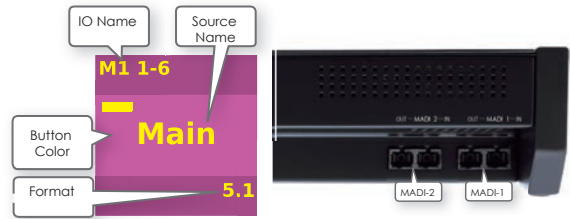
The function of F1-F5 on keypad window.

SW	Function	Description
F1	SHIFT	Activate shift during push F1 switch
F2	<	move cursor to left
F3	>	Move cursor to right
F4	BS	Back space
F5	Enter	Set Value and exit



Parameter	Value	Description
MADI Line	MADI-1 MADI-2	Select MADI-1 or MADI-2 input for Monitor source.
Start Channel	1 64	Select Start Channel number on MADI input for Monitor Source.
Channel Format	1 64	Select channel format for input Monitor source.
Delay	0.0~200msec	'Delay' option activates system delay function for each monitor source. It is very useful to add monitor delay for lip sync depends on monitoring source.
Option	Mic Pre Control V-mon Remote OFF	Option setup allows to control external system with Source Input button.
Layout		move layout mode

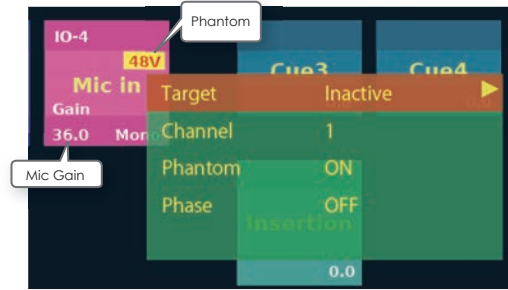
※ V-Mon remote is not available.



Input Source Button - Mic Pre Control Option

'Mic Pre Control' enable you to control remote pre amp.

Parameter	Value	Description
Target	Andiamo1 Andiamo2 NTP1 NTP2 Inactive	Select target Mic pre unit to control.
Channel	1 64	Select Mic pre channel to control.
Phantom	ON OFF	Activate phantom power.
Phase	ON OFF	Change input phase.

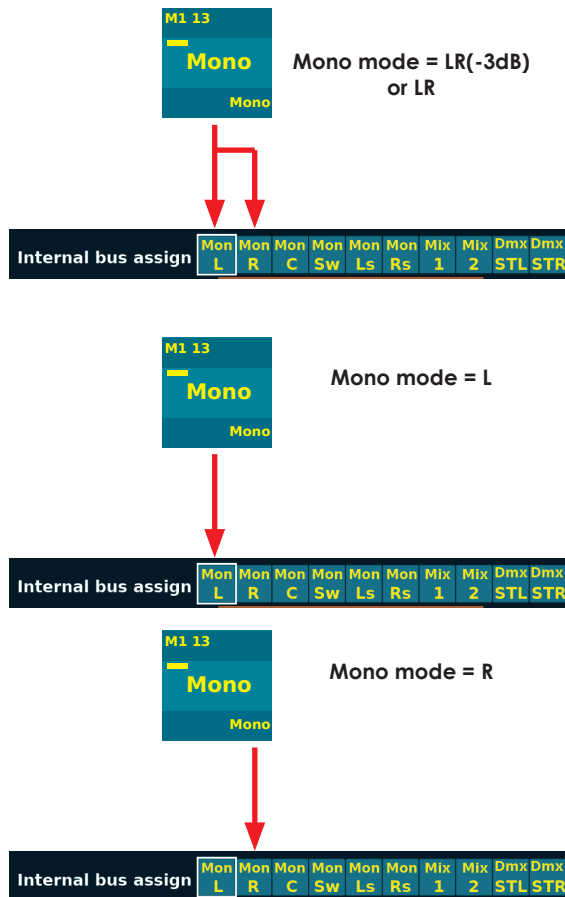


Input Source Button - Mono Mode

Mono mode define how to hear sound and how to check on meter when input source signal is mono.

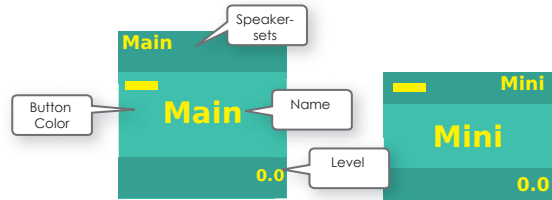
■ Mono Mode

Parameter	Value	Description
Mono mode	LR(-3dB)	LR(-3dB) assign Mono input source signal to L and R speakers and meter with -3dB gain that is normal mixlevel on stereo and surround mix.
	LR	LR assign Mono input signal to L and R speakers and meter without gain down.
	L	L assign Mono input signal to only L speaker and meter without gain down.
	R	R assign Mono input signal to only R speaker and meter without gain down.

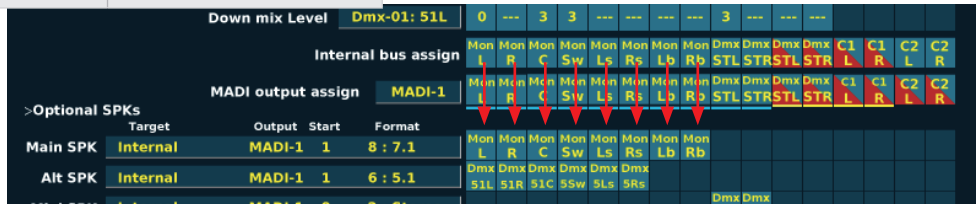


Speaker Select Button

Speaker Select button select Control monitor speaker set Alternatively, same with Speaker Select switch. Speaker select button control routing matrix on internal MADI output, Andiamo or NTP Penta/DAD AX-32.

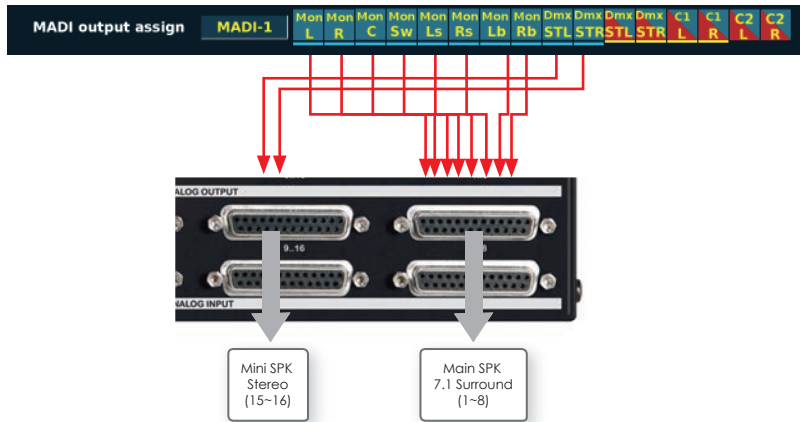


Parameter	Value	Description
Speaker Set	Main Alt Mini AUX1 AUX2 AUX3 AUX4	Select Speaker set.
Name	Type entry by keypad	Select "Name" on menu to open keypad window.Type any name in on input field of keypad.
Button Color	Select color by color palette	Select "Button Color" on menu to Color palette window.Tap color to set button color.
Level	-Infinity ~ 0dB (1dB step)	Turn knob to adjust Level.
Layout		move layout mode



Example: SPK target=Andiamo or NTP

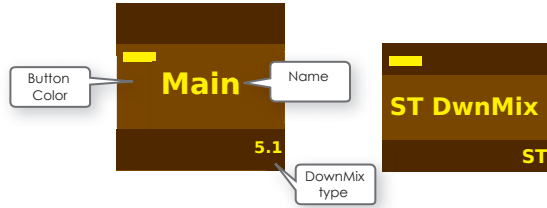
MADI in on I/O unit



DownMix Button

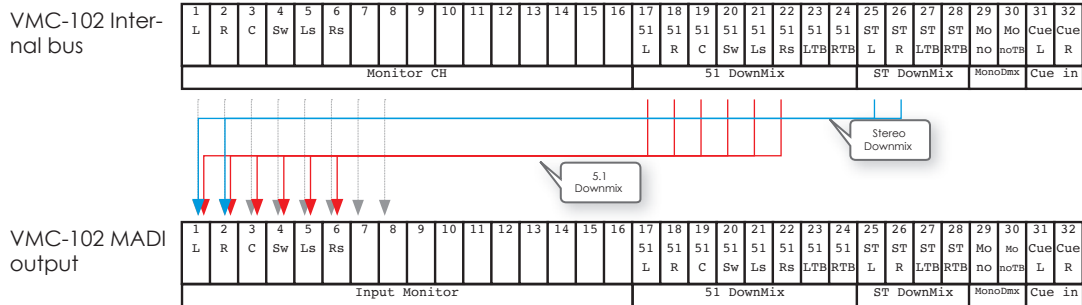
DownMix button mix on Monitor channel signals with DownMix coefficient table.

In case of Input monitor setup on MADI output, DownMix button switch routing for input monitor channel from follow MADI input to downmix signal on internal bus.



Parameter	Value	Description
DownMix	1:(Downmix name) 16:	Select Start channel for Down mix from Down mix list.
Name	Type entry by keypad	Select "Name" on menu to open keypad window. Type any name in on input field of keypad.
Button Color	Select color by color palette	Select "Button Color" on menu to Color palette window. Tap color to set button color.
Start channel for Input monitor on Internal bus	1 32	
Format	1 32	Define reproduce speaker channel for down mix.
Mono mode	LR(-3dB) LR L R	Define mono reproduce style for mono down mix. Same with Input source button Mono mode setup.
Layout		move layout mode

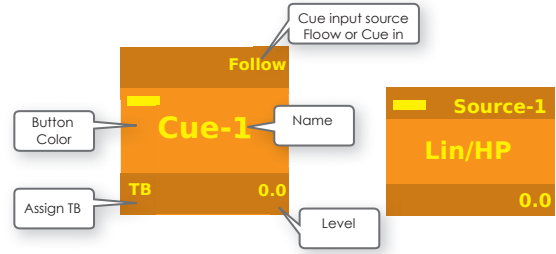
Downmix control on Input monitor



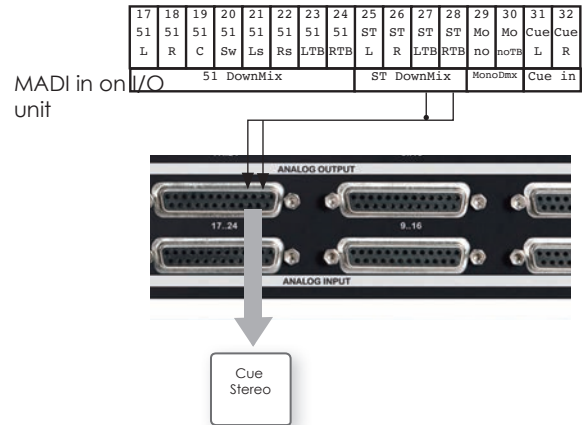
Cue Button

Cue button control Cue output signal. Each Cue button on/off independently. Cue button control routing matrix on internal MADI out, Andiamo or NTP Penta/DAD AX-32.

Parameter	Value	Description
Cue	Cue1 Cue2 Cue3 Cue4 Line/HP	Select Cue output number. Line/HP is the Stereo Line output on GPIO connector and H.P. output.
Name	Type entry by keypad	Select "Name" on menu to open keypad window. Type any name in on input field of keypad.
Button Color	Select color by color palette	Select "Button Color" on menu to Color palette window. Tap color to set button color.
Level	-Infinity ~ 0dB (1dB step)	Turn knob to adjust Level.
Start up	ON OFF	Define Cue output on or off when launch.
Cue Source	Follow Cue in	Define Cue output on or off when launch.
Layout		move layout mode



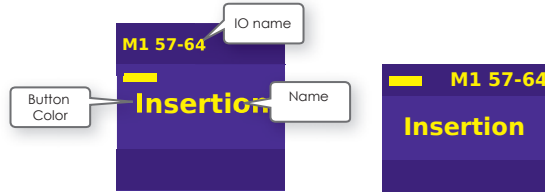
Cue control on Bus Mode-1.



Insertion Button

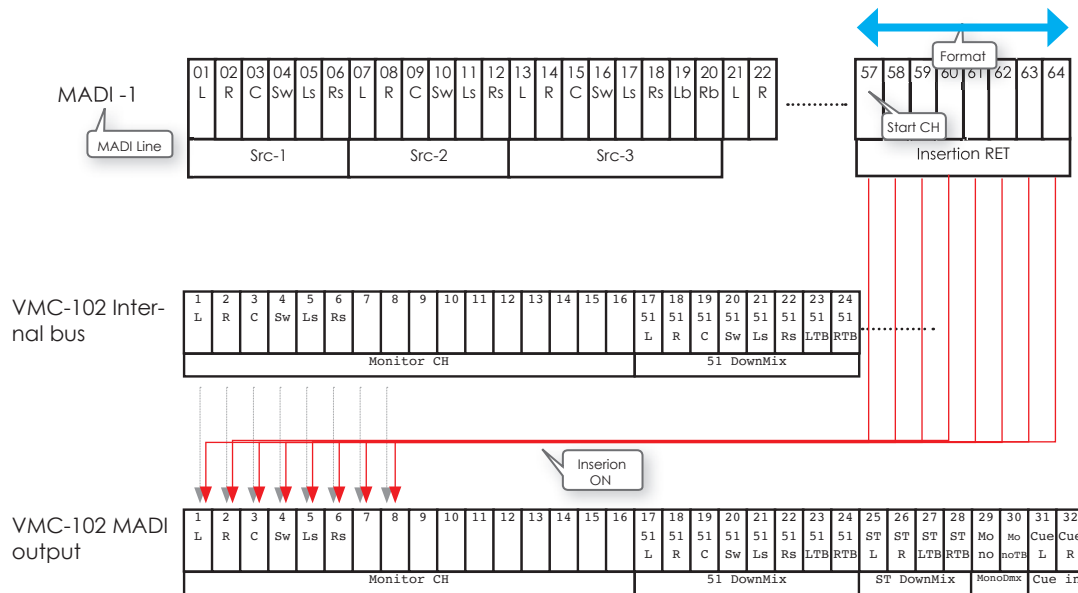
Insertion button switch control monitor signal to insertion return input signal.

Parameter	Value	Description
Name	Type entry by keypad	Select "Name" on menu to open keypad window. Type any name in on input field of keypad.
IO Name	Entry by keypad	Select "IO Name" on menu to open keypad window. Type any name in on input field of keypad.
Button Color	Select color by color palette	Select "Button Color" on menu to Color palette window. Tap color to set button color.
Start up	ON OFF	Define Cue output on or off when launch.
Layout		move layout mode



Insertion button switch speaker source signal related with speaker setup.

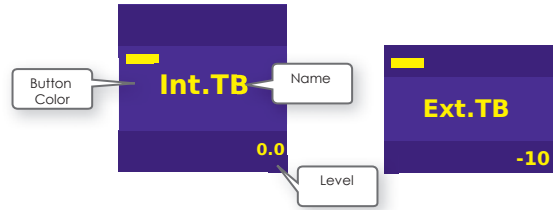
Insertion routing setup is defined by speaker source setup. Please see 'Define Insertion Source channel'.



Talk back Button

Talk back button activate Internal or external Talk back function. Also it is possible tap and hold TB button and turn knob to adjust TB level.

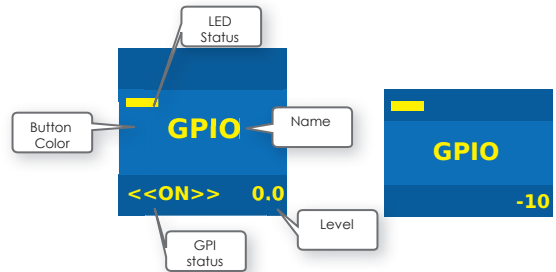
Parameter	Value	Description
Talk back	Internal TB External TB	
Name	Type entry by keypad	Select "Name" on menu to open keypad window. Type any name in on input field of keypad.
Button Color	Select color by color palette	Select "Button Color" on menu to Color palette window. Tap color to set button color.
Level	-Infinity ~ 0dB (1dB step)	Turn knob to adjust Level.
Layout		move layout mode



GPIO Button

GPIO button activate GPIO function.

Parameter	Value	Description
GPIO NO.	Mute Dim Listen Back Cough/Alt-1 Cough/Alt-2 Cough/Alt-3 Cough/Alt-4 Ext-1 Ext.-16	Select GPIO function Ext.1-16 are available when connect GPEX-103 GPIO expansion unit.
Name	Type entry by keypad	Select "Name" on menu to open keypad window. Type any name in on input field of keypad.
Button Color	Select color by color palette	Select "Button Color" on menu to Color palette window. Tap color to set button color.
Level	-Infinity ~ 0dB (1dB step)	Turn knob to adjust Level. (Available on Dim and Listen back)

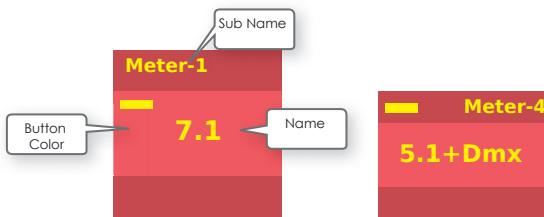


LED Indication	Normal Reverse	Define polarity of LED status
LED Status	Output Input	Define LED status from.
Start up	ON OFF	Define Cue output on or off when launch.
Layout		move layout mode

Meter Select Button

Meter Select button select x4 memories of external meter output order on “System Config-1”.

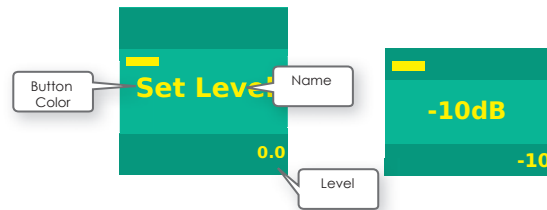
Parameter	Value	Description
Meter Select	Meter-1 Meter-2 Meter-3 Meter-4 Follow Monitor CH Follow Input Moni	Select Meter output order Fllo Monitor CH or Follow Input Moni effect on Meter display on Main/Slo page
Name	Type entry by keypad	Select "Name" on menu to open keypad window. Type any name in on input field of keypad.
Sub Name	Type entry by keypad	Select "Sub Name" on menu to open keypad window.Type any name in on input field of keypad.
Button Color	Select color by color palette	Select "Button Color" on menu to Color palette window.Tap color to set button color.
Meter setup	8CH Vertical 12Ch Vertical 12CH Horizontal-L 12CH Horizontal-R 32CH Horizontal-L 32CH Horizontal-R 64CH Horizontal-L 64CH Horizontal-R	Define display format of meter display on front panel,
Layout		move layout mode



Set Level Button

Set Level button set level for control room speaker sets or Cue output.

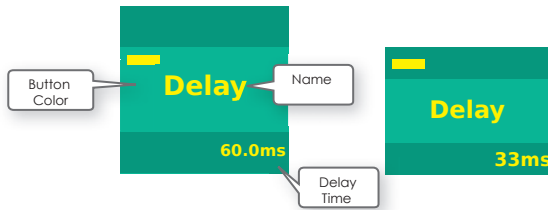
Parameter	Value	Description
Target	Monitor spk Cue-1 Cue-2 Cue-3 Cue-4	Select Target to control level.
Type	Absolute Relative	Set absolute level Set relative level from existing level
Name	Type entry by keypad	Select "Name" on menu to open keypad window. Type any name in on input field of keypad.
Button Color	Select color by color palette	Select "Button Color" on menu to Color palette window.Tap color to set button color.
Level	-Infinity ~ 0dB (1dB step)	Turn knob to adjust Level. (Available on Dim and Listen back)
Layout		move layout mode



Delay Button

Delay button add delay on Control monitor output to fit lip sync.

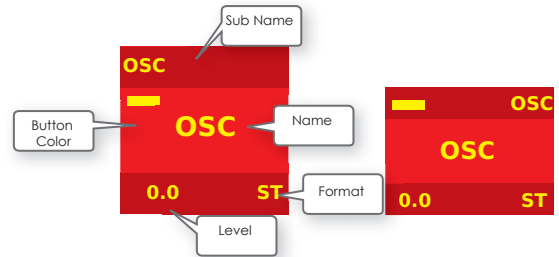
Parameter	Value	Description
Name	Type entry by keypad	Select "Name" on menu to open keypad window. Type any name in on input field of keypad.
Button Color	Select color by color palette	Select "Button Color" on menu to Color palette window.Tap color to set button color.
Delay time	0.0~200.0ms	Turn knob to adjust Delay time.
Layout		move layout mode



OSC Button

OSC button output reference sign wave or pink, white noise signal to monitor output.

Parameter	Value	Description
Name	Type entry by keypad	Select "Name" on menu to open keypad window. Type any name in on input field of keypad.
IO Name	Type entry by keypad	Select "Sub Name" on menu to open keypad window.Type any name in on input field of keypad.
Button Color	Select color by color palette	Select "Button Color" on menu to Color palette window.Tap color to set button color.
OSC	1KHz 10KHz 400Hz Pink(Dolby) White	Define display format of meter display on front panel.
Format	1 64	Define reproduce speaker channel for OSC.
Layout		move layout mode



OSC Button Menu

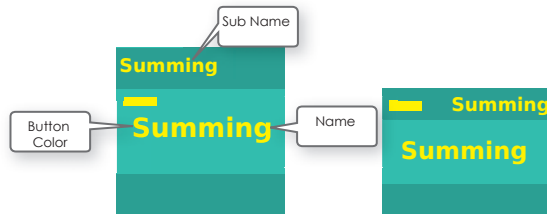
Tap and hold OSC Button to open OSC button menu to adjust parameters.

OSC	1KHz 10KHz 400Hz Pink(Dolby) White	Define display format of meter display on front panel.
Level	-Infinity ~ 0dB (1dB step)	Turn knob to adjust Level.

Summing Button

Summing button activate summing mode for input source selection.

Parameter	Value	Description
Name	Type entry by keypad	Select "Name" on menu to open keypad window. Type any name in on input field of keypad.
IO Name	Type entry by keypad	Select "Sub Name" on menu to open keypad window. Type any name in on input field of keypad.
Button Color	Select color by color palette	Select "Button Color" on menu to Color palette window. Tap color to set button color.
Layout		move layout mode



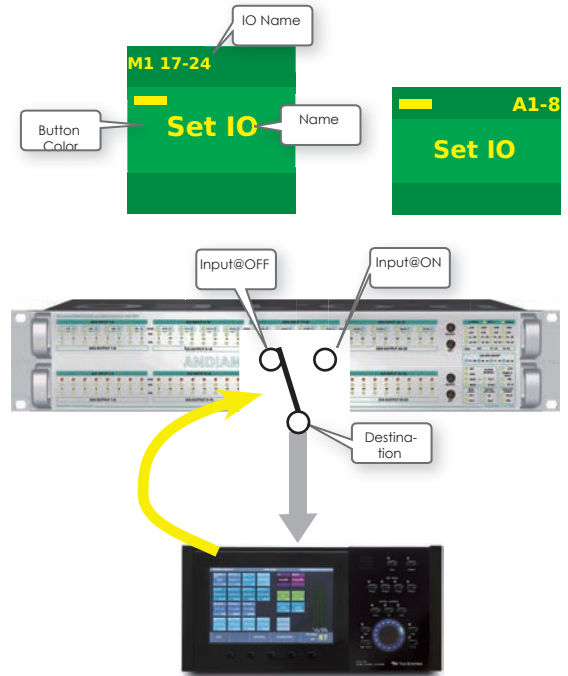
Set IO Routing Button

Set IO Routing Button control routing matrix on AN-DIAMO or NTP Penta/DAD AX-32 to switch signal for the system integration issue. It is very useful for the case that you want to switch monitor signal on IO side as pre-selector.

Parameter	Value	Description
Name	Type entry by keypad	Select "Name" on menu to open keypad window. Type any name in on input field of keypad.
IO Name	Type entry by keypad	Select "Sub Name" on menu to open keypad window. Type any name in on input field of keypad.
Button Color	Select color by color palette	Select "Button Color" on menu to Color palette window. Tap color to set button color.
Button Mode	Individual Source Group	Set IO Routing Button activate button individually on "Individual" mode. In case of "Source Group", Set IO Routing Button can be activated as one of input source button exclusively.
Target	Andiamo1 Andiamo2 NTP1 NTP2	The target hardware to control routing.
Channel Format	1 64	Define Channel number to switch.
Destination	See Destination list	Select destination output I/O channel.
Dest. Start ch	1 64	Define destination start Channel to switch.
Input@ON Src	See Destination list Off No action	Select input I/O channel when button is ON.
Input@ON St Ch	1 64	
Input@OFF Src	See Destination list Off No action	Select input I/O channel when button is OFF.
Input@OFF St Ch	1 64	
Layout		move layout mode

■ Source & Destination list

Source & Destination target	Value for target	Description
Andiamo1/2	Analog AES MADI-1 MADI-2	
NTP1/2	Analog DA AES Dante MADI coax MADI option1 MADI option2 PTHD Slot1: xxx Slot8: xxx	Option DA card(Digital domain) Option DA card(Analog domain) Onboard AES port Dante option card On board MADI coax Optional MADI mini module Optional MADI mini module On board Pro Tools HDX port Optional card slot xxx = AD/DA/SDI/AES/MADI-1/ MADI-2



Button Config on Solo page

Solo page support to layout follows button function.

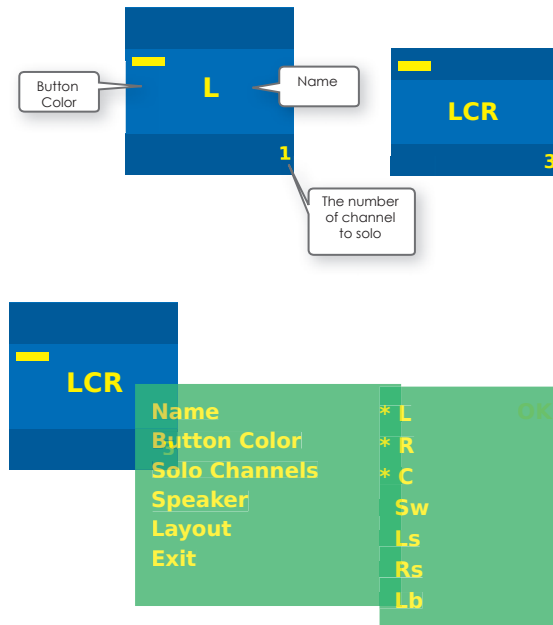
- Solo button
- Mute mode button
- Solo to LR button
- Other buttons same with Main page



Solo Button

Solo button control Solo or Mute for each speaker channel. Solo button is possible to be assigned for multiple channels as grouping solo.

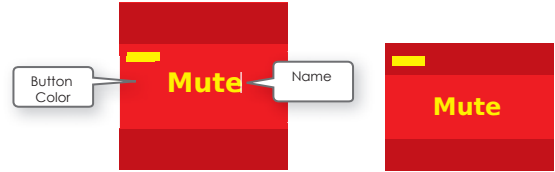
Parameter	Value	Description
Name	Type entry by keypad	Select "Name" on menu to open keypad window. Type any name in on input field of keypad.
Button Color	Select color by color palette	Select "Button Color" on menu to Color palette window. Tap color to set button color.
Solo channel	Input CH list 1 : (Name) 64: (Name)	Select solo channel and tap again to set (*) as solo channel. Possible to add multiple channels on the list for the grouping solo.
Speaker	Main Alt Mini AUX-1 AUX-2 AUX-3	Select Speakersets to solo.
Layout		move layout mode



Mute Mode Button

Mute mode button switch solo mode or mute mode.

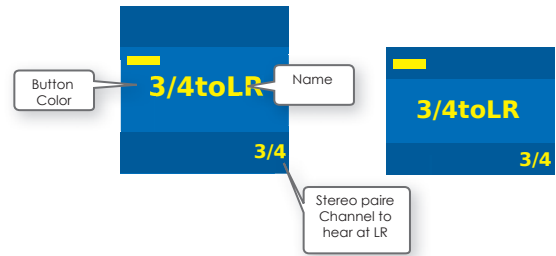
Parameter	Value	Description
Name	Type entry by keypad	Select "Name" on menu to open keypad window. Type any name in on input field of keypad.
Button Color	Select color by color palette	Select "Button Color" on menu to Color palette window. Tap color to set button color.
Layout		move layout mode



Solo to LR Button

Solo to LR button switch L/R signal to selected channels. Solo to LR button is useful to check multiple stereo source in multi channel format source.

Parameter	Value	Description
Name	Type entry by keypad	Select "Name" on menu to open keypad window. Type any name in on input field of keypad.
Button Color	Select color by color palette	Select "Button Color" on menu to Color palette window. Tap color to set button color.
Channel	Input CH list 1 : (Name) 64: (Name)	Select the first channel to hear on L/R.
Layout		move layout mode



Input Trim

Select Input Trim to go Input Trim display mode. Input Trim mode display input level to monitor on the bottom of each Input Source button.

Tap and hold and turn volume knob to adjust Input trim level.

Value: -10~+10dB



Button Grouping

Select Button Grouping to go Button Grouping display mode. Button Grouping allows to execute multiple button function on one action.

Button Group

Select Button Group and tap buttons that you want to set group. The first button you tap is set as master button automatically.

Master button execute button group.

Value: Button Group -1 ~64

GRP Mode

Value: Link, Exclusive

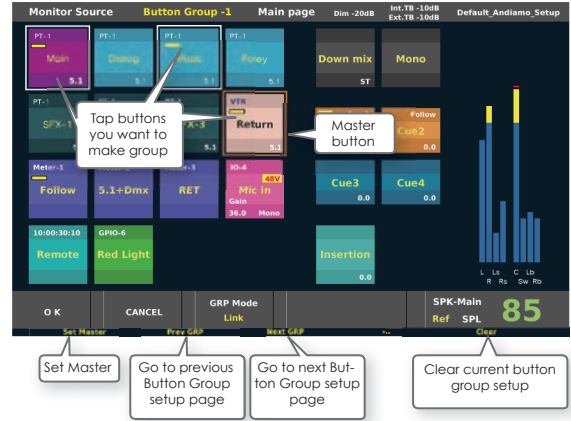
Group mode with Link or Exclusive grouping mode alternatively.

Link mode activate all button functions simultaneously with group master button.

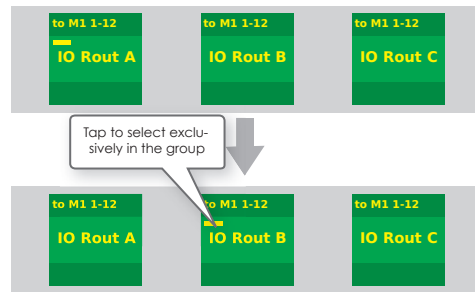
Exclusive mode activate button function exclusively.

Set Master

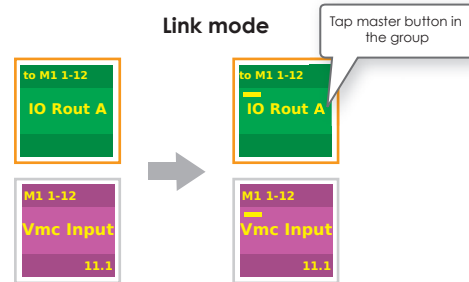
Push Set Master switch and tap button to set Master button on current button group. Selected master button indicates with orange frame.



Exclusive mode



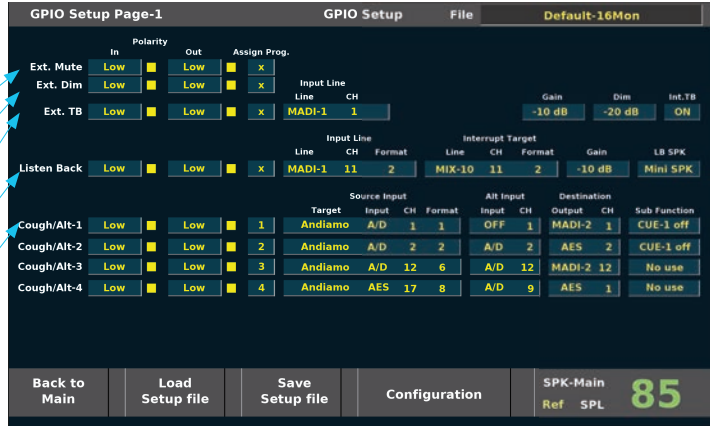
Link mode



GPIO

GPIO page configure GPIO functions.

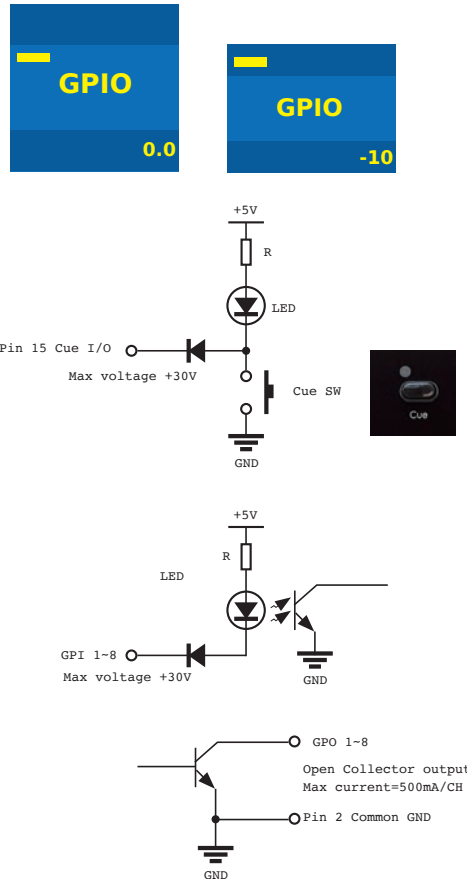
- External Mute
- External Dim
- External talk back
- Listen back
- Cough/Alt switching



These GPIO functions are driven by GPIO input on rear panel or also possible to activate by GPIO button on touch screen.



Pin No.	Signal	Pin No.	Signal
1	GPO-1: Mute tally	14	GPI-1: Ext. Mute
2	GND	15	CUE I/O
3	GPO-2: Dim tally	16	GPI-1: Ext. Dim
4	GPO-3: Talk back tally	17	GPI-1: Ext. Talk back
5	GPO-4: Listen back tally	18	GPI-1: Ext. Listen back
6	GPO-5: Cough/Alt-1 tally	19	GPI-1: Cough/Alt-1 In
7	GPO-6: Cough/Alt-2 tally	20	GPI-1: Cough/Alt-2 In
8	GPO-7: Cough/Alt-3 tally	21	GPI-1: Cough/Alt-3 In
9	GPO-8: Cough/Alt-4 tally	22	GPI-1: Cough/Alt-4 In
10	Line out-R (HOT)	23	Line out-R (COLD)
11	Line out-R (GND)	24	Line out-L (HOT)
12	Line out-L (COLD)	25	Line out-L (GND)
13	NC		

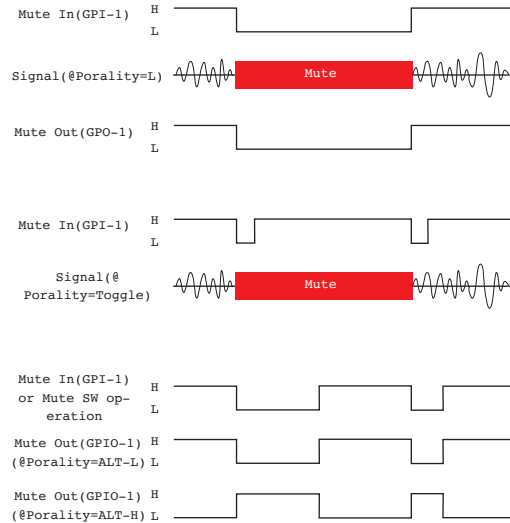


External Mute

External Mute input activate mute function for control monitor.

Also External Mute output activate GPO-1(Pin.1) when Mute is active.

Parameter	Value	Description
Polarity In	Low High Toggle	"Polarity In" define the activation level of GPI input. Indicator indicates when GPI input is active level. When setup "Toggle", the down edge of GPI input set or reset mute function.
Polarity Out	Low High Toggle	"Polarity Out" define the activation level of GPO output. Indicator indicates when GPO output is active level.
Assign Prog.	1 8	"Assign Prog." can assign GPI input to activate Program switch on the front panel.

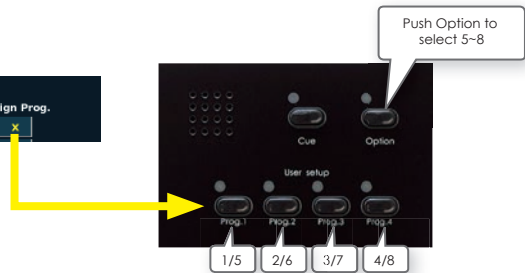
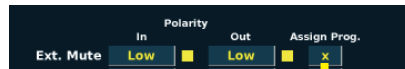


External Dim

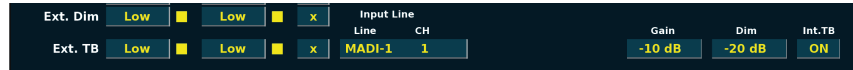
External Dim input activate dim function for control monitor.

Also External Dim output activate GPO-2(Pin.3) when Dim is active.

Parameter	Value	Description
Polarity In	Low High Toggle	Same with External mute
Polarity Out	Low High Toggle	Same with External mute
Assign Prog.	1 8	Same with External mute



External Talk back

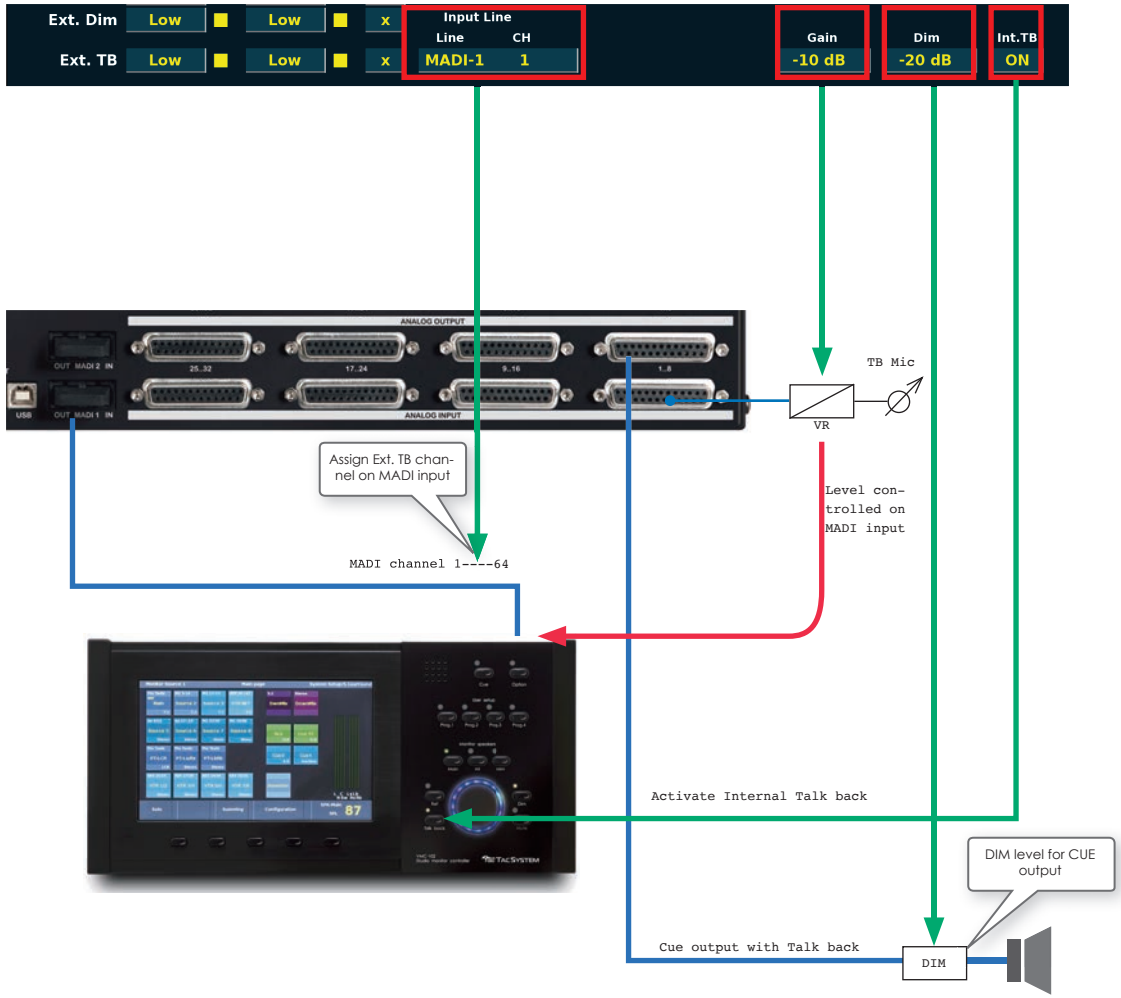


Ext. TB input activate External Talk back function with mic input channel for talk back on the controlled IO unit.

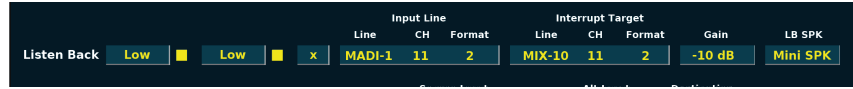
Also Ext. TB output activate GPO-3(Pin.4) when External talk back is activated.

Parameter	Value	Description
Polarity In	Low High Toggle	Same with External mute
Polarity Out	Low High Toggle	Same with External mute
Assign Prog.	1 8	Same with External mute
MADI Line - Line	MADI-1 MADI-2	Select which MADI port on VMC-102 that the external talk back signal is coming in.
MADI Line - CH	1 64	Define the channel number of the external talk back signal.
Gain	-Infinity~+18dB (1dB step)	Turn knob to adjust talk back mic Level.
Dim	-Infinity~+18dB (1dB step)	Turn knob to Dim level for Cue output when external talk back is activated.
Int. TB	ON OFF	Define to activate Internal Talk back when external talk back is activated.

External Talkback block diagram



Listen back



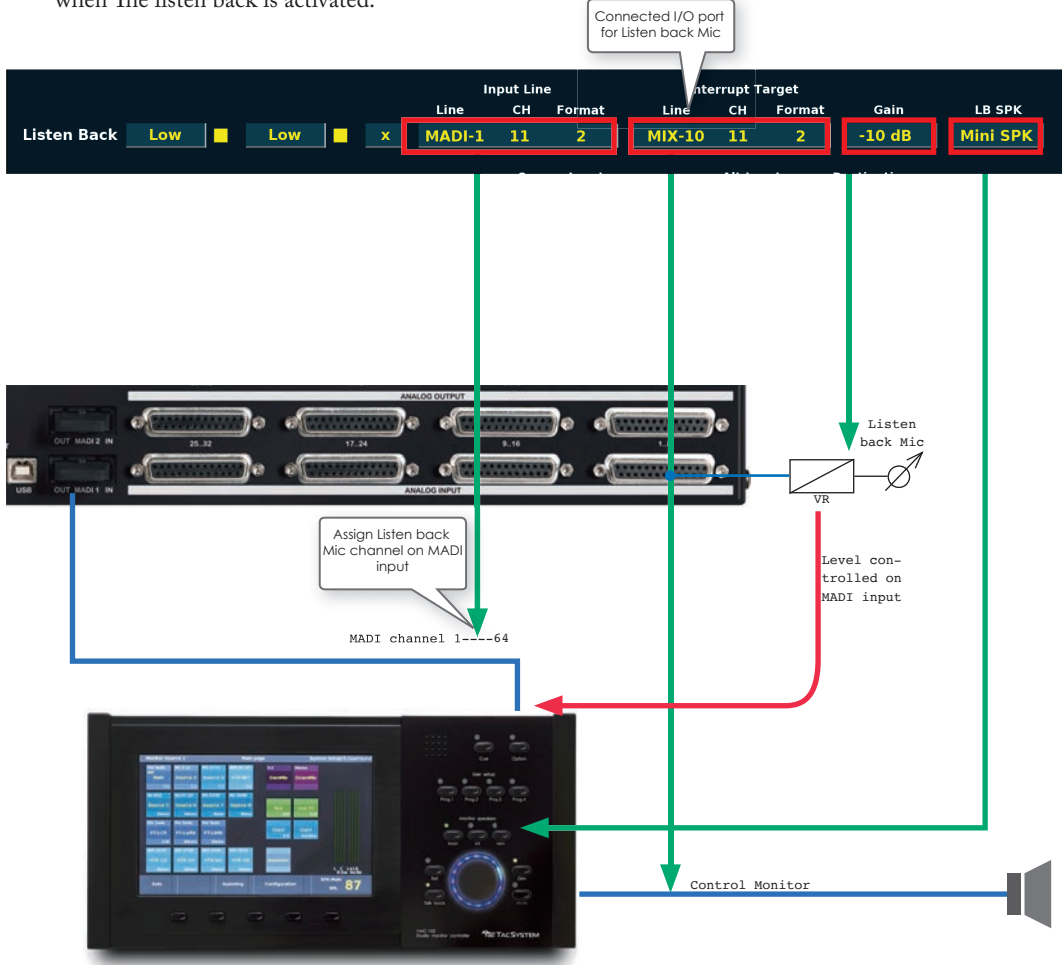
Listen activate Listen back function with mic input channel for Listen back on the controlled IO unit.

Also Listen back output activate GPO-4(Pin.5) when Listen back is activated.

Parameter	Value	Description
Polarity In	Low High Toggle	Same with External mute
Polarity Out	Low High Toggle	Same with External mute
Assign Prog.	1 8	Same with External mute
Interrupt Line - Line	MADI-1 MADI-2	Select which MADI port on VMC-102 that the Listen back signal is coming in.
Interrupt Line - CH	1 64	Define the channel for the external talk back signal.
Interrupt Line - Format	1 4	Define the channel number for the Listen back signal.
Interrupt Target - Line	Internal bus MADI-1 MADI-2 Inactive	Select Line on VMC-102 that the Listen back signal interrupt to.
Interrupt Target - CH	1 64	Define the channel for the Listen back signal.
Interrupt Target - Format	1 4	Define the channel number for the Listen back signal.
Gain	-Infinity~+18dB (1dB step)	Turn knob to adjust Listen-back mic Level.
LB SPK	--- Main SPK Alt SPK Mini SPK AUX1 SPK AUX2 SPK AUX2 SPK	Assign Speaker sets if interrupt to speaker.

Listen back block diagram

Listen back mic signal goes to control room monitor when The listen back is activated.



Cough/Alt-1~4

	Polarity In	Polarity Out	Assign Prog.	Source Input				Alt Input		Destination		Sub Function
				Target	Input	CH	Format	Input	CH	Output	CH	
Cough/Alt-1	Low	Low	1	Andiamo	A/D	1	1	OFF	1	MADI-2	1	CUE-1 off
Cough/Alt-2	Low	Low	2	Andiamo	A/D	2	2	A/D	2	AES	2	CUE-1 off
Cough/Alt-3	Low	Low	3	Andiamo	A/D	12	6	A/D	12	MADI-2	12	No use
Cough/Alt-4	Low	Low	4	Andiamo	AES	17	8	A/D	9	AES	1	No use

Cough/Alt1~4 activate Cough/Alt function with mic input channel for recording on the controlled IO unit.

Or any IO inputs with any format to another inputs switch over to destination channels alternatively.

Also Ext. TB output activate GPO-5/6/7/8(Pin.6/7/8/9) when Cough/Alt is activated.

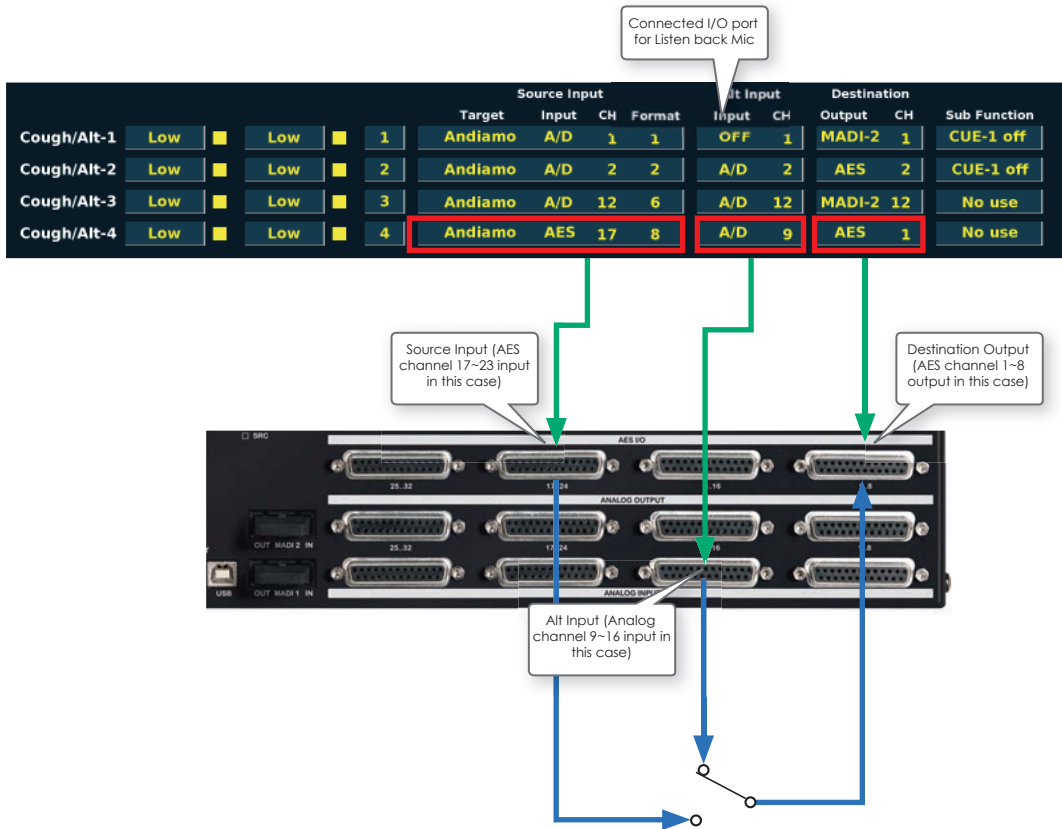
Parameter	Value	Description
Polarity In	Low High Toggle	Same with External mute
Polarity Out	Low High Toggle	Same with External mute
Assign Prog.	1 8	Same with External mute
Source Input - Target	Andiamo-1 Andiamo-2 NTP-1 NTP-2 Inactive	Select control target IO unit for Cough/Alt function.
Source Input - Input	See Input list depends on Target	Select Source Input port on target IO unit to connect Destination channels.
Source Input - CH	1 64	Define the start channel number of the Source input signal.
Source Input - Format	1 64	Select channel format of Source Input.
Alt Input - Input	See Input list depends on Target	Select Alternate Input port on target IO unit to connect Destination channels.
Alt Input - CH	1 64	Define the start channel number of the Alternate input signal.
Destination - Output	See Input list depends on Target	Select Destination output port on target IO unit to output selected signal.

Destination - CH	1 64	Define the start channel number to output selected signal.
Sub Function	Cue-1 OFF Cue-2 OFF Cue-3 OFF Cue-4 OFF No use	Sub Function control Cue output signal OFF when Cough/Alt function is activated.

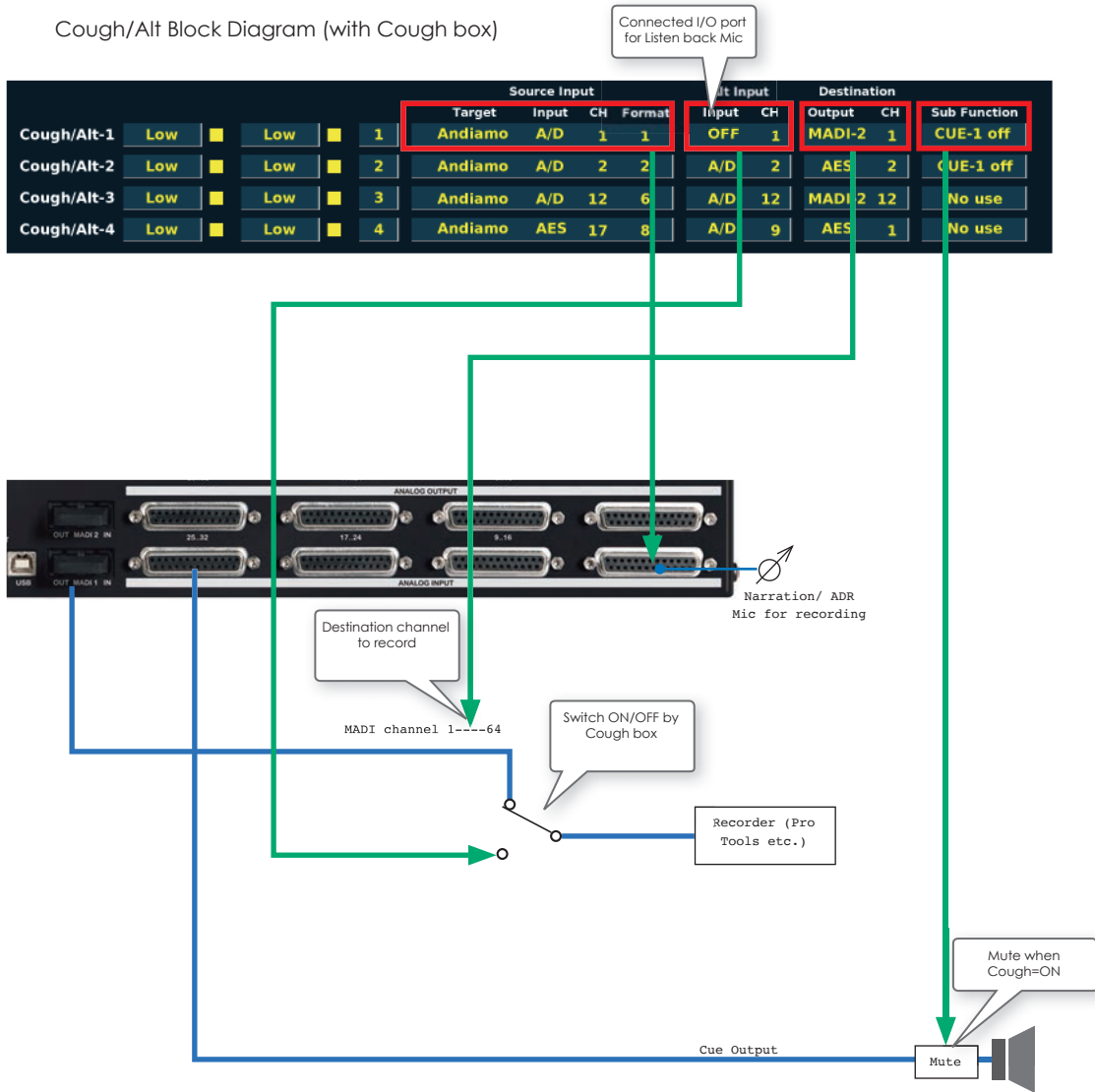
Input list

target	output	Description
Andiamo1/2	Analog AES MADI-1 MADI-2	
NTP1/2	Analog DA AES Dante MADI coax MADI option1 MADI option2 PTHD Slot1: xxx Slot8: xxx	Option DA card(Digital domain) Option DA card(Analog domain) Onboard AES port Dante option card On board MADI coax Optional MADI mini module Optional MADI mini module On board Pro Tools HDX port Optional card slot xxx = AD/DA/SDI/AES/MADI-1/ MADI-2

Cough/Alt Block Diagram (A/B switching)



Cough/Alt Block Diagram (with Cough box)



Maintenance page

Maintenance page show versions and configure preference parameters and functions that is not related with setup data.

- Firmware version
- MADI card version
- Brightness
- Password
- Monitor bus format select enable
- Velocity Timer for Volume
- Touch panel type
- Go Diagnostics
- Machine Control Option
- M.1K2 Remote Option
- Remote Mode
- Volume Limit

Maintenance page		
Parameter	Value	Remarks
Firmware Version	4.02	
MADI card Version	0E	
Brightness	4	
Password	----	
Monitor Bus Format Select Enable	enable	
Velocity Timer for Volume	300 msec	
Touch panel type	1024x768	
Go diagnostics		
Machine Control Option	disable	
M.1K2 Remote Option	disable	
Remote mode	off	
Volume limit	+18dB	
Back to Main Page	Go Diagnostics	Configuration
		SPK-Main Ref SPL 85

Firmware Version

Firmware version shows current firmware version. Tap value to open more information for kernel version etc.

MADI Card Version

MADI Card version shows current MADI card firmware version.

Brightness

Brightness control the brightness of touch panel display.

Parameter	Value	Description
Brightness	1	Dark
	4	Bright

Monitor bus format select enable

Monitor bus format select enable control enable or disable to change Monitor bus format on System Config page-1.

Velocity Timer for Volume

Velocity Timer for Volume control the velocity on Volume knob control between -Infinity to -10dB of reference level. Set short time to speed up (jump) volume value when knob turn how quickly. When set this parameter OFF, the volume knob always work with 1dB step with any speed.



Touch Panel Type

Touch Panel type setup the resolution of touch. It's related with touch panel hardware. the customer don't need to change this parameter.

Go Diagnostics

Go Diagnostics for the maintenance issue.

Machine Control Option

Machine Control Option activate this option software to control Sony 9pin device VTR or DAWs via RS-422 port on rear panel.

This is the paid option software. Please contact us or dealer if you need to use this option.

When activated Machine Control option on your VMC-102, you can open Control window to remote External 9pin device.



M.1K2 Remote Option

M.1K2 Remote Option activate this option software to control Directout Technologies M.1K2 MADI Router via LAN port on rear panel.

This is the paid option software. Please contact us or dealer if you need to use this option.

When activated M.1K2 Remote option on your VMC-102, you have follows additional functions with M.1K2.

■ M.1K2 Channel MTX button

M,1K2 Channel MTX button set channel base matrix on M.1K2 unit.

■ M.1K2 Port MTX button

M,1K2 Port MTX button set MADI port base matrix on M.1K2 unit.

■ M.1K2 Snapshot button

M,1K2 Snapshot button recall snapshot on M.1K2 unit.

■ Enable M.1K2 parameter for Speakerset setup

M.1K2 Port or Channel appear on speaker setup menu on System Config page-1. This allows to control speaker level on M.1K2 port or channel output.

■ Enable M.1K2 parameter for Cue setup

M.1K2 Port or Channel appear on cue setup menu on System Config page-1. This allows to control cue level on M.1K2 port or channel output.



Remote Mode

Remote Mode allows to use multiple VMC-102 in one system like Master(Host) and Slave(Client) device.

Parameter	Value	Description
Remote Mode	OFF Host Client	

- ※ **The Master device should be one only one unit in one system.**
- ※ **Each VMC-102 has to be setup unique IP address.**

How to work on Slave(Client) VMC-102

Slave(Client) VMC-102 can remote all buttons, master volume and talk back on Master(Host) VMC-102. It's simply both VMC-102 works in parallel.

In order to remote Master(Host) buttons on Slave(Client) VMC-102, Slave(Client) VMC-102 should have the space to appear remote buttons from Host on same position. So, if all buttons on Slave(Client) VMC-102 is deleted, all buttons appear from Host to remote.

Also, the Slave(Client) VMC-102 is still have all VMC-102 functions on it. It allows to use Slave(Client) VMC-102 with remote function and some local monitor section on it both together.

- ※ **If you layout buttons on Slave(Client) VMC-102, it stay on remote mode.(Disabled remote button on Local button's location)**



Volume Limit

Volume limit set maximum volume position on main volume knob.

Parameter	Value	Description
Volume Limit	-20dB +18dB	Default=+18dB

