MIDI Implementation

A16 MK-II

professional 16-channel AD/DA converter

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Version 1.0

Introduction

The A16 MK-II can receive and transmit MIDI either with the implemented MIDI connectors or using the embedded MIDI signal of the MADI interface.

It expects and responds only via sysex messages of the following format:

offs	name	description
$00	$F0	sysex start
$01	$00 $11 $22	manufacturer ID
$04	$01	device ID (A16 MK-II)
$05	$ss $ss $ss $ss	serial number
$09	cmd	command
$0A	d0...dn	data
$xx	$F7	sysex end

The device sends data either on request or if something changed on the configuration:

in	name	to PC	name
$00	SEND VERSION	$20	GET VERSION
$01	SET VALUES	$21	ACK VALUES
$02	SET FADERS	$22	ACK FADERS
$03	SEND PIC	$23	ACK PIC
$04	SEND UPDATE	$24	ACK UPDATE
$05	SEND INFO	$25	ACK INFO
		$40	GET CONFIG
		$41	GET STATUS
		$42	GET FADERS

SEND VERSION

The PC sends the SEND VERSION command without parameters. If the serial number is unknown, the PC sends serial number 0 to request for all attached A16 MK-II.

Since every answer from a A16 MK-II includes it's serial number, its not send in the answer string again. The data set for the GET VERSION answer is as follows:

offs	name	description
$00	VER_MAIN	version main
$01	VER_SUB	version sub
$02-$11	NAME[16]	name of the device

SET VALUES

This command sets one or more consecutive values in the A16 MK-II, the format is as follows:

offs	name	description
$00	INDEX	Index of the first value
$01-	DATA[]	list of values

This is the list of valid addresses:

index	name	description
$00	FREQ	frequency for master
$01	SYNC	sync source
$02	LOCK	lock/unlock device
$03	REQUPD	request an update
$10-$13	SMUX[4]	SMUX
$20-$2B	ROUT[12]	routing

SET FADERS

This command sets one or more consecutive faders in the A16 MK-II, the format is as follows:

offs	name	description
$00	INDEX	Index of the first value
$01-	DATA[]	list of values

This is the list of valid addresses:

index	name	description
$00-$0F	INFADERS	Input faders
$10-$1F	OUTFADERS	Output faders

SEND PIC / SEND UPDATE

Each command sends $200 bytes of data, which are stored in the flash memory.

offs	name	description
$00	FIRST	0=first packet
$001 - $200	DATA[$200]	data

SEND INFO

This command triggers sending of the GET_CONFIG / GET_STATUS / GET_FADERS replies.

It should be sent after a A16 is connecte to get the current state of the device.

GET CONFIG

This reply is sent without a request from the PC. It's always sent when a configuration changes.

offs	name	description
$00 LO	FREQ	Selected master freqency
$00 HI	SYNC	Selectes sync source
$01 LO	LOCK	Device locked y/n
$01 HI	STSCR	Device in status screen y/n
$02 LO	SMUX[0]	Smux setting
$02 HI	SMUX[1]	
$03 LO	SMUX[2]	
$03 HI	SMUX[3]	
$04 LO	ROUT[0]	Routing setting
$04 HI	ROUT[1]	
...	...	...
$09 LO	ROUT[10]	
$09 HI	ROUT[11]	

GET STATUS

This reply is sent without a request from the PC. It's always sent when the status changes.

offs	name	description
$00 LO	FREQ_BNC	frequency measure
$00 HI	FREQ_ADATA	
$01 LO	FREQ_ADATB	
$01 HI	FREQ_MADI	
$02 LO	FREQ_MAIN	main frequency
$02 HI	XILINX1	status xilinx chip
$03	STATUS	status flags

GET FADERS

This reply is sent without a request from the PC. It's always sent when faders change.

offs	name	description
$00-$0F	INFADERS	Input faders
$10-$1F	OUTFADERS	Output faders