EMR-TDM16-DLY
QUICK REFERENCE GUIDE

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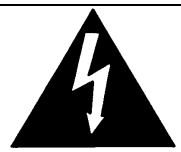
IMPORTANT SAFETY INSTRUCTIONS

	The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated “Dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.
	The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (Servicing) instructions in the literature accompanying the product.

- Read these instructions
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer’s instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
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WARNING TO REDUCE THE RISK OF FIRE OR ELECTRIC – SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE
WARNING DO NOT EXPOSE THIS EQUIPMENT TO DRIPPING OR SPLASHING AND ENSURE THAT NO OBJECTS FILLED WITH LIQUIDS ARE PLACED ON THE EQUIPMENT
WARNING TO COMPLETELY DISCONNECT THIS EQUIPMENT FROM THE AC MAINS, DISCONNECT THE POWER SUPPLY CORD PLUG FROM THE AC RECEPTACLE
WARNING THE MAINS PLUG OF THE POWER SUPPLY CORD SHALL REMAIN READILY OPERABLE

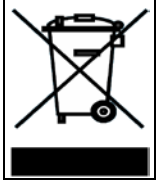
INFORMATION TO USERS IN EUROPE

NOTE

CISPR 22 CLASS A DIGITAL DEVICE OR PERIPHERAL

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to the European Union EMC directive. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CE	EN60065	Safety
	EN55103-1: 1996	Emission
	EN55103-2: 1996	Immunity



EN504192 2005
Waste electrical products should not be disposed of with household waste.
Contact your Local Authority for recycling advice

INFORMATION TO USERS IN THE U.S.A.

NOTE

FCC CLASS A DIGITAL DEVICE OR PERIPHERAL

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

WARNING

Changes or Modifications not expressly approved by Evertz Microsystems Ltd. could void the user's authority to operate the equipment.

Use of unshielded plugs or cables may cause radiation interference. Properly shielded interface cables with the shield connected to the chassis ground of the device must be used.

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FIGURES

REVISION HISTORY

REVISION	DESCRIPTION	DATE
1.0	First Release	Dec 2015

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1. OVERVIEW

EMR-TDM16-DLY is a delay card for audio over TDM. A single EMR-TDM16-DLY can support up to 16 TDM inputs and 16 TDM outputs. Each TDM can contain up to 640 mono channels and the total number of channels reaches up to 10240 channels.

Delay can be applied per channel and it starts from 16 to 120000 samples in a step of 8 samples. The card is VLPRO ready and can be controlled from VistaLINK.

Once the desired delay is applied to the channels, they will be packetized into the TDM stream and transmit to downstream device via TDM link.

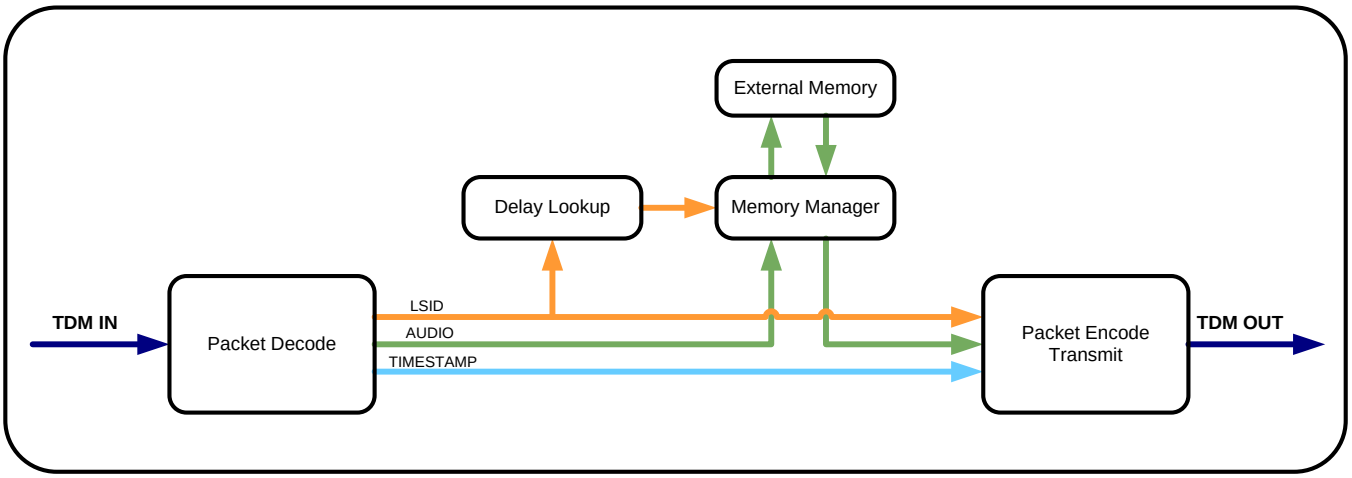

Figure 1-1: Signal Flow Diagram

Note: If the Audio sample rate is 48Khz, then one sample is 20.83 us.
1Sample = 1/48KHz = 20.833us

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2. APPLICATION

There are three different ways that a DLY card can be used in a system:

1- Upstream of ADMX
2- Downstream of ADMX
3- With No ADMX

2.1. UPSTREAM OF ADMX

When the DLY is installed upstream ADMX, it means the audio is delayed prior to be routed by ADMX and that delayed channel can be routed to any destination.

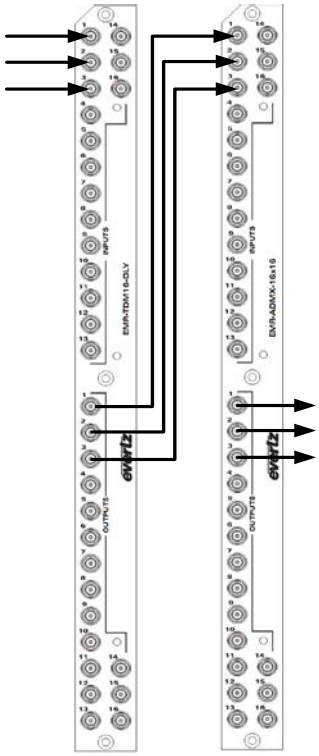

Figure 2-1: Upstream MDX

2.2. DOWNTREAM OF ADMX

When DLY is downstream ADMX, it means the DLY will be path by path, fixed and won't be routable.

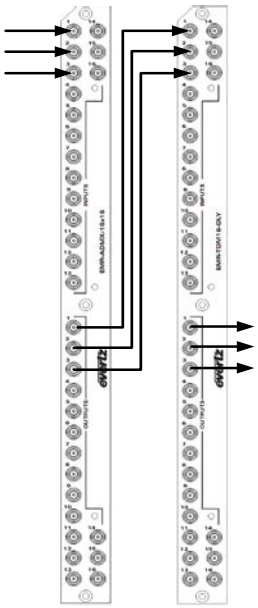

Figure 2-2: Downstream MDX

2.3. WITH NO ADMX

If there is no ADMX in the system, DLY card can be place in between the input and output Audio cards or AVIP/AVOP cards, however the delay will only be 1 to 1.

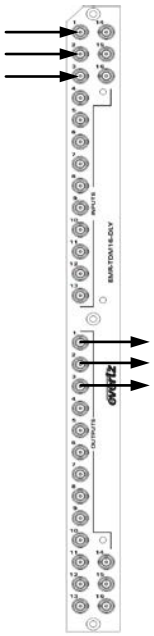

Figure 2-3: No DMX

3. VLPRO CONFIGURATIONS

This card can be controlled by VLPRO and the delay can be applied per channel. The following figure and description will provide detailed information on each option.

There are 10 slots and 64 channels per slot.

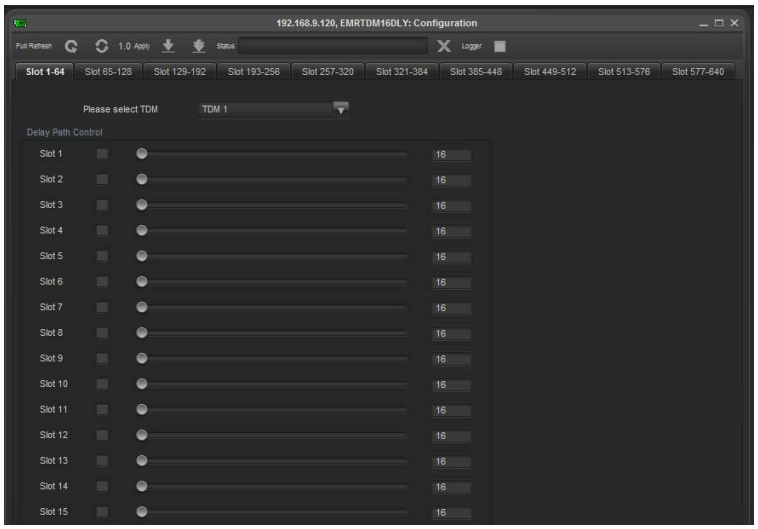

Figure 3-1: VLPRO Config View

3.1. SLOT

There are 10 slots and 64 channels per slot

3.2. SELECT TDM

There are 1-16 TDM to be selected and whichever TDM is selected, change in the slot tabs will affect the channels for that TDM stream.

3.3. DELAY PATH CONTROL

The slider is used to increase or decrease the delay for that channel. For the change to take effect, the box beside the slider has to be checked off.

3.4. SERIAL MENUS

Serial menus provide access to Network configuration, monitoring and other diagnostic functions. This section will provide information for each function.

Network configuration	This Section provide access to user to set the IP, Netmask, gateway and broadcast addresses as well as the ability to turn DHCP mode On or Off.
Show Currently Delay Configuration	This section will display the current status of channel delay
TDM Input Diagnostics	This section will display if a valid TDM is applied, Source of TDM and TDM Error
Engineering Menu	

Show current delay	Shows the current delay of the channels
Set delay config	Allows the user to set delays for channels
Reset delay values	Resets all the delay values to default
Display FPGA info	Engineering only
Show FPGA Temp	Engineering only
Reboot Card	Allows the user to reboot the cards
Eng. Interactive mode	Engineering only