Vantage®

TS 2 VRACK

iteris®

493425201 Rev E

1. INTRODUCTION

The Vantage TS 2 VRack is the perfect companion for the TS 2-IM module. With the integrated power supply and room for three Edge2 processor modules the TS 2 VRack provides the versatility required for any video detection application.

2. TS 2 VRack Features

TS 2 VRack with Power Supply and Two Edge2 Processors

- Integrated Power Supply module
- Single TS 2-IM module slot
- Three processor slots
- Compact, durable rack design
- BIU Address programmable (8, 9, 10, or 11)
- External DC source option
- TS1 mode option

3. TS2 VRack Hardware and Firmware Requirements

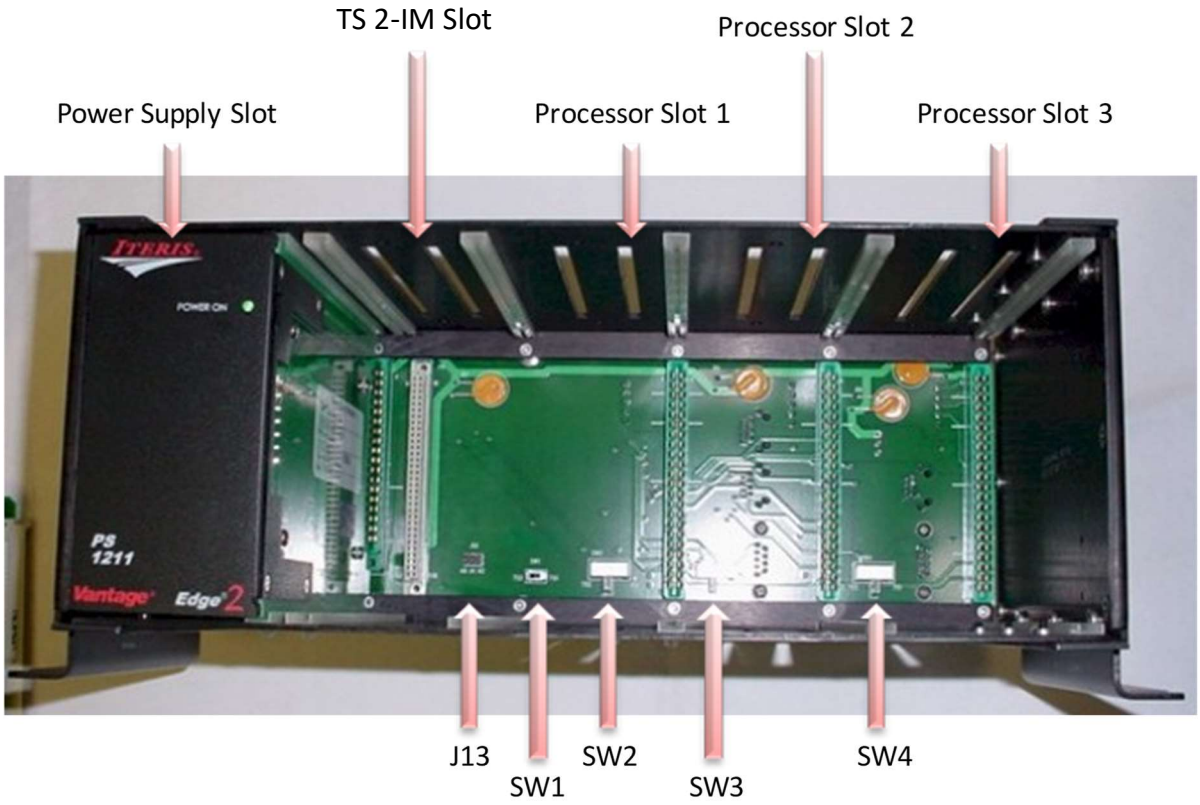
Hardware

The TS 2 VRack is only compatible with the newer Edge2 '04', '05' and '06' series processors that have two USB ports. Older Edge2 processor hardware is not supported on this platform, except in TS 1 mode.

Firmware

To use the TS 2 VRack, Edge2 '04' series processors must be running 04.01.13 firmware or later. Edge2 '05' series processors must be running 05.01.13 firmware or later and Edge 2 '06' series processors must be running 06.01.19 or later.

4. TS 2 VRack Configuration



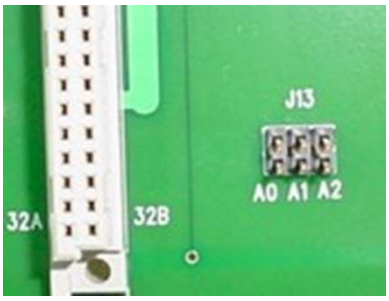
TS 2 VRack Slot Positions

The first slot on the left in the TS 2 VRack is for the Power Supply module. The next slot to the right is reserved for the TS 2-IM module. The next three rack slots are processor slots and can be used for Edge2 processors. The last slot, if it is not used, is sometimes covered with a special cover plate.

For reference, this manual will refer to the last three slots as processor rack slots: Processor Rack Slot 1, Processor Rack Slot 2, and Processor Rack Slot 3.

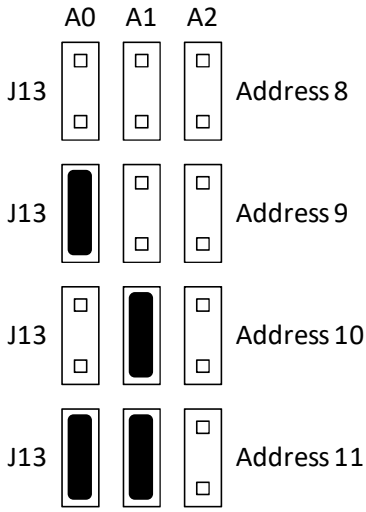
TS 2 VRack BIU Address Jumper Settings (J13)

When the TS 2-IM module is used in the Iteris TS 2 VRack, there are a number of other setup items that must be taken into consideration. The TS 2 VRack, through the use of jumpers located on the inside front of the rack back plane, can be configured to have a physical TS 2 address (8 - 11). The jumpers are on the inside of the VRack back plane nearest the BIU slot as shown in the following photograph.



VRack BIU Address Jumpers (J13)

See the following diagram for how to jumper A0, A1, and A2 for a specific physical address.



TS2-IM Rack Address Selection

The choice of physical rack address will determine the channel outputs for the slots in the TS 2 VRack. See the following diagram.

Rack Address Processor Output

Rack Address			SLOT 1	SLOT 2	SLOT 3
Address 8	PS	TS2-IM	3 1 4 2	7 5 8 6	11 9 12 10
Address 9	PS	TS2-IM	19 17 20 18	23 21 24 22	27 25 28 26
Address 10	PS	TS2-IM	35 33 36 34	39 37 40 38	43 41 44 42
Address 11	PS	TS2-IM	51 49 52 50	55 53 56 54	59 57 60 58

☑ ***Note:*** *The slot numbering (Slot 1-3) in the diagram reflects the Processor Rack Slots 1-3.*

You will notice that if rack address "9" is selected, and an Edge2 processor is plugged into Processor Rack Slot 2, the TS 2 detection output channels will be 21, 22, 23 and 24.

You can always use virtual addressing, by directly setting the BIU Address DIP switches on the TS 2-IM module, to access any of the available 64 TS 2 detector channels.

TS-2 VRack TS2/TS1 Toggle Switches SW1, SW2, SW3, SW4

The TS 2 VRack has four TS 1/TS 2 toggle switches (SW1, SW2, SW3, SW4) located on the inside circuit board of the VRack. Toggle switch SW1 controls the BIU Rack Slot. Toggle switches SW2, SW3, SW4 control Processor Rack Slots one, two and three respectively.

Toggle switch SW1 toggles "On" and "Off" the BIU Rack Slot. This switch should be left in the TS 2 position for TS 2 applications. If you are using the TS-2 VRack for a TS 1 application, turn the BIU off by switching toggle switch SW1 to the "TS 1" position. You would also switch SW2, SW3, and SW4 to the "TS 1" position also.

Toggle Switch SW1 for the BIU Slot Shown in the Default TS 2 Position

VRack Processor Rack slots one, two, and three are all capable of TS 1 or TS 2 operation via a small toggle switch located on the inside of the VRack back plane by the front of each rack slot (SW2, SW3, SW4). The "TS 2" position is the factory default position. By placing the toggle switch for each of the individual Processor Rack Slots in the "TS 1" position, those slots will place TS 1 contact closures through the associated DB-9 connector output. This versatility allows the rack to operate in both TS 1 and TS 2 mode depending on the toggle switch setting for each of the three Processor Rack Slots.

Toggle Switch SW2 for Rack Slot 4 Shown in the TS 2 Position

For most TS 2 applications you will want to leave all the toggle switches in the default TS 2 position. So when would you use the TS 1 toggle switch position? One possible application is if you wanted a TS 1 contact closure output for external logic. In this case, you would choose one of the three Processor Rack Slots and move its toggle switch to the "TS 1" position. The Edge2 processor in that slot would now place TS 1 contact closure calls through the DB-9 connector on the back of the TS 2 VRack.

Typical TS 2 VRack Configuration

DB-9 TS 1 Contact Closure Outputs

The TS 2 VRack comes with two DB-9 connectors located on the back of the rack back plane. These connectors bring TS 1 type contact closure outputs from the Processor Rack Slots that have the toggle switch set to "TS 1" mode.

DB-9 Contact Closure Outputs for Processor Slots 1 - 3

A nine wire connector and harness can be attached to the DB-9 connectors on the back plane of the TS 2 VRACK for contact closure outputs. The pinout of the two DB-9 connectors is as follows:

Optional DB-9 Contact Closure Output Harness

DB-9 Connector Detector Outputs (Detector Out)

DB-9 Connector 1	Function	
Pin Number	**Processor Rack Slot**	**Output Channel Number**
1	1	1
2	1	2
3	1	3
4	1	4
5	2	1
6	2	2
7	2	3
8	2	4
9	Logic Ground	

DB-9 Connector 2	Function	
Pin Number	**Processor Rack Slot**	**Output Channel Number**
1	3	1
2	3	2
3	3	3
4	3	4
5	Not Used	
6	Not Used	
7	Not Used	
8	Not Used	
9	Logic Ground	

Hardwire Green Inputs

Each of the three Processor Rack Slots (1-3) in the VRack has the capability to receive four external DC logic level inputs from the traffic controller. The input jacks are identified as J9 (Processor Slot 1), J10 (Processor Slot 2), and J17 (Processor Slot 3). The pins are identified as pins one through four with pin five being GND (logic ground). Pin one would correspond to processor channel one (PROC:1) for that specific rack slot, pin two would correspond to processor channel two (PROC:2) and so forth.

Green Input Connector

Green Input with Wiring Harness Plug Installed

☑ ***Note:*** *The green input wiring harness is not supplied, use #22-24 gauge solid or stranded wire. Strip back the insulation about 1/3" or 9mm, and use a small bladed screwdriver to depress the orange tabs on the green input wiring harness plug. Insert the stripped end of the wire into the connector hole. When the wire is inserted, remove the screwdriver and release the pressure on the orange tab to secure the wire in place. Give the wire a gentle tug to make sure it is correctly installed. Make sure the connector plug tab contacts are not clamped down on the wire insulation, instead of the stripped bare wire end, resulting in a faulty electrical contact.*

Green Input Pin Number	Processor Channel
1	PROC: 1
2	PROC: 2
3	PROC: 3
4	PROC: 4
LGND	Logic Ground

TS-2 VRack Power Connections

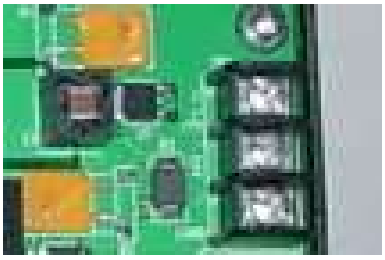
Wire Color	Function
Green	Chassis Ground
White	AC- Neutral
Black	AC+ Line

Plug the AC power cord into the back of the TS 2 VRack as is shown in the pictures

VRack AC Power Cord

AC Power Plug

You will also notice a small three terminal block located near the top right on the back of the TS 2 VRack. These terminals allow the rack to be powered by an alternate external 24 VDC source. Make sure the alternate supply source is NEMA rated and can supply the required current for all the Vantage modules running in the VRack. It is best to use the Iteris VRack power supply that is supplied with the product since it is specifically designed for use with the VRack and all its complementary Edge2 modules.



External DC Source Terminal Block

5. PRODUCT SUPPORT

Product Support Team

The Iteris® Product Support Team consists of a group of highly skilled individuals that are knowledgeable and readily available to answer your questions or assist you with any of our Vantage products. Please do not hesitate to contact us at:

☎ Toll free: (888) 254-5487

For more information on Iteris, as well as the products and services that we provide, visit our website at:

www.iteris.com

Iteris Resource Center

This site contains additional training and technical support information covering the whole range of Vantage products. Registration is easy. Visit the address below to register and begin enjoying the benefits immediately.

www.iteris.com/support

The Resource Center app is available from the Apple App Store or the Google Play store.

1700 Carnegie Avenue, Suite 100
Santa Ana, CA 92705
Phone: +1 (949) 270-9400
Fax: +1 (949) 270-9401