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Find the *Tracewell 6-Slot T-Frame* at our website: ***Click HERE***

Tracewell Systems

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Data Sheet

T-Frame for VXS

8-Slot VXS (VITA 41) Test and Development System

Description

The T-Frame™ for VXS provides the high-speed switched serial performance of VITA 41 in a versatile 8-slot benchtop system. The open-access, hybrid design includes four VXS payload slots, two VXS switch slots and two conventional VME64x slots, making it an ideal for developers migrating from traditional VME64x systems to the latest in VXS technology. T-Frame for VXS includes a host of other unique features, making it the perfect platform for board level and software development, manufacturing and test.

T-Frame's patented open-frame design provides unrestricted access to installed boards, eliminating the need for performance robbing extender cards. The 8-slot VXS (VITA 41) backplane supports data rates well beyond 3.125Gb/s per link. As a dual-star design, it can be operated with one or two switch boards, allowing test of both link ports on payload cards. The T-Frame™ includes comprehensive monitoring of all backplane voltages, current and exhaust air temperature. The front panel interface displays these monitor outputs and includes temperature, fan speed, and voltage control, including +5 and +3.3 volt margining. Two power options are available including single or dual 400 watt plugging power supplies, allowing hot swap power simulation, N+1, or 700 watt operation. Power supplies may be installed in either the front or rear cardcage, further improving accessibility. High pressure cooling supports up to 100W per slot and provides separate cooling for boards and power supplies. Fans are also adjustable to full or half speed to reduce unwanted noise. The T-Frame is easily portable yet rugged, with rigid steel cardcages to eliminate the flex. The rear I/O cardcage is adjustable for a wide range of board depths. Other conveniences include a tilt base, removable side access covers, recessed carrying handles, and internal 3.5" peripheral bay.

T-Frame™ for VXS support high-speed design by solving the problems of accessibility, measurement and control during development, thereby reducing design cycles and time to market.



T-Frame™ US Patent 5,416,427

Features

- **Patented open-frame design eliminates extender boards**
- **Hybrid backplane supports VXS and VME64x boards**
- **High-speed backplane >3.125 Gb/s per link**
- **Dual-switches allow testing of both link ports**
- **Voltage, current and temperature monitoring**
- **Margin control for +5 and +3.3 volt outputs**
- **High pressure cooling supports up to 100W per slot**
- **400 watt, N+1, or 700 watt operation**
- **Plugging power supplies with PFC and hot-swap**
- **IEEE 1101.10/11 compliant steel subracks eliminate flex**
- **Adjustable rear cardcage for 60, 80, and 100mm boards**

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Physical

Construction:	Sheet aluminum, 5052-H32 alloy; sides (0.250"), top and bottom covers (0.062"), base (0.188") Sheet steel, ASTM A366; front and rear cardcages (0.060") Aluminum extrusion, 6101-T6 alloy; cardcage profile
Plastics:	Cardguide, snap-in, 0.062" pcb, white nylon, UL94V-2 material Cardguide entry, snap-in, 0.062" pcb, neutral nylon, UL94V-0 material Adjustment knobs, black polycarbonate, UL94HB material Tinted view windows, gray polycarbonate, UL94HB material
Cardcage:	***Front:*** 6U x 160mm, 8-slots, IEEE 1101.10; ***Rear:*** 6U x 80mm, 8-slots, IEEE 1101.11, adjustable for 60, 80, and 100mm boards
Dimensions:	5.6"D (396mm) 14.4"W (365mm) 16.8"H (428mm)
Weight:	34 lbs. (74.8 kg) with one power supply (PS1); 37.5 lbs. (82.5 kg) with two power supplies (PS2)
Finish:	Textured paint, T-Frame light gray per Sherwin Williams F63TXA0819; all exterior surfaces. All other aluminum is brushed gold chromate per MIL-STD-5541, steel is bright zinc plate
Accessories:	Hardware kit provided which includes (8) +5.0V (brilliant blue) and +3.3V (cadmium yellow) backplane I/O keys, (2) I/O jumpers, and (1) drive power harness; Four removable side panels also provided

Backplane

Bus Structure:	Hybrid VME64x and VXS, 8-slot, J1/J2/P0; slots 1-2 VME64x, slots 3-6 VXS payload, slots 7-8 VXS switch (dual switch)
Assembly:	SMT/press-fit assembly
Connectors:	(B1/B2) 160 pin, 5 row, J1/J2, IEC 61076-4-113 133 pin, 7 row, J0, IEC 61076-4-101 (B2) J0 payload and J1,J3-J4 switch, Tyco Multigig, JPWR1 switch, Positronic PWR-6P-V15
Control:	System header for SYSRESET, SYSFAIL, ACFAIL
PCB:	12 layers, FR4 epoxy-glass laminate, multilayer, all-stripline, SMOBC, silkscreen on two sides, 1oz copper signal and power planes minimum, UL94V-0
Impedance:	50 Ohms (VME), 100 Ohms (differnetial, VXS)
Termination:	Passive, on-board, 330/470 Ohm (VME)
Decoupling:	High frequency decoupling at each slot; Distributed low frequency bulk decoupling
Rear I/O:	Long tails and shrouds on J2 slots 1-6, P0 slots 1-2
DC Distribution:	Screw terminals for +5, +3.3, return (35Arating per terminal), 0.250 spade terminals for +/-12VDC, V1/V2 (15A rating per terminal), (2) 4-pin auxilliary disk drive connectors (MTA100)
Compliance:	ANSI/VITA 41.0, 1.1-1997

Power†

General:	Front plug-in single or dual 400W 6U power supplies
Total Output:	400W (PS1), 700W (PS2); max. all outputs combined
Operation:	When operating dual power supplies, a single supply can be hotswapped without effecting normal system operation (PS2)
Input:	90 – 264VAC, universal input
Frequency:	47 – 63 Hz
Efficiency:	70% typical (65% min. at 90VAC)
Power Factor:	0.99 typical
Input Current:	6A maximum (per power supply)
Inrush Current:	30A/115VAC, 60A/264VAC; max <4 msec
Hold-up:	20ms minimum
DC Outputs:	+5.0V/50A, +3.3V/40A, +12V/12A, -12V/4A (per PS)
Output Adjust:	+/-10% nominal on +5 and +3.3V only
Ripple/Noise:	50mV maximum, all outputs
Remote Sense:	All outputs, 500mV maximum compensation
Power Slots:	(2) front, (1) rear; up to two power supplies

Cooling††

Airflow:	Bottom intake, top exhaust, pressurized; VME boards and power supplies are cooled independently
Fans:	High pressure tube-axial, 12VDC; (1) 190cfm fan positioned below 8-slot front cardcage, (2) 130cfm fans positioned below front and rear power slots (1 per); An additional (1) 93cfm fan positioned above the front power slots provides evacuated cooling of power supplies
Adjustment:	All fans adjustable for 50% or full speed operation; front panel switch control front cardcage fan, power supply fan speeds are controlled by switch (SW2) on the power backplane

Storage

Peripherals:	Supports (1) internal 3.5" x 1" device
Power Harness:	(1) 4-pin IDC, AMP 1-480424-0 or equiv; (1) 4-pin IE (mini), AMP 171822-4 or equiv; connects to bp
Accessiblility:	Rear removable tray, tool accessible

Control and Input

Switches:	***Front Panel:*** margin control for +5, +3.3VDC, voltage select (rotary); Voltage/°C, fan speed control (pushbutton, latching); reset control (pushbutton, momentary) ***Rear panel:*** power supply disable/ inhibit control (SW1), power supply fan speed (50% or full; SW2), AC power switch (rocker), AC circuit breaker (pushbutton, latching)
Power Input:	Rear panel AC inlet (IEC320), detachable line cord
Fusing:	Rear panel single pole magnetic circuit breaker 12A (pushbutton, latching)

Monitoring

Interface:	Two front panel LCD numeric displays and LED indicators Backplane DC voltage and current measurement for +5, +3.3, +/-12VDC (front panel, user selectable); Exhaust air temperature over front card slots (deg C, user selectable, rear access slide probe); Margin control provides +/-10% adjustment of +5 and +3.3VDC (front panel, user selectable); Backplane reset control and indicator (referenced to backplane BRST*); Power-on LED indicator (referenced to +5VDC)
Outputs:	DC voltage/current output displayed on (2) front panel green LCDs; Exhaust air temperature display on Voltage LCD when Voltage/°C switch is depressed; Power-on LED indicator illuminates green when power supply +5VDC present; Margin controlled voltages display on Voltage LCD when Voltage selector is set to +5 or +3.3VDC; Reset LED illuminates red when bp reset (BRST*) is asserted
Tolerance:	DC voltage within 1%; current within 3%; temperature within 3°C (Tolerances assume a 20-minute warmup for system and installed components)

Environmental

Temperature:	0–50°C operating with specified airflow; -20–70°C non-operating
Shock/Vibe:	Basic transportation per ASTM 0775
Humidity:	5 – 95% non-condensing at 40°C operating, 0 – 95% non-operating
Acoustic	<60 dBa maximum, measured from 1 meter

Agency Compliance†††

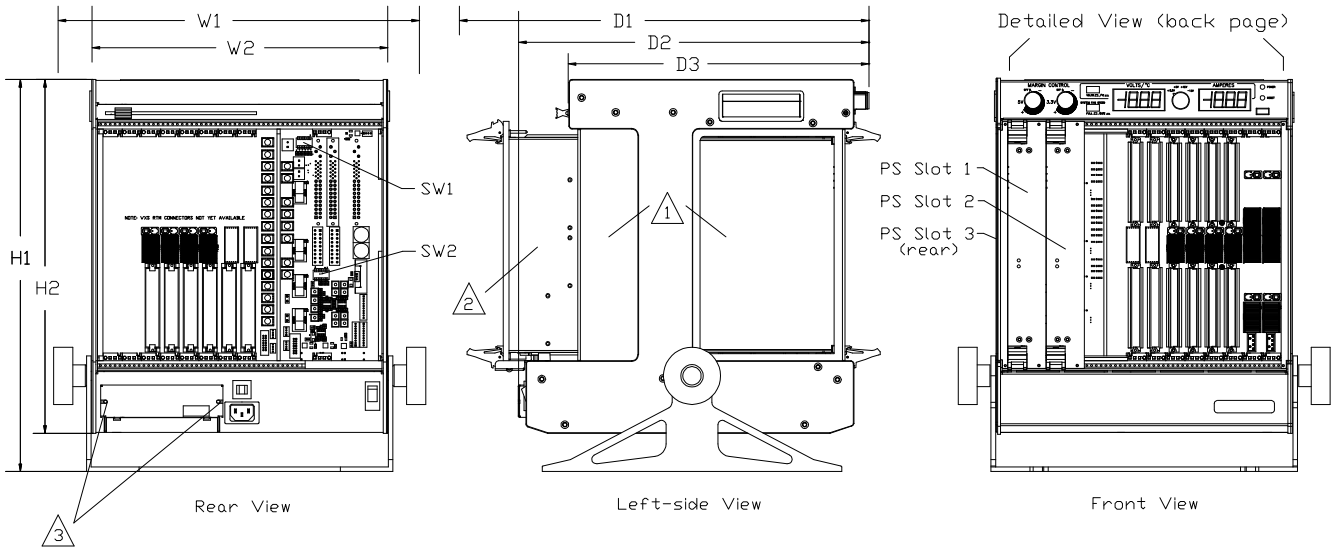
Safety/Emission: Available for power supply only, consult factory

Warranty

1 year limited warranty

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POWER SUPPLY CONFIGURATION

SW1

PS Slot 1	1	ON	Enabled
	2	ON	
PS Slot 2	3	ON	Enabled
	4	ON	
PS Slot 3	5	ON	Enabled
	6	ON	

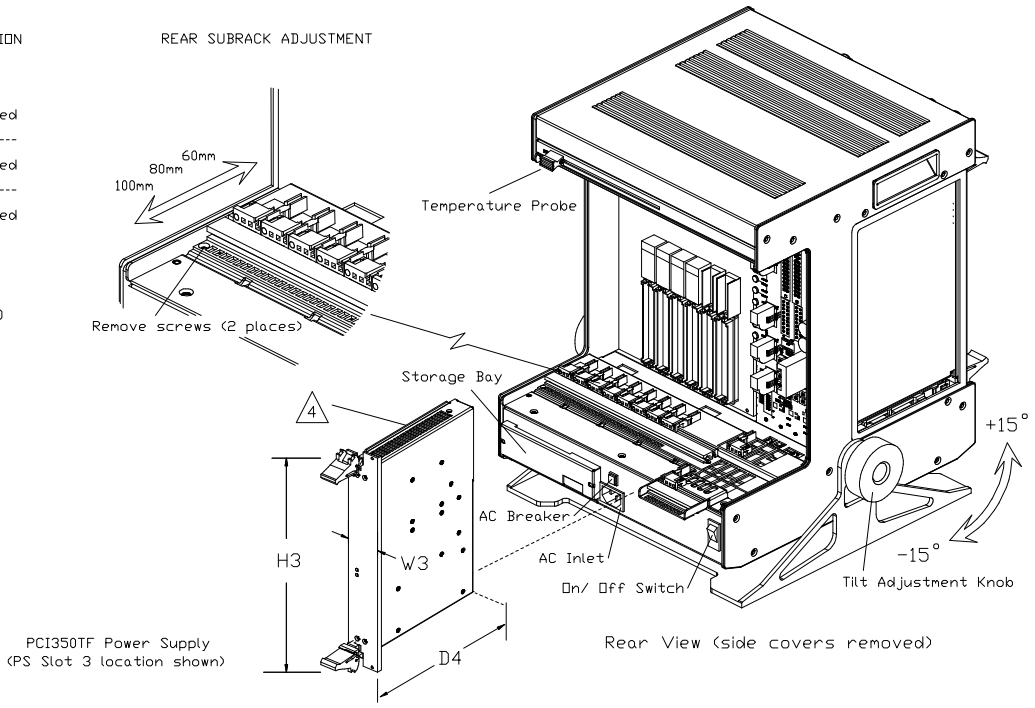
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POWER SUPPLY FAN SPEED

SW2

Reserved	1	ON	
	2	ON	
	3	ON	
	4	ON	
PS Slot 1, 2	5	ON	Full
PS Slot 3	6	ON	

OFF = 50% ON = Full
(Default Shown)



Dimensions:

D1: 17.10” (435 mm)	W1: 15.08” (383 mm)	H1: 16.37” (416 mm)
D2: 14.62” (371 mm)	W2: 12.34” (313 mm)	H2: 14.77” (375 mm)
D3: 12.55” (319 mm)	W3: 1.60” (41 mm)	H3: 10.31” (262 mm)
D4: 6.77” (172 mm)		

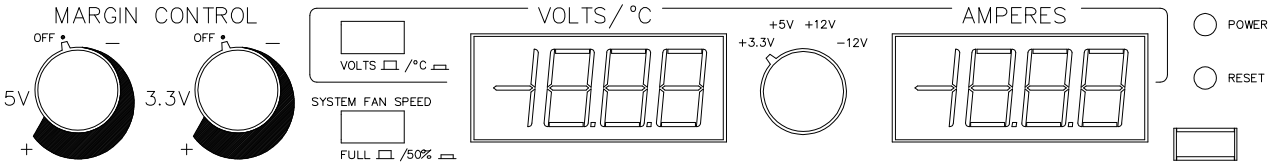
Notes

1. Removable side covers installed (4 places)
2. Power supply shown in PS Slot 3 position
3. Storage bay removes with 2 screws
4. CAUTION!! Supplies carry hazardous voltage

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Detailed View of Front Panel



Ordering Information

The T-Frame™ for VXS includes chassis, backplane, power supply, storage bay, monitoring, and is available in the following standard configurations:

Part Number:	**Description:**
580-6031-F00-00	T-Frame for VXS, 6U, 8-SL, 1-400W (PS1)
580-6032-F00-00	T-Frame for VXS, 6U, 8-SL, 2-400W (PS2)

Accessories:

014-6001-001-0P	Shielded single-slot filler panel, 6U X 4T; installs in vacant slots
106-1001-099-01	Non-shielded single-slot filler panel, 6U X 4T; installs in vacant slots
110-1171-099-01	Subrack air block, single slot; snaps into a vacant slot to block airflow
050-1158-000-PS	P/S,SP,400W,6U power supply

Notes:

† Designed to operate with a maximum of two Tracewell Power PCI350TF power supplies, totaling 700 watts

†† IMPORTANT: all fans must be operated in full speed setting for output power levels greater than 100 watts

††† As an option, Tracewell Systems can provide agency test and certification of the customer's specific integrated product. Consult factory for more details

request a quote at our web site:
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