

SANGRAHAN STHIRA

High-Reliability *Foundation Of Stable Storage*

2.5" SATA III 6Gb/s Internal Solid State Drive

CONSCIOUS CIRCUIT

Indigenous Technology Solutions

The **Sangrahan Sthira (QLC Edition)** category is engineered for absolute **stability** and **longevity**. Utilizing the proven **32-bit RISC ARM** architecture and high-grade **128-Layer 3D QLC with Xtacking 2.0**, **Sthira** is the ideal solution for legacy system upgrades, enterprise workstations, and mass storage servers. It delivers consistent performance that exceeds traditional mechanical drives by up to **10x**, ensuring that mission-critical data remains accessible and secure.

550 MB/s

MAX SEQ. READ

500 MB/s

MAX SEQ. WRITE

2.0M Hours

MTBF RELIABILITY

5 Years

LIMITED WARRANTY

TECHNICAL PERFORMANCE SPECIFICATIONS

MODEL NAME	SANGRAHAN STHIRA (STH5503)
CAPACITY	256GB, 512GB, 1TB, 2TB
FORM FACTOR	2.5"
NAND FLASH	128-LAYER 3D QLC WITH XTACKING 2.0.
CONTROLLER	32-BIT RISC ARM ARCHITECTURE
INTERFACE	SATA III 6Gb/s (Backward Compatible)
SEQUENTIAL READ (MAX)	UP TO 550 MB/s
SEQUENTIAL WRITE (MAX)	UP TO 500 MB/s
4KB RANDOM READ IOPS(MAX)	UP TO 95000 IOPS
4KB RANDOM WRITE IOPS(MAX)	UP TO 85000 IOPS
MTBF	2,000,000 Hours
TBW	120 TBW, 240 TBW, 480 TBW, 960 TBW
WARRANTY	5 YEARS

Content & Experience Solutions

These are solved by Sthira's 95,000 IOPS and Massive Storage Tiers.



SOLUTION	TECHNICAL SPEC / PART THAT SOLVES IT	ROLE IN THE SOLUTION
APEX GAMER	95,000 RANDOM READ IOPS	THE GAME VAULT. PROVIDES FAST ACCESS TO "SECONDARY BACKLOGS." IT ALLOWS GAMERS TO STORE 2TB OF AAA TITLES AND LOAD THEM SIGNIFICANTLY FASTER THAN A STANDARD CONSOLE DRIVE.
CREATIVE STUDIO	UP TO 2TB CAPACITY	THE PROJECT ARCHIVE. HIGH-CAPACITY 3D QLC NAND ALLOWS VIDEO EDITORS TO STORE MASSIVE RAW ASSET LIBRARIES (B-ROLL/SOUND) THAT REMAIN INSTANTLY "SCRUBBABLE" DURING EDITING.
MEDIA & BROADCAST	SILENT OPERATION (0DB)	STUDIO-GRADE QUIET. IN AUDIO/VIDEO BROADCAST STUDIOS, STHIRA ELIMINATES THE CLICKING AND WHIRRING OF MECHANICAL DRIVES, ENSURING A SILENT ENVIRONMENT FOR LIVE RECORDINGS.

Reliability & Stability Solutions

These are solved by Sthira's 2.0 Million Hour MTBF and Xtacking 2.0 Architecture.



SOLUTION	TECHNICAL SPEC / PART THAT SOLVES IT	ROLE IN THE SOLUTION
LEGACY REVIVE	550MB/S READ / 500MB/S WRITE	THE SPEED MULTIPLIER. TRADITIONAL HDDS RUN AT ~100MB/S. STHIRA PROVIDES A 5X-10X SPEED BOOST, TURNING A 2-MINUTE BOOT INTO A 15-SECOND ONE ON 2012-2020 LAPTOPS.
BFSI (BANKING)	AGILE ECC 2 & VIRTUAL PARITY RECOVERY	TRANSACTIONAL INTEGRITY. BANKING TERMINALS (ATMS) OFTEN FACE POWER FLUCTUATIONS. THESE SPECS PREVENT DATA CORRUPTION DURING A POWER LOSS, ENSURING THE "LEDGER" STAYS ACCURATE.
HEALTHCARE & IMAGING	128-LAYER 3D QLC (XTACKING 2.0)	THE DIGITAL GUARDIAN. PROVIDES A HIGH-DENSITY, ERROR-FREE ENVIRONMENT FOR STORING MILLIONS OF PATIENT RECORDS AND HIGH-RES IMAGING BACKUPS WITHOUT CELL DEGRADATION.

Industrial & High-Uptime Solutions

These are solved by the Industrial ARM Controller and Shock Resistance.



SOLUTION	TECHNICAL SPEC / PART THAT SOLVES IT	ROLE IN THE SOLUTION
SMART MANUFACTURING	SHOCK RESISTANCE (1500G / 0.5MS)	VIBRATION IMMUNITY. IN FACTORIES WITH VIBRATING HEAVY MACHINERY OR ROBOTIC ARMS, STHIRA HAS NO MOVING PARTS (UNLIKE HDDS), ENSURING THE "COMMAND CENTER" PC NEVER CRASHES.
DATA CENTER & CLOUD	32-BIT RISC ARM ARCHITECTURE	BARE-METAL STABILITY. THIS CONTROLLER IS OPTIMIZED FOR LOW-POWER, CONSTANT-UPTIME OPERATIONS, MAKING IT THE PERFECT "BOOT DRIVE" TO KEEP VIRTUAL MACHINES (VMS) ONLINE 24/7.
SURVEILLANCE & CITY SAFETY	SATA III 6GB/S (SATA REV 3.2)	THE LIBRARIAN. PROVIDES THE STABLE, CONTINUOUS WRITE-PATH NEEDED FOR NVRS (NETWORK VIDEO RECORDERS) TO ARCHIVE HUNDREDS OF 4K STREAMS WITHOUT THE MECHANICAL WEAR OF A SPINNING DISK.

Business & Maintenance Solutions

These are solved by Broad Compatibility and Indigenous Engineering



SOLUTION	TECHNICAL SPEC / PART THAT SOLVES IT	ROLE IN THE SOLUTION
REPAIR STORAGE	STANDARD 2.5" FORM FACTOR	THE UNIVERSAL FIX. IT FITS ALMOST EVERY LAPTOP AND DESKTOP BUILT IN THE LAST 15 YEARS, MAKING IT THE "BREAD AND BUTTER" TOOL FOR ANY TECHNICIAN FIXING A "SLOW PC" COMPLAINT.
RETAIL SOLUTION	5-YEAR LIMITED WARRANTY	CUSTOMER TRUST. WHOLESALERS CAN SELL STHIRA AS A "SET AND FORGET" SOLUTION. THE LONG WARRANTY JUSTIFIES A PREMIUM OVER GENERIC IMPORTS THAT OFTEN FAIL AFTER 12 MONTHS.
SMART INDUSTRY	OPERATING TEMPERATURE (0°C TO 70°C)	ENVIRONMENTAL RESILIENCE. BUILT TO HANDLE THE HIGH AMBIENT TEMPERATURES OF INDIAN FACTORY FLOORS OR UNCOOLED WAREHOUSE OFFICES WITHOUT THERMAL THROTTLING.

ENVIRONMENTAL/MECHANICAL

OPERATING TEMPERATURE	0°C to 70°C
STORAGE TEMPERATURE	-40°C to 95°C
SHOCK RESISTANCE	1500G / 0.5MS
OPERATING HUMIDITY	5% to 95% RH (Non-condensing)
SUPPLY VOLTAGE	5V ± 5%

EMI COMPLIANCES & CERTIFICATIONS

EMI COMPLIANCES	RoHS, REACH, FCC, CE, EPR
CERTIFICATIONS	SATA III (SATA Rev. 3.2) & up to ATA/ATAPI-8 (Including S.M.A.R.T)

ADVANCED DEVICE FEATURES

Agile ECC 2 & Virtual Parity Recovery

Advanced error correction ensures data integrity across the NAND cells, providing a **robust defense** against bit-errors and potential data corruption during **long-term storage**.

Standard Security & Maintenance

Equipped with S.M.A.R.T. health monitoring and full **TRIM** support to maintain drive performance and longevity over years of **continuous operation**.

Industrial Data Retention

Fully **JESD47 compliant**, ensuring long-term data **safety and stability** even during extended periods of zero power. 7mm Slim Form Factor for **Universal Compatibility**.

ORIGINAL PRODUCT IMAGE



THE DATA WITHIN THIS SPECIFICATION IS SUBJECT TO CHANGE BY CONSCIOUS CIRCUIT WITHOUT NOTICE.
PERFORMANCE NUMBERS MAY VARY BASED ON SYSTEM CONFIGURATION AND TESTING CONDITIONS.