

# ***NTS2200 Endurance Cycling System For Flash, EEPROM and Embedded NVM Devices***

Endurance Cycling Qualification for Stand Alone Flash, Embedded NVM and Engineering Test Vehicles



- **1 Environmental Chamber**  
-55°C to +150°C
- **1 to 4 Electrical Zone Controllers**
- **Software Based Pattern Generator**
- **640 Device Capacity**
- **Self Contained Cooling Compressor**
- **C++ Test Language**

## **NTS2200 APPLICATIONS**

- Program / Erase Endurance Cycling
- Measure Vt Levels and Shifts
- Generate Vt Histogram Plots
- Endurance at Hot/Cold Temperatures
- Detect Cell Disturb Phenomenon
- DC Stress
- Temperature Stress
- Qualify New Flash Device
- Qualify New Fabrication Process
- Qualify New Fabrication Plane
- Qualify New Package
- Optimize Flash Device Design
- Fabrication Plant Process Monitor
- Competitor Evaluation Tool

# NTS2200 Endurance Cycling System

## ➤ DEVICES SUPPORTED

- FLASH, E<sup>2</sup>PROM, Serial E<sup>2</sup> and Other Typical NVM (NOR,NAND,DiNOR,AND)
- High Density Packaging, PC Card (PCMCIA)
- Embedded FLASH Micro-contollers, FLASH Test Vehicle Devices

## ➤ SOCKET BOARD

- Up to 64 Devices Per Socket Board Typical
- Limited by Mechanical Size of Device Socket

## ➤ ADDRESS

- Software Based Algorithmic Address Generator
- 28 Address Lines (Address / Data Mux)

## ➤ DATA

- Algorithmically Generated
- 64 Bit Wide System Data Bus - X1 X8 X16 Device I/O Operation Standard X32, X64 Bit I/O Available With Custom Applications Program

## ➤ FAIL DATA

- Comparator With Programmable Reference

## ➤ AFC (Accumulated Fail Counter) *Optional Upgrade in NTS2200 System*

- Counts Number of Failures For All DUT's in the System

## ➤ CONTROL LINES

- 64 Individual Chip Enables, 8 OE Lines, 1 WE Line, 4 General Purpose Bi-directional Control Lines
- 24 Additional Control Lines Available with Option Upgrade

## ➤ POWER SUPPLIES

<b>V1 (Vcc)</b>	0 to +9V	10A	Per Socket Board	5mv Resolution
<b>V2 (Vpp)</b>	0 to +25V	5A	Per Socket Board	15mv Resolution
<b>Vsf</b>	-3V to +19V	200ma	Per Socket Board	5mv Resolution

*Vsf is a special function voltage that can be connected to any address or control line.*

<b>Vih/Vil</b>	-2V to +7V	5mv Resolution		
<b>Vout</b>	-5V to +9V	10mv Resolution	(DUT Data Verify Comparator Voltage)	

## ➤ POWER SUPPLY OPTION UPGRADE

**XRB (Extended Resource Option Board)** Provides 6 Additional Programmable Power Supplies

<b>V3</b>	-15V to +20V	1A (5A Peak)	10mv Res
<b>V4</b>	-15V to +20V	1A (5A Peak)	10mv Res
<b>V5</b>	-15V to +20V	1A (2A Peak)	10mv Res
<b>V6</b>	-15V to +20V	1A (2A Peak)	10mv Res
<b>V7</b>	-15V to +20V	1A (2A Peak)	10mv Res
<b>V8</b>	-15V to +20V	1A (2A Peak)	10mv Res

# ***NTS2200 Endurance Cycling System***

## **➤ SOFTWARE**

- Test Language, C++
- Novtek Developed C++ Function Library for Tester and Pattern Generator Control
- Parameter File Allows For Quick Changes To Parameters and Program Limits Without the Need to Recompile

## **➤ COMPUTERS**

- **Controller**, Pentium, DOS, 1 Controller Standard. 4 Total Available.

## **➤ CYCLING ZONES**

- All 10 Driver Module are Connected to one Pentium DOS Controller.