# BISR User Guide

## Data Type Description:

1. **RED\_REP\_INFO\_t:** record the repair of every Redundancy.
2. **ERR\_RESOURCE\_INFO\_t:** record the information of every error resource
3. **SDR\_BISR\_t:** the top data type of BISR

## Top Level Function Description:

1. **SDR\_BISR\_Entry:**

1). Parameters: six input files

2). Return: void

3). Function: SDRAM BISR entry. Get error information and do repair

1. **sdr\_open:**

1). Parameters: a null pointer of SDR\_BISR\_t, a pointer of input file

2). Return: an instance of SDR\_BISR\_t

3). Function: allocate memory, open files, and initial

1. **SDR\_PrePrepair:**

1). Parameters: an instance of SDR\_BISR\_t

2). Return: void

3). Function: get and merge error information, make repair plan, and map to repair registers.

1. **Do\_Repair:**

1). Parameters: an instance of SDR\_BISR\_t

2). Return: void

3). Function: repair SDRAM

1. **sdr\_release:**

1). Parameters: an instance of SDR\_BISR\_t

2). Return: null

3). Function: release memory and close file

1. **Merge:**

1). Parameters: an array of argv and count of argv

2). Return: null

3). Funciton: merge err files

## MACRO Description：

## Flow For FT test:

There are two ways to use the BISR program. One can repair SDRAM automatically, but the other one may not. It is necessary to supply six files which record the errors of six SDRAM to BISR program before repair.

The six files represent six SDRAM. Each file includes the total error information of all test patterns.

### One way:

1. Enable one SDRAM by KYEC
2. Call SDR\_BISR\_Entry(…) function to automatically repair SDRAM
3. Goto 1.

### The anther way:

1. Enable one SDRAM by KYEC
2. Declare a null pointer of SDR\_BISR\_t in the test program
3. Call sdr\_open(…) function and return a pointer of SDR\_BISR\_t
4. Call SDR\_PreRepair(…) function
5. Call Do\_Repair(…) function
6. Call sdr\_release(…) function
7. Goto 1.

For examples:

SDR\_BISR\_t \*sdr\_bisr = NULL;

Unsigned char \*\*arg = argv;

// open SDR device

sdr\_bisr = sdr\_open(sdr\_bisr, arg);

// Repair SDR

SDR\_PrePrepair(sdr\_bisr);

Do\_Repair();

// release SDR device

sdr\_bisr = sdr\_release(sdr\_bisr);