TeraStack® Solution Diagnostics Table

The following diagnostics table is a tool designed to assist Hie Electronics customers in resolving any issues that might arise in the operation of the TeraStack® Solution. The diagnostics table consists of three columns. The first column, titled 'Error Code', presents some of the most typical errors that a user will encounter. These errors are listed in alphabetical order and are presented in the same manner in which they would be reported to the user through the Hie Administration GUI (the web-based console used to perform TBYTe operations). The second column, 'Possible Cause', presents one or more potential cause for which the user is experiencing the error. The third column, 'Required Action', outlines one remedial course of action for each potential cause.

Again, this table only includes the most common failures that the TeraStack® Solution user may encounter. The vast majority of the errors listen in the diagnostics table are able to be resolved using only the Hie Administration GUI. In the event that the user is unable to resolve their issue with the assistance of the information provided here, it is recommended that Hie Electronics be contacted for further support.

Error Code	Possible Cause	Required Action
BURNER_EJECT_FAILED	a) Communication error with server	a) Power cycle the system's burners
BURNER_INIT_FAILED **Note: this error means that the burner in question is unable to read the disk that has been inserted**	a) Communication error with server	a) Power cycle the system's burners
BURNER_LOAD_CANCELLED	a) The user called a stop to the system's operation	b) No action required
BURNER_NOT_AVAIL	a) Communication error with server b) The system has set this burner offline c) The user has set this burner offline d) All burners have disks loaded in them and are in use	a) Power cycle the system's burners b) Using the Hie Administration GUI, access TBYTe recover and list drives to determine which is offline and then set the drive online. Then initiate recover failed activity c) No action required – the burner has been set offline for a reason d) No action required – the system will wait
BURNER_NOT_READY	a) Communication error with server	a) Power cycle the system's burners
BURNER_READ_CANCELLED	a) The user called a stop to the system's operation	a) No action required
BURNER_SERIAL_MISMATCH	a) Communication error with server	a) Power cycle the system's burners and restart JBOSS – open command

		prompt and enter 'net stop jboss' and then 'net start jboss'
BURNER_WRITE_CANCELLED	a) The user called a stop to the system's operation	a) No action required
BURNER_WRITE_FAILED **Note: This is a catch-all failure code for any issue that is encountered during the burn process**	a) File was not found in the archive set at the time of burn	a) Error handling is in place that will remove the affected file from the archive set and rerun the job
DISK_NOT_AVAIL **Note: The system returns this error when the disk it is looking for has been set offline**	a) The system set either a disk, a stack, or a drawer offline b) The user set either a disk, or a stack, or a drawer offline	a) Using the Hie Administration GUI click on the TBYTe Status tab to see what alerts have been reported, resolve them, and using the Hie Administration GUI access TBYTe Core and set whatever has been set offline back online b) No action required – the disk has been set offline for a reason
DISK_NOT_MOUNTED **Note: the system returns this error when it searches for a disk at a stack and is unsuccessful**	a) The stack that contains the requested disk is not in the TBYTe	a) Place the stack containing the requested disk into the TBYTe
FILE_IO_EXCEPTION **Note: this failure pertains to retrieving a file from the hard drives of the server**	a) The file in question does not grant full read/write access. The permissions have been restricted to Target destination b) The file in question has been deleted manually c) A hard drive has failed	a) Contact Hie Electronics for assistance b) The operator is responsible for the error c) Replace the hard drive – Power down the system, unplug it from the wall, open the front door of the TBYTe to gain access to the server, and replace the hard drive in question
FILE_NOT_FOUND **Note: whenever the content of the disc is uncertain, the disc should be loaded manually into an available drive so the contents can be verified**	a) A burner read failure has occurred b) Burner serial mismatch c) The file requested has been overwritten	a) Power cycle the system's burners b) See burner serial mismatch section c) No action required
FILE_NOT_MANAGED **Note: this error is reported when attempting a file cleanup on a pending burn. File cleanup will be prevented on files that are in the DB.file_ table but are not burned onto optical media yet**	a) Some other error has occurred that has interfered with the burn request	a) Search through the system's failure log and determine what failure seems to have caused this one and resolve it
GALIL_BUFFER_READ_ERROR	a) There is a communication failure between the software	a) Contact Hie Electronics for assistance in resolving this issue

	and the buffer	
GALIL_CALIBRATE_BURNER_FAILED_Y or GALIL_CALIBRATE_BURNER_FAILED_Z	a) A burner has been removed from the burner rack b) The TBYTe has been configured for more burners than what it actually holds	a) Find the burner in question and return it to its location b) A java configuration file must be changed for the correct number of burners – contact Hie Electronics for assistance
GALIL_CALIBRATE_STACK_FAILED_Y	a) The stack is loaded into the TBYTe so that it covers the reflective tape on the top of the drawer	a) Use the Hie Electronics GUI to open the drawer, push the stack all the way back into the drawer and make sure the stack does not block the reflective tape on top of the drawer
GALIL_CMD_TIMEOUT **Note: this error is due to an issue with the robotics, and it will usually appear in the unit's failure log along with other errors**	a) The Galil received a command but was unable to execute it due to mechanical issues	a) Look at the failures that were experienced by the unit at the same time in order to better understand the issue
GALIL_COMM_NOT_AVAIL	a) There is no connection between the server and the Galil card	a) Reconnect the cable between the Galil and the server
GALIL_DISK_NOT_AT_STACK **Note: this error occurs when the look-across sensor is not able to detect a disk**	a) A stack that is missing a disk was loaded into the unit b) The missing disk is located in one of the burners	a) If this was done intentionally it is not an issue b) Access the Hie Electronics GUI, release the drive containing the disk, and then perform a recover all failed drive activities
GALIL_DRAWER_1_CLOSED or GALIL_DRAWER_2_CLOSED **Note: this error will occur if the user does not open the drawer of the TBYTe within 30 seconds of giving the "open drawer" command**	a) The user failed to open the drawer after the "open drawer" command was given	a) Give the open drawer command again and then manually open the drawer
GALIL_DRAWER_1_OPEN or GALIL_DRAWER_2_OPEN **Note: this error will occur if the user does not push the drawer back into the TBYTe within 30 seconds of giving the "close drawer" command**	a) The drawer is open	a) Make sure both drawers of the TBYTe are closed
GALIL_DRAWER_1_NOT_LOCKED or GALIL_DRAWER_2_NOT_LOCKED	a) The command to close the drawer has been given, and the drawer has been pushed back into the unit, but a clean USB connection has not been made	a) Make additional attempts to close the drawer – if this issue continues, contact Hie Electronics for assistance
GALIL_DRIVE_NOT_CLEAR	a) An ejected disk is	a) Automated processes are in place to

	protruding from a burner and obstructing the disk sensor	attempt recovery– if this issue continues, contact Hie Electronics for assistance
GALIL_INIT_FAILED **Note: this error occurs while the unit is attempting to initialize**	a) One of the system's motors does not have power	a) Using the Hie Administration GUI, access the Galil Terminal, and enter the following command to turn all motor power back on: 'SH'
GALIL_INSERT_FAILED_11_OFF or GALIL_INSERT_FAILED_12_OFF **Note: this error occurs when a disc is positioned so that it hangs out of the stack, obstructing the laser sensor**	a) The stack that the robotic system is addressing has not been calibrated	a) Using the Hie Administration GUI perform the stack calibration procedure
GALIL_INVALID_RESPONSE **Note: this error is usually reported several times following the occurrence of other failures, and it means that the system has stopped all mechanical movement**	a) A failure has occurred that prevents the continued operation of the TBYTe b) The Galil code is corrupt	a) After resolving the issue that lead to this error, use the Hie Administration Console to access the Galil Terminal, enter the following command 'tc=0;bc=0' and then continue b) Upload the most updated code onto the Galil card
GALIL_NOT_AVAILABLE **Note: this error is usually reported several times following the occurrence of other failures, and it means that the system has stopped all mechanical movement**	a) A failure has occurred that prevents the continued operation of the TBYTe	a) After resolving the issue that lead to this error, use the Hie Administration Console to access the Galil Terminal, enter the following command 'tc=0;bc=0' and then continue
GALIL_NOT_INIT **Note: on rare occasions the system may be started up but fail to initialize**	a) The system failed to initialize on its own	a) Using the Hie Administration GUI, access the Galil Terminal and enter the following commands to manually begin initialization: XQ#PARAMS,2 then XQ#INIT,2
GALIL_PUSH_FAILED **Note: this error occurs if after the extractor attempts to push a disk into a burner and the disk is still detected by the disk out laser sensor**	a) The burner failed and will not allow a disk to be inserted	a) Power cycle the burners. If the issue persists, contact Hie Electronics for assistance
GALIL_STACK_NOT_CALIBRATED	a) The operator has failed to calibrate the stack	a) Using the Hie Administration GUI access TBYTe Core and re-attempt stack calibration. If this issue persists contact Hie Electronics for assistance
GALIL_STACK_NOT_FOUND	a) The user told the system to calibrate a stack that is not	a) If the user expected a stack to be in this position then the absent stack must be loaded into the TBYTe,

	present in the unit	otherwise this is not an issue
MEDIA_ERASE_FAILED	a) The burner is unresponsive b) The data that you attempted to erase is located on a write-once disk that is improperly marked as re-writable	a) Power cycle the system's burners b) Use a piece of re-writeable media or archive to a different write-once disk
MEDIA_NOT_ENOUGH_STORAGE **Note: when this error occurs the disk will be set off-line by the system**	a) The archive set creates an index file that exceeds the capacity of the disc when added to the files b) The disk to which data is being written is full	a) Reduce the set disc capacity and re-run the archive set b) Archive to another disk
MOUNT_POINT_NOT_AVAIL	a) The system set either a stack or a drawer offline b) The user set either a stack or a drawer offline	a) Using the Hie Administration GUI, access TBYTe Status to see what alerts have been reported, resolve them, and then access TBYTe Core and set the offline component back online b) No action required – the mount point has been set offline for a reason
OPERATION_FAILED **Note: this is a generic error message – it will appear in conjunction with other error messages**	a) A failure has occurred that prevents the continued operation of the TBYTe	a) After resolving the issue that lead to this error, open the Hie Administration GUI, access the Galil Terminal, and enter the following command 'tc=0;bc=0' and then continue
PITCH_CHECK_FAILED **Note: this error will be reported during the calibration of one of the stacks inside the TBYTe**	a) Either disk number 1 or 125 is missing from the stack that is being calibrated	a) Find the missing disk and manually return it to its proper position
REQUEST_EXPIRED **Note: this error is usually reported when the system is attempting to restore a file**	a) The file that was requested is located in a stack that is offline	a) Locate the stack, use the Hie Administration GUI to load it into the TBYTe and repeat the restore request
VERIFY_READ_ERROR **Note: This error is reported as a result of a failed burn**	a) The file that was being burned was modified while the burn was in progress	a) Make sure that the file in question is not being modified and ready to be burned