

CMI Series 2000 BioScan Terminal

Supported BIOS	Supported Flash:	Supported BIOS Reader:
BIOS PS00272 BIOS PS00272A BIOS PS00272B (And higher)	2X20 VFD: 250-011B (or later) 2X24 LCD: 251-011B (or later)	PS00270D PS00276 (and higher)

Enroll Employees and Maintain Templates at the Clock

After the BioScan clock is configured in the ADI Time® software, a “Set Switches” operation is performed through the Clock Communications program to send the configuration to the clock. Employee templates can then be captured and maintained at the clock.

Template Maintenance Function at the Clock – Getting Started

The function key to be used for enrollment and maintenance will have been configured in the clock setup. Press this function key on the clock.

Prompt: “**Enter Supervisor Bdg**” will appear [if ADI Time has been configured to download Supervisor badges to the clock; if not, this prompt will not be seen.].

Key in the Supervisor badge number and press the Enter key.

The terminal will display a “**Not In Database**” message if the Supervisor badge number is invalid.

Prompt: “**Enter Password**” will appear. This is the password configured on the Reader Tab of the Clock configuration.

Key in the password and press the Enter key.

The terminal will display one of the following messages if the Password is invalid: “**Not In Database**”, “**Too Few Char**” or “**Error**”.

Prompt: “**Scroll Menu Option**” will appear. Use the Up and Down arrow keys to scroll through the options. Press the Enter Key to select the desired option.

Option 1: Enroll a User

Comment [LWY1]: The prompt is “Enroll a User”.

The enrollment sequence captures the Clock ID and employee finger template. Note that the employee’s Clock ID does not have to be downloaded to the clock prior to enrollment. However, if Badge Validation has been activated, be aware that the employee can be enrolled but cannot start punching until his/her badge number has been downloaded to the clock.

Prompt: “**Enter Badge Number**”. Key in the employee’s Clock ID and press the Enter key.

Prompt: “**Touch Sensor**”. The employee places his/her finger on the sensor plate and leaves it there until the “**Processing**” message appears. A separate document describes the correct position of the finger on the sensor plate.

Responses from the Enrollment process:

“**ID Accepted**”: indicates that the template has been created. The “Valid” light will also blink.

“**Low Quality**”/“**Low Content**”: indicates that the finger image was not satisfactory. Employee should reposition his/her finger or attempt to enroll with a different finger. If a satisfactory reading is not accomplished after several tries, enroll the employee using the “Difficult Enroll” option (described below).

“**Invalid Finger**”: indicates the employee has already enrolled the maximum number of templates allowed per configuration.

Option 2: Difficult Enroll

This option is used to enroll an employee when a template cannot be created using the “Enroll a User” option. It uses a lower standard when reading the finger image.

Comment [LWY2]: The prompt is “Difficult Enroll”.

Comment [LWY3]: The prompt is “Enroll a User”.

The prompts are the same as described above for the “Enrollment” option.

Option 3: Delete Template(s) for a User

This option is used to delete all templates in the clock for an employee. This option also applies when the employee has enrolled with the maximum number of templates, but needs to re-enroll with new images for some reason.

Prompt: “**Badge Number to DEL:**” Key in the clock ID for which the templates are to be deleted.

Responses from the Deletion process:

“**Delete in Process**” indicates that the clock memory is being scanned for templates for this employee

“**Template Deleted**” indicates the deletion process has finished. This message will be displayed whether or not any templates were found. If the employee table was downloaded to the clock, the employee’s name will also be displayed.

Comment [LWY4]: Any templates were found

Option 4: Query a User

This function is used to find out if the clock has any templates for an employee.

Prompt: “**Badge to Query**”. Key in the clock ID for which templates are to be found.

Response from the Query process:

“**Query in Process**” indicates that the clock memory is being scanned for templates for this employee.

“**ID Not Found**” is displayed if there are no templates for the specified clock ID

“**Template Valid**” is displayed if a template was found for the specified clock ID.

Option 5: Query # of Users

This function is used to query the total number of templates in the clock memory. It also displays the maximum number of templates the memory can hold.

Comment [LWY5]: The prompt is “Query # of users”. *Remove the quotation mark.*

Response from the Query process:

“**Query in Process**” indicates the clock memory is being scanned.

“**Enter or Clear**” on the first line, followed by “**NNNNXXXX**” on the second line. (NNNN is the total number of templates stored in the clock memory. XXXX is the maximum number of templates the clock can store.)

Press Enter or Clear to return to the “Enroll a User” prompt.

Option 6: Set Quality Level

There are rare instances when an employee cannot be enrolled at the clock, even when following the “Difficult Enrollment” process. If none of the user’s fingers produce a satisfactory reading, go to “Set Quality Level” to reduce the quality level of the enrollment (the reverse is also true: if looking for a more secure situation, use this function to increase the quality level.).

If reducing the quality level to get a reading on an individual, be sure (once you’ve succeeded) to reset the quality level to its default level (50). This will ensure proper security of subsequent enrollments.

The response once you select this option:



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“Set Quality (00-99)”. The quality level is entered in two digits. Again, the default quality level is 50. By entering a number lower than 50, you reduce the quality level and loosen security restrictions proportionately. Try to make the change as incremental as possible.

“Quality Level Set” indicates the reader has accepted the quality level entered.

Note: The prompt goes to “Enroll User” after displaying “Quality Level Set.” Most likely you would return to “Difficult Enrollment” to enroll the difficult fingers, now with lower quality level. Once that is done, please use this option to reset the quality level to 50. Afterward, the host will reset the quality level to the default value 50 during the polling process each time it senses that an enrollment with a lower quality occurred at the clock.

Option 7: Exit

Use this function to exit the template maintenance menu and return to an Idle state.

Template Maintenance Function – Finishing

The terminal will time out if no data is entered after a certain number of seconds (defined on the clock setup setting tab as “Response Time Out”). The only exception to this is the “Query # of Users option; for this option, the clock will wait for the “Enter” or “Clear” key to be pressed before returning to the Idle state.

**See following pages on Polling the BioScan Clock
And Template Management**

POLLING BioScan Clocks

The CMI BioScan clocks should be polled ONE AT A TIME. Because of the structure of the CMITemplate.txt file, there is the possibility of a conflict if multiple polling sessions attempt to update the CMITemplate.txt file concurrently.

TEMPLATE MANAGEMENT

□ Overview

It is important to understand how the system manages templates, so the proper Process Selection options can be set in the Clock Communication program.

The templates that are enrolled at the clock and then polled are stored in the “host database”: a text file named “CMITemplate.txt”, which is stored in the data directory specified in the Labor32.ini file. Each template is a 713-byte record. The first 9-bytes contain the clock ID, followed by 704-bytes of the template data. By checking the size of “CMITemplate.txt” file, the number of templates saved in the Host database can be calculated.

The newly-enrolled templates are stored in the clock’s transaction buffer and are flagged as “New”. Once they are polled, they are not “New Templates” any more and therefore will not be polled again when the Process Selection is set to “Poll New”. If the templates are polled but the host database is not updated for some reason, be aware that the templates were stored in the Punch Archive file when they were polled, and can be retrieved from that file if necessary.

If the clock ID for polled templates has not been assigned to an employee profile, the “Poll New Templates” function will poll and save the templates for the ID in the host database. In this case, the templates are safely retained and can be downloaded to the clocks once the clock ID has been assigned to an employee profile.

□ Number of Templates per Employee

On the reader tab of the clock setup configuration, the reader type is set to “BioScan”. By setting this reader type, the system activates the functionality and features for the Bio-Reader.

A related parameter is “Template Per Employee”; this controls the maximum number of templates per employee that can be stored in both the clock memory and the host database. The default value for “Templates Per Employee” is 5; the maximum number is 10. Please note that this number is set before any templates are sent to the clock. In order to change this setting, “Remove All Before Download” has to be checked at the Process Selection in the clock communication manager (LabCom32), and a Set Switch process has to be done using the Clock Communications program (LabCom32).

Comment [LWY6]: a process of “Set Switch” has to be done.

Once the templates are stored in the host database, changing the number of templates per employee in the system may create some inconsistencies in the host database; for some employees, the number of templates may exceed the “Template Per Employee” set on the reader tab. However, this inconsistency will be eliminated when the templates for the employee are polled again from the clocks.

□ Polling Templates Into ADI Time System

Once the customer begins to enroll templates at the clocks, the standard procedure is to poll the NEW templates into the host database, both for a backup and as the source to be downloaded to other clocks. Other Process Selection settings will be used when the standard procedure does not apply. A description of the possible Process Selection settings follows:



- **Poll New Templates, Replace**

The default setting for template polling is “**Poll New Templates**” and “**Replace**”. With this setting in the Process Selection, every newly-enrolled template at the clock will be polled and saved to the host database during the polling process. The time stamp for the newly-enrolled templates is the date/time the templates were enrolled at the clock.

For the following sequence of events, assume that this is an employee who has never been enrolled at the BioScan clock:

- ❑ Enroll N templates for the employee clock ID at the clock ($N \leq$ “Template per Employee” which is enforced by the clock). The polling process will poll N templates from the clock and store them in the host database;
 - ❑ Enroll one more template at the clock for the ID. This newly-enrolled template will be polled and appended to the host database. Now the host database has total of $N+1$ templates for the ID.
 - ❑ If, for some reason, it is necessary to re-enroll all the templates for the ID, all the templates for the ID can be removed at the clock and then the employee can be re-enrolled.
- If the number of templates re-enrolled for the clock ID is the same as the total number of templates in the host database, after polling, the templates re-enrolled at the clock will replace all the templates in the host database for the ID.
 - If the number of templates re-enrolled for the ID is more than the total number of the templates in the host database, the templates re-enrolled at the clock will replace the same number of templates in the host database. In addition, the extra templates from the clock will be appended to the host database provided the total number of the templates does not exceed the “Template Per Employee” setting.
 - If the number of templates re-enrolled for the ID is less than the total number of templates in the host database, the templates re-enrolled at the clock will replace the same number of templates in the host database. The extra templates in the host database will be removed.

- **Poll New Templates, Replace from the Archive File**

Whenever templates are polled, they are stored in the punch archive file. They can be retrieved from the archive file if necessary, in the event that the host database was not updated during the standard polling process. In this case, the Process Selections are changed and a manual polling is done to update the host database with the templates from the archive file.

Note that the templates are retained in the archive file only for the number of days specified as in the “Archive Days” field on the clock setup setting tab.

- **Poll All Templates, Replace**

If we do not know whether the host database contains all the templates for all employees, or we want to retrieve templates from a clock for all employees to refresh the contents of the host database, we can “Poll All Templates” from the clock. Please be aware that the “Poll All Templates” function polls the templates for the clock IDs that are in the ADI Time system and are associated with that clock setup. It will not poll the templates for clock IDs that have not been assigned to an employee profile in the ADI Time system. The time stamp associated with the templates will be the date/time the polling takes place.

If the host database file (CMITemplate.txt) needs to be recreated for some reason from the templates in a clock, it can be done with this setting. First, backup the existing CMITemplate.txt file, then delete the CMITemplate.txt file from the data directory. Perform a “Poll All Templates”; this will recreate a new “CMITempalte.txt” file.

Comment [LWY7]: Remove the underline??



- **Poll New Templates, Not Replace**

At the initial stage of the enrollment, if an employee can enroll his/her templates at a different clock, all the newly enrolled templates can be saved to the host database by selecting “Poll New Templates” and leaving “Replace” unchecked.

- **Poll All Templates, Not Replace**

Poll the templates from the clock and append them to the host database. |

Comment [LWY8]: Poll the templates from the clock and append the template data to the host database. This option will hardly used.

- **Download Templates to the Clocks**

Once templates have been polled and saved to the host database, the templates for an employee can be downloaded to all clocks the employee is designated to use.

- **Download New Templates, Replace**

This is the default setting. During the download process, the system checks for new templates by comparing the time stamp of each template with the time of last download. If there is any template with a more recent time stamp than the last download time for the ID, all the templates in the host database for that clock ID will be downloaded and they will replace the templates for the ID at the clock.

- **Download New Templates, Not Replace**

During the download process, the system downloads templates with a time stamp later than the last download time. The template is appended to the clock provided that the total number of the templates in the clock for the ID has not exceeded the value set as “Template Per Employee”. This option is best used at the beginning stage of the enrollment. **We always use one clock to do the enrollment and always update the rest of the clocks with the new enrolled templates.** Using this option, the download process takes the least amount of time to update the templates in the rest of clocks. However, this option may store duplicate templates to the clock if all the templates for an ID are re-enrolled at the enrolling clock.

- **Download All Templates, Replace**

With this option, the system downloads all the templates for the employees assigned to the clock. The templates from the host database replace the templates in the clock for the ID.

- **Download All Templates, Not Replace**

With this option, the system appends all the templates from the host database to the clock for the employees who are assigned to the clock. This may be used when we want to combine the templates from two clocks together and when “Template Per Employee” is larger than the number of templates combined in two clocks for majority of employees.

- **Remove All Before Download**

This option is used to remove obsolete templates from the clock. If the employee turnover rate is high, a large number of unused templates may be stored in the clock. Periodically, all templates should be removed from the clock and then a download of all templates should be done to load templates for active employees.

This option only works with the “Download All Templates” setting. It is deactivated when “Download New Templates” is performed to prevent removing any useful data.

To change the setting of “Template Per Employee” in the clock, it is necessary to first remove all the templates in the clock; this is done by checking the “Remove All Before Download” field and running the Set Switches process.

Be careful when choosing “Remove All Before Download”. Make sure that the host database contains all the templates; templates in the clock that have not been polled will be lost.

The default setting for “Remove All Before Download” is unchecked.