

X4: How to Backup Program Using Clone Unit

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1. Overview

The 'Clone Unit' feature allows the user to "clone" the OCS of the *exact same* model. This feature "clones" application program and unit settings stored in Battery backed RAM of an OCS into the RM. It can then be used to clone a different OCS (exact same model).

This feature can be used for:

- Replacing an OCS by another unit of the same model.
- Duplicating or "clone" units without a PC.

2. Resources

For further information on this controller, please refer to the following documents on our website: www.hornerautomation.com .

User Manual: **MAN1137**

Datasheet: **MAN1138**

3. Make Clone

User must perform the following sequence of action to Clone a unit:

1. The 'Clone Unit' can be accessed by going to the 'System Menu' of the OCS. A new menu 'Clone Unit' has been added at the end of the main system menu as shown below:

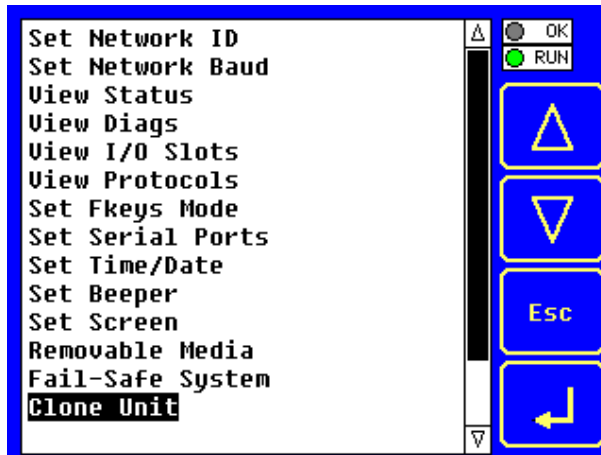


Figure 1 - System Menu

2. Selecting 'Clone Unit' menu will open the following screen:

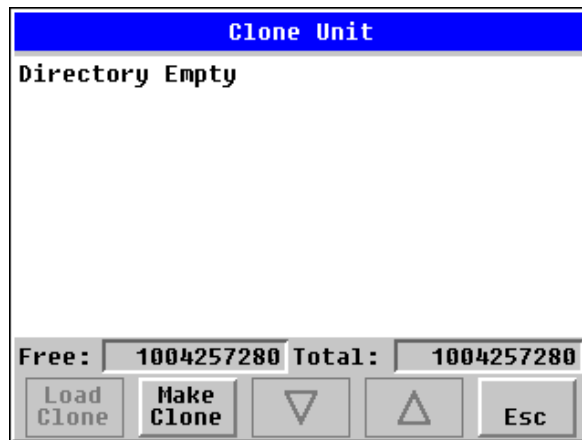


Figure 2 - Clone Unit Menu before Cloning

NOTE: In the above Figure 2, F3 and F4 are inactive in the clone Unit.

3. Make/Create Clone option enables the user to duplicate / Clone an application file, all unit settings and all register values from Battery Backed RAM.

Selecting 'Make Clone' brings up the screen below:

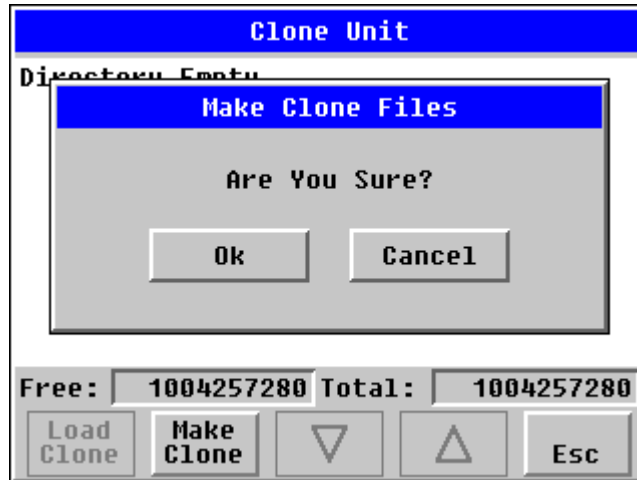


Figure 3 - Clone Unit Confirm Screen

After confirmation, the OCS will create two new files in the root directory of the Removable Media Drive as shown below:

AUTOLOAD.PGM	Application file
CLONE.DAT	File having all unit settings and register values from Battery Backed RAM

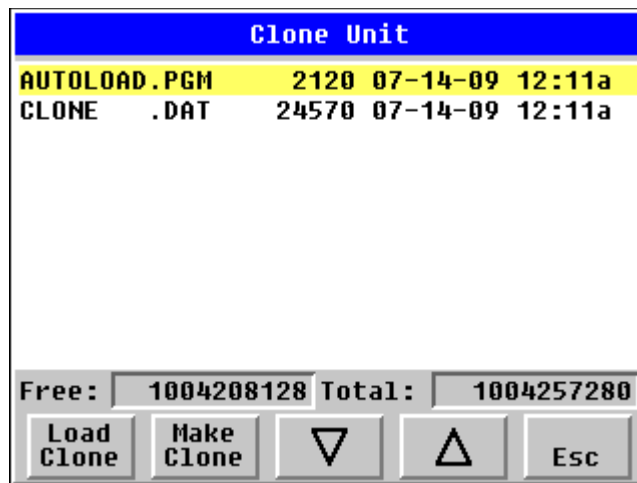


Figure 4 - Clone Unit Files

NOTE: Make/Create clone operation automatically includes the security in AUTOLOAD.PGM file for security enabled files.

- Once the cloning is successful, the OCS gives a message as below:

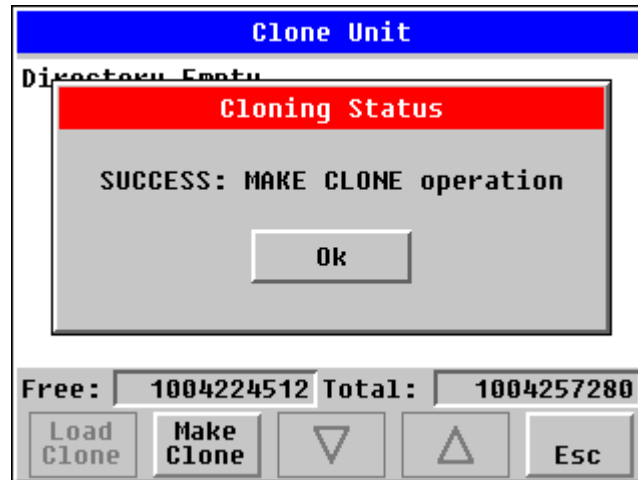


Figure 5 - Cloning Status

Make/Create clone can also be triggered by setting %SR164.9 bit to '1' from Ladder program or graphics. Once the operation is completed, this bit is made zero (0) by the firmware. When Make clone operation is triggered by this SR bit, it does not ask the user for confirmation to make the clone. The success / failure of the operation is also not notified on screen to the user. In case of failure of 'Make Clone' operation, %SR164.11 bit is set to '1' by the firmware and never reset.

NOTE: Backup of registers in flash memory is not performed by the Clone Feature.

4. Load Clone

This option loads the application, all unit settings and register values from Removable Media to the battery-backed RAM (regardless of AutoLoad settings), and then resets the OCS for the settings to take effect.

User must perform the following to Load the Clone:

1. Select 'Clone Unit' from main system menu of OCS as shown below:

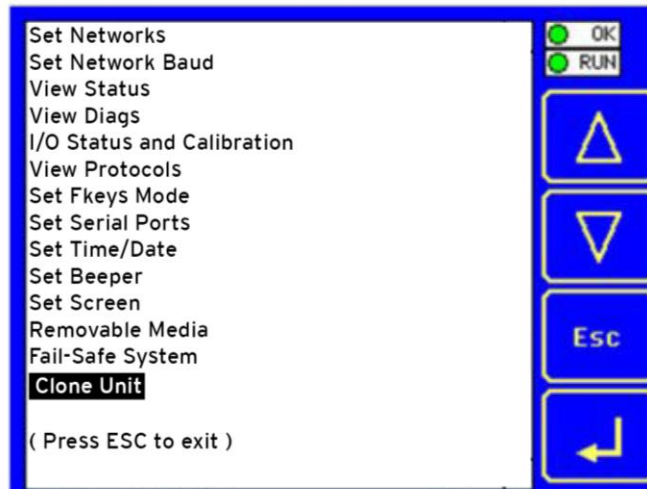


Figure 6 - System Menu

2. Selecting 'Clone Unit' menu will open the following menu screen. Select 'Load Clone'.

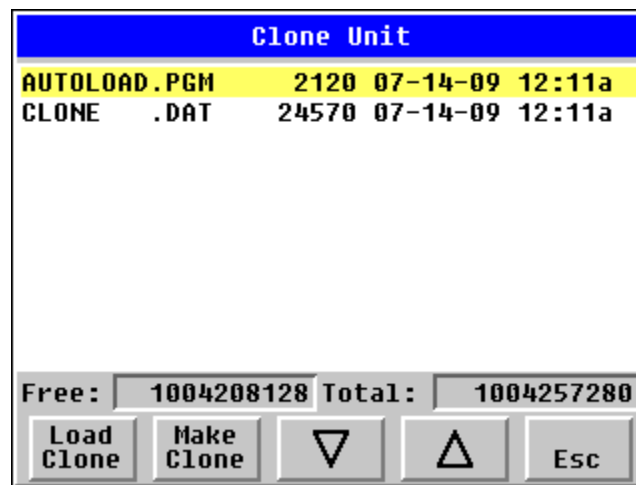


Figure 7 - Clone Unit Menu after Cloning

3. User must confirm Load Clone as shown below:

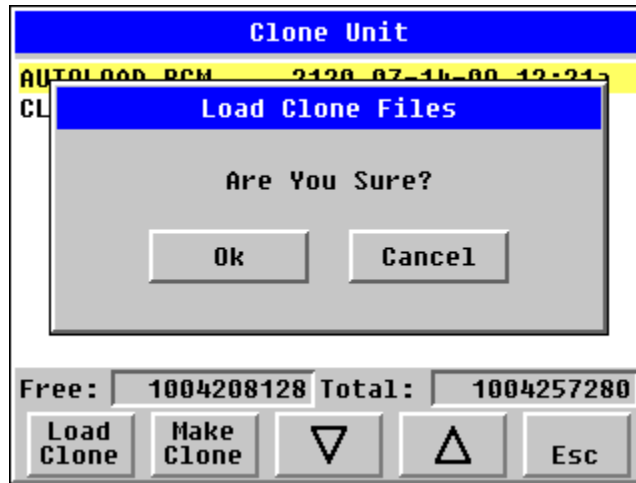


Figure 8 - Load Clone Confirm Screen

4. After confirmation, all unit settings and register values will be loaded from the Removable media to the Battery backed RAM (Regardless of AutoLoad settings) and then the OCS resets at which stage the settings take effect.

NOTE: For security-enabled files, Load Clone asks for password validation before loading the application.

Load Clone can also be triggered by setting %SR164.10 bit to '1' from Ladder program or graphics. Once the operation is completed, this bit is made zero by the firmware. When the Load Clone operation is triggered by this SR bit, it does not ask the user for confirmation to load the clone. The success / failure of the operation is not notified on the screen to the user.

In case of failure of the 'Load Clone' operation, %SR164.12 bit is set to '1' by the firmware and never reset.

5. Technical Support Contacts

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