

Red Characters in this Document show GP-Pro EX V2.10 new functions.

Version Information

Use this document with:

File name: AGP3650 Sales Demo v210.prx
Date: 9/24/2007
Revision: v2.10
Software: GP-Pro EX v2.10 or newer

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Changing the Touch Buzzer

To turn the Touch Buzzer ON or OFF follow the steps below:

- 1) Go to the AGP Offline menu
- 2) Go to “Main Unit Settings”, “Operation Settings”
- 3) Set “Touch Buzzer Sound” to “Enable” or “Disable” as required.

Adjusting the Standby Mode time

To adjust the Standby Mode time follow the steps below:

- 1) Go to the AGP Offline menu
- 2) Go to “Main Unit Settings”, “Screen Settings”
- 3) In “Standby Mode Time” enter the number of minutes until the AGP goes into standby mode

Installing the demo application on the AGP3650T

BY GP-Pro EX V2.10

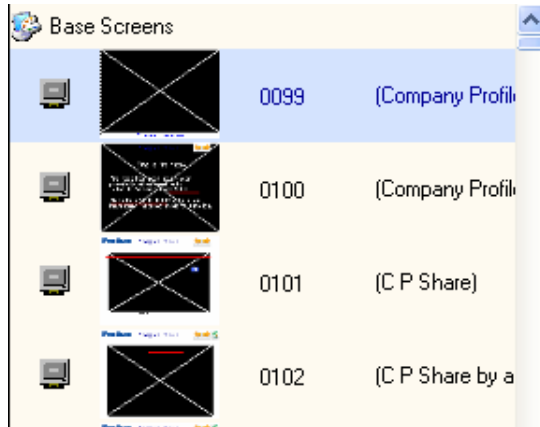
- 1) Use your web browser to connect to the Pro-face Partners Login and download the latest version of the “AGP3650 Sales Demo V210.zip” and “AGP3650 Sales Demo Manual v210.pdf” using the “Pro-face Demo Applications”, “AGP Sales Demo” links. After the download completes extract the files and folders from the zip file.
- 2) Ensure you are using the latest version of GP-Pro EX, Version 2.10 is required.



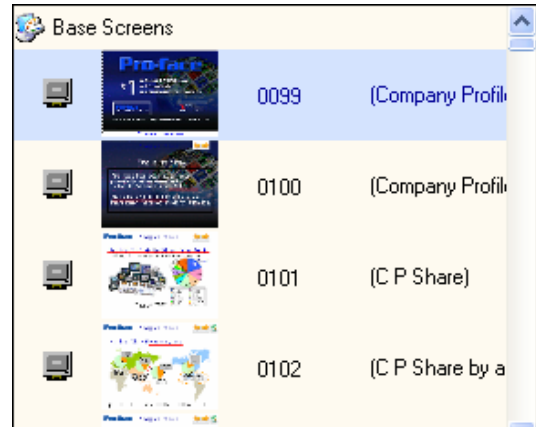
- 3) When you first open the demo project the CF Card Output Folder might not point to the CF Card folder that came with the demo distribution files. If the Screen List in GP-Pro EX looks like Fig. 1a below you will need to correctly set the CF Card Output Folder. (note that you may have to use the “change display mode” icon at the top of the screen list to show the screen preview) If the Screen List looks like Fig. 1b you can skip this step and go to Step 4

Fig. 1a

Fig. 1b



CF Card Folder not selected



CF Card Folder set correctly

To change the CF Card Output Folder go to “Project”, “Information”, “Destination Folder”, use the “Reference” button to open the “Browse...” screen (Fig. 1c) and select the folder that contains folders called “data”, “file”, “JPEG” and “MOVIE”. Click “OK” to continue.

* If you can not set this well, please create “temp” folder under C driver like “C:\temp\” and paste the “AGP3650 Sales Demo V210” folder which was crated by decompression “AGP3650 Sales Demo V210.zip” like (Fig. 1d)

Note that you will now have to save the project, shutdown GP-Pro EX completely and restart it for the CF Card Folder change to take effect.

Fig. 1c

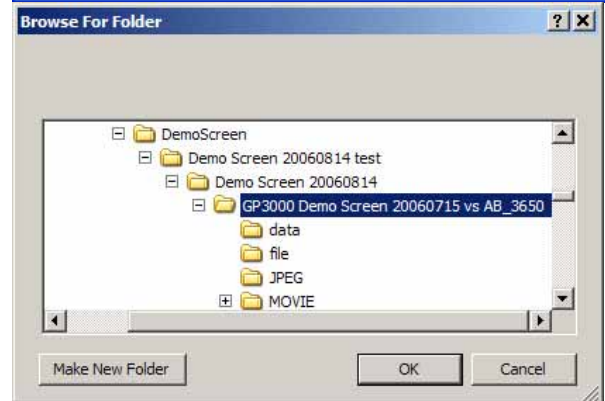
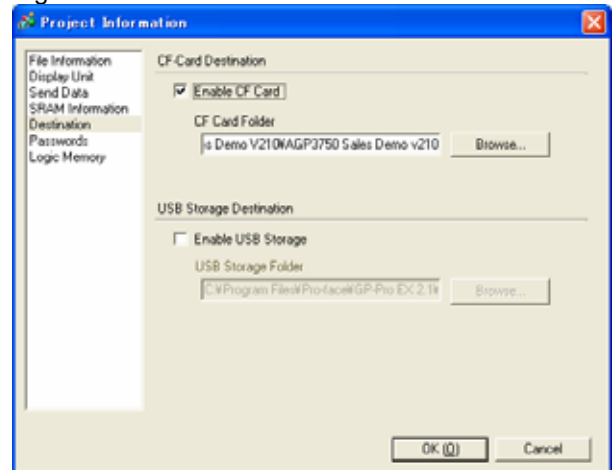
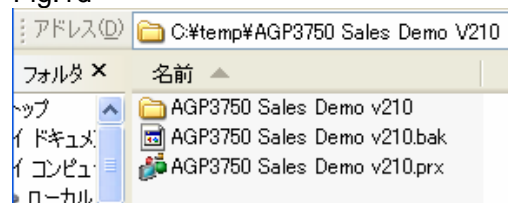


Fig.1d



- 4) Use the "Transfer Project" icon on the Top or go to "Project", "Transfer Project" to download the project.
- 5) Copy the contents of the JPEG and MOVIE folders manually into the folders as shown in Fig. 1c. Not all of the images and movies in these folders are copied to the CF Card during a regular download.

The reason for this is that a number of these files were added to be used for display purposes only and are not linked to any specific object in GP-Pro EX (which would cause them to be included in a regular download) You can copy the folders to the CF Card in a number of ways

BY Memory Loader Tool

- 1) Copy the all files in "AGP3650 Sales Demo v210" folder to CF card or USB Memory Stick
- 2) Insert the CF card or USB Memory stick to GP3650
- 3) Touch upper right and bottom left in 0.5s, and then you can see the menu on GP3000.
- 4) Touch "CF/USB"
- 5) Click "CF_Starting" or "USB_Starting"
- 6) And then you can execute the Memory Loader Tool.
- 7) Touch "Download (CF->Display)"
- 8) Touch "Select File"
- 9) Touch "MEM3X50.CML"
- 10) Confirm the File Info AGP-3650, PFA 12.1" Demo Screen
- 11) Touch "Enter"
- 12) Touch "Start"

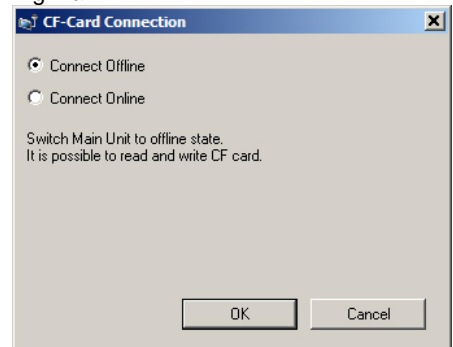
Method 1: Using an external CF Card reader

Power down the AGP remove the CF Card, place it in a card reader connected to your PC. (You can use a USB card reader, a PCMCIA CF Card adapter or a CF Card slot in a printer) After the CF Card is recognized by your PC as a removable drive or device use Windows Explorer to copy the files from the “AGP3650 Sales Demo v210” folder to the CF Card. Remove the CF Card from the reader and place it in the AGP.

Method 2: Using the CF-Card Connection in GP-Pro EX

An easier although slower way in which you do not have to use a special card reader is to connect to the AGP using the transfer window after you finish downloading the project file. After the download completes close the “Send Project” screen but do not close the “Transfer Tool”. Click the [CF Card Connection] button , select the “Connect Offline” option (Fig. 2b) and click [OK].

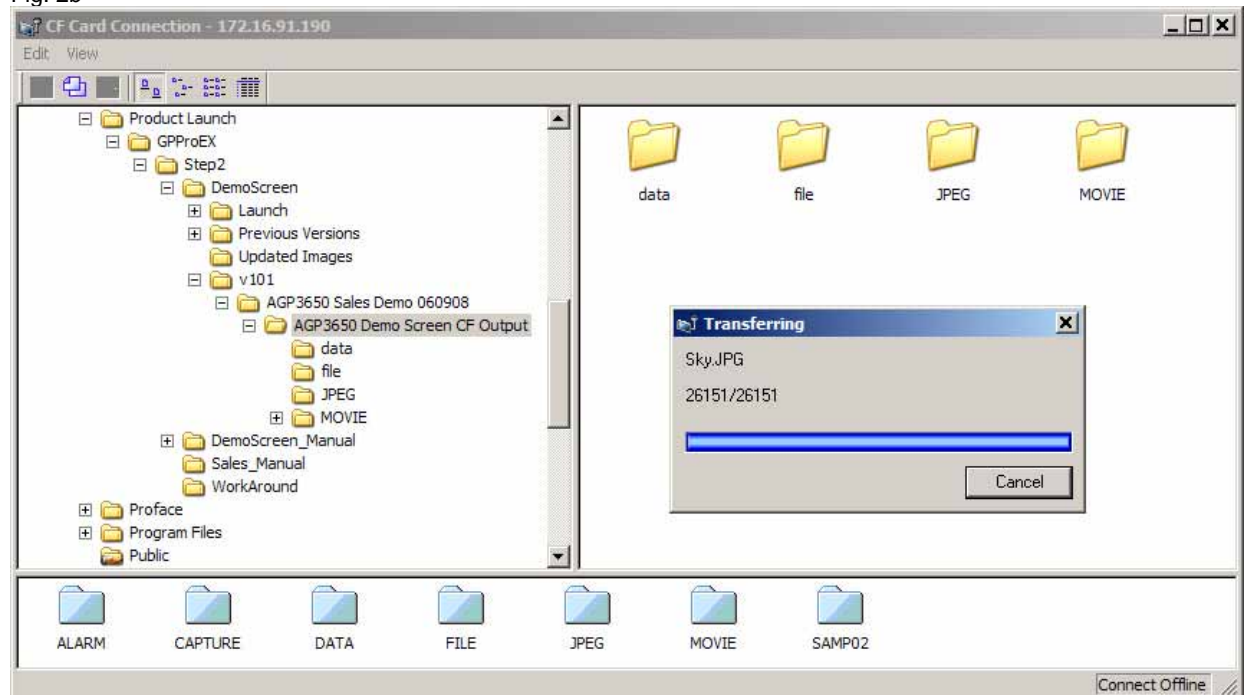
Fig. 2a



Select the IP address of the AGP that you want to connect to and wait until the AGP Screen displays the “Data Transfer” message.

The CF Card Connection window (Fig. 2b) is automatically opened on your PC. In the upper left hand portion of the screen browse to the folder called “CF3650”, when you click on this folder the upper right hand side of the windows should display the folders as seen in Fig. 2b. Select the JPEG, data and MOVIE folder and drag them to the lower portion of the window which represents the files on the CF Card in the AGP. When asked to overwrite existing files click “yes all” and wait for the transfer to finish. Click the [X] in the upper right hand corner of the window to disconnect from the AGP.

Fig. 2b



Screen Background General

<p>Screen 901– Main Menu V210</p> <p>Gives access to the 5 major portions of the Sales Demo:</p> <ul style="list-style-type: none"> - STANDARD HMI - MULTIMEDIA HMI - CONTROL HMI - GP-Pro EX - GP-Viewer EX, Remote PC Access - Pro-Server EX 	
<p>Screen 1999 – Stand-by Mode</p> <p>The stand by mode screen is shown after a preset timer elapses if there has been no touch, no alarm and no communication error. If any of these event occur the timer will reset itself.</p> <p>Click the screen to return to the last page that was displayed before the time out.</p> <p>Go to the Offline Menu, “Main Unit Settings”, “Screen Settings” to change the “Standby Mode Time”.</p> <p>A Screen saver is not required for the AGP but you can use this function to return to a preset mane after a certain time or to show your company logo (optionally animated)</p>	

Screen Background – Company Profile

<p>Screen 99 – Introduction Brand Awareness</p> <p>Increase Brand Awareness</p>	
<p>Screen 100 – Introduction of Pro-face history</p> <p>We have long history, not beginner. And we sold lots of units in united states.</p>	
<p>Screen 101 – Pro-face #1 Market Share</p> <p>We are No. 1 HMI player in the world. More than Rockwell, More than Siemens.</p> <p>This data came from 2007 IMS research which is published based on 2006 sales results.</p>	
<p>Screen 105 – Worldwide Sales & Support office</p>	

<p>Pro-face have a sales & support office over the world. When you export your equipment to oversea, we can do support.</p> <p>And when you need products immediately over there, we can provide them from oversea offices.</p>	
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<p>Screen 106 – Worldwide Support Services</p>	
<p>If exporting product is important Pro-face offers the same services, from sales and support to training and repair wherever you buy a Pro-face HMI. The same software, hardware and part numbers are used worldwide guaranteeing consistency.</p> <p>Wherever you deploy a Pro-face panel you have local replacement parts and support in the local language in place.</p>	

Screen Background – STANDAD HMI

<p>Screen 202 – Standard HMI line-up</p>	
<p>Standard HMI Any 3x0x AGP without Multimedia or Control. NEW: AST3201S & AST3302B Customer need to purchase 5 pcs of these models.</p> <ul style="list-style-type: none"> - “Without Multimedia” means no built-in video input and no sound input. Sound output and the 4 channel video module is available on select units - “Without control” means no FlexNetwork, Built-in I/O or CANopen you CAN use the GP-Pro EX Logic with any Serial or Ethernet driver. No other HMI offers this flexibility and power 	

<p>Screen 202 – Standard HMI interface</p>	
<p>Standard connectivity Serial : PLC, Controller, Drive (By Modbus RTU) Ethernet : PLC, Screen Download, PC (RPA, GP-Viewer EX, Pro-Server EX, FTP connection, Web Server, etc), Drive (Modbus RTU), USB : several devices Etc</p>	

<p>Screen 231 – Standard HMI USB</p> <p>Connect several devices, Epson styles 260, Barcode reader , USB Memory, etc.</p> <p>USB Memory : Be used for the same items already available for the CF Card. (Data Logging, Recipes, Trend Data, Alarm Logs, Movies, JPEG, Project Downloads, etc)</p>	
<p>Screen 430 – Standard HMI CF card <-> USB Memory data handling</p> <p>Copy the Alarm history data, Logging data, etc from CF card to USB memory stick. Or you can upload New Recipe files of Image files to CF card from USB memory stick.</p> <p>No need to stop the machine, because you can copy the data on-line.</p>	
<p>Screen 232 – Standard HMI Serial interface</p> <p>Serial Interface PLC : several New PLC drivers are added. These listed PLC were already supported, and some one will be supported until End of Dec, 2007. Controller : Several Drives are supported by Modbus RTU drivers, So far ABB, Rockwell, Hitachi, Yaskawa are passed the evaluation test. For more detail, please check Otasuke Library.</p> <p>Rockwell PLC Native Tag Drivers are supported, Tag Import Utility also supported (L5K file import), For more detail info, please contact Marketing Team.</p> <p>For the latest updates visit www.pro-face.com/otasuke</p>	

<p>Screen 241 – Standard HMI Multi PLC connections</p> <p>3.8" & 5.7" are up to 2 drivers, the others are up to 4 drivers. Driver + Motor is available by Modbus RTU</p>	<p>Pro-face STANDARD HMI</p> <p>Communications capability</p> <p>Communicate with up to 4 different type of controllers simultaneously.</p>
<p>Screen 233 – Standard HMI Other interfaces</p> <p>CF card, VM units, etc</p>	<p>Pro-face STANDARD HMI</p> <p>Other interfaces</p> <p>You can connect with many types of devices</p> <ul style="list-style-type: none"> Compact Flash Card Expansion BUS PROFIBUS Bus VM Unit BUS
<p>Screen 238 – Standard HMI VM units</p> <p>Old VM units + GP3000</p> <p>You can show GP3000 Screens to PC through RGB OUT, or connect up to 4 cameras to GP3000.</p> <p>* Only 12" & 10" TFT model can use this VM units, 15" can not use. <Mmodel No: GP2000-VM41></p>	<p>Pro-face STANDARD HMI</p> <p>Video Module interface</p> <p>4 video-in & RGB-in/out</p>
<p>Screen 243 – Standard HMI Web Server</p> <p>When you type GP3000 IP address by Internet Explorer, you can see GP3000's conditions,</p> <ul style="list-style-type: none"> - Runtime version, When it was downloaded, etc. - PLC device monitor - Alarm condition, - FTP connection - Etc. <p>This function need CF card.</p> <p><u><i>*If you type GP3000 IP address, you can see it, it's already set up this demo.</i></u></p> <p><i>1. Connect your PC and GP3650 via Ethernet.</i></p>	<p>Pro-face STANDARD HMI</p> <p>Web Server Functions</p> <p>Monitor internal device values</p> <ul style="list-style-type: none"> Check the Operating system version See Alarm history Check control the Controller's value Monitor the I/O or VFD status

2. Type IP address of GP3650 on URL of Internet Explorer..
3. You can see the web server.

FTP connection,

You can access to CF card on GP3000 by using Explorer via Ethernet.

So now you don't need to use Pro-Server Ex or Transfer Tool to access CF card.

**If you type GP3000 IP address, you can see it, it's already set up this demo.*

1. Connect your PC and GP3650 via Ethernet.
2. Type IP address on Explorer, then Enter
 <ig : "ftp://192.168.1.1" >.
3. You can see the folder of CF card.

Screen 240 – Standard HMI Capability

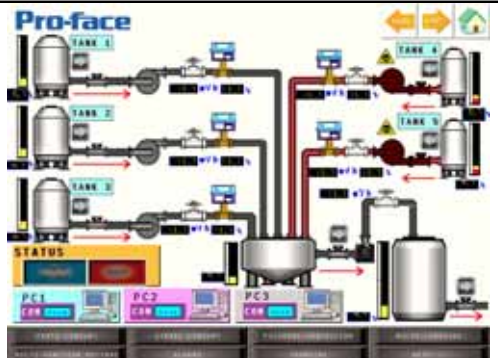
High Speed Logging, Screen display, Communications, etc



Screen 801 – Application Example

Boil flow application

Several beautiful Tank parts, pipe, valve and 7 segment numeric display.



Screen 801 – Application Example + Parts

This screen displays some of our pre made Switch and Lamp parts including 2 state pumps, motors, blowers, valves and tanks.
 Symbolic parts are a great way to convey a message that is understood in any language. Symbolic Parts & Sign Images (Warning) can be used on lamps or switches.
 It also shows how you can make you own switches using your own images for up to 16 button states + an interlock state.

(Touch any object to change states)



Screen 801 – Application Example + Symbol Library

Several graphic image are prepared.

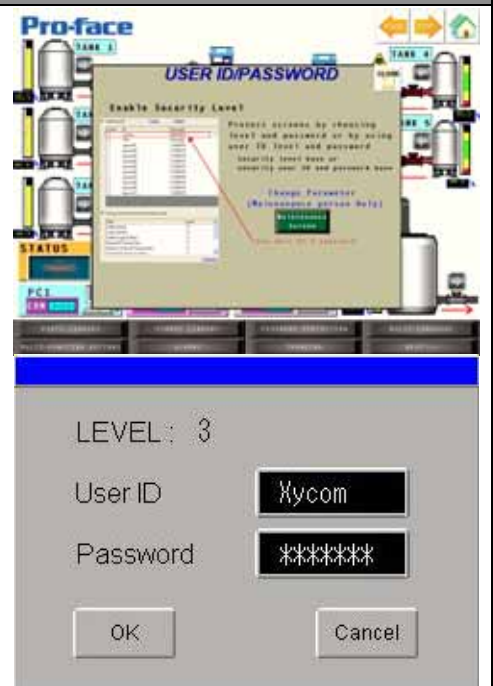


Screen 801 – Application Example + Password Protection

Protect by **User ID + password.**
 Max 64 user can register.

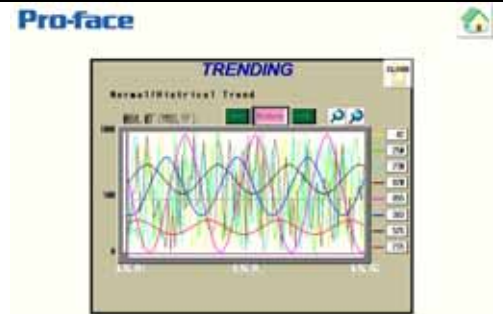
To Pass this password
 User ID : Xycom
 Password : ABCDEFG
 * Need to care about capital or not.

You can delete, add, change user ID & password by offline-menu.

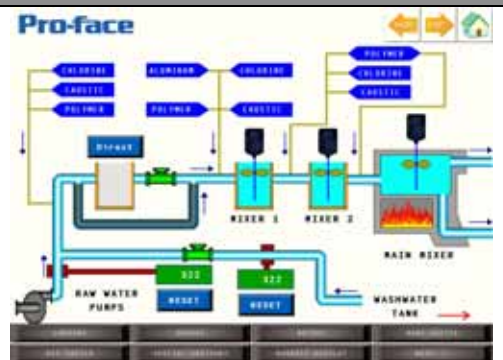


<p>Screen 801 – Application Example + Multi Language GP3000 can show English, Spanish, French, Chinese, Korea, Japanese, etc. Alarm Massage, Lamp, Text, etc any where you use.</p>	
<p>Screen 801 – Application Example + Multi Function Switch Tired of writing ladder logic, scripts or even stacking buttons on top of each other to perform a variety of functions to for example initialize a new product run? The Multi Function switch allows you to combine up to 16 functions in a single switch. Change discrete and integer values and move to the next screen or prompt the operator for input with the push of one button. Fast and Easy to edit, Transparent: related functions are all found in one object that does not leave you guessing as to where certain functions are triggered from (script or logic).</p>	
<p>Screen 801 – Application Example + Alarm Log, History, Active Alarm Use “Alarm Control” switch to bring up an alarm simulation Touch any Alarm Message in this screen to display a Video Sub-display. (for example: material load tuition video) New : You can show up to 8 devices for each Alarm. This function is very good to analyze error cause & affect to other devices.</p>	
<p>Screen 801 – Application Example + Trend</p>	

Normal or Historical Trend Graph.
 You can show cursor and you can see the device and log time of the cursor point.
 Time display, zoom-in and out is also available.



Screen 802 – Application Example 2
 Liquid plant flow sample

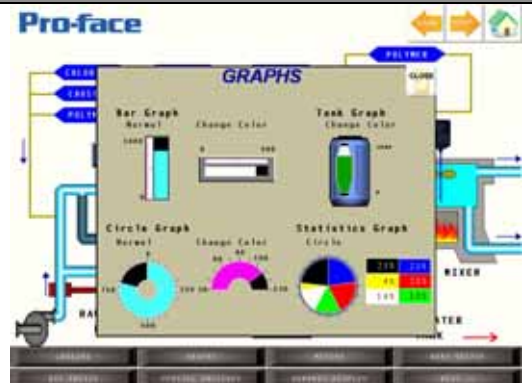


Screen 802 – Application Example 2 + Logging
 You can log every 100m/s, trigger, scheduled time.
 Logging data can be export to CF card as a CSV file.



Screen 802 – Application Example 2 + Graph
 Several Bar, Pie, Tank Graphs are prepared.

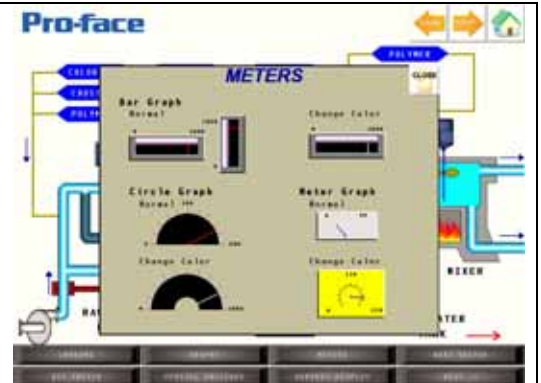
Statistics Graph are prepared too.
 You can change the color by the value.



Screen 802 – Application Example 2 + Meter

Several Bar, Pie, Meters are prepared.

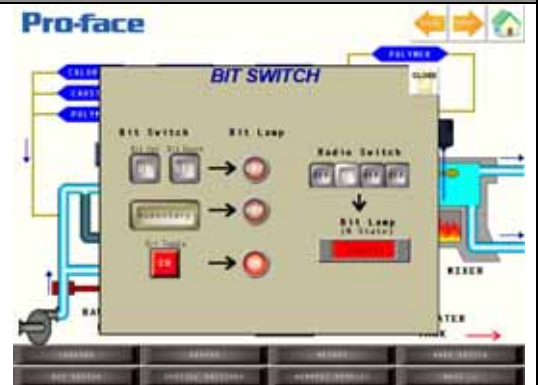
You can change the color by the value.



Screen 802 – Application Example 2 + Word Switch



Screen 802 – Application Example 2 + Bit Switch



Screen 802 – Application Example 2 + Special Switch

Change screen, Open window, Go to Offline, Restart, etc



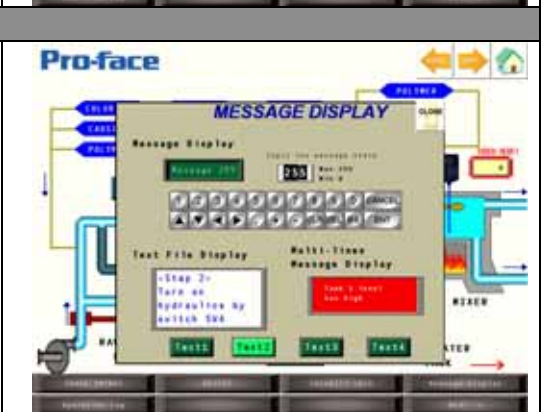
Screen 802 – Application Example 2 + Numeric Display

<p>You can show word data New font : Auto-size font (max character size in the object)</p> <p>You can calculate the value and add units by Numeric Display parts, For example : value 1 + value 2 = value3 value1 mile</p>	
<p>Screen 802 – Application Example 2 + Image file Display JPEG, file can show directly.</p> <p>65535 color TFT</p>	
<p>Screen 802 – Application Example 2 + Recipe Recipe file can make by GP-Pro EX or CSV files.</p> <p>Use of CSV recipes has its main benefit in that it stores its recipes files in CSV format on the CF Card and is easy to edit in software like MS Excel. The internal recipe function stores data on CF Card or in AGP SRAM which makes it suitable for use on AGP's without CF Card I/F (3302) Recipes can be used for any kind of product setup or machine configuration setting, it is not as may seem from the examples in this demo and sometimes understood by customers for food & beverage industries only.</p> <p>USB Memory can now be used like a CF Card</p> <p>New: Float data type are supported,</p>	
<p>Screen 802 – Application Example 2 + Security Lock</p>	

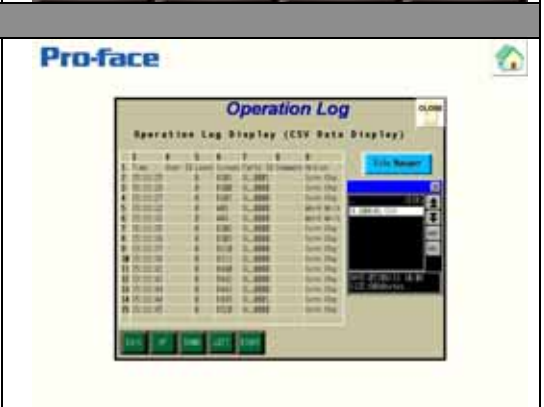
Until unlock the value, switch can not see the operator.
 On delay, Off delay, Double touch



Screen 802 – Application Example 2 + Message Display
 You can show text file contents. So maintenance the contents is very easy, just change txt file in CF card.
New: 256 state lamps have come.



Screen 802 – Application Example 2 + Operation Log
Save operation log to CF card as a CSV file format.
 You can chose what functioun want to log, but you can not chose certain object.
 In this version is only function can chose, for example, Bit switch, Word switch, Change screen, data display, offline, etc.



Screen Background – MULTIMEDIA HMI

Screen 203 – Multimedia HMI line-up

Standard HMI + Multimedia (Video/Sound)
Any 3x50 AGP with Multimedia without Control

- “With Multimedia” means there is one built-in video input and a sound input jack. Sound output and the 4 channel video module can also be used on select units
- “Without control” means no FlexNetwork , Built-in I/O or CANopen you CAN use the GP-Pro EX Logic with any Serial or Ethernet driver. No other HMI offers this flexibility and power



Screen 234 – MULTIMEDIA HMI Camera-in & Sound-put

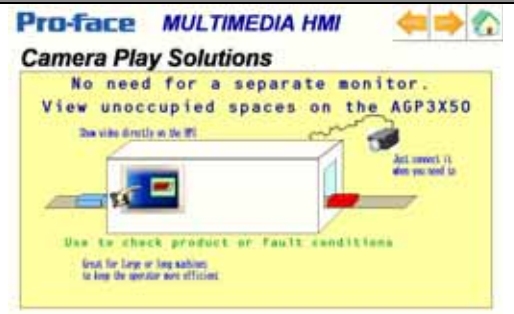
Multimedia model have Video-in port & Sound out port. You can show camera images and sound with out any additional devices.



Screen 547 – Multimedia HMI camera play solutions

Save time and money by **adding live video feeds and the ability to record video and sound** directly on your HMI. No additional hardware (other than camera) is needed. This is a great **“Add On” solution** to your machine

Possible Applications:
Gantry & Robot enclosures, dangerous areas where expensive shutdown is required for inspection, multi story installations, long production lines, processes happening behind the operators back, outdoor security / access cameras integrated into already existing HMI application, Loading Dock monitoring



Screen 547, 393 – Multimedia HMI Play Movie

Play movie can save your time. You can understand how to fix the error or understand how to operate the machine by seeing the video. Video is much easier than manual.



Screen 541– Multimedia HMI Solution1

Play movies on the AGP.
 This is a great function to **reduce training costs, reduce down time** and to **prevent production mistakes**.

- Complex products with many options and variations? Show a video of the end product as the operator should make it.
- Instruction Manuals for simple service tasks? Ass a video that allows anyone to see and listen to how to accomplish the task without the need for printed manuals.
- Mistakes from wrong loading of material? Make a video to show how it is done.



Screen 542 – Multimedia HMI Solution2
 Reduce support calls and down time.
 Use the “Sub display” feature in the GP-Pro EX Alarm system to simply add a video (or text, dynamic objects or images) to all or some alarm messages.
 Take your top 10 faults or support calls for a specific installation or machine and determine if adding a video with fault recovery steps or explanation will **save you time**.
 The quicker the operator can resolve the issue the quicker you or your customer can go back to making product.



Screen 543 – Multimedia HMI Record Screen 1
 Reduce time spend on site, traveling and trouble shooting..
 Use a camera to monitor and record (video and sound) of the actual events leading to machine problems.
 The End User can take the **recorded movie** off the CF Card and **email it to the machine builder** to analyze. The movie could even be recorded to an FTP site directly for the engineer to look at. The person troubleshooting the system now has Video and Audio that might **help prevent going onsite**.



Screen 544 – Multimedia HMI Record Screen 2
 Use the record function to save an **end-of-shift message** from Shift #1 that can now be quickly reviewed at the beginning of the next shift.
 Record either Video and Audio or just use the sound input on the Multimedia AGP3x50 to record a voice message.
 For **ease of use** the operator only has to press one button to record and another to play back the recorded message.



Screen 548 – Multimedia HMI Event Recorder

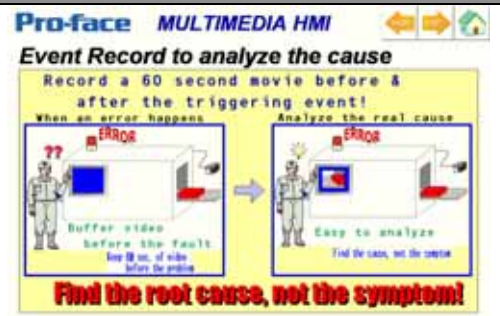
Record the camera images before error has happened. This function is very good to analyze the error cause or make a history to get trend of error.

And this function is good for security log. Because when someone operate image are already recorded.



Screen 545 – Multimedia HMI Record Event recorder solution1

Find the root cause of a problem quick instead of monitoring its symptoms. The Event Recorder allows you to **continuously buffer up to 60 seconds** of video from the Built-in Video I/F on the AGP3x50. Set up a “Watch State” (for example a PLC process start bit) to have the AGP start it’s buffer. Setup events (triggers, alarms) that when triggered while the AGP is on the watch state will record and save up to 60 seconds before and up to 60 seconds after the trigger time allowing you to see what happened **before the error occurred**.



Screen 546 – Multimedia HMI Event recorder solution2

Use the Movie Recording feature to record **who is operating** the machine at any moment or to simply **monitor the functions** that were performed by the operator in order to analyze and **optimize the way the machine works**. The recorded video time and date could be checked against the date stamp in our data logging system which could be used to store for example security (password logon) information.



Screen Background – CONTROL HMI

Screen 204 – Control HMI line-up

Flexnetwork, DIO, **CANopen** model



<p>Screen 235 – Control HMI Flexnetwork, DIO model Interface Image & Flexnetwork line-up</p>	
<p>Screen 239 – Control HMI line-up CANopen model CANopen interface & Module li-up</p>	
<p>Screen 450 – Control HMI Overview Logic can run on HMI See the overview spec.</p>	
<p>Screen 451 – Control HMI functions Note that you do NOT need an AGP with I/O, FlexNetwork or CANopen in order to use the Ladder Logic. Use Ladder to make precision calculation and even bridge values from one device to another device even if they use different serial or Ethernet protocols.</p>	
<p>Screen 452 – Control HMI Logic create operations</p>	

<p>Drag & Drop can create lamp or coil.</p>	
<p>Screen 453 – Control HMI Logic sample</p>	
<p>To view running Ladder Logic and Logic Variable list use the Ladder Monitor switch.</p> <p>(See the “Ladder Monitor” Section at the end of this manual for Ladder Monitor operation)</p>	
<p>Screen 454 – Control HMI Instructions</p>	
<p>The Instructions Tab is a set of 10 screens showing all 103 Instructions available in AGP Ladder Logic. Use the Next and Prev buttons to navigate</p>	
<p>Screen 570 – Control HMI Cable reduction</p>	
<p>Use the internal Logic on any AGP3xx0 panels to reduce cost by saving on wiring and cable runs to various devices connected to a central PLC.</p> <p>Use the AGP series with Control to free up valuable cabinet space by using a smaller or no PLC and relying on the compact Pro-face FlexNetwork modules instead</p>	
<p>Screen571 – Control HMI Value Exchange</p>	

<p>Even on AGP's without built-in I/O the Ladder Logic in GP-Pro EX can be used.</p> <p>Use it with either Internal Variables or manipulate data on PLC's, temperature controllers and serial ASCII devices.</p> <p>The Logic can be used to glue together the various components in your application using the AGP as control gateway.</p>	<p>Pro-face CONTROL HMI</p> <p>Exchange data from different PLCs</p> <p>Exchange values by using Ladder</p> <p>Easy copy by Ladder Easy to expand the system later. Just plug it in.</p> <p>No need for a Field Network Reduce cabling</p> <p>Transfer data between different PLC brands</p>
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<p>Screen 572– Control HMI Online Logic Edit</p>	
<p>Online Logic Edit</p> <p>Connect the GP-Pro EX PC to the AGP and edit the logic while the panel is running using a USB or Ethernet connection to save time spend downloading the application to test changes.</p> <p>While online the new logic can be created, tested and verified for errors and warnings before being written to the AGP.</p>	<p>Pro-face CONTROL HMI</p> <p>On-Line Edit</p> <p>Edit Logic while the AGP is running</p> <p>Connect using USB Download Cable or Ethernet. Logic is verified before being written to AGP. Edit Run shows on white background for clarity</p> <p>← Run being edited</p> <p>← Existing Run</p>

Screen Background – GP-Pro EX

<p>Screen 300 – GP-Pro EX Overview</p>	
<p>The screen list, dock able lists and function windows and tab based screen selection make for a very easy to use editor interface.</p> <p>The 6 step main toolbar guides you through (1) System Settings, (2) Screen Editing, (3) Preview, (4) Simulation (5) Download and optional (6) Ladder monitoring.</p> <p>Note that the preview function shows a static image, there is no runtime simulation in the current version of GP-Pro EX.</p>	<p>Pro-face GP-Pro EX</p> <p>Screen Drawing Software GP-Pro EX</p> <p>Status Bar</p> <p>Workspace</p> <p>Properties</p> <p>Drawing Area</p>
<p>Screen 301 – GP-Pro EX Workspace</p>	

The screen thumbnails can be double clicked to open individual screens for editing (Screen List)

Address Mapping

Drag any register from the address list onto an object to easily add or replace an address. Red items in the list indicate the address is currently being used in the application.



Screen 302 – GP-Pro EX Helpful Tool

Auto Document

The images in this document were created by using our Project / Print function, when send to Rich Text File (RTF) all project data including all screen shots can be edited in MS Word or similar text editors. This feature makes it very easy to create comprehensive operation and maintenance manuals. Any item (like ladder logic or cross reference lists) can be printed to printer instead of a file as well.

The Helpful Tools section is now expanded to 3 screens, use the Next and Prev buttons to navigate. Added tools are: Full Text Search, Parts Toolbox, PID Monitor and PC Simulation.

Parts Tool box and Color picker tool are new.
Easy to select & place the parts & change color by visually.



Screen 303 – GP-Pro EX Efficient Tool

Templates: an OEM can make templates for the most comprehensive machine and register any of the parts in that project as a template for use on similar machines saving time and providing a consistent look.

The Header & Footer function help quickly create title and menu bars with great ease of use to provide a consistent look across all project screens.

A “Package” (library in GP-Pro C03) can be used to store a group of objects in order to reuse it in different projects. These “packages” show up on the toolbar as an icon with tooltip.



Screen 310 – GP-Pro EX Drawing Objects

<p>The table part allows you to easily create a table like grid display without having to draw multiple lines.</p> <p>Note: this part is not linked to data in any way, you can use it to create individual data displays in each of the table's "cells"</p>	
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<p>Screen 311 – GP-Pro EX Image</p>	
<p>The Image File screen shows that images can be included in the project in several ways:</p> <ol style="list-style-type: none"> 1) Image Placement, an image is selected and placed on a screen directly without assigning a number to it. A transparent color can now be selected when using Image Placement. <p>Image Registration, Images are assigned a number and can be stored in either Internal Memory (project memory) or on a CF Card. (Note that most images in this demo are loaded from CF Card giving a good indication of how fast they load)</p> <p>New: past image data from a clip board directly</p>	

<p>Screen 440 – GP-Pro EX Image2</p>	
<p>The right side of this screen shows a sequence of images (stored in internal memory, on CF Card or USB Memory) loaded based on an integer value</p> <p>The left side shows the ability to show or hide registered images based on a discrete value.</p>	

<p>Screen 442 – GP-Pro EX JPEG Display</p>	
<p>Note: If you do not see any images check the CF Card for a folder called "JPEG", you need to manually transfer this folder.</p> <p>On this screen JPEG files are loaded from CF Card by writing the folder and file name as ASCII characters to a number of consecutive addresses in PLC or internal memory.</p>	

<p>Screen 443 – GP-Pro EX Capture the Screen</p> <p>By error or manually you can capture the screen. Easy to explain to OEM company or machine builder.</p> <p>Good for tradability documents, or quality assurance.</p>	
<p>Screen 445 – GP-Pro EX Logic Monitor</p> <p>PLC Logic Monitor for Mitsubishi Q Series PLC's and the Device Monitor to look at and change register values without having to create I/O screens for maintenance manually.</p> <p>Important: make sure to check the documentation to see which PLC's are supported by the device monitor function</p>	
<p>Screen 520 – GP-Pro EX Head/Footer</p> <p>Use header and footers to quickly create consistent looking title and menu bars for your projects.</p> <p>Pro-face realizes that you might need more than one type of menu or title bar so 20 headers and footers are available for your use.</p> <p>Efficient Editing: Create a header or footer and use it on as many screens as required. Need to make a change? Edit the header and all screens will automatically update.</p>	
<p>Screen 521– GP-Pro EX Address Mapping</p> <p>The Address Mapping window gives you a graphical representation of what PLC or Internal Memory addresses you have used in your Pro-face HMI application by highlighting used addresses in Red.</p> <p>View Integer or Discrete registers and simply drag any address from the Mapping window onto an object to assign it's address without the possibility of making a typing mistake.</p> <p>This tool is a great addition to the GP-Pro EX Cross Reference function that is also available for your use.</p>	
<p>Screen 523 – GP-Pro EX Auto Scaling Functions</p>	

Convert projects automatically between any screen resolution (XGA, SVGA, VGA, and QVGA).

This **time saving feature** gives the customer the **flexibility** to reuse existing projects even if a larger or smaller screen size is needed for the next job.

Minimal changes may have to be made to Images and some font alignment only drastically lowering cost by **greatly reducing application engineering time.**

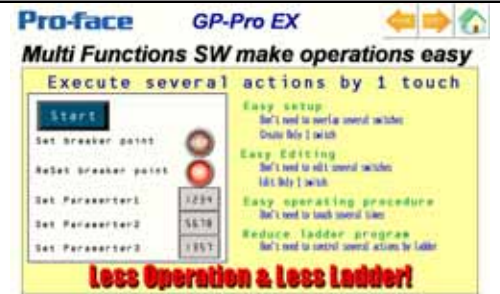


Screen 530 – GP-Pro EX Multi Function Switch

Tired of writing ladder logic, scripts or even stacking buttons on top of each other to perform a variety of functions to for example initialize a new product run?

The Multi Function switch allows you to **combine up to 16 functions in a single switch.** Change discrete and integer values and move to the next screen or prompt the operator for input with the push of one button.

Fast and Easy to edit, Transparent: related functions are all found in one object that does not leave you guessing as to where certain functions are triggered from (script or logic).



Screen 531 – GP-Pro EX Delay Switch

Easy to use safety feature built into the editor

Prevent operators from **accidentally starting your machine,** the Double Click function found on the Switch object in GP-Pro EX requires the operator to touch a switch twice to execute the actions you programmed. After the first touch the switch will change its appearance to indicate it needs confirmation. Only a **second touch within the standby time** (1 to 30 seconds) will execute the (up to 16) assigned action(s)



Screen 532 – GP-Pro EX Visible

All switch objects in GP-Pro EX have an Interlock function. When used for **Access Control** you can lock a switch (prevent it from functioning) by choosing a bit (internal, logic or PLC) and selecting which state allows touch (bit on or off) Use this to lock switches that are only available to select users. An alternative way of using interlock is as a **visibility feature.** The interlock state can be assigned its own image to depict the lock state. When this image is the same color as the application background you have a disabled and invisible switch.



Screen 552 – GP-Pro EX Scripting

<p>Powerful D-Script can be used on a single screen or as Global D-Script in the entire project file regardless of the screen that is being displayed.</p> <p>Create your own functions, math, loops and if/else statements. Initialize, Shift, Search through or Compare memory areas (between or within PLC's or internal memory) Print ASCII data to a USB printer and manipulate data stored in CSV files on the CF Card. Scripts are also a great way of sharing data between different protocols as a gateway function.</p>	<p>Pro-face GP-Pro EX Scripting is very flexible</p> <p>Almost limitless functionality</p> <p>Functions available in Script</p> <pre> Initialization, command, bit, timer... Condition[IF, loop, break... Command[open, close... Input/output[... Simulation[... Serial port[... File management... Serial ASCII data[... </pre> <p>Possible uses:</p> <ul style="list-style-type: none"> Create your own functions Scaling File management Serial ASCII data[...] <p>Flexibility!</p>
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<p>Screen 553– GP-Pro EX Simulation</p>	
<p>Simulate the screen on PC, PLC valuable can beset by debug tool.</p> <p>Logic Simulation is also available.</p>	<p>Pro-face GP-Pro EX Simulation easy debug on your Laptop</p> <p>No need to download. Debug without PLC.</p> <p>Reduce development time</p> <p>Pro-face Sample Application</p>

Screen Background – GP-Viewer EX / Remote PC Access

<p>Screen 563 – GP-Viewer EX Overview</p>	
<p>You can see GP3000 Screen on your PC remotely.</p> <p>Customer need to purchase lisenca for each server (GP3000).</p> <p>Clint (PC) is free, but need to install GP-Viewer EX from GP-Pro EX CD or download it from Otasuke Pro.</p> <p>1 server (GP3000) can publish the screen data to 3 clients (PC) at once.</p> <p>1 Client (PC) can see 4 different servers (GP3000) at once.</p> <p>Client can operate screen change, switches, value change, it depends on settings.</p> <p>And off cause, you can set the security as well.</p>	<p>Pro-face GP-Viewer EX Remote maintenance</p> <p>Control room</p> <p>Field</p> <p>GP-Viewer EX</p> <p>See 12000 Screens on PC</p> <ul style="list-style-type: none"> See the monitor of GP3000 Save the screen from office Instruction from the office <p>It can set operation from PC or not and security level.</p>
<p>Screen 562 – Remote PC Access</p>	

Remote PC Access (RPA) allows you to **control a PC using the AGP Touch Screen and Popup Keyboard** or (optional) connect a USB Mouse and Keyboard to the AGP. All data (screens and commands) are transmitted using a **standard Ethernet connection**, no other cables are needed.

Possible uses: **Websites**, Email, Remote **Programming and Monitoring of PLC**, Remote Programming of the AGP (on the AGP), **PDF Manuals**.

Pro-face Remote PC Access

PC operation on HMI - RPA

Operate & View & Restore PC

- Connect using Ethernet only
- Use USB Keyboard & Mouse or AGP Touchscreen & Keypad to operate the Remote PC
- View PDF Manuals or Websites
- Restore Program your PLC
- Restore any PLC from the AGP
- View AutoCAD drawings
- Use GP-Pro EX remotely
- Send/Receive E-mail
- etc.

Screen Background – Pro-Server EX

Screen 560 – Pro-Server EX Overview

Pro-Server EX is a **Data Collection and Sharing** software package.

Pro-Server retrieves data from AGP's over an Ethernet network to either process it for logging, emails, recipe handling or to share it with other PC software packages.

There is **no tag limit** in Pro-Server EX and one runtime license can be used to poll all AGP on the plant floor.

Pro-face Pro-Server EX

Collect Machine status into PC

Data collection to a PC!

Collect Field data & communicate with other applications

Screen 561 – Pro-Server EX Interface

Use Pro-Server EX to collect data and share the data with applications such as Access Databases, ODBC Databases, Excel Sheets for storage or to automatically generate reports. Several Actions in Pro-Server EX help you quickly setup these data sharing connections and the way (trigger, time, event base) that you want to execute these functions.

This **low cost gateway between Office and Plant environments** is a very powerful addition to the AGP with GP-Pro EX

New: OPC and MES interface are available from Pro-Server EX V1.20.

Pro-face Pro-Server EX

Data Collection & Management

Can connect with customer applications

Many open connectivity options

Low cost & easy connection!

Using the File Manager

On any File Manager screen click the “Load from CF Card” button to display the File Manager. Navigate the CF Card folders by using the up and down arrows. Folders on a CF Card are shown as <DIR>; to display the contents of a folder use the “DISP” or “=” button (depending on the file manager used)

Different files (Movie, Log, Recipes, etc) are stored in different default folders and under default names. Note that JPEG and Movie files that were copied to the CF Card without using GP-Pro EX (by using a card reader with windows explorer for example) do not have to follow any predefined naming format.

If you are trying to locate log data or event recorder data keep in mind that you have to save this data at least once using the applicable screen in the demo application, if for example the “ALARM” folder does not show up in your File Manager you will have to go to any of the alarm screens first to save an Alarm Log file. This will automatically create the folder if needed.

Fig. 2a



Fig. 2b

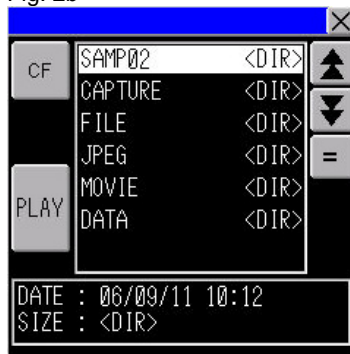


Fig. 2c



Figures 2a through 2c show some of the different available file managers, note that the file manager in Fig. 2c can be used to transfer data between USB Memory and CF Card, both File Managers displayed in Fig. 2a and 2c can be used to delete files from the CF Card. (See Key Features, Connect Devices, CF <-> USB)

File locations used in the demo:

- Alarm Summary Active : \ALARM\Z1#####.CSV
- Alarm Summary History : \ALARM\Z2#####.CSV
- Alarm Summary Log : \ALARM\Z3#####.CSV
- Logging Data (Cycle) : \SAMP02\SA#####.CSV
- Logging Data (Trigger) : \SAMP03\SA#####.CSV
- Logging Data (Time) : \SAMP04\SA#####.CSV
- Recipes (Proprietary) : \FILE\ZR#####.CSV
- Movies : \MOVIES\No#file name.SDX
- Movies Event Recorder : \MOVIES\ER\EXdate_time.SDX
- Movie Recorder : \MOVIES\PF\PFdate_time.SDX
- Pictures : \JPEG\file name.JPG
- Screen Captures : \CAPTURE#\JPG
- Operation Log : \OPLOG\OLdate\OLtime.CSV

Using the Ladder Monitor

Access the Ladder Monitor by navigating to screen S\W Functions, Control Functions, Capability. Key feature of the Ladder Monitor is that it is automatically generated by GP-Pro EX, the customer does not have to program anything but the button to open the screen.

The Ladder Monitor screen shows the Logic program currently running on the AGP, use the “MAIN” or “INIT” switch (fig. 3a) to change the display between MAIN and INIT routines. The Step number display can be used to jump to a different location in the logic quickly. Use the Arrow buttons to navigate the logic.

Click any instruction on the screen to show a “close up” of the instruction and its current state. (for demonstration the ADD and SUB instructions in Rungs 2 and 3 show well because you can see actual data changes. Click the screen again to return from “close up” mode to the regular logic display.

Use the Toolbar button to display the toolbar as displayed at the bottom of Fig. 3a, this gives you access to the Exit button as well as the search function and Instruction List (not shown, this list allows you to select an instruction which will then be highlighted in the logic display)

Fig. 3a



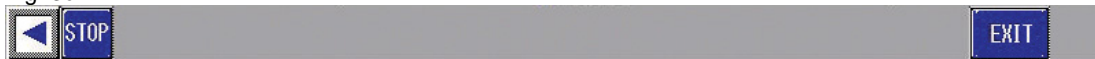
The “Addr Mtr” button (see Fig. 3a) takes you to the Address List screen as shown in Fig. 3b. Use this display to view all configured Logic Variables. Note the “HEX” / “DEC” button to change the numeric display format.

Fig. 3b

Address List			1 / 2
#L_RunMonitorA	ON	#L_MaxLogicTime	4
#L_AlwaysON	ON	#L_Status	196608
#L_CalcZero	OFF	#L_Platform	133172
#L_CalcCarry	OFF	#L_Version	18594
#L_ScanModeSW	OFF	#L_EditCount	0
#L_AutoRunSW	ON	#L_I0Info[0]	0
#L_In0utSW	ON	#L_ConstantScan	100
#L_FaultStoPSW	OFF	#L_PercentScan	50
#L_UnlatchClear	OFF	#L_WatchdogTime	5000
#L_LatchClear	OFF	#L_AddressRefreshTime	1000
#L_Clock100ms	OFF	#L_Time	5712
#L_Clock1sec	OFF	#L_Command	0
#L_Clock1min	OFF	#L_LogicMonitor	2
#L_BatteryErr	OFF	#L_LogicMonStep	68
#L_Error	OFF	#L_I0Status[0]	0
#L_StopPending	OFF	#L_CalcErrCode	0
#L_Fault	OFF	#L_FaultStep	0
#L_I0Fault[0]	OFF	#L_FaultLogicScreen	0
#L_ScanTime	100	#L_ForceCount	0
#L_AvgScanTime	100	#L_StopScans	0
#L_MinScanTime	99	Start1	OFF
#L_MaxScanTime	101	CounterB1.CV	0
#L_ScanCount	6510	LampB1	OFF
#L_LogicTime	3	Value1	488

The Right Arrow button (lower right hand corner of both Logic and Address List screens) takes you to the toolbar as shown in Fig. 3c. Use this toolbar to exit the Ladder Monitor or use the “STOP” button to stop and restart logic execution.

Fig. 3c



Frequently Asked Questions

Q: Some screens with images load extremely slow

A: Reformat CF Card to FAT if using your own or (recommended) use the 512Mb SanDisk Card supplied to you.

Q: Image does not display on the S/W Functions / Other Functions / JPEG Display screen

A: "JPEG" folder was not manually copied to CF Card, see instructions in "Installing the demo application on the AGP3650T" at the beginning of this manual.

Q: How do I show our capability of Native Tag Import Utility (L5K file import) to my customer?

- A:
- 1) Open GP-Pro EX v1.10 and create a new project
 - 2) Add the Rockwell Automation, Inc EtherNet/IP driver
 - 3) In the "System Settings Window" go to "Device/PLC Settings"
 - 4) Click the [Settings] button behind "PLC1" and select "ControlLogix/CompactLogix Series Native"
 - 5) Click [Import]
 - 6) Then customer can see L5K file format.

Q: How can I load the demo project files on my CF Card into my AGP3650T?

- A:
- 1) Make sure your CF Card is inserted and the CF Card door is closed
 - 2) Touch the upper right hand, then lower left hand corners of the AGP to display the toolbar down the bottom of the screen ([Offline] [CF starting] [Error] [Reset])
 - 3) Select [CF Starting] and click "Download" (if the page shows up in Japanese first select English From the dropdown menu
 - 4) After the download is complete click [Exit] to reset the AGP

Screen Navigation

Initial Screen

- Brand awareness
- History of PFA business in North America
- No. 1 Market Share in the World
- Worldwide Sales & Support
- Worldwide Support Services

STANDARD HMI

- Product Line-up of S class
- Connectivity overview
- USB interface
- CF card & USB Memory data handling
- Serial & Ethernet Interface
- Multi PLC
- Other interface
- VM module
- Web Server
- GP3000 capability
- Sample Application
 - Parts library
 - Symbol library
 - Password protection
 - Multi language
 - Multi function buttons
 - Alarm
 - Trends
- Sample Application
 - Logging
 - Graph
 - Meter
 - Word Switch
 - Bit switch
 - Special switch
 - Numeric display
 - Image import
 - Recipe
 - Security lock
 - Message display
 - Operation Log

MULTIMEDIA HMI

- Product Line-up of M class
- Video-in & Sound-out interface
- Camera solution
- Play movie overview
- Play movie demo
- Movie play solution1
- Movie play solution2
- Camera record solution1
- Camera record solution2
- Event recorder overview
- Event recorder solution1
- Event recorder solution2

CONTROL HMI

- Product Line-up of C class
- Flex & DIO interface
- CANopen interface
- Control function overview
- Functions
- GUI operation
- Capability of control
- Instructions
- Solution1
- Solution2
- On-line edit

GP-Pro EX

- Overview
- Work space
- Helpful Tools
- Efficient tools
- Drawing objects
- Image
- Show image in CF card1
- Show image in CF card2
- Capture screen
- Monitor Logic
- Header & Footer
- Address Mapping
- Auto scale
- Multi function switch
- Delay switch
- Security switch
- Scripting
- Simulation

GP-Viewer EX, Remote PC Access

- GP-Viewer EX
- Remote PC Access

Pro-Server EX

- Overview
- Interface