



LOGIC
Technologies, Inc.

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"Advanced and reliable technology solutions at an affordable cost!"

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Ideas for Articles of Interest?

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The Controller

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LOGIC Announces Newest Engineer

By Cindy Gaffney

Russ Nagel is our newest engineer. He provides customer support and engineering tasks related to projects assigned to him. He is responsible for developing and providing all project electrical drawings, MCC development support, system-related configuration tasks, SST script control programming and project-related commissioning tasks. Russ will be happy to assist in any support needs you may have.

Congratulations To Celebration Foods

By Cindy Gaffney

Food Engineering Magazine selected Celebration Foods as the food plant of the year! They are located in New Britain, CT. Tom Carvel started the company in 1934. That is when the ice cream cake was born. All cakes are hand-decorated. LOGIC Technologies, Inc. installed the process controls for refrigeration and VFD's for this plant. We wish them continued success and growth!

through a few short steps you can take to determine what is on each channel and how you can use that information for troubleshooting purposes.

Our refrigeration controller, also called the Signal Server (SS), uses these channels to communicate with the rest of the refrigeration system. These channels are used to communicate with items such as your compressors, remote I/O panels, and other remote intelligent control equipment. We try to standardize what items go on what channels as much as possible. Other than the first two channels, there are no guarantees.

Understanding System Channels

By Russ Nagel

Many times when customers call in for technical support, we start talking about channel this and channel that. Unfortunately, none of these channels are ESPN!

The first two channels are taken up by the monitor and keyboard for channel 1 and the printer connected to the SS for channel zero, so of the base set of eleven (actually there are more, but that's another article) channels available, we only have to worry about ten of them.

Your refrigeration system has 11 channels on it. We need to know about these channels, and how to work with them. I am going to go

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The first thing you have to do is to figure out what is on each channel. There are several steps you can take to do this. Unfortunately, no single method will tell you what is on all channels. There are several easy steps you can take to determine what is on each channel. You will want to write down what you learn during each step, and fill out your list of what items you have on each channel. Following the steps below, you should be able to fill out your list (channels 4-11) of channels fairly completely.

1. Visual inspection – Open the door to the cabinet that has your signal server computer. Look in your cabinet for the AC7A card or cards. These cards are about 5 inches by 7 inches, usually green, have a transformer in one corner, and has communication wires connected to some terminals on one side (labeled TO, FO, Etc.) and a 25 pin connector on the other side. The AC7A cards convert signals from one communication protocol to another. The 25 pin connector side is plugged in to your SS via the digicable. The digicable is the cable that connects to the bottom of your signal server and has eight 25 pin connectors built in to it. It makes me think of an octopus. The ends of the “octopus” cable are labeled P1 – P8. There is an offset of plus 3 difference in the labels on the digicable (25 pin connector end) and the actual channel number. For example, P1 on the digicable is actually channel 4. Look at your modem and any AC7A cards you may have and note the label (P?) on the connector. Hopefully, there will be a label in the panel next to the AC7A cards telling you what device is connected to that AC7A card.

We always try to put the modem on P1, which is channel 4.

1. From your main operating screen (not the graphics screen) select the <s> key to get to the command prompt. At the command prompt, type: **@edit ‘start.pgm’**

BE VERY CAREFUL HERE, (NEVER HIT THE Esc BUTTON)!

You don’t really want to edit anything. You just want to look at a few lines of code and see if you have any useful channel information here. You want to look for some lines that are similar to

```

@baud 2,1200,i           ` Set channel baud rate info.
@baud 3,57600,i         ` Alt computer
@baud 4,9600,i          ` Modem
@baud 5,38400           ` Remote panel
@baud 6,19200,i        ` Frick network
@baud 7,1200,i         ` UPS
@baud 8,9600,i         ` Remote alarm panel
@baud 9,38400,i        ` Remote terminal in eng room
@baud 10,9600,i        `
@baud 11,38400,i       ` Remote terminal in maint office

```

Figure 1

figure 1. These lines should be on the first page of your start.pgm.

The number after “@baud” is your channel number. The third line shows you that your modem is on channel 4. The fourth line shows the remote panel is on channel 5. This is a great example to look at. The comments, which follow the single quote symbol (‘), tell us what is on almost every channel. If you are as lucky as these guys, you have taken care of the whole issue in one easy step. But you’re probably not that lucky. In fact, you will have these lines and only some/none of them may be commented to tell you what is on that channel.

IMPORTANT: TO GET OUT OF THE PROGRAM WITHOUT MAKING ANY CHANGES.

Hit the <Ctrl> key and the <a> key at the same time to exit without saving any changes you may have accidentally made!

1. From the main operating screen, (not the graphics screen) hit **[System Utilities], [Modify System Master Information], [Change Channel Tasks Assignments]**. You don’t want to change any task assignments. Take a look at the column of numbers and see if any of them are commented such that you will have

a channel description.

Hopefully, by this time, you have a good idea of what each channel is being used by. Be sure to write this down and put it on the inside door of your main system panel. It may be very helpful when we are on the phone with you.

This lesson has been broken up to fit the space we have here. In our next issue, we will complete (hopefully) this lesson. We will talk about practical applications of the information we have gathered.

If you have further questions about any article, feel free to contact technical support at LOGIC.

How to Create a Graphic Screen

by Kevin Dubose

Generating graphic screens for your control system can be useful and fun. You may start a display screen with one background color, a bitmap that you have drawn or a photograph.

With the console application open, click on the “**Server Tab**”. Next, click “**Graphic View**”, then on “**Edit**”. This opens the graphic screen setup window.

Click on the New Screen Button. (This will bring up the Screen Information Window). Under the Screen Setup Window, this is where you name your Graphic Screens, ex: Overview Screen, Vessel Screen, etc. This is also the screen where you assign the bitmap associated with the Graphic Screens.

To assign a bitmap or photograph, open the yellow folder with the set of binoculars. The Browse Screen Window will open. Here, you click on the bitmap you need. These bitmaps are saved in the 3DG File in the selected project subdirectory. Click the OK Button. The new screen will be listed on the drop down screen menu. Now select the screen.

With a Graphic Window open, showing your newly created background screen, right click on an area of the image which does not contain any data points. This will open a menu. Now you can select **Edit Screen**. This will open your Graphic Tools window for editing purposes.

There are numerous items you may insert to display equipment status

Training Info & Schedule

Operator Level Sessions

This class session provides in-depth coverage of the use of our system to maintain the daily operations of a refrigerated facility. The class is conducted by Ralph Nodal who has many years of experience as a plant manager and refrigeration operator. In effect, the classes are taught in layman's terms by someone who fully understands the issues faced by refrigeration operators.

Wednesday, June 10 thru Friday, June 12

Wednesday, August 5 thru Friday, August 7

Advanced SST Sessions

This class session provides in- depth coverage of the screen and report development tools provided by our system. These classes also briefly cover the script language used to develop control algorithms.

These classes are conducted by senior members of our engineering staff. Prior technical expertise is a pre-requisite for this course.

Wednesday, July 8 thru Friday, July 10

Wednesday, September 16 thru Friday, September 18

Training Enrollment

Operator training sessions are \$450 per person and advanced training sessions are \$750 per person. We provide lunch for each class day; however, all other travel expenses are your responsibility.

Seating is limited so make your reservations early by contacting Kim Smith or Cindy Gaffney @ 770-389-4964

and values. We will outline these in a future article.

When you have completed your edits, **SAVE** the Graphic Screen by clicking the Disk Button. (If you **DON'T** want to save the edits you made on the screen, **Do NOT** click the Disk Button).

To Exit the Graphics Edit Screen Selection, right click on a blank area of the Graphic Screen and select Control Mode. Now your real time information is available.

What is VG <I>nhibit ?

By Russ Nagel

Type the following keys F1, F5, then select a vessel. You will get a pop up screen with all kinds of information about the operation of that particular vessel. In the lower right hand section of the screen, you will see VG *Inhibit* – Active, or it may be Inactive.

Understanding what VG-Inhibit is and how to properly use it can **save your company tens of thousands of dollars a year!** And even make a refrigeration technician smell like a rose! Uh....well....maybe not a rose.

VG actually stands for valve group. You aren't really inhibiting your valve groups though, but your valve groups play an important role in the function of this parameter. When this parameter is set to active, your compressors will not respond to an increase in vessel pressure unless a valve group is calling for liquid. Suppose you have a +10F degree room and the temperature in that room is +8F. The pressure in the vessel that supplies liquid for that room is satisfied as well. Your compressors aren't running and the engine room is nice and quiet.

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Normally the pressure in your system will rise and the pressure in that vessel jumps above the set point. Your lead compressor starts, and after a couple of minutes, the pressure in the vessel drops and your compressor shuts down. This entire cycle may repeat itself a few minutes later with the next pressure rise. Make sure VG Inhibit is set to Active to avoid this problem. In order to realize the money savings promised earlier, you are going to have to combine VG Inhibit along with temperature scheduling to see some amazing results. To get to your temperature scheduling screen, select - **System Utilities** - **Process Master File Editors**, - **System Temperature Schedules**. Select the valve group you want to work with. After selecting the valve group, you will be at a screen that allows you to change the temperature setting for a valve

group along with the time of that temperature change. Easy!

Now, here's your strategy for saving money. At a set time of day, 1:00 p.m. for instance, everyday, and preferably when your power company starts charging you for peak power, raise the temperature (by 10 degrees or more) setting for all valve groups connected to a certain vessel. In fact, you can do this for your entire facility if you want to.

See You At RETA!

This year, the annual RETA Convention will be held in Monterey, CA. Show dates are October 13, 2009 through October 16, 2009. RETA will be celebrating it's 100th anniversary. Our booth number is 203. Please take a moment to stop by and see Gordon Simpson and Mike Vinson. Gordon is the treasurer of the Atlanta RETA chapter.

Our Condolences

It is with great sadness that we learned of the death of Matthias Kohler. Matt was employed at LOGIC Technologies, Inc. some years ago. He was involved with the local RETA chapter as well as RETA National. Our sympathies go out to his family.

Are You In Need Of An Upgrade?

We have new Software Upgrades available for your system. Please call Mike Vinson for pricing.

Are You In Need Of Spare Parts?

Remember to contact Kim or Cindy for all your spare parts needs.



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