

# Trac-a-Rack

with Control Chief

| <b><u>Communication via Modem - Locar ----&gt;&gt; Upcar</u></b> |                              |   |                              |                   |
|--|------------------------------|---|------------------------------|-------------------|
| Locar PLC Address  | Locar Buffer<br>PLC Address  | Description<br><b><u>for Modem xfer</u></b> | Upcar Buffer<br>PLC Address  | Upcar PLC Address |
|  | <b><u>for Modem xfer</u></b> |   | <b><u>for Modem xfer</u></b> |                   |
| I:6.0  | O:6.0                        | Processor System Clock                      | I:6.0                        | N7:21             |
| S:1  | O:6.1                        | PLC'S No Fault/Run Mode                     | I:6.1                        | B3:8              |
| ---  | O:6.2                        | ---   | I:6.2                        | ---               |
| ---  | O:6.3                        | ---   | I:6.3                        | ---               |
| ---  | O:6.4                        | ---   | I:6.4                        | B3:85             |
| OK to go signal, send = '2'                                      | O:6.5                        | OK to GO                                    | I:6.5                        | Use for Compare   |
| N107:1 or N27:1  | O:6.6                        | Pass # to Upcar                             | I:6.6                        | N47:40            |
| N27:0  | O:6.7                        | Locar current Position                      | I:6.7                        | Use for Compare   |
| ---  | O:6.8                        | ---   | I:6.8                        | ---               |
| N107:10 - OK to Enter Loader Signal, send = '1'                  | O:6.9                        | OK to Enter Loader Signal                   | I:6.9                        | ---               |
| N107:12 - OK to Raise Fork Signal, send = '1'                    | O:6.10                       | OK to Raise Fork Signal                     | I:6.10                       | ---               |
| N107:11 - OK to Enter Unloader Signal, send = '1'                | O:6.11                       | OK to Enter Unloader Signal                 | I:6.11                       | ---               |
| ---  | O:6.12 thru O:6.31           | ---   | I:6.12 thru I:6.31           | ---               |

| <b>Communication via Modem - Upcar ----&gt;&gt; Locar</b>  |                          |  |                          |                   |
|--|--------------------------|--|--------------------------|-------------------|
| Upcar PLC Address  | Upcar Buffer PLC Address | Description                                    | Locar Buffer PLC Address | Locar PLC Address |
|  | <u>for Modem xfer</u>    |  | <u>for Modem xfer</u>    |                   |
| S:4  | O:6.0                    | Processor System Clock                         | I:6.0                    | O:6.0             |
| S:1  | O:6.1                    | PLC'S No Fault/Run Mode                        | I:6.1                    | N7:11             |
| I:1.0/0 - I:1.0/15   | O:6.2                    | Upcar Input Module slot # 1                    | I:6.2                    | B103:20           |
| I:2.0/0 - I:2.0/15   | O:6.3                    | Upcar Input Module slot # 2                    | I:6.3                    | B103:21           |
| O:3.0/0 - O:3.0/15   | O:6.4                    | Upcar Output Module slot # 3                   | I:6.4                    | B103:22           |
| ---  | O:6.5                    | ---  | I:6.5                    | ---               |
| I:5.1  | O:6.6                    | Upcar High Speed Encoder Module                | I:6.6                    | Not Used          |
| N57:179  | O:6.7                    | Upcar Actual Position (Count)                  | I:6.7                    | B103:1            |
| N57:80   | O:6.8                    | Upcar Target Position (Count)                  | I:6.8                    | B103:2            |
| N57:96   | O:6.9                    | Upcar Creep Count                              | I:6.9                    | B103:3            |
| N57:81   | O:6.10                   | Upcar Remaining Count                          | I:6.10                   | B103:4            |
| ---  | O:6.11                   | ---  | I:6.11                   | ---               |
| ---  | O:6.12                   | ---  | I:6.12                   | ---               |
| ---  | O:6.13                   | ---  | I:6.13                   | ---               |
| B3/65 - At Loader, value = '4'<br>B3/66 - At LK, value = '7'<br>B3/67 - At LK, value = '8'<br>B3/68 - At Unloader, value = '6' | O:6.14                   | Upcar Location - Verify for Position           | I:6.14                   | Compare w/ N27:0  |
| N47:40   | O:6.15                   | Pass Number Verify                             | I:6.15                   | Compare w/ O:6/6  |
| B53/332 - Upcar Task Completed, send = '2'   | O:6.16                   | Cycle Complete                                 | I:6.16                   | Compare to 2 or 0 |
| B63:0 - see 'upcar alarm' worksheet  | O:6.17                   | Upcar Alarm Word # 0                           | I:6.17                   | B103:7            |
| B63:1 - see 'upcar alarm' worksheet  | O:6.18                   | Upcar Alarm Word # 1                           | I:6.18                   | B103:8            |
| B53:20 - see 'Upcar Sequencer desc.' worksheet   | O:6.19                   | Upcar / Locar Communication Sequence Drum Word | I:6.19                   | B103:31           |
| B53:25 - see 'Upcar Sequencer desc.' worksheet   | O:6.20                   | Upcar Sequence Drum Word                       | I:6.20                   | B103:32           |
| ---  | O:6.21 thru O:6.31       | ---  | I:6.21 thru I:6.31       | ---               |

## Main PLC w/ MSG Read Instruction from Cars (Lad 17 - rung 2)

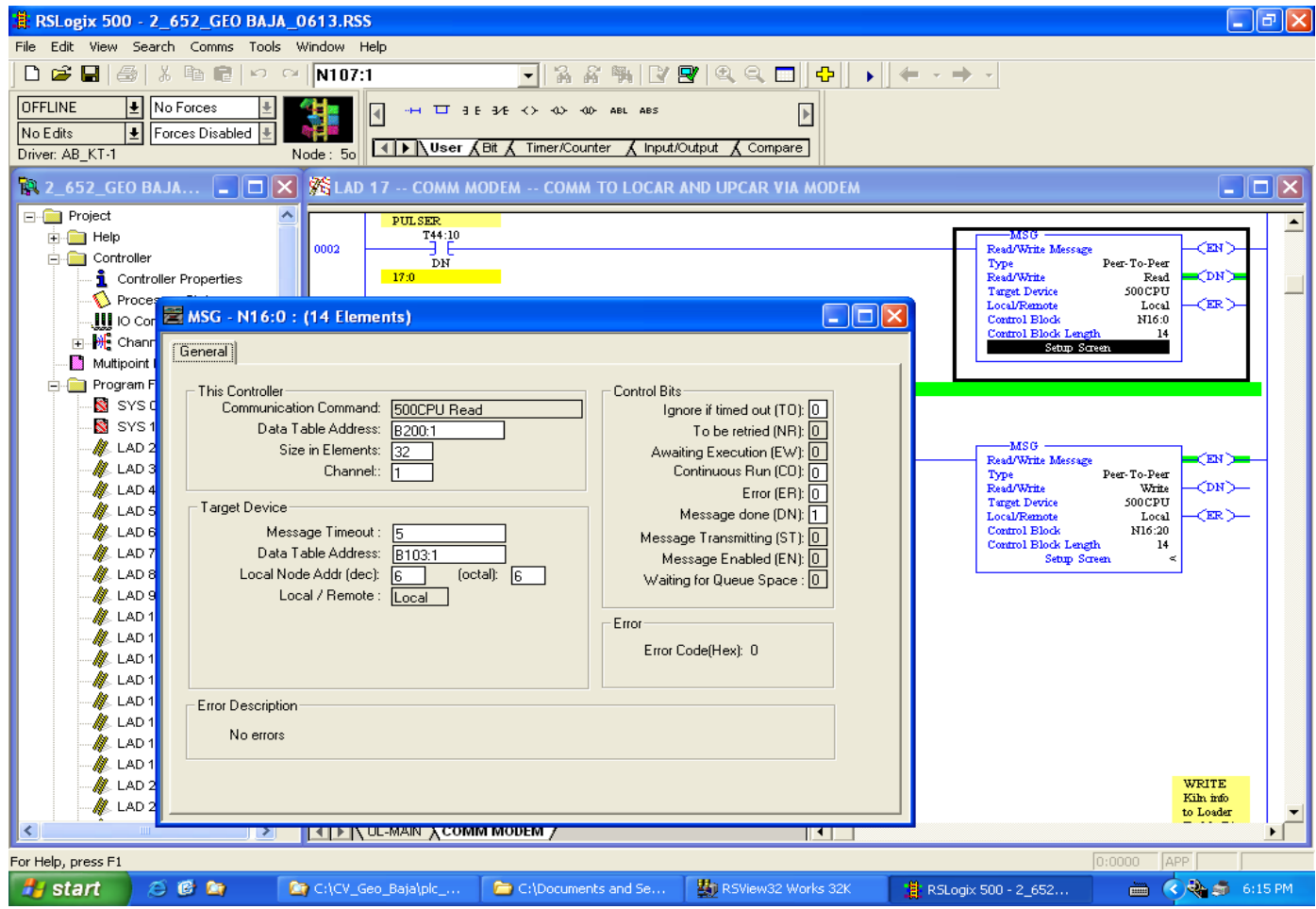
Size in Elements      **32**  
 Main PLC channel      **1**  
 Locar Local Node Address      **16**  
 Message Timeout      **5**

| <u>Description</u>            | <u>Ucar PLC</u><br><u>local address</u> | <u>Ucar PLC Addr.</u><br><u>for Modem xfer</u> | <u>Locar PLC Addr.</u><br><u>for Modem xfer</u> | <u>Locar PLC</u><br><u>local address</u> |       | <u>Locar PLC</u><br><u>Address for</u><br><u>MSG instruction</u> | <u>Main PLC</u><br><u>Address for</u><br><u>MSG instruction</u> | <u>Main PLC</u><br><u>local address</u> |
|-------------------------------|---|--|---|--|-------|--|---|---|
| Ucar Actual Position          | N57:179                                 | O:6.7  | I:6.7   | --->>                                    | --->> | B103:1   | B200:1  |   |
| Ucar Target Position          | N57:80                                  | O:6.8  | I:6.8   | --->>                                    | --->> | B103:2   | B200:2  |   |
| Ucar Creep Countd             | N57:96                                  | O:6.9  | I:6.9   | --->>                                    | --->> | B103:3   | B200:3  |   |
| Ucar Remaining Counts         | N57:81                                  | O:6.10   | I:6.10  | --->>                                    | --->> | B103:4   | B200:4  |   |
| -                             | -                                       | -  | -   | -  | -     | B103:5   | B200:5  |   |
| -                             | -                                       | -  | -   | -  | -     | B103:6   | B200:6  |   |
| Ucar Alarm Word # 0           | B11:1                                   | O:6.17   | I:6.17  | --->>                                    | --->> | B103:7   | B200:7  |   |
| Ucar Alarm Word # 1           | B11:2                                   | O:6.18   | I:6.18  | --->>                                    | --->> | B103:8   | B200:8  |   |
| Locar Actual Position         | -                                       | -  | -   | N57:179                                  | --->> | B103:9   | B200:9  |   |
| Locar Target Position         | -                                       | -  | -   | N57:180                                  | --->> | B103:10  | B200:10   |   |
| Locar Creep Count             | -                                       | -  | -   | N57:196                                  | --->> | B103:11  | B200:11   |   |
| Locar Remaining Count         | -                                       | -  | -   | N57:181                                  | --->> | B103:12  | B200:12   |   |
| -                             | -                                       | -  | -   | -  | -     | B103:13  | B200:13   |   |
| -                             | -                                       | -  | -   | -  | -     | B103:14  | B200:14   |   |
| Locar Alarm Word # 0          | -                                       | -  | -   | B63:0                                    | --->> | B103:15  | B200:15   |   |
| Locar Alarm Word # 1          | -                                       | -  | -   | B63:1                                    | --->> | B103:16  | B200:16   |   |
| -                             | -                                       | -  | -   | -  | -     | B103:17  | B200:17   |   |
| -                             | -                                       | -  | -   | -  | -     | B103:18  | B200:18   |   |
| Pass Completed Signal to Main |   |  |   | value of "1" or "0"                      | --->> | B103:19  | B200:19   |   |
| Ucar Input Module slot # 1    | I:1.0/0 - I:1.0/15                      | O:6.2  | I:6.2   | --->>                                    | --->> | B103:20  | B200:20   |   |
| Ucar Input Module slot # 2    | I:2.0/0 - I:2.0/15                      | O:6.3  | I:6.3   | --->>                                    | --->> | B103:21  | B200:21   |   |
| Ucar Output Module slot # 3   | O:3.0/0 - O:3.0/15                      | O:6.4  | I:6.4   | --->>                                    | --->> | B103:22  | B200:22   |   |
| -                             | -                                       | -  | -   | -  | -     | B103:23  | B200:23   |   |
| Locar Input Module slot # 1   | -                                       | -  | -   | I:1.0/0 - I:1.0/15                       | --->> | B103:24  | B200:24   |   |
| Locar Input Module slot # 2   | -                                       | -  | -   | I:2.0/0 - I:2.0/15                       | --->> | B103:25  | B200:25   |   |
| Locar Output Module slot # 3  | -                                       | -  | -   | O:3.0/0 - O:3.0/15                       | --->> | B103:26  | B200:26   |   |
| -                             | -                                       | -  | -   | -  | -     | B103:27  | B200:27   |   |
| -                             | -                                       | -  | -   | -  | --->> | B103:28  | B200:28   |   |
| Locar Sequencer #1            | -                                       | -  | -   | B53:20                                   | --->> | B103:29  | B200:29   |   |
| Locar Sequencer #2            | -                                       | -  | -   | B53:25                                   | -     | B103:30  | B200:30   |   |
| Ucar Sequencer #1             | B53:20                                  | O:6.19   | I:6.19  | --->>                                    | --->> | B103:31  | B200:31   |   |
| Ucar Sequencer #2             | B53:25                                  | O:6.20   | I:6.20  | --->>                                    | --->> | B103:32  | B200:32   |   |

## Main PLC w/ MSG Read Instruction from Cars (Lad 17 - rung 5)

|                          |    |
|--------------------------|----|
| Size in Elements         | 3  |
| Main PLC channel         | 1  |
| Locar Local Node Address | 16 |
| Message Timeout          | 7  |

| Description                           | Ucar PLC<br>local address | Ucar PLC Addr.<br>for Modem xfer | Locar PLC Addr.<br>for Modem xfer | Locar PLC<br>local address | Locar PLC<br>local address | Locar PLC<br>Address for<br>MSG instruction | Main PLC<br>Address for<br>MSG instruction | Main PLC<br>local address              |
|---------------------------------------|---------------------------|----------------------------------|-----------------------------------|----------------------------|----------------------------|---|--|--|
| for Confirm - Pass # from Car to Main | N47:40                    | I:6.6                            | O:6.6                             | <<---                      | <<---                      | N107:1                                      | B25:0                                      | compare to N137:1                      |
| At Loader, value = '4'                |                           |                                  |                                   |                            |                            |   |  |  |
| At LK, value = '7'                    |                           |                                  |                                   |                            |                            |   |  |  |
| At LK, value = '8'                    |                           |                                  |                                   |                            |                            |   |  |  |
| At Unloader, value = '6'              | N19:18                    | I:6.7                            | O:6.7                             | <<---                      | <<---                      | N107:2<br>N107:3                            | B25:1<br>B25:2                             | compare to N137:2<br>compare to N137:3 |



## Main PLC w/ MSG Write Instruction from Cars (Lad 17 - rung 3)

Size in Elements      14  
 Main PLC channel      1  
 Locar Local Node Address      16  
 Message Timeout      7

| <u>Description</u>               | <u>Main PLC local address</u> | <u>Main PLC Address for MSG instruction</u> | <u>Locar PLC Address for MSG instruction</u> | <u>Locar PLC local address</u> | <u>Locar PLC Addr. for Modem xfer</u> | <u>Upcar PLC Addr. for Modem xfer</u> |
|----------------------------------|-------------------------------|---|--|--------------------------------|---------------------------------------|---------------------------------------|
| Pass # to Upcar from Main        | N37:30                        | N137:1                                      | N107:1                                       | N37:30                         |                                       |                                       |
| Load Kiln # to Upcar from Main   | N37:48                        | N137:2                                      | N107:2                                       | N37:48                         |                                       |                                       |
| Unload Kiln # to Upcar from Main | N37:49                        | N137:3                                      | N107:3                                       | N37:49                         |                                       |                                       |
| OK to GO signal                  | value of '2' or '0'           | N137:4                                      | N107:4                                       | -                              |                                       |                                       |
| -                                | -                             | N137:5                                      | N107:5                                       | -                              |                                       |                                       |
| Kiln Select from Main Panel      | N137:6/0                      | N137:6                                      | N107:6                                       | -                              |                                       |                                       |
| -                                | -                             | N137:7                                      | N107:7                                       | -                              |                                       |                                       |
| -                                | -                             | N137:8                                      | N107:8                                       | -                              |                                       |                                       |
| -                                | -                             | N137:9                                      | N107:9                                       | -                              |                                       |                                       |
| OK to enter Loader signal        | value of '1' or '0'           | N137:10                                     | N107:10                                      | ---->>                         | O:6.9                                 | I:6.9                                 |
| OK to enter Unloader signal      | value of '1' or '0'           | N137:11                                     | N107:11                                      | ---->>                         | O:6.11                                | I:6.11                                |
| -                                | -                             | N137:12                                     | N107:12                                      | -                              |                                       |                                       |
| -                                | -                             | N137:13                                     | N107:13                                      | -                              |                                       |                                       |
| -                                | -                             | N137:14                                     | N107:14                                      | -                              |                                       |                                       |

## Main PLC w/ MSG Write Instruction from Cars (Lad 17 - rung 11)

Size in Elements      1  
 Main PLC channel      1  
 Locar Local Node Address      16  
 Message Timeout      7

| <u>Description</u>                     | <u>Main PLC local address</u> | <u>Main PLC Address for MSG instruction</u> | <u>Locar PLC Address for MSG instruction</u> | <u>Locar PLC local address</u> | <u>Locar PLC Addr. for Modem xfer</u> | <u>Upcar PLC Addr. for Modem xfer</u> |
|--|-------------------------------|---|--|--------------------------------|---------------------------------------|---------------------------------------|
| OK to GO signal ( <b>B43/36 - ON</b> ) | value of '2' or '0'           | N137:4                                      | N107:4                                       | -                              | I:9.5                                 |                                       |

RSLogix 500 - 2\_652\_GEO BAJA\_0613.RSS

File Edit View Search Comms Tools Window Help

N107:1

OFFLINE No Forces No Edits Forces Disabled

Driver: AB\_KT-1 Node: 50

User Bit Timer/Counter Input/Output Compare

2\_652\_GEO BAJA... LAD 17 -- COMM MODEM -- COMM TO LOCAR AND UPCAR VIA MODEM

Project

- Help
- Controller
  - Controller Properties
  - Processor Status
  - IO Configuration
  - Channel Configuration
  - Multipoint Monitor
- Program Files
  - SYS 0 -
  - SYS 1 -
  - LAD 2 - UL-MAIN
  - LAD 3 - GREEN
  - LAD 4 - REJECT
  - LAD 5 - LOADER
  - LAD 6 - UNLOADER
  - LAD 7 - RACK\_XFER
  - LAD 8 - RETURN
  - LAD 9 - PUSHOF-LB
  - LAD 10 - PUSHOF-STD
  - LAD 11 - SCRAPER
  - LAD 12 - PTO
  - LAD 13 - XOVER-LIP
  - LAD 14 - XOVER-BELT
  - LAD 15 - ALARMS
  - LAD 16 - SLUMPER
  - LAD 17 - COMM MODEM
  - LAD 20 - PROD\_TRACK
  - LAD 21 - MTRS-PMPS

0003 AT POS #1  
0:12.0  
2  
1746-OBP16  
17:14  
TAR COMM TO LOCAR  
"CONV. IS  
CLEAR AT  
POS. #2

0004 DATA READ PULSER  
0:12.0  
3  
1746-OBP16  
17:16  
T44:10  
DN  
17:0  
WRITE Kih info to Loader Done Bit ONE 3 B4  
N16:20  
17:3  
13

0005 DATA SENT CHECK IF RECEIVED OK  
B43  
32  
17:6, 17:5

MSG - N16:20 : (14 Elements)

General

This Controller  
Communication Command: 500CPU Write  
Data Table Address: N137:1  
Size in Elements: 14  
Channel: 1

Target Device  
Message Timeout: 5  
Data Table Address: N107:1  
Local Node Addr (dec): 6 (octal): 6  
Local / Remote: Local

Control Bits  
Ignore if timed out (TO): 0  
To be retried (NR): 0  
Awaiting Execution (EW): 1  
Continuous Run (CO): 0  
Error (ER): 0  
Message done (DN): 0  
Message Transmitting (ST): 0  
Message Enabled (EN): 1  
Waiting for Queue Space: 0

Error  
Error Code(Hex): 0

Error Description  
No errors

0:0000 APP READ Disabled

start C:\CV\_Geo\_Ba... C:\Documents ... RSView32 Wor... RSLogix 500 - ... TAR Comm to L... 6:16 PM

RSLogix 500 - 2\_652\_GEO BAJA\_0613.RSS

File Edit View Search Comms Tools Window Help

N107:1

OFFLINE No Forces No Edits Forces Disabled Driver: AB\_KT-1 Node: 50

2\_652\_GEO BAJA... LAD 17 -- COMM MODEM -- COMM TO LOCAR AND UPCAR VIA MODEM

Project

- Help
- Controller
  - Controller Properties
  - Processor Status
  - IO Configuration
  - Channel Configuration
  - Multipoint Monitor
- Program Files
  - SYS 0 -
  - SYS 1 -
  - LAD 2 - UL-M
  - LAD 3 - GREE
  - LAD 4 - REJEC
  - LAD 5 - LOAD
  - LAD 6 - UNLO
  - LAD 7 - RACK
  - LAD 8 - RETU
  - LAD 9 - PUSH
  - LAD 10 - PUS
  - LAD 11 - SCR
  - LAD 12 - PTO
  - LAD 13 - XOY
  - LAD 14 - XOY
  - LAD 15 - ALA
  - LAD 16 - SLU
  - LAD 17 - COM
  - LAD 20 - PRO
  - LAD 21 - MTR

MSG - N18:0 : (14 Elements)

General

This Controller

Communication Command: 500CPU Write

Data Table Address: N137:4

Size in Elements: 1

Channel: 1

Target Device

Message Timeout: 5

Data Table Address: N107:4

Local Node Addr (dec): 6 (octal): 6

Local / Remote: Local

Control Bits

Ignore if timed out (TO): 0

To be retried (NR): 0

Awaiting Execution (EW): 0

Continuous Run (CO): 0

Error (ER): 0

Message done (DN): 1

Message Transmitting (ST): 0

Message Enabled (EN): 0

Waiting for Queue Space: 0

Error

Error Code(Hex): 0

Error Description

No errors

0:0000 APP READ Disabled 6:17 PM