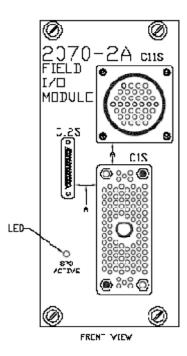
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TecNote 3034 - Customizing Auxiliary Inputs and Outputs via the C1 connector on a 2070 with APOGEE v65

The purpose of this TecNote is to help the user customize the 2070 's C1 connector inputs and outputs via programming Apogee v65 software.

C1 Connector information

The 2070-2A module has a C1 connector with 104 pins. The connector is found on the 2070-2A module that is shown below.



Note: Each Model 33x cabinet has a specific I/O configuration. Please refer to Chapter 14 of the **Naztec Training Manual for NTCIP Based TS2/2070** Controllers manual for specific C1 connector mapping.

Initializing the IO pins with Apogee

The user has to set up the I/O connectors by setting up and initializing the I/O Maps for your 2070. Remember that the Run Timer should still be OFF during this process. To set up the Initial Mapping of your I/O module, in our example we are using a 2070-2A I/O Module, access the programming via MM->1->8->9->3.

```
Main Menu
#.Controller 4.Scheduler 7.Status
2.Coordinate 5.Detectors 8.Login,Utils
3.Preempts
             6.Comm
              Controller
                         7.Enable Run
1.Phases
              4.Flash
              5.0verlaps
2.Unit,Ring
                          8.Channel, I/O
3.SDLC
              6.Alarms
             Channel & I/O
#.Chan 1-16
             4.Chan+ 1-16 7.IO Logic
2.Chan 17-24 5.Chan+ 17-24 8.IO Viewer
              6.IO Parms
                            9.IO UserMap
3.Chan Parms
             User I/O Maps
1.Inputs
2.Outputs
3.Init Map
        Initilize User I/O Maps
     Init ABC with: NONE
       Init D with: NONE
      Init 2A with: NONE
```

The 2A module on the 2070 should be initialized with the proper mode that is mapped to your cabinet. Two common modes are Mode "0" which is the basic mapping of the Model 332 or 336 cabinet and Mode 1 is the basic mapping of the Model 330 cabinet. In this example we will assume that we have a Model 332 cabinet and therefore we will choose Mode "0".

```
Initilize User I/O Maps
Init ABC with: NONE
Init D with: NONE
Init 2A with: MODE O
```

This will set up the Inputs and Outputs up with the following mapping as viewed for MM->1->8->9->1->5 for the inputs and MM->1->8->9->2->5 for the outputs. The following screens are input screens:

```
Pin Fcn Description Pin Fcn Description
     2 Veh Call 2
                    1-2
                         16 Veh Call 16
1-1
1 - 3
                         22 Veh Call 22
     8 Veh Call 8
                    1-4
1-5
     3 Veh Call 3
                    1-6
                         17 Veh Call 17
1 - 7
     9 Veh Call 9
                    1-8
                         23 Veh Call 23
2 - 1
     6 Veh Call 6
                     2-2
                          20 Veh Call 20
2-3
    12 Veh Call 12
                     2 - 4
                         26 Veh Call 26
2 5 198 Pre 1 In
                    12 6 199 Pre 2 In
Pin Fcn Description
                    Pin Fcn Description
2-7 181 ManCtrlEnbl -2-8 189 Unused
3-1
    15 Veh Call 15 3-2
                          1 Veh Call 1
     21 Veh Call 21
                          7 Veh Call 7
3-3
                    3-4
3-5
     27 Veh Call 27
                    3-6
                         13 Veh Call 13
3-7
    28 Veh Call 28 3-8 14 Veh Call 14
4-1 189 Unused
                    4-2 189 Unused
4-3 189 Unused
                    +4-4 189 Unused
Pin Fon Description
                     Pin Fcn Description
4-5
      # Veh Call 4
                    -4-6
                         18 Veh Call 18
    10 Veh Call 10 4-8
                         24 Veh Call 24
5-1 130 Ped Call 2
                     5-2 134 Ped Call 6
                     5-4 136 Ped Call 8
5-3 132 Ped Call 4
5-5 200 Pre 3 In
                     5-6 201 Pre 4 In
5-7 202 Pre 5 In
                     5-8 203 Pre 6 In
6-1 189 Unused
                    +6-2
                           5 Veh Call 5
Pin Fon Description
                    Pin Fcn Description
6-3 1# Veh Call 19 -6-4 11 Veh Call 11
6-5 25 Veh Call 25 6-6 178 Int Advance
6-7 203 Lccal Flash 6-8 207 Comp StopTm
7-1 192 Alarm 1
                   7-2 193 Alarm 2
                    7-4 195 Alarm 4
7-3 194 Alarm 3
                   7-6 197 Alarm 5
7-5 196 Alarm 5
7-7 189 Unused
                    +7-8 189 Unused
Pin Fcn Description Pin Fcn Description
7-3 194 Alarm 3
                    -7-4 195 Alarm 4
7-5 196 Alarm 5
                     7-6 197 Alarm 6
7-7 189 Unused
                     7-8 189 Unused
8-1 18# Unused
                    8-2 189 Unused
                    8-4 189 Unused
8-3 189 Unused
8-5 189 Unused
                    8-6 189 Unused
8-7 189 Unused
                     8-8 189 Unused
```

The following screens are output screens:

| Pin | Fon | Description | Pin | Fon | Description |
|--|-----------|----------------------------|------|------|----------------------------|
| 1-1 | | Ch14 Red | | | |
| 1-3 | 4 | Ch4 Red | 1-4 | 28 | Ch4 Yellow |
| 1-5 | 52 | Ch4 Green | 1-6 | - 13 | Ch3 Red |
| 1-7 | 27 | Ch3 Yellow | 1-8 | 51 | Ch3 Green |
| 2 | 13 | Ch13 Red Ch2 Red | 2-2 | 61 | Chid Green |
| 2-3 | | Ch2 Green | 2-4 | 2t | Chi Deal |
| 2-5 | 50 | Ch2 Green | +2-6 | 1 | Chi Red |
| <u>, </u> | | | | | |
| Pin | Fon | Description | Pin | Fon | Description |
| 2-7 | 2# | Ch1 Yellow | -2-8 | 49 | Chi Green |
| 3-1 | 16 | Ch16 Red Ch8 Red | 3-2 | 64 | Chi6 Green |
| 3-3 | - 8 | Ch8 Red | 3-4 | 32 | Ch8 Yellow |
| 3-5 | 56 | Ch8 Green Ch7 Yellow | 3-6 | 7 | Ch7 Red |
| 3-7 | 31 | Chic D-3 | J-8 | 55 | Ch/ Green |
| 4-1 | 15 | Ch15 Red Ch6 Red | 4-2 | 30 | Chi Vellow |
| 4-2 | ٥ | Cho keu | 74-4 | 50 | CHO Tellow |
| _ | | | | | |
| Pin | Fon | Description | Pin | Fcn | Description |
| | | Ch6 Green | | | |
| 4-7 | 29 | Ch5 Yellow | 4-8 | 53 | Ch5 Green |
| 5-1 | J/ | Ch13 Yellow Ch14 Yellow | 5-2 | 39 | Chilo Yellow |
| 5-5 | 42 | Ch18 Vellow | 5-6 | 41 | Ch17 Yellow |
| 5-7 | 115 | Ch18 Yellow Not Used | 5-8 | 114 | Watchdog |
| 6-1 | 18 | Ch18 Red | +6-2 | 66 | Ch18 Green |
| | | | | | |
| D.: | F | December 4 december 1 | D | Т | Non-market design |
| Pin 6_2 | rcn 1# | Description | -6-4 | ren | Jescription Chi2 Vollow |
| 6-5 | 60 | Ch12 Red Ch12 Green | 6-6 | 11 | Chil Red |
| 6-7 | 35 | Ch11 Yellow | 6-8 | 59 | Ch11 Green |
| 7-1 | | Ch17 Red | 7-2 | 65 | Ch17 Green |
| | 10 | Ch10 Red | 7-4 | 34 | Ch10 Yellow |
| 7-5 | 58 | | | | Ch9 Red |
| 7-7 | 33 | Ch9 Yellow | +7-8 | 57 | Ch9 Green |
| | | | | | |
| Pin | Fon | Description | Pin | Fon | Description |
| 7-3 | | Ch10 Red | -7-4 | | Ch10 Yellow |
| 7-5 | 58 | Ch10 Green | 7-6 | 9 | Ch9 Red |
| 7-7 | | Ch9 Yellow | 7-8 | 57 | Ch9 Green |
| | | Not Used | | | Not Used |
| | 115 | Not Used | 8-4 | 115 | Not Used |
| | | | | | 17 . 77 . |
| 8-5 | 115 | Not Used | 8-6 | 115 | Not Used |
| 8-5 | 115 | | 8-6 | 115 | Not Used Not Used |

Each IO pin can be assigned a specific function. As you can see the initialization has placed default functions for each input and output pin.

Input and Output Function Tables

The following table describes the various *INPUT* functions and their numbers.

| Func | Input | Func | Input | Func | Input | Func | Input | Func | Input |
|----------|----------------------------|----------|----------------------------|------------|--------------------------|------------|---------------------------|------------|---------------------------------|
| 0 | Unused | 50 | Veh Call 50 | 100 | Veh Chng 36 | 150 | Ped Omit 6 | 200 | Pre 3 In |
| 1 | Veh Call 1 | 51 | Veh Call 51 | 101 | Veh Chng 37 | 151 | Ped Omit 7 | 201 | Pre 4 In |
| 2 | Veh Call 2 | 52 | Veh Call 52 | 102 | Veh Chng 38 | 152 | Ped Omit 8 | 202 | Pre 5 In |
| 3 | Veh Call 3 | 53 | Veh Call 53 | 103 | Veh Chng 39 | 153 | Ph Omit 1 | 203 | Pre 6 In |
| 4 | Veh Call 4 | 54 | Veh Call 54 | 104 | Veh Chng 40 | 154 | Ph Omit 2 | 204 | Pre 7 In |
| 5 | Veh Call 5 | 55 | Veh Call 55 | 105 | Veh Chng 41 | 155 | Ph Omit 3 | 205 | Pre 8 In |
| 6 | Veh Call 6 | 56 | Veh Call 56 | 106 | Veh Chng 42 | 156 | Ph Omit 4 | 206 | Cab Flash |
| 7 | Veh Call 7 | 57 | Veh Call 57 | 107 | Veh Chng 43 | 157 | Ph Omit 5 | 207 | Comp StopTm |
| 8 | Veh Call 8 | 58 | Veh Call 58 | 108 | Veh Chng 44 | 158 | Ph Omit 6 | 208 | Local Flash |
| 9 | Veh Call 9 | 59 | Veh Call 59 | 109 | Veh Chng 45 | 159 | Ph Omit 7 | 209 | TBC Input |
| 10 | Veh Call 10 | 60 | Veh Call 60 | 110 | Veh Chng 46 | 160 | Ph Omit 8 | 210 | Dim Enable |
| 11 | Veh Call 11 | 61 | Veh Call 61 | 111 | Veh Chng 47 | 161 | R1 Frc Off | 211 | Auto Flash |
| 12 | Veh Call 12 | 62 | Veh Call 62 | 112 | Veh Chng 48 | 162 | R1 Stop Tim | 212 | Alt Seq A |
| 13 | Veh Call 13 | 63 | Veh Call 63 | 113 | Veh Chng 49 | 163 | R1 Inh Max | 213 | Alt Seq B |
| 14 | Veh Call 14 | 64 | Veh Call 64 | 114 | Veh Chng 50 | 164 | R1 Red Rest | 214 | Alt Seq C |
| 15 | Veh Call 15 | 65 | Veh Chng 1 | 115 | Veh Chng 51 | 165 | R1 PedRecyc | 215 | Alt Seq D |
| 16 | Veh Call 16 | 66 | Veh Chng 2 | 116 | Veh Chng 52 | 166 | R1 Max II | 216 | Plan A |
| 17 | Veh Call 17 | 67 | Veh Chng 3 | 117 | Veh Chng 53 | 167 | R1 OmtRdClr | 217 | Plan B |
| 18 | Veh Call 18 | 68 | Veh Chng 4 | 118 | Veh Chng 54 | 168 | Non-Act I | 218 | Plan C |
| 19 | Veh Call 19 | 69 | Veh Chng 5 | 119 | Veh Chng 55 | 169 | R2 Frc Off | 219 | Plan D |
| 20 | Veh Call 20 | 70 | Veh Chng 6 | 120 | Veh Chng 56 | 170 | R2 Stop Tim | 220 | Addr Bit 0 |
| 21 | Veh Call 21 | 71 | Veh Chng 7 | 121 | Veh Chng 57 | 171 | R2 Inh Max | 221 | Addr Bit 1 |
| 22 | Veh Call 22 | 72 | Veh Chng 8 | 122 | Veh Chng 58 | 172 | R2 Red Rest | 222 | Addr Bit 2 |
| 23 | Veh Call 23 | 73 | Veh Chng 9 | 123 | Veh Chng 59 | 173 | R2 PedRecyc | 223 | Addr Bit 3 |
| 24 | Veh Call 24 | 74 | Veh Chng 10 | 124 | Veh Chng 60 | 174 | R2 Max II | 224 | Addr Bit 4 |
| 25 | Veh Call 25 | 75 | Veh Chng 11 | 125 | Veh Chng 61 | 175 | R2 OmtRdClr | 225 | Offset 1 |
| 26 | Veh Call 26 | 76 | Veh Chng 12 | 126 | Veh Chng 62 | 176 | Non-Act II | 226 | Offset 2 |
| 27 | Veh Call 27 | 77 78 | Veh Chng 13 Veh Chng 14 | 127 | Veh Chng 63 | 177 | Ext Start | 227 | Offset 3 |
| 28 29 | Veh Call 28 Veh Call 29 | 79 | Veh Ching 15 | 128 129 | Veh Chng 64 | 178 179 | Int Advance | 228 229 | 33x Flash Sense 33x CMU Stop |
| 30 | Veh Call 30 | 80 | Veh Chng 16 | 130 | Ped Call 1 Ped Call 2 | 180 | IndLampCtrl Min Recall | 230 | GateMode0 |
| 31 | Veh Call 31 | 81 | Veh Chng 17 | 131 | Ped Call 3 | 181 | ManCtrlEnbl | 231 | GateMode1 |
| 32 | Veh Call 32 | 82 | Veh Chng 18 | 132 | Ped Call 4 | 182 | Mode Bit A | 232 | GateMode2 |
| 33 | Veh Call 33 | 83 | Veh Chng 19 | 133 | Ped Call 5 | 183 | Mode Bit B | 233 | GateMode3 |
| 34 | Veh Call 34 | 84 | Veh Chng 20 | 134 | Ped Call 6 | 184 | Mode Bit C | 234 | GateOpen1 |
| 35 | Veh Call 35 | 85 | Veh Chng 21 | 135 | Ped Call 7 | 185 | Test A | 235 | GateClose1 |
| 36 | Veh Call 36 | 86 | Veh Chng 22 | 136 | Ped Call 8 | 186 | Test B | 236 | GateOpen2 |
| 37 | Veh Call 37 | 87 | Veh Chng 23 | 137 | Hold 1 | 187 | Test C | 237 | GateClose2 |
| 38 | Veh Call 38 | 88 | Veh Chng 24 | 138 | Hold 2 | 188 | WalkRestMod | 238 | Reserved |
| 39 | Veh Call 39 | 89 | Veh Chng 25 | 139 | Hold 3 | 189 | Unused | 239 | Reserved |
| 40 | Veh Call 40 | 90 | Veh Chng 26 | 140 | Hold 4 | 190 | Free | 240 | Logic1 |
| 41 | Veh Call 41 | 91 | Veh Chng 27 | 141 | Hold 5 | 191 | Flash In | 241 | Logic2 |
| 42 | Veh Call 42 | 92 | Veh Chng 28 | 142 | Hold 6 | 192 | Alarm 1 | 242 | Logic3 |
| 43 | Veh Call 43 | 93 | Veh Chng 29 | 143 | Hold 7 | 193 | Alarm 2 | 243 | |
| 44 | Veh Call 44 | 94 | Veh Chng 30 | 144 | Hold 8 | 194 | Alarm 3 | 244 | Logic5 |
| 45 | Veh Call 45 | 95 | Veh Chng 31 | 145 | Ped Omit 1 | 195 | Alarm 4 | 245 | Logic6 |
| 46 | Veh Call 46 | 96 | Veh Chng 32 | 146 | Ped Omit 2 | 196 | Alarm 5 | 246 | Logic7 |
| 47 | Veh Call 47 | 97 | Veh Chng 33 | 147 | Ped Omit 3 | 197 | Alarm 6 | 247 | Logic8 |
| 48 | Veh Call 48 | 98 | Veh Chng 34 | 148 | Ped Omit 4 | 198 | Pre 1 In | 248 | Logic9 |
| 49 | Veh Call 49 | 99 | Veh Chng 35 | 149 | Ped Omit 5 | 199 | Pre 2 In | 249 | Logic10 |
| Func | Input | Func | Input | Func | Input | Func | Input | Func | Input |
| 250 | Reserved | 260 | Ped Call 13 | 270 | Hold 15 | 280 | Ph Omit 9 | 290 | Reserved |
| 251 | Reserved | 261 | Ped Call 14 | 271 | Hold 16 | 281 | Ph Omit 10 | 291 | Reserved |
| 252 | Reserved | 262 | Ped Call 15 | 272 | Ped Omit 9 | 282 | Ph Omit 11 | 292 | Reserved |
| 253 | Reserved | 263 | Ped Call 16 | 273 | Ped Omit 10 | 283 | Ph Omit 12 | 293 | Reserved |
| 254 | False | 264 | Hold 9 | 274 | Ped Omit 11 | 284 | Ph Omit 14 | 294 | Reserved |
| 255 | True | 265 | Hold 10 | 275 | Ped Omit 12 | 285 | Ph Omit 14 | 295 | Reserved |
| 256 | Ped Call 9 | 266 | Hold 11 | 276 | Ped Omit 13 | 286 | Ph Omit 15 | 296 | Reserved |
| 257 | Ped Call 10 | 267 | Hold 12 | 277 | Ped Omit 14 | 287 | Ph Omit 16 | 297 | Reserved |
| 258 | Ped Call 11 | 268 | Hold 13 | 278 | Ped Omit 15 | 288 | Reserved | 298 | Reserved |
| 259 | Ped Call 12 | 269 | Hold 14 | 279 | Ped Omit 16 | 289 | Reserved | 299 | Reserved |

The following table describes the various OUTPUT functions and their numbers.

| Func | Output | Func | Output | Func | Output | Func | Output | Func | Output |
|----------|----------------------|----------|--------------------------|------------|------------------------|------------|----------------------|------------|----------------------|
| 0 | Unused | 50 | Ch2 Green | 100 | R2 Status A | 150 | Reserved | 200 | Reserved |
| 1 | Ch1 Red | 51 | Ch3 Green | 101 | R2 Status B | 151 | Reserved | 201 | Reserved |
| 2 | Ch2 Red | 52 | Ch4 Green | 102 | R2 Status C | 152 | Reserved | 202 | Reserved |
| 3 | Ch3 Red | 53 | Ch5 Green | 103 | Special 1 | 153 | Reserved | 203 | Reserved |
| 4 | Ch4 Red | 54 | Ch6 Green | 104 | Special 2 | 154 | Reserved | 204 | Reserved |
| 5 | Ch5 Red | 55 | Ch7 Green | 105 | Special 3 | 155 | Reserved | 205 | Reserved |
| 6 | Ch6 Red | 56 | Ch8 Green | 106 | Special 4 | 156 | Reserved | 206 | Reserved |
| 7 | Ch7 Red | 57 | Ch9 Green | 107 | Special 5 | 157 | Reserved | 207 | Reserved |
| 8 | Ch8 Red | 58 | Ch10 Green | 108 | Special 6 | 158 | Reserved | 208 | Reserved |
| 9 | Ch9 Red | 59 | Ch11 Green | 109 | Special 7 | 159 | Reserved | 209 | Reserved |
| 10 | Ch10 Red | 60 | Ch12 Green | 110 | Special 8 | 160 | Reserved | 210 | Reserved |
| 11 | Ch11 Red | 61 | Ch13 Green | 111 | Fault Mon | 161 | Reserved | 211 | Reserved |
| 12 | Ch12 Red | 62 | Ch14 Green | 112 | Voltage Mon | 162 | Reserved | 212 | Reserved |
| 13 | Ch13 Red | 63 | Ch15 Green | 113 | Flash Logic | 163 | Reserved | 213 | Reserved |
| 14 15 | Ch14 Red | 64 65 | Ch16 Green Ch17 Green | 114 | Watchdog | 164 | Reserved | 214 215 | Reserved Reserved |
| 16 | Ch15 Red Ch16 Red | 66 | Ch17 Green | 115 116 | Not Used Pre Stat 1 | 165 166 | Reserved Reserved | 216 | Reserved |
| 17 | Ch17 Red | 67 | Ch19 Green | 117 | Pre Stat 2 | 167 | Reserved | 217 | Reserved |
| 18 | Ch18 Red | 68 | Ch20 Green | 118 | Pre Stat 3 | 168 | Reserved | 217 | |
| 19 | Ch19 Red | 69 | Ch21 Green | 119 | Pre Stat 4 | 169 | Reserved | 219 | Reserved Reserved |
| 20 | Ch20 Red | 70 | Ch21 Green | 120 | Pre Stat 5 | 170 | Reserved | 219 | Reserved |
| 21 | Ch21 Red | 70 | Ch23 Green | 121 | Pre Stat 6 | 170 | Reserved | 221 | Reserved |
| 22 | Ch21 Red | 71 | Ch24 Green | 121 | TBCAux/Pre1 | 171 | Reserved | 222 | Reserved |
| 23 | Ch23 Red | 73 | Ph 1 Check | 123 | TBCAux/Pre2 | 173 | Reserved | 223 | Reserved |
| 24 | Ch24 Red | 74 | Ph 2 Check | 123 | LdSwtchFlsh | 173 | Reserved | 223 | Reserved |
| 25 | Ch1 Yellow | 75 | Ph 3 Check | 125 | TBC Aux 1 | 175 | Reserved | 225 | Reserved |
| 26 | Ch2 Yellow | 76 | Ph 4 Check | 126 | TBC Aux 2 | 176 | Reserved | 226 | Reserved |
| 27 | Ch3 Yellow | 77 | Ph 5 Check | 127 | TBC Aux 3 | 177 | Reserved | 227 | Reserved |
| 28 | Ch4 Yellow | 78 | Ph 6 Check | 128 | Free/Coord | 178 | Reserved | 228 | Reserved |
| 29 | Ch5 Yellow | 79 | Ph 7 Check | 129 | Time plan A | 179 | Reserved | 229 | Reserved |
| 30 | Ch6 Yellow | 80 | Ph 8 Check | 130 | Time plan B | 180 | Reserved | 230 | GateOpen1 |
| 31 | Ch7 Yellow | 81 | Ph 1 Next | 131 | Time plan C | 181 | Reserved | 231 | GateClose1 |
| 32 | Ch8 Yellow | 82 | Ph 2 Next | 132 | Time plan D | 182 | Reserved | 232 | GateOpen2 |
| 33 | Ch9 Yellow | 83 | Ph 3 Next | 133 | Offset Out1 | 183 | Reserved | 233 | GateClose2 |
| 34 | Ch10 Yellow | 84 | Ph 4 Next | 134 | Offset Out2 | 184 | Reserved | 234 | Reserved |
| 35 | Ch11 Yellow | 85 | Ph 5 Next | 135 | Offset Out3 | 185 | Reserved | 235 | Reserved |
| 36 | Ch12 Yellow | 86 | Ph 6 Next | 136 | Auto Flash | 186 | Reserved | 236 | Reserved |
| 37 | Ch13 Yellow | 87 | Ph 7 Next | 137 | PreemptActv | 187 | Reserved | 237 | Reserved |
| 38 | Ch14 Yellow | 88 | Ph 8 Next | 138 | Reserved | 188 | Reserved | 238 | Reserved |
| 39 | Ch15 Yellow | 89 | Phase 1 On | 139 | Reserved | 189 | Reserved | 239 | Reserved |
| 40 | Ch16 Yellow | 90 | Phase 2 On | 140 | Audible Ped 2 | 190 | Reserved | 240 | Logic1 |
| 41 | Ch17 Yellow | 91 | Phase 3 On | 141 | Audible Ped 4 | 191 | Reserved | 241 | Logic2 |
| 42 | Ch18 Yellow | 92 | Phase 4 On | 142 | Audible Ped 6 | 192 | Reserved | 242 | Logic3 |
| 43 | Ch19 Yellow | 93 | Phase 5 On | 143 | Audible Ped 8 | 193 | Reserved | 243 | Logic4 |
| 44 | Ch20 Yellow | 94 | Phase 6 On | 144 | Reserved | 194 | Reserved | 244 | Logic5 |
| 45 | Ch21 Yellow | 95 | Phase 7 On | 145 | Reserved | 195 | Reserved | 245 | Logic6 |
| 46 | Ch22 Yellow | 96 | Phase 8 On | 146 | Reserved | 196 | Reserved | 246 | Logic7 |
| 47 | Ch23 Yellow | 97 | R1 Status A | 147 | Reserved | 197 | Reserved | 247 | Logic8 |
| 48 | Ch24 Yellow | 98 | R1 Status B | 148 | Reserved | 198 | Reserved | 248 | Logic9 |
| 49 | Ch1 Green | 99 | R1 Status C | 149 | Reserved | 199 | Reserved | 249 | Logic10 |
| Func | Output | Func | Output | Func | Output | Func | Output | Func | Output |
| 250 | Reserved | 260 | Reserved | 270 | Reserved | 280 | Reserved | 290 | Reserved |
| 251 | Reserved | 261 | Reserved | 271 | Reserved | 281 | Reserved | 291 | Reserved |
| 252 | Reserved | 262 | Reserved | 272 | Reserved | 282 | Reserved | 292 | Reserved |
| 253 | Reserved | 263 | Reserved | 273 | Reserved | 283 | Reserved | 293 | Reserved |
| 254 | False | 264 | Reserved | 274 | Reserved | 284 | Reserved | 294 | Reserved |
| 255 | True | 265 | Reserved | 275 | Reserved | 285 | Reserved | 295 | Reserved |
| 256 | Reserved | 266 | Reserved | 276 | Reserved | 286 | Reserved | 296 | Reserved |
| 257 | Reserved | 267 | Reserved | 277 | Reserved | 287 | Reserved | 297 | Reserved |
| 258 | Reserved | 268 | Reserved | 278 | Reserved | 288 | Reserved | 298 | Reserved |
| 259 | Reserved | 269 | Reserved | 279 | Reserved | 289 | Reserved | 299 | Reserved |

Customizing the I/O

Before you can customize the I/O, the Apogee software requires that you change the I/O mode to "USER". To change the I/O mode go to MM->1->8->6 as shown below.

```
Main Menu
#.Controller 4.Scheduler 7.Status
2.Coordinate 5.Detectors 8.Login,Utils
3.Preempts 6.Comm
```

```
Controller
1.Phases 4.Flash 7.Enable Run
2.Unit,Ring 5.Overlaps 8.Channel,I/O
3.SDLC 6.Alarms
```

```
Channel & I/O

#.Chan 1-16 4.Chan+ 1-16 7.IO Logic

2.Chan 17-24 5.Chan+ 17-24 8.IO Viewer

3.Chan Parms 6.IO Parms 9.IO UserMap
```

```
I/O Parameters
C1-C11-ABC IO Mode: AUTO
D Conn Mapping: NONE
Invert Rail Inputs: OFF
```

Change the C1-C11-ABC IO Mode to "USER" as shown below:

```
I/O Parameters
C1-C11-ABC IO Mode: USER
D Conn Mapping: NONE
Invert Rail Inputs: OFF
```

Now you are ready to customize any I/O pin that can be accessed by the 2070-2A module, including the C11 connector

Customizing the C1 - An example

Once the above groundwork has been done, customizing any of the C1 pins is easy. We will continue to refer to a 332 cabinet. As an example, lets say that you wanted to program an output to a telltale light whenever a Preemption is active. This chosen output will be wired Switch Pack channel 9 Yellow (C1 Pin 7-7). The following steps would be needed.

- 1) Check the C1 wiring chart for the C1 Connector. As the chart states pin #7-7 is wired to O7-7.
- 2) As shown on the table under the **Input and Output Function Tables** section, the output function for Preemption Active is Function #137.
- 3) Customize the C1 output O7-7 by going to MM->1->8->9->2->5 screen and modifying output O7-7 to be active during output function #137 (PreemptActive) as shown below:

```
Pin Fcn Description Pin Fcn Description
7-1
    17 Ch17 Red
                    -7-2
                          65 Ch17 Green
7-3
     10 Ch10 Red
                     7 - 4
                          34 Ch10 Yellow
7-5
    58 Ch10 Green
                     7-6
                           9 Ch9 Red
                     7-8
    33 Ch9 Yellow
                          57 Ch9 Green
8-1 115 Not Used
                     8-2 115 Not Used
8-3 115 Not Used
                     8-4 115 Not Used
8-5 11# Not Used
                     8-6 115 Not Used
```

Modify pin O8-1 from Function 33 (Channel 9 Yellow) to Function 137 (Preemption Active). Keep in mind that the cabinet wiring is still set up to output to Switch Pack 9 yellow.

```
Pin Fcn Description
                       Pin Fcn Description
                      -7-2
7-1
    17 Ch17 Red
                            65 Ch17 Green
7-3
     10 Ch10 Red
                       7 - 4
                            34 Ch10 Yellow
    58 Ch10 Green
                       7 - 6
                             9 Ch9 Red
7-7 137 PreemptActv
8-1 115 Wet Used
                            57 Ch9 Green
                      7-8
                       8-2 115 Not Used
8-3 115 Not Used
                       8-4 115 Not Used
8-5 115 Not Used
                    +8-6 115 Not Used
```

Note that Switch Pack 9 Yellow will now be illuminated whenever a Preemption is active.

Viewing the results

You can watch the Preemptive Active output to see if it is Active or not by using the I/O Viewer menu at MM->1->8. To view the output for PreemptActive (that will output to Pin O7-7, go to MM->1->8->8 and look at the output column for Function 137.

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| | Inputs | | Outputs |
|-----|-------------|---------|------------------|
| Fon | Description | on Stat | Description Stat |
| 133 | Ped Call | 5 | - Offset Out1 |
| 134 | Ped Call | 6 | Offset Out2 |
| 135 | Ped Call | 7 | Offset Out3 |
| 136 | Ped Call | 8 | Auto Flash |
| 137 | Hold 1 | | PreemptActv Actv |
| 138 | Hold 2 | | LRV Warning |
| | | Àc | tive |

Summary

Setting up specific input functions or output functions for the 2070-2A module is simple, once you understand the specific Cabinet IO pin structure as well as the Apogee programming steps as stated above.