

Byron PPC RMS

The Sciencetech Version
Of the RM-11
Radiation Monitoring System

Byron Nuclear Power Station



RM-11

General Atomics Computer System
(Pictures Courtesy of Braidwood)



RM-11

General Atomics Computer System
(Pictures Courtesy of Braidwood)



RM-11

General Atomics Computer System
(Pictures Courtesy of Braidwood)



RM-11

General Atomics Computer System
(Pictures Courtesy of Braidwood)



RM-11

Unit Workstation & Special Keyboard

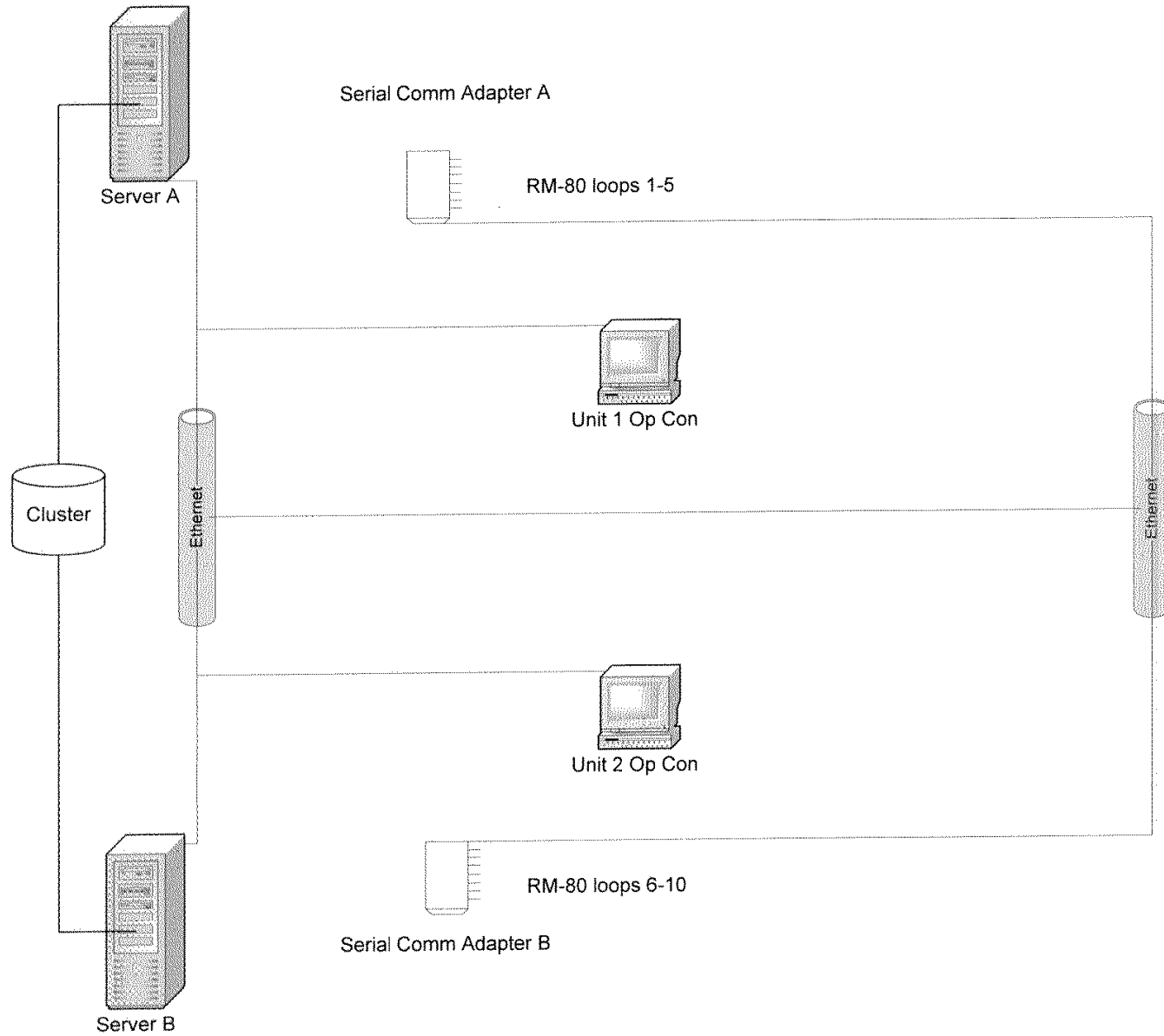


RM-11

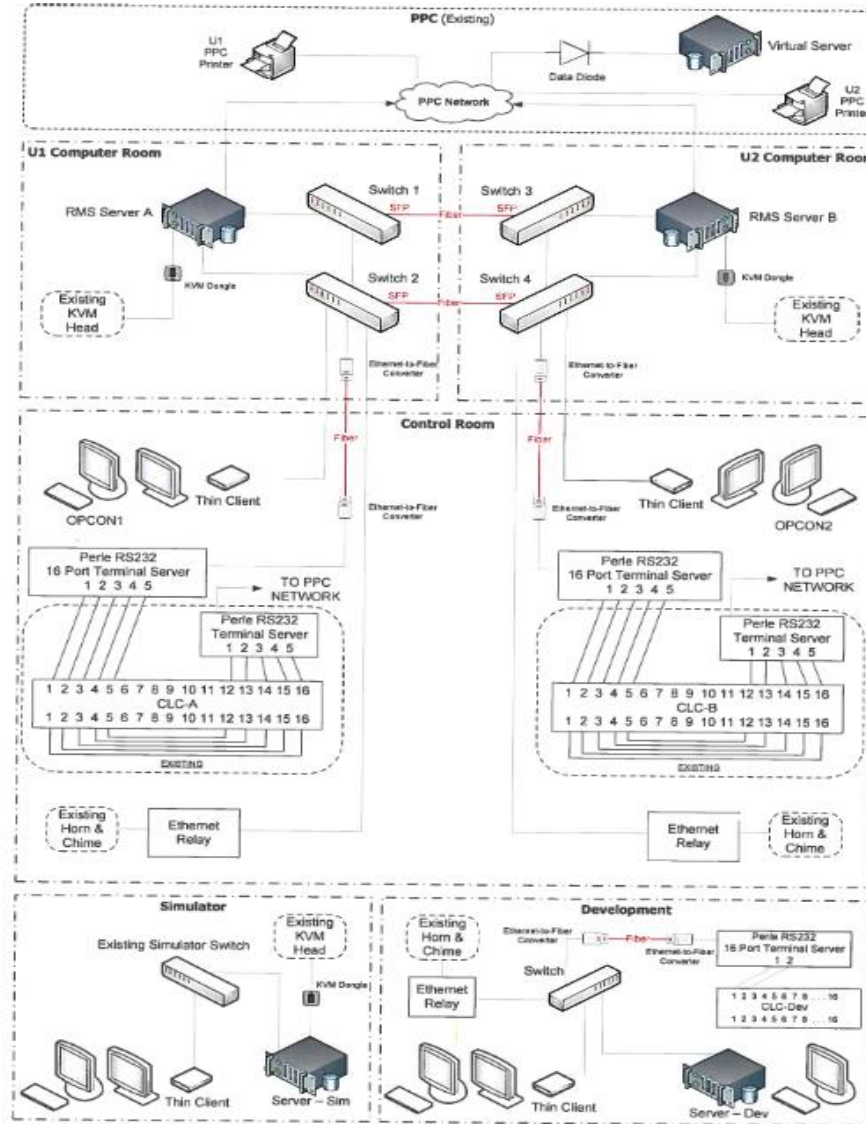
Unit 24-Pin Printer!



RM-11R Block Diagram



Byron's RMS



Byron's RMS

Sciencetech used the existing CLC Board Communication Technology for the field Interface, leaving all of the RM-80 Skids as is,



Byron's RMS

while the old CRT and Server
Technology was removed



Byron's RMS

as well as the old Unit Assist
Printers, Work Stations
and Specialized Keyboard.



Byron's RMS

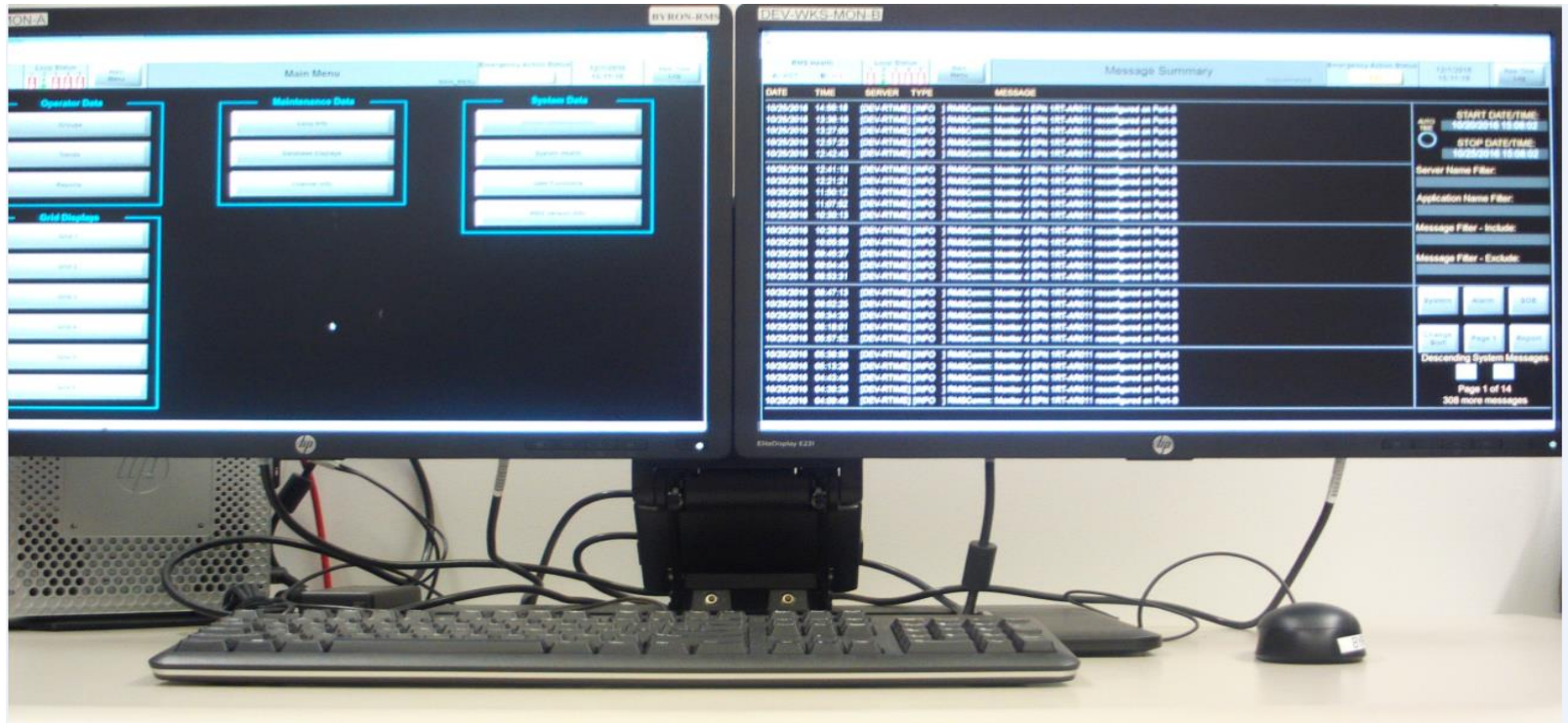
It was replaced with a streamlined set of
2 new rack mounted Windows Based Servers;

- 1 in Unit 1 PPC CR(Normally the Active)
- 1 in Unit 2 PPC CR (normally the Standby)



Byron's RMS

And Dual Screen RMS Wide Screen Monitors
that are run by HP Mini PCs



Byron's RMS

Benefits;

- Updated Technology
- Windows Based OS with mouse click interface
- Rtime look and feel
- Hot Standby Server (like the PPC Rtime)
- Many built in Reports and Trends

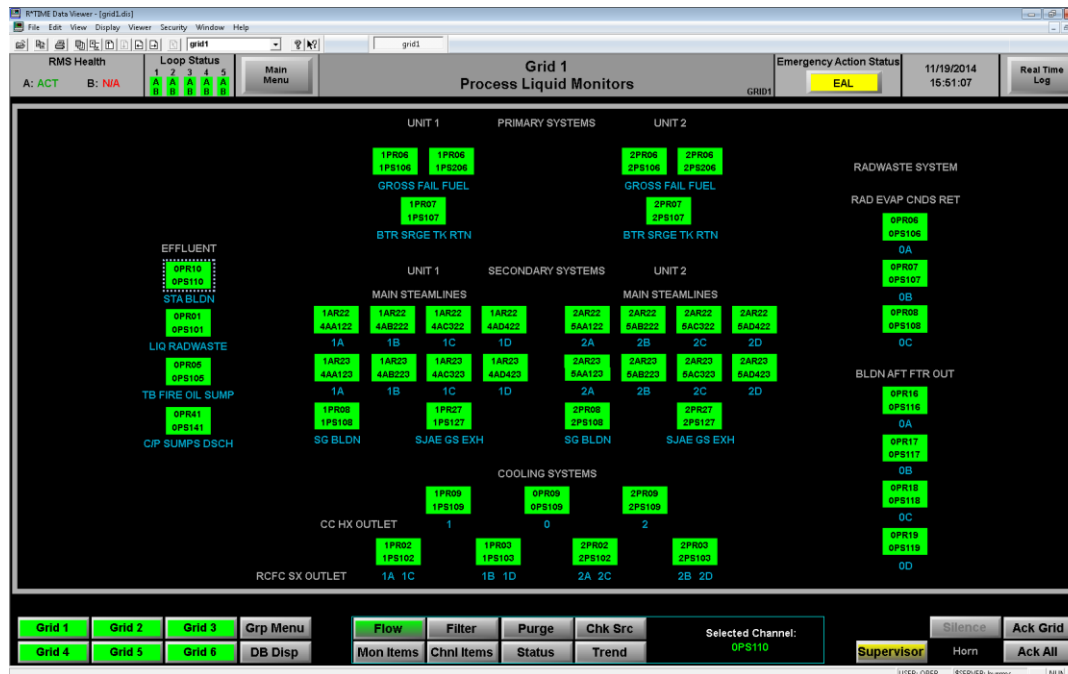
Byron's RMS

Scientech's design kept the RM-11 familiarity on the Main Screens

The screenshot displays the RTIME Data Viewer interface for Grid 6. The main window is titled "RTIME Data Viewer - (grid6.d)" and shows a "Monitor Operability Status" for "Grid 6". The interface includes a menu bar (File, Edit, View, Display, Viewer, Security, Window, Help) and a toolbar with navigation icons. The main display area is a large grid of status indicators, organized into sections: "RMS Health" (A: ACT, B: N/A), "Loop Status" (1-5), "Emergency Action Status" (EAL), and "Real Time Log" (11/19/2014 15:48:30). The grid contains numerous individual monitor status indicators, such as OPR01, OPR02, OPR03, OPR04, OPR05, OPR06, OPR07, OPR08, OPR09, OPR10, OPR11, OPR12, OPR13, OPR14, OPR15, OPR16, OPR17, OPR18, OPR19, OPR20, OPR21, OPR22, OPR23, OPR24, OPR25, OPR26, OPR27, OPR28, OPR29, OPR30, OPR31, OPR32, OPR33, OPR34, OPR35, OPR36, OPR37, OPR38, OPR39, OPR40, OPR41, OPR42, OPR43, OPR44, OPR45, OPR46, OPR47, OPR48, OPR49, OPR50, OPR51, OPR52, OPR53, OPR54, OPR55, OPR56, OPR57, OPR58, OPR59, OPR60, OPR61, OPR62, OPR63, OPR64, OPR65, OPR66, OPR67, OPR68, OPR69, OPR70, OPR71, OPR72, OPR73, OPR74, OPR75, OPR76, OPR77, OPR78, OPR79, OPR80, OPR81, OPR82, OPR83, OPR84, OPR85, OPR86, OPR87, OPR88, OPR89, OPR90, OPR91, OPR92, OPR93, OPR94, OPR95, OPR96, OPR97, OPR98, OPR99, OPR100, OPR101, OPR102, OPR103, OPR104, OPR105, OPR106, OPR107, OPR108, OPR109, OPR110, OPR111, OPR112, OPR113, OPR114, OPR115, OPR116, OPR117, OPR118, OPR119, OPR120, OPR121, OPR122, OPR123, OPR124, OPR125, OPR126, OPR127, OPR128, OPR129, OPR130, OPR131, OPR132, OPR133, OPR134, OPR135, OPR136, OPR137, OPR138, OPR139, OPR140, OPR141, OPR142, OPR143, OPR144, OPR145, OPR146, OPR147, OPR148, OPR149, OPR150, OPR151, OPR152, OPR153, OPR154, OPR155, OPR156, OPR157, OPR158, OPR159, OPR160, OPR161, OPR162, OPR163, OPR164, OPR165, OPR166, OPR167, OPR168, OPR169, OPR170, OPR171, OPR172, OPR173, OPR174, OPR175, OPR176, OPR177, OPR178, OPR179, OPR180, OPR181, OPR182, OPR183, OPR184, OPR185, OPR186, OPR187, OPR188, OPR189, OPR190, OPR191, OPR192, OPR193, OPR194, OPR195, OPR196, OPR197, OPR198, OPR199, OPR200, OPR201, OPR202, OPR203, OPR204, OPR205, OPR206, OPR207, OPR208, OPR209, OPR210, OPR211, OPR212, OPR213, OPR214, OPR215, OPR216, OPR217, OPR218, OPR219, OPR220, OPR221, OPR222, OPR223, OPR224, OPR225, OPR226, OPR227, OPR228, OPR229, OPR230, OPR231, OPR232, OPR233, OPR234, OPR235, OPR236, OPR237, OPR238, OPR239, OPR240, OPR241, OPR242, OPR243, OPR244, OPR245, OPR246, OPR247, OPR248, OPR249, OPR250, OPR251, OPR252, OPR253, OPR254, OPR255, OPR256, OPR257, OPR258, OPR259, OPR260, OPR261, OPR262, OPR263, OPR264, OPR265, OPR266, OPR267, OPR268, OPR269, OPR270, OPR271, OPR272, OPR273, OPR274, OPR275, OPR276, OPR277, OPR278, OPR279, OPR280, OPR281, OPR282, OPR283, OPR284, OPR285, OPR286, OPR287, OPR288, OPR289, OPR290, OPR291, OPR292, OPR293, OPR294, OPR295, OPR296, OPR297, OPR298, OPR299, OPR300, OPR301, OPR302, OPR303, OPR304, OPR305, OPR306, OPR307, OPR308, OPR309, OPR310, OPR311, OPR312, OPR313, OPR314, OPR315, OPR316, OPR317, OPR318, OPR319, OPR320, OPR321, OPR322, OPR323, OPR324, OPR325, OPR326, OPR327, OPR328, OPR329, OPR330, OPR331, OPR332, OPR333, OPR334, OPR335, OPR336, OPR337, OPR338, OPR339, OPR340, OPR341, OPR342, OPR343, OPR344, OPR345, OPR346, OPR347, OPR348, OPR349, OPR350, OPR351, OPR352, OPR353, OPR354, OPR355, OPR356, OPR357, OPR358, OPR359, OPR360, OPR361, OPR362, OPR363, OPR364, OPR365, OPR366, OPR367, OPR368, OPR369, OPR370, OPR371, OPR372, OPR373, OPR374, OPR375, OPR376, OPR377, OPR378, OPR379, OPR380, OPR381, OPR382, OPR383, OPR384, OPR385, OPR386, OPR387, OPR388, OPR389, OPR390, OPR391, OPR392, OPR393, OPR394, OPR395, OPR396, OPR397, OPR398, OPR399, OPR400, OPR401, OPR402, OPR403, OPR404, OPR405, OPR406, OPR407, OPR408, OPR409, OPR410, OPR411, OPR412, OPR413, OPR414, OPR415, OPR416, OPR417, OPR418, OPR419, OPR420, OPR421, OPR422, OPR423, OPR424, OPR425, OPR426, OPR427, OPR428, OPR429, OPR430, OPR431, OPR432, OPR433, OPR434, OPR435, OPR436, OPR437, OPR438, OPR439, OPR440, OPR441, OPR442, OPR443, OPR444, OPR445, OPR446, OPR447, OPR448, OPR449, OPR450, OPR451, OPR452, OPR453, OPR454, OPR455, OPR456, OPR457, OPR458, OPR459, OPR460, OPR461, OPR462, OPR463, OPR464, OPR465, OPR466, OPR467, OPR468, OPR469, OPR470, OPR471, OPR472, OPR473, OPR474, OPR475, OPR476, OPR477, OPR478, OPR479, OPR480, OPR481, OPR482, OPR483, OPR484, OPR485, OPR486, OPR487, OPR488, OPR489, OPR490, OPR491, OPR492, OPR493, OPR494, OPR495, OPR496, OPR497, OPR498, OPR499, OPR500, OPR501, OPR502, OPR503, OPR504, OPR505, OPR506, OPR507, OPR508, OPR509, OPR510, OPR511, OPR512, OPR513, OPR514, OPR515, OPR516, OPR517, OPR518, OPR519, OPR520, OPR521, OPR522, OPR523, OPR524, OPR525, OPR526, OPR527, OPR528, OPR529, OPR530, OPR531, OPR532, OPR533, OPR534, OPR535, OPR536, OPR537, OPR538, OPR539, OPR540, OPR541, OPR542, OPR543, OPR544, OPR545, OPR546, OPR547, OPR548, OPR549, OPR550, OPR551, OPR552, OPR553, OPR554, OPR555, OPR556, OPR557, OPR558, OPR559, OPR560, OPR561, OPR562, OPR563, OPR564, OPR565, OPR566, OPR567, OPR568, OPR569, OPR570, OPR571, OPR572, OPR573, OPR574, OPR575, OPR576, OPR577, OPR578, OPR579, OPR580, OPR581, OPR582, OPR583, OPR584, OPR585, OPR586, OPR587, OPR588, OPR589, OPR590, OPR591, OPR592, OPR593, OPR594, OPR595, OPR596, OPR597, OPR598, OPR599, OPR600, OPR601, OPR602, OPR603, OPR604, OPR605, OPR606, OPR607, OPR608, OPR609, OPR610, OPR611, OPR612, OPR613, OPR614, OPR615, OPR616, OPR617, OPR618, OPR619, OPR620, OPR621, OPR622, OPR623, OPR624, OPR625, OPR626, OPR627, OPR628, OPR629, OPR630, OPR631, OPR632, OPR633, OPR634, OPR635, OPR636, OPR637, OPR638, OPR639, OPR640, OPR641, OPR642, OPR643, OPR644, OPR645, OPR646, OPR647, OPR648, OPR649, OPR650, OPR651, OPR652, OPR653, OPR654, OPR655, OPR656, OPR657, OPR658, OPR659, OPR660, OPR661, OPR662, OPR663, OPR664, OPR665, OPR666, OPR667, OPR668, OPR669, OPR670, OPR671, OPR672, OPR673, OPR674, OPR675, OPR676, OPR677, OPR678, OPR679, OPR680, OPR681, OPR682, OPR683, OPR684, OPR685, OPR686, OPR687, OPR688, OPR689, OPR690, OPR691, OPR692, OPR693, OPR694, OPR695, OPR696, OPR697, OPR698, OPR699, OPR700, OPR701, OPR702, OPR703, OPR704, OPR705, OPR706, OPR707, OPR708, OPR709, OPR710, OPR711, OPR712, OPR713, OPR714, OPR715, OPR716, OPR717, OPR718, OPR719, OPR720, OPR721, OPR722, OPR723, OPR724, OPR725, OPR726, OPR727, OPR728, OPR729, OPR730, OPR731, OPR732, OPR733, OPR734, OPR735, OPR736, OPR737, OPR738, OPR739, OPR740, OPR741, OPR742, OPR743, OPR744, OPR745, OPR746, OPR747, OPR748, OPR749, OPR750, OPR751, OPR752, OPR753, OPR754, OPR755, OPR756, OPR757, OPR758, OPR759, OPR760, OPR761, OPR762, OPR763, OPR764, OPR765, OPR766, OPR767, OPR768, OPR769, OPR770, OPR771, OPR772, OPR773, OPR774, OPR775, OPR776, OPR777, OPR778, OPR779, OPR780, OPR781, OPR782, OPR783, OPR784, OPR785, OPR786, OPR787, OPR788, OPR789, OPR790, OPR791, OPR792, OPR793, OPR794, OPR795, OPR796, OPR797, OPR798, OPR799, OPR800, OPR801, OPR802, OPR803, OPR804, OPR805, OPR806, OPR807, OPR808, OPR809, OPR810, OPR811, OPR812, OPR813, OPR814, OPR815, OPR816, OPR817, OPR818, OPR819, OPR820, OPR821, OPR822, OPR823, OPR824, OPR825, OPR826, OPR827, OPR828, OPR829, OPR830, OPR831, OPR832, OPR833, OPR834, OPR835, OPR836, OPR837, OPR838, OPR839, OPR840, OPR841, OPR842, OPR843, OPR844, OPR845, OPR846, OPR847, OPR848, OPR849, OPR850, OPR851, OPR852, OPR853, OPR854, OPR855, OPR856, OPR857, OPR858, OPR859, OPR860, OPR861, OPR862, OPR863, OPR864, OPR865, OPR866, OPR867, OPR868, OPR869, OPR870, OPR871, OPR872, OPR873, OPR874, OPR875, OPR876, OPR877, OPR878, OPR879, OPR880, OPR881, OPR882, OPR883, OPR884, OPR885, OPR886, OPR887, OPR888, OPR889, OPR890, OPR891, OPR892, OPR893, OPR894, OPR895, OPR896, OPR897, OPR898, OPR899, OPR900, OPR901, OPR902, OPR903, OPR904, OPR905, OPR906, OPR907, OPR908, OPR909, OPR910, OPR911, OPR912, OPR913, OPR914, OPR915, OPR916, OPR917, OPR918, OPR919, OPR920, OPR921, OPR922, OPR923, OPR924, OPR925, OPR926, OPR927, OPR928, OPR929, OPR930, OPR931, OPR932, OPR933, OPR934, OPR935, OPR936, OPR937, OPR938, OPR939, OPR940, OPR941, OPR942, OPR943, OPR944, OPR945, OPR946, OPR947, OPR948, OPR949, OPR950, OPR951, OPR952, OPR953, OPR954, OPR955, OPR956, OPR957, OPR958, OPR959, OPR960, OPR961, OPR962, OPR963, OPR964, OPR965, OPR966, OPR967, OPR968, OPR969, OPR970, OPR971, OPR972, OPR973, OPR974, OPR975, OPR976, OPR977, OPR978, OPR979, OPR980, OPR981, OPR982, OPR983, OPR984, OPR985, OPR986, OPR987, OPR988, OPR989, OPR990, OPR991, OPR992, OPR993, OPR994, OPR995, OPR996, OPR997, OPR998, OPR999, OPR1000. The bottom of the interface features a navigation bar with buttons for "Grid 1" through "Grid 6", "Grp Menu", "DB Disp", "Flow", "Filter", "Purge", "Chk Src", "Mon Items", "Chnl Items", "Status", "Trend", "Selected Channel: OPA221", "Supervisor", "Horn", "Ack Grid", and "Ack All". The user information at the bottom right reads "USER: OPER \$\$\$PVEr.byrons N/A".

Byron's RMS

to help preserve the look and feel that the Operators and IM Personnel are used to.



Byron's RMS

R*TIME Data Viewer - [grid2.dis]

File Edit View Display Viewer Security Window Help

grid2 grid2

RMS Health A: ACT B: N/A

Loop Status

1	2	3	4	5
A	A	A	A	A
B	B	B	B	B

Main Menu

Grid 2
Process Air Monitors

Emergency Action Status: **EAL**

11/19/2014 15:51:55

Real Time Log

CNMT BLDG UNIT 1

1PR11	1PR11	1PR11	1PR11
1PA211	1PB111	1PC311	1PD411

CNMT ATMOS

1PR01	1PR01	1PR01
1PA201	1PB101	1PC301

CNMT PURGE

VENT STACK 0A EFF

1PR30	1PR30	1PR30	1PR30
1PA130	1PB230	1PC330	1PF430

AUX BLDG VENT WRGM

1PR28	1PR28	1PR28	1PR28
1PA228	1PB128	1PC328	1PD428

AUX BLDG VENT NORM

VENT STACK 0B EFF

2PR30	2PR30	2PR30	2PR30
2PA130	2PB230	2PC330	2PF430

AUX BLDG VENT WRGM

2PR28	2PR28	2PR28	2PR28
2PA228	2PB128	2PC328	2PD428

AUX BLDG VENT NORM

CNMT BLDG UNIT 2

2PR11	2PR11	2PR11	2PR11
2PA211	2PB111	2PC311	2PD411

CNMT ATMOS

2PR01	2PR01	2PR01
2PA201	2PB101	2PC301

CNMT PURGE

RH CS PUMP 1A CUB

1PR13	1PR13
1PA213	1PB113

RH CS PUMP 1B CUB

1PR14	1PR14
1PA214	1PB114

RH HX 1A CUB

1PR15	1PR15
1PA215	1PB115

RH HX 1B CUB

1PR16	1PR16
1PA216	1PB116

RH HX 2A CUB

2PR13	2PR13
2PA213	2PB113

RH CS PUMP 2A CUB

2PR14	2PR14
2PA214	2PB114

RH CS PUMP 2B CUB

2PR15	2PR15
2PA215	2PB115

RH HX 2A CUB

2PR16	2PR16
2PA216	2PB116

RH HX 2B CUB

2PR17	2PR17
2PA217	2PB117

CENT CHG PMP 2A CUB

2PR18	2PR18
2PA218	2PB118

CENT CHG PMP 2B CUB

AUXILIARY BUILDING

MAIN CONTROL ROOM

0PR31	0PR31	0PR31	0PR35	0PR35	0PR35
0PA231	0PB131	0PC331	0PA235	0PB135	0PC335

OUT AIR IN 0A

0PR32	0PR32	0PR32	0PR36	0PR36	0PR36
0PA232	0PB132	0PC332	0PA236	0PB136	0PC336

TURB AIR IN 0A

OUT AIR IN 0A

0PR33	0PR33	0PR33	0PR37	0PR37	0PR37
0PA233	0PB133	0PC333	0PA237	0PB137	0PC337

TURB AIR IN 0A

OUT AIR IN 0B

0PR34	0PR34	0PR34	0PR38	0PR38	0PR38
0PA234	0PB134	0PC334	0PA238	0PB138	0PC338

TURB AIR IN 0B

Grid 1 Grid 2 Grid 3 Grp Menu

Grid 4 Grid 5 Grid 6 DB Disp

Flow Filter Purge Chk Src

Mon Items Chnl Items Status Trend

Selected Channel:
0PA231

Silence Ack Grid

Supervisor Horn Ack All

USER: OPER \$SERVER: byrnmrs NUN

Byron's RMS

R*TIME Data Viewer - [grid3.dsis]

File Edit View Display Viewer Security Window Help

grid3

grid3

RMS Health Loop Status Main Menu

A: ACT B: N/A 1 2 3 4 5
 A A A A A
 B B B B B

Grid 3
Process Air Monitors

Emergency Action Status 11/19/2014 Real Time Log
 EAL 15:52:14

AUXILIARY BUILDING

1PR21 1PR21 1PR21
1PA221 1PB121 1PC321
PIPE TUNNEL

0PR21 0PR21 0PR21
0PA221 0PB121 0PC321
AUX BLDG EXH 0A

0PR22 0PR22 0PR22
0PA222 0PB122 0PC322
AUX BLDG EXH 0B

2PR21 2PR21 2PR21
2PA221 2PB121 2PC321
PIPE TUNNEL

0PR12
0PS112
RECYCLE EVAP CUB

0PR24 0PR24 0PR24
0PA224 0PB124 0PC324
FHB EXH

0PR11 0PR11
0PA211 0PB111
RADWASTE EVAP CUB

0PR15
0PS115
LAUNDRY ROOM

0PR26 0PR26 0PR26
0PA226 0PB126 0PC326
RADWASTE VENT

0PR14
0PS114
DRM STA

0PR03 0PR03 0PR03
0PA203 0PB103 0PC303
LAB FUME HOOD

0PR25 0PR25 0PR25
0PA225 0PB125 0PC325
FTR VENT

0PR13 0PR13
0PA213 0PB113
GAS DECAY TK CUB

TSC

0PR60 0PR60 0PR60
0PA260 0PB160 0PC360
TSC VENT SYS

0PR02 0PR02
0PA202 0PB102
GAS DECAY TK EFF

RADWASTE BLDG

0PR40 0PR40 0PR40
0PA240 0PB140 0PC340
VR AREA CUB VENT

Grid 1 Grid 2 Grid 3 Grp Menu
Grid 4 Grid 5 Grid 6 DB Disp

Flow Filter Purge Chk Src
Mon Items Chnl Items Status Trend

Selected Channel:
0PA221

Silence Ack Grid
Supervisor Horn Ack All

USER: OPER \$SERVER: byrms NUN

Byron's RMS

R*TIME Data Viewer - [grid4.dsis]

File Edit View Display Viewer Security Window Help

grid4

grid4

RMS Health Loop Status Main Menu Grid 4 Area Monitors Emergency Action Status 11/19/2014 15:52:42 Real Time Log

A: ACT B: N/A 1 2 3 4 5 GRID4 EAL

CNMT BLDG UNIT 1 1AR14 1AR14 1AR14 4AS101 4AS202 4AS303 GENERAL AREA 1AR20 1AR21 1AR11 1AR12 4AS120 4AS121 4AS111 4AS112 HI RNG FH ICDT			1AR27 1AR27 4AA127 4AB227 ELEV 401 1AR26 1AR26 4AA126 4AB226 ELEV 383	
1AR24 1AR24 4AA124 4AB224 MS PEN AREAS			1AR25 1AR25 4AA125 4AB225 ELEV 364	
0AR67 0AR67 3AS167 3AS267 RAD CAL FAC			1AR13 4AS113 VCT CUB	
0AR61 3AS232 HI LVL LAB			0AR59 0AR59 0AR59 3AS207 3AS308 3AS409 ELEV 383 0AR58 0AR58 0AR58 3AS104 3AS205 3AS306 ELEV 364 0AR57 0AR57 0AR57 3AS101 3AS202 3AS303 ELEV 346	
0AR60 3AS331 PRIM SAMP RM AUXILIARY BLDG			0AR61 3AS115 DECON FAC	
0AR77 3AS173 TSC 0AR77 3AS274			0AR62 4AS210 MCR 0AR62 5AS310	
0AR66 0AR64 0AR64 3AS141 3AS142 3AS243 RADWASTE BLDG 0AR65 0AR65 0AR65 0AR68 0AR68 3AS146 3AS247 3AS348 3AS144 3AS245 VR SYSTEM DRM STG 0AR66 0AR66 3AS249 3AS350			2AR27 2AR27 5AA127 5AB227 ELEV 401 2AR26 2AR26 5AA126 5AB226 ELEV 383 2AR25 2AR25 5AA125 5AB225 ELEV 364	
2AR14 2AR14 2AR14 5AS101 5AS202 5AS303 GENERAL AREA 2AR20 2AR21 2AR11 2AR12 5AS120 5AS121 5AS111 5AS112 HI RNG FH ICDT			2AR24 2AR24 5AA124 5AB224 MS	
Grid 1 Grid 2 Grid 3 Grp Menu			Flow Filter Purge Chk Src	
Grid 4 Grid 5 Grid 6 DB Disp			Mon Items Chnl Items Status Trend	
			Selected Channel: 3AS232	
			Silence Ack Grid	
			Supervisor Horn Ack All	

USER: OPER \$SERVER: byrrms NUN

Byron's RMS

R*TIME Data Viewer - [grid5.dis]

File Edit View Display Viewer Security Window Help

grid5 grid5

RMS Health A: ACT B: N/A

Loop Status

1	2	3	4	5
A	A	A	A	A
B	B	B	B	B

Main Menu

Grid 5

Emergency Action Status: EAL

11/19/2014 15:53:01

Real Time Log

UNIT 1 MONITORS

NORMAL **OA** **WRGM**

1PR28	1PR28	1PR28	1PR28	1PR30	1PR30	1PR30	1PR30
1PB128	1PA228	1PC328	1PD428	1PA130	1PB230	1PC330	1PF430

AUX BLDG VENT STACK EFFLUENT

1AR22	1AR22	1AR22	1AR22	1AR23	1AR23	1AR23	1AR23
4AA122	4AB222	4AC322	4AD422	4AA123	4AB223	4AC323	4AD423

MAIN STEAMLINES

RCS LEAKAGE **PURGE**

1PR11	1PR11	1PR11	1PR11	1PR01	1PR01	1PR01
1PB111	1PA211	1PC311	1PD411	1PB101	1PA201	1PC301

ISOLATION **HIGH RANGE**

1AR11	1AR12	1AR20	1AR21
4AS111	4AS112	4AS120	4AS121

UNIT 2 MONITORS

NORMAL **OB** **WRGM**

2PR28	2PR28	2PR28	2PR28	2PR30	2PR30	2PR30	2PR30
2PB128	2PA228	2PC328	2PD428	2PA130	2PB230	2PC330	2PF430

AUX BLDG VENT STACK EFFLUENT

2AR22	2AR22	2AR22	2AR22	2AR23	2AR23	2AR23	2AR23
5AA122	5AB222	5AC322	5AD422	5AA123	5AB223	5AC323	5AD423

MAIN STEAMLINES

RCS LEAKAGE **PURGE**

2PR11	2PR11	2PR11	2PR11	2PR01	2PR01	2PR01
2PB111	2PA211	2PC311	2PD411	2PB101	2PA201	2PC301

ISOLATION **HIGH RANGE**

2AR11	2AR12	2AR20	2AR21
5AS111	5AS112	5AS120	5AS121

CONTAINMENT MONITORS

A	C	B	D	A	C	B	D	1	0	2
1PR02	1PR03	2PR02	2PR03	1PR09	0PR09	2PR09				
1PS102	1PS103	2PS102	2PS103	1PS109	0PS109	2PS109				

RCFC SX OUTLET **CC HX OUTLET**

0PR01	0PR10	0PR05	0PR41
0PS101	0PS110	0PS105	0PS141

RADWASTE **CW B/D** **F/O** **C/P**

MCR AIR INTAKES

0PR31	0PR31	0PR31	0
0PB131	0PA231	0PC331	A
0PR32	0PR32	0PR32	0
0PB132	0PA232	0PC332	A
0PR33	0PR33	0PR33	0
0PB133	0PA233	0PC333	B
0PR34	0PR34	0PR34	0
0PB134	0PA234	0PC334	B

TANK EFFL

0PR02	0PR02
0PB102	0PA202

GAS DECAY

INCIDENT

0AR55	0AR56
3AS155	3AS156

LIQUID EFFLUENT MONITORS

Grid 1 Grid 2 Grid 3 Grp Menu

Grid 4 Grid 5 Grid 6 DB Disp

Flow **Filter** **Purge** **Chk Src**

Mon Items Chnl Items Status Trend

Selected Channel: 2PB111

Silence Ack Grid

Supervisor Horn Ack All

USER: OPER \$SERVER: byrrms NUN

Byron's RMS

And have added
many new screens that
that mimic the PPC Rtime
and bring much more
useful information
that's easier to access.

Byron's RMS

For example: Communication Loop Diagrams...

With Loop Status and health right on top

RMS Health
A: ACT B: N/A

Loop Status
1: A A A A A
2: B B B B B

Loop 1 Configuration
Emergency Action Status: EAL
Date: 11/19/2014 15:54:43

Port A
Polls Sent = 2182
Polls Received = 0
Messages Sent = 100087
Messages Rcvd = 0
Message Timeouts = 2160
Spurious Characters = 7189

Port B
Polls Sent = 2142
Polls Received = 0
Messages Sent = 92704
Messages Rcvd = 0
Message Timeouts = 2151
Spurious Characters = 9528

Grids: Grid 1, Grid 2, Grid 3, Grp Menu, Grid 4, Grid 5, Grid 6, DB Disp

Flow: Mon Items, Chnl Items, Status, Trend

Selected Channel: 3AS165

Supervisor: Silence, Horn, Ack All

Loop Req Status: INACTIVE

Footer: 3 Points... Point 1: \$CALC008 Description: 1AR25 - returns worst channel status Value: 0.000000 Units: N/A | USER: OPER | \$SERVER: byrrms | NUN

Byron's RMS

and have Communications Stats

for both Ports plainly visible...

The screenshot displays the R*TIME Data Viewer interface for Loop 2 Configuration. The interface includes a menu bar, a toolbar, and a main display area. The main display area is divided into several sections:

- RMS Health:** Shows A: ACT and B: N/A.
- Loop Status:** Shows a grid of status indicators for loops 1 through 5.
- Emergency Action Status:** Shows EAL.
- Date and Time:** Shows 11/19/2014 15:54:58.
- Real Time Log:** A button for logging.
- Port A Stats:**
 - Polls Sent = 36128
 - Polls Received = 36123
 - Messages Sent = 36243
 - Messages Rcvd = 164
 - Message Timeouts = 6
 - Spurious Characters = 0
- Port B Stats:**
 - Polls Sent = 36116
 - Polls Received = 36110
 - Messages Sent = 36254
 - Messages Rcvd = 179
 - Message Timeouts = 6
 - Spurious Characters = 0
- Monitoring Grid:** A grid of 21 monitors showing error counts for Port A and Port B. Most monitors show 0 errors, but some show 3 errors.
- Control Panel:** Includes buttons for Clear Counts, Reconfigure, Port A Bypass, Port B Bypass, Loop Req Status, Silence, and Ack All.
- Grid Selection:** Buttons for Grid 1 through Grid 6, Grp Menu, and DB Disp.
- Flow and Filter:** Buttons for Flow, Filter, Purge, Chk Src, Mon Items, and Chnl Items.
- Status and Trend:** Buttons for Status and Trend.
- Selected Channel:** Shows 3AS155.
- Supervisor:** Shows Supervisor, Horn, and Ack All.

Byron's RMS

as well as contain other important information.

The screenshot displays the R*TIME Data Viewer interface for Loop 3 Configuration. The main window shows a network of 24 RM-80 Monitors connected to Port A and Port B. Each monitor displays its ID and error counts for both ports. The interface includes a top navigation bar with RMS Health, Loop Status, Emergency Action Status (EAL), and a Real Time Log. A central panel shows the configuration details for Loop 3, including a Main Menu button. The bottom of the screen features a grid of buttons for Grid 1 through Grid 6, a Grp Menu, and a DB Disp button. A flow control section includes buttons for Flow, Filter, Purge, Chk Src, Mon Items, Chnl Items, Status, and Trend. A Selected Channel dropdown is set to 3AS155. The bottom right corner shows the user as OPER, the server as byrms, and the status as INACTIVE. The date and time are 11/19/2014 15:55:16.

RMS Health
A: ACT B: N/A

Loop Status
1 2 3 4 5
A A A A A
B B B B B

Emergency Action Status
EAL

Loop 3 Configuration
LOOPCONFIG3

Port A
Polls Sent = 2122
Polls Received = 0
Messages Sent = 106900
Messages Rcvd = 0
Message Timeouts = 2084
Spurious Characters = 4985

Port B
Polls Sent = 2115
Polls Received = 0
Messages Sent = 99690
Messages Rcvd = 0
Message Timeouts = 2070
Spurious Characters = 7387

Monitor ID	Port A Errors	Port B Errors
RM-80 Monitor 0RT-AR063	171	120
RM-80 Monitor 1RT-PR002	123	168
RM-80 Monitor 1RT-PR003	120	117
RM-80 Monitor 0RT-AR067	15	15
RM-80 Monitor 0RT-AR077	117	120
RM-80 Monitor 0RT-AR069	120	117
RM-80 Monitor 0RT-PR019	117	120
RM-80 Monitor 0RT-PR016	120	117
RM-80 Monitor 0RT-PR017	117	120
RM-80 Monitor 0RT-PR018	120	117
RM-80 Monitor 0RT-PR050	120	117
RM-80 Monitor 0RT-PR041	117	120
RM-80 Monitor 1RT-PR027	120	117
RM-80 Monitor 0RT-PR005	117	120
RM-80 Monitor 0RT-PR001	120	117
RM-80 Monitor 2RT-PR027	117	120
RM-80 Monitor 2RT-PR003	120	114
RM-80 Monitor 2RT-PR002	114	120
RM-80 Monitor 0RT-PR008	15	12
RM-80 Monitor 0RT-PR007	12	15
RM-80 Monitor 0RT-PR006	15	12

Grid 1 **Grid 2** **Grid 3** **Grp Menu**
Grid 4 **Grid 5** **Grid 6** **DB Disp**

Flow **Filter** **Purge** **Chk Src** **Selected Channel: 3AS155**
Mon Items **Chnl Items** **Status** **Trend**

Silence **Supervisor** **Horn** **INACTIVE** **Ack All**

USER: OPER \$SERVER: byrms NUN

Byron's RMS

Rtime Style Tool Bars along the Top

RMS Health
A: ACT B: N/A

Loop Status
1: A B 2: A B 3: A B 4: A B 5: A B

Loop 4 Configuration
LOOPCONFIG4

Emergency Action Status
EAL

11/19/2014 15:55:27

Real Time Log

Port A
Polls Sent = 1743
Polls Received = 0
Messages Sent = 107452
Messages Rcvd = 0
Message Timeouts = 1724
Spurious Characters = 4883

Port B
Polls Sent = 2037
Polls Received = 0
Messages Sent = 104821
Messages Rcvd = 0
Message Timeouts = 2030
Spurious Characters = 5678

RM-80 Monitor 1RT-PR016 Errors: 189 (A), 164 (B)
RM-80 Monitor 1RT-PR015 Errors: 144 (A), 195 (B)
RM-80 Monitor 1RT-PR006 Errors: 144 (A), 162 (B)
RM-80 Monitor 0RT-AR059 Errors: 138 (A), 171 (B)
RM-80 Monitor 0RT-AR058 Errors: 144 (A), 159 (B)
RM-80 Monitor 0RT-AR056 Errors: 135 (A), 168 (B)
RM-80 Monitor 0RT-AR055 Errors: 24 (A), 48 (B)
RM-80 Monitor 0RT-AR054 Errors: 135 (A), 168 (B)
RM-80 Monitor 0RT-PR040 Errors: 144 (A), 162 (B)
RM-80 Monitor 2RT-PR014 Errors: 135 (A), 168 (B)
RM-80 Monitor 2RT-PR006 Errors: 141 (A), 169 (B)
RM-80 Monitor 2RT-PR015 Errors: 135 (A), 165 (B)
RM-80 Monitor 2RT-PR016 Errors: 156 (A), 159 (B)

Grid 1 **Grid 2** **Grid 3** **Grp Menu**
Grid 4 **Grid 5** **Grid 6** **DB Disp**

Flow **Filter** **Purge** **Chk Src** **Selected Channel: 3AS156**
Mon Items **Chnl Items** **Status** **Trend**

Silence **Supervisor** **Horn** **ACK ALL**

Clear Counts
Reconfigure
Port A Bypass
Port B Bypass
Loop Req Status: INACTIVE

USER: OPER \$SERVER: byrrms NUN

Byron's RMS

Just like we are used to viewing in the PPC.

R*TIME Data Viewer - [LOOPCONFIG5.DIS]

File Edit View Display Viewer Security Window Help

LOOPCONFIG5 loopconfig5

RMS Health A: ACT B: N/A

Loop Status 1 2 3 4 5

Main Menu

Loop 5 Configuration

Emergency Action Status EAL

11/19/2014 15:55:43

Real Time Log

Loop 1

Loop 2

Loop 3

Loop 4

Loop 5

Port A

Polls Sent = 2199

Polls Received = 0

Messages Sent = 106887

Messages Rcvd = 0

Message Timeouts = 2171

Spurious Characters = 5016

RM-80 Monitor 1RT-PR009 Errors: 153

RM-80 Monitor 0RT-PR009 Errors: 123

RM-80 Monitor 0RT-AR058 Errors: 111

RM-80 Monitor 1RT-PR017 Errors: 108

RM-80 Monitor 0RT-AR057 Errors: 108

RM-80 Monitor 1RT-PR013 Errors: 111

RM-80 Monitor 1RT-PR007 Errors: 15

RM-80 Monitor 1RT-PR016 Errors: 111

RM-80 Monitor 1RT-PR014 Errors: 108

RM-80 Monitor 1RT-PR011 Errors: 120

RM-80 Monitor 0RT-PR012 Errors: 111

RM-80 Monitor 0RT-PR013 Errors: 105

RM-80 Monitor 0RT-PR002 Errors: 114

RM-80 Monitor 2RT-PR016 Errors: 105

RM-80 Monitor 2RT-PR013 Errors: 108

RM-80 Monitor 2RT-PR007 Errors: 15

RM-80 Monitor 0RT-PR010 Errors: 165

RM-80 Monitor 2RT-PR009 Errors: 102

RM-80 Monitor 2RT-PR017 Errors: 108

RM-80 Monitor 2RT-PR011 Errors: 102

RM-80 Monitor 2RT-PR014 Errors: 108

Port B

Polls Sent = 2902

Polls Received = 0

Messages Sent = 106583

Messages Rcvd = 0

Message Timeouts = 2901

Spurious Characters = 5071

RM-80 Monitor 0RT-PR010 Errors: 201

RM-80 Monitor 2RT-PR009 Errors: 141

RM-80 Monitor 2RT-PR017 Errors: 138

RM-80 Monitor 2RT-PR011 Errors: 141

RM-80 Monitor 2RT-PR014 Errors: 138

Clear Counts

Reconfigure

Port A Bypass

Port B Bypass

Loop Req Status

Grid 1 Grid 2 Grid 3 Grp Menu

Grid 4 Grid 5 Grid 6 DB Disp

Flow Filter Purge Chk Src

Mon Items Chnl Items Status Trend

Selected Channel: 3AS156

Silence INACTIVE

Supervisor Horn Ack All

Display: BYRRMS\msqsummary3ql.dis

USER: OPER \$SERVER: byrrms NUN

Byron's RMS

And easy to get to controls along the bottom!

The screenshot displays the R*TIME Data Viewer interface for Loop 4 Configuration. The main area shows a grid of 15 RM-80 Monitors connected between Port A and Port B. Each monitor displays error counts for both ports. The interface includes a top status bar with RMS Health (A: ACT, B: N/A), Loop Status (1-5), Main Menu, Emergency Action Status (EAL), and Real Time Log (11/19/2014 15:55:27). On the left, there are buttons for Loop 1 through Loop 5. On the right, there are buttons for Clear Counts, Reconfigure, Port A Bypass, and Port B Bypass. At the bottom, there is a control panel with buttons for Grid 1-6, Grp Menu, DB Disp, Flow, Filter, Purge, Chk Src, Mon Items, Chnl Items, Status, Trend, Selected Channel (3AS155), Silence, Supervisor, Horn, Ack All, and INACTIVE. The bottom right corner shows user information: USER: OPER, \$SERVER: byrrms, NUN.

Polls Sent =	1743
Polls Received =	0
Messages Sent =	107452
Messages Rcvd =	0
Message Timeouts =	1724
Spurious Characters =	4883

Polls Sent =	2037
Polls Received =	0
Messages Sent =	104821
Messages Rcvd =	0
Message Timeouts =	2030
Spurious Characters =	5678

Monitor ID	Port A Errors	Port B Errors
1RT-PR016	189	164
1RT-PR015	144	195
1RT-PR006	144	162
0RT-AR059	138	171
0RT-AR068	144	159
0RT-AR066	135	168
0RT-AR065	24	48
0RT-AR064	135	168
0RT-PR040	144	162
0RT-PR014	135	168
2RT-PR006	141	169
2RT-PR015	135	165
2RT-PR016	156	159

Byron's RMS

Very much like we are used to viewing in the PPC.

R*TIME Data Viewer - [LOOPCONFIG5.DIS]

File Edit View Display Viewer Security Window Help

LOOPCONFIG5 loopconfig5

RMS Health A: ACT B: N/A

Loop Status 1 2 3 4 5
A A A A A
B B B B B

Main Menu

Loop 5 Configuration

Emergency Action Status EAL

11/19/2014 15:55:43

Real Time Log

Loop 1
Loop 2
Loop 3
Loop 4
Loop 5

Port A

Polls Sent = 2199
Polls Received = 0
Messages Sent = 106887
Messages Rcvd = 0
Message Timeouts = 2171
Spurious Characters = 5016

RM-80 Monitor 1RT-PR009 Errors: 153
RM-80 Monitor 0RT-PR009 Errors: 123
RM-80 Monitor 0RT-AR058 Errors: 144
RM-80 Monitor 1RT-PR017 Errors: 108

RM-80 Monitor 1RT-PR013 Errors: 111
RM-80 Monitor 1RT-PR007 Errors: 15
RM-80 Monitor 1RT-PR018 Errors: 111
RM-80 Monitor 1RT-PR014 Errors: 108
RM-80 Monitor 1RT-PR011 Errors: 120

RM-80 Monitor 0RT-AR057 Errors: 108
RM-80 Monitor 1RT-PR013 Errors: 147
RM-80 Monitor 1RT-PR007 Errors: 51
RM-80 Monitor 1RT-PR018 Errors: 144
RM-80 Monitor 1RT-PR014 Errors: 147
RM-80 Monitor 1RT-PR011 Errors: 156

RM-80 Monitor 0RT-PR012 Errors: 111
RM-80 Monitor 0RT-PR013 Errors: 105
RM-80 Monitor 0RT-PR002 Errors: 114
RM-80 Monitor 2RT-PR018 Errors: 105
RM-80 Monitor 2RT-PR013 Errors: 108
RM-80 Monitor 2RT-PR007 Errors: 15

RM-80 Monitor 1RT-PR010 Errors: 143
RM-80 Monitor 0RT-PR010 Errors: 165
RM-80 Monitor 2RT-PR009 Errors: 102
RM-80 Monitor 2RT-PR017 Errors: 108
RM-80 Monitor 2RT-PR011 Errors: 102
RM-80 Monitor 2RT-PR014 Errors: 108

Port B

Polls Sent = 2902
Polls Received = 0
Messages Sent = 106583
Messages Rcvd = 0
Message Timeouts = 2901
Spurious Characters = 5071

RM-80 Monitor 0RT-PR010 Errors: 201
RM-80 Monitor 2RT-PR009 Errors: 141
RM-80 Monitor 2RT-PR017 Errors: 138
RM-80 Monitor 2RT-PR011 Errors: 141
RM-80 Monitor 2RT-PR014 Errors: 138

Clear Counts
Reconfigure
Port A Bypass
Port B Bypass
Loop Req Status

Grid 1 Grid 2 Grid 3 Grp Menu
Grid 4 Grid 5 Grid 6 DB Disp

Flow Filter Purge Chk Src
Mon Items Chnl Items Status Trend

Selected Channel: 3AS155

Silence INACTIVE
Supervisor Horn Ack All

Display: BYRRMS\rmsqsummary3ql.dis

USER: OPER \$SERVER: byrrms NUN

Byron's RMS

With more “Menu Options” than the RM-11.

The screenshot displays the R*TIME Data Viewer interface for SYSTEM1. The window title is "R*TIME Data Viewer - [SYSTEM1.DIS]". The menu bar includes File, Edit, View, Display, Viewer, Security, Window, and Help. The address bar shows "system1".

The interface features a top navigation bar with the following sections:

- RMS Server Status:** A: ACT, B: N/A
- Loop Status:** A table with 6 columns and 2 rows:

1	2	3	4	5	6
A	A	A	A	A	A
B	B	B	B	B	B
- Main Menu:** A button.
- System Functions Menu:** The central menu area, labeled SYSTEM1.
- Emergency Action Status:** EAL (highlighted in green)
- Date/Time:** 11/10/2014 16:55:08
- Real Time Log:** A button.

The main content area is divided into five menu categories, each with a blue border:

- Archive Options:**
 - Archive Backup
 - Edit Archive File Definition
 - Monitor Archive System
- SYSMON:**
 - SYSMON - Servers
 - SYSMON - Network
 - SYSMON - Workstations
- System Utilities:**
 - Calculated Points
 - Group Update
 - Password Update
 - Test Data Base Manipulator
- Database Functions:**
 - Analog Point Details (APAD)
 - Digital Point Details (DPAD)
- Hardware:**
 - Servers

The bottom status bar shows: USER: R*X | \$SERVER: byrrms | NUI

Byron's RMS

We have easy access to additional System Health

The screenshot displays the R*TIME Data Viewer interface for [HEALTH.DIS]. The window title is "R*TIME Data Viewer - [HEALTH.DIS]" and the menu bar includes File, Edit, View, Display, Viewer, Security, Window, and Help. The main interface is divided into several sections:

- RMS Health:** Shows "A: ACT" and "B: N/A".
- Loop Status:** A table with 5 columns (1-5) and 2 rows (A, B). All cells contain "A" or "B" in green.
- Main Menu:** A button labeled "Main Menu".
- Link Lost:** A green indicator.
- System Health:** The central title.
- Emergency Action:** A green bar labeled "EAL".
- Date/Time:** "12/12/2014 10:52:18".
- Real Time Log:** A button labeled "Real Time Log".

The main content area is divided into three panels:

- Process Monitoring Table:**

PROCESS NAME	STATUS	A	B
Process Monitoring	RUNNING		
Calc Process	RUNNING		
RMS Calculations	UNAVAILABLE		
Communications Loop 1	RUNNING	●	●
Communications Loop 2	RUNNING	●	●
Communications Loop 3	RUNNING	●	●
Communications Loop 4	RUNNING	●	●
Communications Loop 5	RUNNING	●	●
MODBUS	RUNNING		
SQL Link	RUNNING		
SQL Talk	RUNNING		
SYSMON Network Monitor	RUNNING		
UDP PSS Client	RUNNING		
- Process Health Summary:**

PROCESS HEALTH	100.0
----------------	-------
- Server Modes:**

SERVER	MODE
SERVER A	ACTIVE
SERVER B	OFFLINE
- Link Status:**

LINK	STATUS (CONNECTED / NOT CONNECTED)
Alarm Horn 1	CONNECTED
Alarm Horn 2	CONNECTED
PSS Link	TRANSMITTING
SYSMON PSS Link	NOT TRANSMITTING

The bottom status bar shows "USER: ADMIN | SERVER: byrrms | NUI".

Byron's RMS

Server Health



Byron's RMS

Network Status

The screenshot displays the R*TIME Data Viewer interface for the Sysmon Network. The main title is "Sysmon Network Summary". The interface includes a menu bar (File, Edit, View, Display, Viewer, Security, Window, Help) and a toolbar. The top status bar shows "RMS Health" (A: ACT, B: N/A), "Loop Status" (A: 1, 2, 3, 4, 5; B: 1, 2, 3, 4, 5), "Emergency Action Status" (EAL), the date and time (10/22/2014 11:25:27), and a "Real Time Log" button.

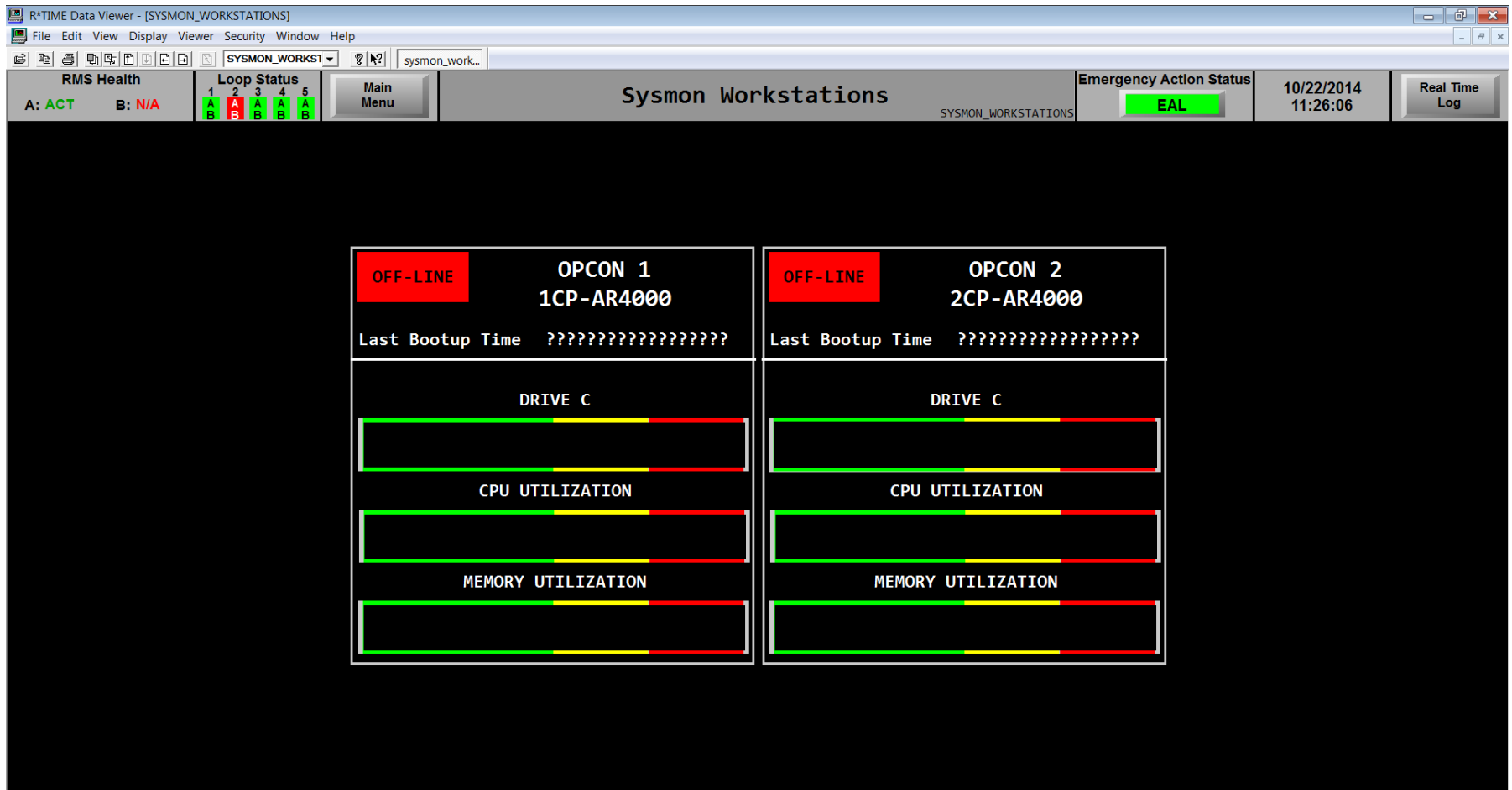
The main content area is divided into four panels, each representing a switch status:

- RMS-A Switch 1 (1NSU-AR1001):** OFF-LINE. Port Status table shows all ports (1-26) as OT.
- RMS-B Switch 1 (2NSU-AR1001):** OFF-LINE. Port Status table shows all ports (1-26) as OT.
- RMS-A Switch 2 (1NSU-AR1002):** OFF-LINE. Port Status table shows all ports (1-26) as OT.
- RMS-B Switch 2 (2NSU-AR1002):** OFF-LINE. Port Status table shows all ports (1-26) as OT.

Each switch panel has a red "OFF-LINE" banner at the top. Below it is a "Port Status" section with a grid of 26 ports (numbered 1-26) arranged in four rows of six. Each port is represented by a yellow box containing the text "OT".

Byron's RMS

OPCON Health



Byron's RMS

Fail Over

The screenshot displays the RMS Servers control interface. The window title is "SERVERS" and the address bar shows "servers" and "tdbm". The interface includes a menu bar (File, Edit, View, Display, Viewer, Security, Window, Help) and a toolbar. The main content area is divided into several sections:

- RMS Server Status:** A: ACT, B: N/A
- Loop Status:** A 5x2 grid showing status for 5 loops. Loop 1: A (green), B (red); Loop 2: A (green), B (red); Loop 3: A (green), B (red); Loop 4: A (green), B (red); Loop 5: A (green), B (red).
- Main Menu:** A button labeled "Main Menu".
- Servers:** The title of the main control area.
- Emergency Action Status:** EAL (green bar)
- Date/Time:** 6/24/2014 16:26:17
- Real Time Log:** A button labeled "Real Time Log".

The main control area displays the following status for two servers, A and B:

	A	B
MODE:	ACTIVE	OFFLINE
PROCESSES:	-1	-1
MANUAL MODE:	OFF	OFF

A "Reset" button is located to the right of the MANUAL MODE row.

At the bottom of the interface, there is a section for changing the mode of server B:

CHANGE MODE OF SERVER B

Standby Active

Byron's RMS

And Switchable Peripherals similar to PPC RTime

The screenshot displays the R*TIME Data Viewer interface for the [SWTCHPER.DIS] system. The window title is "R*TIME Data Viewer - [SWTCHPER.DIS]". The menu bar includes File, Edit, View, Display, Viewer, Security, Window, and Help. The toolbar contains various icons for file operations and a search field with the text "swtchper".

The main interface is divided into several sections:

- RMS Health:** Shows "A: ACT" and "B: N/A".
- Loop Status:** A table with 5 columns (1-5) and 2 rows (A, B). All cells contain "A" or "B" in green text.
- Main Menu:** A button labeled "Main Menu".
- Link Lost:** A green text label.
- Switchable Peripherals:** A section with a dropdown menu set to "SWTCHPER" and a "swtchper" field.
- Emergency Action Status:** A green button labeled "EAL".
- Date and Time:** "12/15/2014 16:41:52".
- Real Time Log:** A button labeled "Real Time Log".

The central area is a large black rectangle containing a table with the following data:

WORKSTATION	STATUS	HOST
RMSA-OPCON	NOT CONN	RTIMEA
RMSB-OPCON	NOT CONN	RTIMEA

At the bottom of the black area is a button labeled "Local Workstation Failover".

The status bar at the bottom right shows "USER: R*X", "\$SERVER: byrrms", and "NU".

Byron's RMS

There are many more Informational Screens

R*TIME Data Viewer - [MONITORDBCOMPARE.DIS]

File Edit View Display Viewer Security Window Help

MONITORDBCOMPARE monitordbcompa

RMS Health: A: ACT B: N/A

Loop Status: 1 A 2 A 3 A 4 A 5 A

Main Menu

Database Compare Monitor Items

Emergency Action Status: EAL

11/19/2014 16:26:06

Real Time Log

Request Data 10 sec Master Refresh LOOP NUMBER: 2 ADDRESS: 5

ITEM	DESCRIPTION	RM80	MASTER	ITEM	DESCRIPTION	RM80	MASTER	ITEM	DESCRIPTION	RM80	MASTER
1	SUBSTITUTE VALUE REQ	0	0	37	DUCT TEMPERATURE IHI	0	0	70	SAMPLE FLOW 2 ILO	0	0
2	PROCESS FLOW ALO	0.00E+00	0.00E+00	39	PROG ACCESS CONTROL	0	0	71	SAMPLE FLOW 2 IHI	0	0
5	CHECK-SOURCE SCHEDULE	2400	2400	40	PROCESS PRESSURE ALO	0	0	74	ISOK FLOW 2 RATIO N	0.00E+00	0.00E+00
6	SAMPLE FLOW 1 ALO	1.00E+00	1.00E+00	41	A-D OPTIONS	2	0	75	WRGM CONFIG TYPE	0	0
7	FILTER ADV SCHEDULE	0	0	42	SAMPLE FLOW OPT	0	0	76	WRGM ISOK CTRL REQ	0	0
8	FILTER ADVANCE MODE	0	0	43	SWITCH OPTIONS	0	0	77	PROCESS PRESS CF-A	0.00E+00	0.00E+00
9	PURGE TIME DURATION	30	30	46	FILTER ADV TYPE	0	0	78	DUCT TEMP CF-A	0.00E+00	0.00E+00
10	SAMPLE PRESSURE ALO	3.00E+00	2.00E+00	48	PURGE CONTROL OPTION	1	0	79	C PROCESS FLOW ILO-N	0.00E+00	0.00E+00
11	PROCESS FLOW CF-N	0.00E+00	0.00E+00	49	TEST NUMBER	61	61	80	C PROCESS FLOW IHI-N	0.00E+00	0.00E+00
12	PROCESS PRESS CF-N	0.00E+00	0.00E+00	50	TEST RESULTS	100	100	81	C PROCESS FLOW ILO-A	0.00E+00	0.00E+00
13	DUCT TEMP CF-N	0.00E+00	0.00E+00	52	TEST VALUE TO DAC	255	255	82	C PROCESS FLOW IHI-A	0.00E+00	0.00E+00
14	SAMPLE FLOW 1 CF	0.00E+00	0.00E+00	53	FIRST DECADE	1	1	83	DETECT CHAMBER PRESS	0.00E+00	0.00E+00
15	SAMPLE PRESSURE CF	1.18E-01	1.18E-01	54	NUMBER OF DECADES	6	6	84	SITE ATMOS PRESS	0.00E+00	0.00E+00
16	SAMPLE FLOW 1 SP-N	3.00E+00	3.00E+00	55	SAMPLE FLOW 1 SP-A	0.00E+00	0.00E+00	85	SAMPLE FLOW RATE 3	0.00E+00	n/a
17	SAMPLE FLOW DB	0.00E+00	0.00E+00	56	ISOK FLOW RATIO 1 A	0.00E+00	0.00E+00	86	SAMPLE FLOW 3 ILO	0	n/a
18	ISOK FLOW RATIO N	0.00E+00	0.00E+00	57	PROCESS FLOW 1 ALO-A	0.00E+00	0.00E+00	87	SAMPLE FLOW 3 IHI	0	n/a
19	SAMPLE PRESSURE AHI	1.20E+01	1.20E+01	58	SAMPLE FLOW 2 ALO-A	0.00E+00	0.00E+00	88	SAMPLE FLOW 3 CF	0.00E+00	n/a
20	DATA BASE COMPLETE	1	1	59	PROCESS FLOW SUBVAL-N	0.00E+00	0.00E+00	89	SAMPLE FLOW 3 SP-N	0.00E+00	n/a
21	DUCT TEMPERATURE ILO	0	0	60	PROCESS FLOW SUBVAL-A	0.00E+00	0.00E+00	90	SAMPLE FLOW 3 ALO	0	n/a
22	PROCESS PRESSURE ILO	0	0	61	ISOK FLOW 2 CTRL SP	0.00E+00	0.00E+00	91	ISOK FLOW 3 RATIO N	0.00E+00	n/a
23	PROCESS PRESSURE IHI	0	0	62	SAMPLE FLOW 2 SP-N	0.00E+00	0.00E+00	92	ISOK FLOW 3 RATIO A	0.00E+00	n/a
24	MASS FLOW ILO	0	0	63	PROCESS FLOW 1 CF-A	0.00E+00	0.00E+00	93	MAX ATM DUMP VAL FLOW	0.00E+00	n/a
25	MASS FLOW IHI	0	0	64	SAMPLE FLOW 2 CF	0.00E+00	0.00E+00	94	MAX AUX FP FLOW	0.00E+00	n/a
26	SAMPLE PRESSURE ILO	0	0	65	PROCESS FLOW SW/OVR	0.00E+00	0.00E+00	95	MICROCURIRES/SECOND CF	0.00E+00	n/a
27	SAMPLE PRESSURE IHI	255	255	66	PROCESS FLOW 1 ILO-N	0	0	96	SAMPLE FLOW DB	0.00E+00	n/a
34	NOISE REJECTION	0	0	67	PROCESS FLOW 1 IHI-N	0	0	97	PROCESS FLOW DB	0.00E+00	n/a
35	ISOK FLOW 1 CTRL SP	0.00E+00	0.00E+00	68	PROCESS FLOW 1 ILO-A	0	0	98	N-16 CONC TABLE SEL	0.00E+00	n/a
36	NUMBER OF CHANNELS	3	3	69	PROCESS FLOW 1 IHI-A	0	0				

Grid 1 Grid 2 Grid 3 Grp Menu

Grid 4 Grid 5 Grid 6 DB Disp

Flow Filter Purge Chk Src

Mon Items Chnl Items Status Trend

Selected Channel: OPA221

Silence INACTIVE

Supervisor Horn Ack All

Loop Req Status

USER: OPER \$SERVER: byrms NUN

Byron's RMS

There are many more Informational Screens

R*TIME Data Viewer - [MONITORDIAGNOSTICS.DIS]

File Edit View Display Viewer Security Window Help

MONITORDIAGNOSTIC | monitordiagno

RMS Health: A: ACT B: N/A | Loop Status: 1: A, 2: A, 3: A, 4: A, 5: A | Main Menu

Monitor Remote Diagnostics | Emergency Action Status: EAL | 11/19/2014 16:29:57 | Real Time Log

LOOP NUMBER: 2 | ADDRESS: 5

NAME	TYPE	CHANNEL ID	DESCRIPTION	VALUE	UNITS
0PB121	GAS	0RT-PR021	AUX BLDG EXH 0A - GAS	0.00E+00	UC/ML
0PA221	BETA	0RT-PR021	AUX BLDG EXH 0A - PART	0.00E+00	UC/ML
0PC321	IOD	0RT-PR021	AUX BLDG EXH 0A - IOD	0.00E+00	UC/ML

ITEM	VALUE	ITEM	VALUE	ITEM	VALUE	ITEM	VALUE	ITEM	VALUE	ITEM	VALUE
1	0	26	0	51	0	76	0	101	24	126	0
2	0.00E+00	27	255	52	255	77	0.00E+00	102	0	127	0
3	1	28	3.00E+00	53	1	78	0.00E+00	103	0	128	0
4	0	29	0.00E+00	54	6	79	0.00E+00	104	0	129	0
5	24:00	30	0.00E+00	55	0.00E+00	80	0.00E+00	105	0	130	1445
6	1.00E+00	31	0.00E+00	56	0.00E+00	81	0.00E+00	106	0	131	1119
7	00:00	32	0.00E+00	57	0.00E+00	82	0.00E+00	107	0	132	2014
8	OFF	33	8.61E+00	58	0.00E+00	83	0.00E+00	108	0	133	0
9	00:30	34	YES	59	0.00E+00	84	0.00E+00	109	0	134	0
10	3.00E+00	35	0.00E+00	60	0.00E+00	85	0.00E+00	110	0	135	0
11	0.00E+00	36	3	61	0.00E+00	86	0	111	0	136	0
12	0.00E+00	37	0	62	0.00E+00	87	0	112	0	137	0
13	0.00E+00	38	0	63	0.00E+00	88	0.00E+00	113	0	138	0
14	0.00E+00	39	NO	64	0.00E+00	89	0.00E+00	114	0	139	0
15	1.18E-01	40	0	65	0.00E+00	90	0	115	0	140	0
16	3.00E+00	41	2	66	0	91	0.00E+00	116	0	141	0
17	0.00E+00	42	RCRD	67	0	92	0.00E+00	117	0	142	0
18	0.00E+00	43	0	68	0	93	0.00E+00	118	36	143	0
19	1.20E+01	44	0	69	0	94	0.00E+00	119	8	144	0
20	YES	45	9.99E+02	70	0	95	0.00E+00	120	0	145	0
21	0	46	FIXED	71	0	96	0.00E+00	121	0	146	0
22	0	47	85	72	0.00E+00	97	0.00E+00	122	10	147	0
23	0	48	YES	73	0.00E+00	98	0.00E+00	123	2	148	0
24	0	49	61	74	0.00E+00	99	0.00E+00	124	24	149	0
25	0	50	100	75	0	100	IN	125	0	150	0

Refresh Data | Monitor Diagnostics | Ch 1 Diagnostics | Ch 2 Diagnostics | Ch 3 Diagnostics | Ch 4 Diagnostics | Loop Req Status

Grid 1 | Grid 2 | Grid 3 | Grp Menu | Flow | Filter | Purge | Chk Src | Selected Channel: 0PA221 | Silence | INACTIVE

Grid 4 | Grid 5 | Grid 6 | DB Disp | Mon Items | Chnl Items | Status | Trend | Supervisor | Horn | Ack All

Display Program Field. | USER: OPER | \$SERVER: byrms | NUN

Byron's RMS

There are many more Informational Screens

R*TIME Data Viewer - [CHANNEL1DIAGNOSTICS.DIS]

File Edit View Display Viewer Security Window Help

CHANNEL1DIAGNOSTICS channel1diagno

RMS Health A: ACT B: N/A Loop Status 1: A 2: A 3: A 4: A 5: A Main Menu Channel 1 Remote Diagnostics Emergency Action Status EAL 11/19/2014 16:30:13 Real Time Log

LOOP NUMBER: 2 ADDRESS: 5

NAME	TYPE	CHANNEL ID	DESCRIPTION	VALUE UNITS
0PB121	GAS	0RT-PR021	AUX BLDG EXH 0A - GAS	0.00E+00 UC/ML

ITEM	VALUE	ITEM	VALUE
1	1	21	0.00E+00
2	2562	22	0.00E+00
3	0	23	0.00E+00
4	0	24	0.00E+00
5	1.25E+02	25	0

6	0.00E+00	26	0.00E+00
7	6.78E-06	27	0.00
8	0.00E+00	28	-1063.94
9	2.48E-05	29	00:00
10	1.24E-05	30	????????

11	5.43E-08	31	8.30E-01
12	0.00E+00	32	-1.62E-01
13	0.00E+00	33	-9.95E-35
14	1.00E+01	34	2.43E-38
15	5.00E+02	35	-6.99E+23

16	IN	36	3.77E-37
17	MON	37	-2.18E-02
18	4.81E+03		
19	OUT		
20	5		

Request Data
Monitor Diagnostics
Ch 1 Diagnostics
Ch 2 Diagnostics
Ch 3 Diagnostics
Ch 4 Diagnostics
Loop Req Status

Grid 1	Grid 2	Grid 3	Grp Menu	Flow	Filter	Purge	Chk Src	Selected Channel: 0PA221	Silence	INACTIVE
Grid 4	Grid 5	Grid 6	DB Disp	Mon Items	Chnl Items	Status	Trend		Supervisor	Horn

USER: OPER | SERVER: byrms | NIJN

Byron's RMS

There are many more Informational Screens

R*TIME Data Viewer - [CHANNELINFO.DIS]

File Edit View Display Viewer Security Window Help

CHANNELINFO channelinfo

RMS Health Loop Status Emergency Action Status 11/19/2014 Real Time Log

A: ACT B: N/A 1 2 3 4 5
 A A A A A
 B B B B B

Main Menu Channel Information CHANNELINFO EAL 16:30:50

REVISION: 8 VERSION: 36 LOOP NUMBER: 2 ADDRESS: 5

NAME	TYPE	CHANNEL ID	DESCRIPTION	VALUE	UNITS
0PA221	BETA	0RT-PR021	AUX BLDG EXH 0A - PART	0.00E+00	UC/ML

CHANNEL K-LIST STATS

LIST 1	LIST 2	LIST 3	LIST 4	LIST 5	LIST 6
1.12E+03	2.12E+04	3.12E+05	4.12E+06	5.12E+07	6.12E+08
1.12E+03	2.12E+04	3.12E+05	4.12E+06	5.12E+07	6.12E+08
1.12E+03	2.12E+04	3.12E+05	4.12E+06	5.12E+07	6.12E+08
1.12E+03	2.12E+04	3.12E+05	4.12E+06	5.12E+07	6.12E+08
1.12E+03	2.12E+04	3.12E+05	4.12E+06	5.12E+07	6.12E+08

I/O ACTIVITY - PIA

PIA1A	00000000
PIA1B	00000000
PIA1C	00000000
PIA2A	00000000
PIA2B	00000000
PIA2C	00000000

I/O ACTIVITY - DAC

DAC01	00000000
DAC02	00000000
DAC03	00000000
DAC04	00000000
DAC05	00000000
DAC06	00000000

I/O ACTIVITY - A/D

ADC01	00000000
ADC02	00000000
ADC03	00000000
ADC04	00000000

COMMUNICATION ACTIVITY

	A	B	C
POLLS	5234	5236	0
STX	734	736	0
ABT STX RECV	0	0	0
BUSY	0	0	0
ABT STX XMIT	0	0	0
ABORTED POLLS	0	0	0
LOOP SHUTDOWN	0	0	0
CRC16 ERRORS	0	0	0
FRAMING ERRS	0	0	0
CHAR ERR	0	0	0
OVER-RUN ERRS	0	0	0

BEST K PER LIST

LIST 1	LIST 2	LIST 3	LIST 4	LIST 5	LIST 6
1.12E+03	2.12E+04	3.12E+05	4.12E+06	5.12E+07	6.12E+08

BEST K = 7.12E+09

SMPL FLW	HI	LOW	VALUE	DUCT TEMP	HI	LOW	VALUE
SMPL FLW 1	0	0	3.00E+00	DUCT TEMP	0	0	0.00E+00
SMPL FLW 2	0	0	0.00E+00	PROC PRESS	0	0	0.00E+00
PROC FLW N	0	0	0.00E+00	SMPL PRESS	255	0	8.61E+00
PROC FLW A	0	0	0.00E+00	SMPL FLW 3	0	0	0.00E+00

TEST SELECT CODE 61

TEST RESULTS 100

METER DEFLECTION - % 255

POWER FAILS 0

CHANNEL FAILURES 0001100000000000

MONITOR FAILURES 0000000000000000

CHANNELS 3

Refresh Data

Refresh Monitor Communication Activity Refresh Monitor K-Lists Clear Monitor K-Lists

Clear Monitor Communication Activity Refresh Activity Before Print

Clear Loop Communication Activity Print Loop Communication Activity

Grid 1 Grid 2 Grid 3 Grp Menu Flow Filter Purge Chk Src Selected Channel: 0PA221

Grid 4 Grid 5 Grid 6 DB Disp Mon Items Chnl Items Status Trend Supervisor Horn Ack All

Loop Req Status INACTIVE

Byron's RMS Report and Log Screens

06/23/2014 16:57:48

Byron RMS

SHIFTLY Report

Channel Name	Channel Type	Color U	Color A	Current Value	Units	Monitor Status	Channel Status	Poll Address L	Poll Address MN	Sample Flow	Process Flow
*****	****	*	*	*****	*****	*****	*****	*	**	*****	*****
3AS155	AREA	G		2.96e-001		010000	004000	2	1	0.00e+000	0.00e+000
3AS156	AREA	G		2.24e-001		000000	004000	2	2	0.00e+000	0.00e+000
4AS111	AREA	G		4.10e+001		000000	004000	2	4	0.00e+000	0.00e+000
4AS112	AREA	G		3.95e+001		000000	004000	2	8	0.00e+000	0.00e+000
5AS111	AREA	M		3.05e+001		000000	004000	2	22	0.00e+000	0.00e+000
5AS112	AREA	M		3.03e+001		000000	004000	2	17	0.00e+000	0.00e+000
0PB132	GAS	G		2.53e-006		000000	004000	1	2	3.00e+000	0.00e+000
0PB133	GAS	G		2.62e-006		000000	004000	1	28	3.00e+000	0.00e+000
0PB134	GAS	G		2.16e-006		000000	004000	1	29	3.00e+000	0.00e+000
0PB131	GAS	G		2.62e-006		010000	004000	1	1	3.00e+000	0.00e+000
1PA211	BETA	M		3.23e-015		010000	014000	5	5	3.00e+000	0.00e+000
2PA211	BETA	M		4.91e-014		000000	014000	5	18	3.00e+000	0.00e+000

Signature

Date

Byron's RMS Report and Log Screens

06/23/2014

Byron RMS

DAILY Report

Channel Name	Channel Type	Color U	Color A	Current Value	Units	Monitor Status	Channel Status	Poll L	Address MN	Sample Flow	Process Flow
0PS101	LIQ	G		7.46e-006		000010	005000	3	15	0.00e+000	0.00e+000
0PS105	LIQ	G		3.34e-007		000000	004000	3	14	0.00e+000	0.00e+000
0PS110	LIQ	M		3.15e-007		004000	004000	5	21	3.00e+000	0.00e+000
0PS141	LIQ	G		6.36e-008		000000	004000	3	12	3.00e+000	0.00e+000
1PS102	LIQ	M		3.56e-007		010000	004000	3	2	3.00e+000	0.00e+000
1PS103	LIQ	M		1.55e-007		010000	004000	3	3	3.00e+000	0.00e+000
2PS102	LIQ	G		4.15e-007		000000	004000	3	20	3.00e+000	0.00e+000
2PS103	LIQ	G		1.01e-007		004000	004000	3	21	3.00e+000	0.00e+000
0PS109	LIQ	M		1.66e-007		000000	004000	5	2	3.00e+000	0.00e+000
1PS109	LIQ	M		1.72e-007		010000	004000	5	1	3.00e+000	0.00e+000
2PS109	LIQ	M		6.75e-007		004000	004000	5	20	3.00e+000	0.00e+000
1PA228	BETA	G		9.55e-015		000000	014000	1	15	1.95e+000	1.24e+005
1PB128	GAS	G		2.87e-006		000000	004000	1	15	1.95e+000	1.24e+005
1PC328	IOD	G		2.96e-014		000000	014000	1	15	1.95e+000	1.24e+005
1PD428	GAS	G		1.44e-003		000000	004000	1	15	1.95e+000	1.24e+005
1PB101	GAS	Y		4.53e-006		000000	004000	1	13	3.00e+000	0.00e+000
2PB101	GAS	G		2.05e-006		000000	004000	1	19	3.00e+000	0.00e+000
2PA228	BETA	G		3.23e-015		000000	014000	1	17	2.45e+000	1.46e+005
2PB128	GAS	G		2.34e-006		000000	004000	1	17	2.45e+000	1.46e+005
2PC328	IOD	G		3.67e-014		000000	014000	1	17	2.45e+000	1.46e+005
2PD428	GAS	G		1.21e-003		000000	004000	1	17	2.45e+000	1.46e+005
1PS108	LIQ	G		5.76e-007		000000	004000	2	13	3.00e+000	0.00e+000
1PS127	TGAS	G		4.05e-006		000000	004000	3	13	3.00e+000	0.00e+000
2PS108	LIQ	M		9.27e-007		000000	004000	2	15	3.00e+000	0.00e+000
2PS127	TGAS	G		1.23e-006		000000	004000	3	16	3.00e+000	0.00e+000

Signature

Date

Byron's RMS

12/11/2014 14:03:31

Byron Generation Station
Check Source Report

Page 5 of 24

Requested Start Time: 12/09/2014 14:02:06

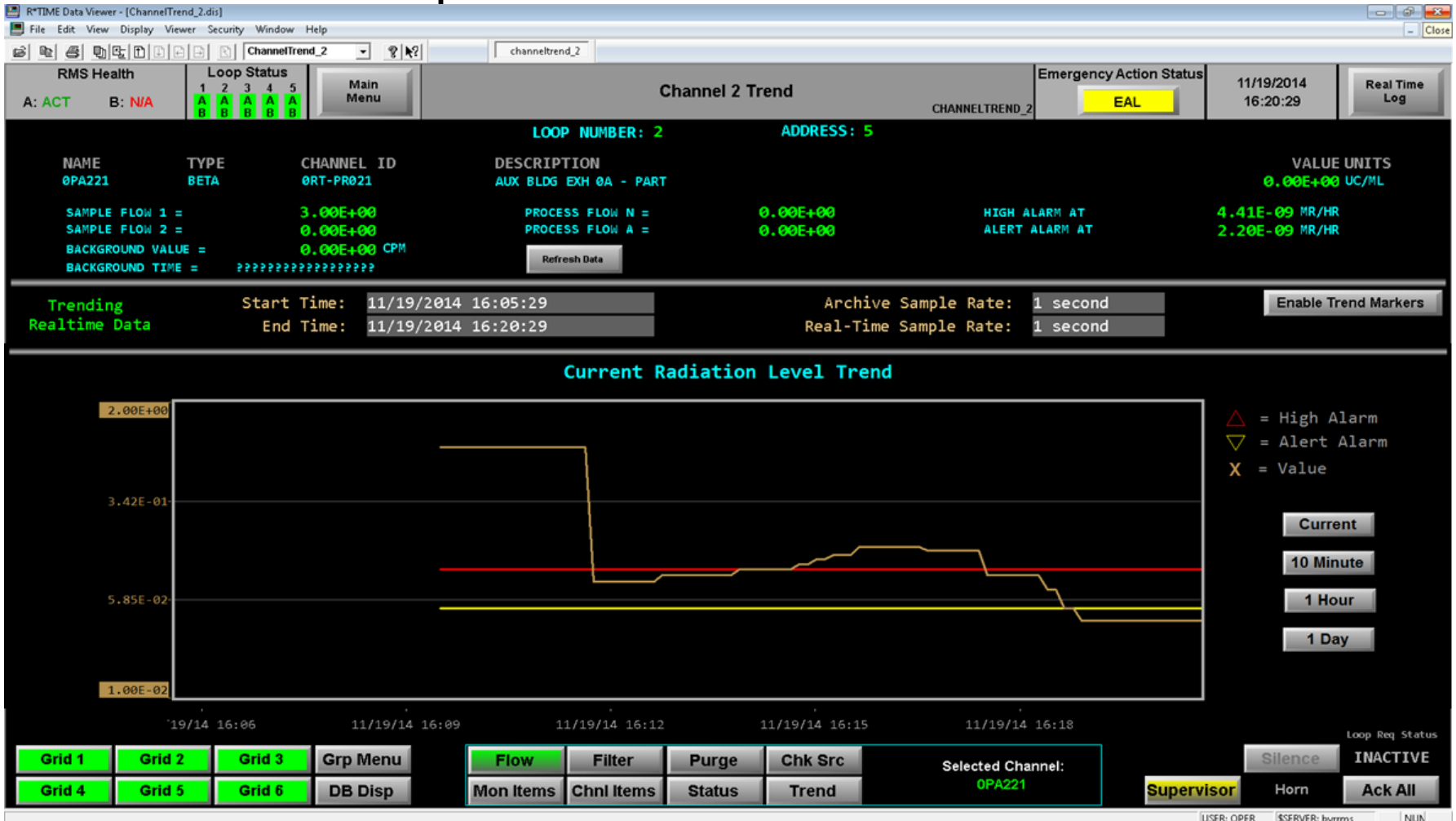
Requested End Time: 12/11/2014 14:02:06

Number of Records : 1166

Date/Time	Channel Index	Channel Name	Current CPM	Background	Raw Counts	Check Source
12/09/2014 14:30:29	143	1PA211	3.00	6.00	13.00	4.00
12/09/2014 14:30:29	145	1PC311	3.01	6.02	13.04	4.01
12/09/2014 14:30:29	146	1PD411	3.02	6.04	13.08	4.02
12/09/2014 14:30:29	150	1PB114	3.03	6.06	13.12	4.03
12/09/2014 14:30:29	149	1PA214	3.04	6.08	13.16	4.04
12/09/2014 14:30:29	158	1PB118	3.05	6.10	13.20	4.05
12/09/2014 14:30:29	157	1PA218	3.06	6.12	13.24	4.06
12/09/2014 14:30:29	140	1PS107	3.07	6.14	13.28	4.07
12/09/2014 14:30:29	148	1PB113	3.08	6.16	13.32	4.08
12/09/2014 14:30:29	147	1PA213	3.09	6.18	13.36	4.09
12/09/2014 14:30:29	3	3AS101	3.10	6.20	13.40	4.10
12/09/2014 14:30:29	4	3AS202	3.11	6.22	13.44	4.11
12/09/2014 14:30:29	5	3AS303	3.12	6.24	13.48	4.12
12/09/2014 14:30:29	53	0PS112	3.13	6.26	13.52	4.13
12/09/2014 14:30:29	55	0PB113	3.14	6.28	13.56	4.14
12/09/2014 14:30:29	54	0PA213	3.15	6.30	13.60	4.15
12/09/2014 14:30:29	41	0PB102	3.16	6.32	13.64	4.16
12/09/2014 14:30:29	40	0PA202	3.17	6.34	13.68	4.17
12/09/2014 14:30:29	221	2PB118	3.18	6.36	13.72	4.18
12/09/2014 14:30:29	220	2PA218	3.19	6.38	13.76	4.19
12/09/2014 14:30:29	211	2PB113	3.20	6.40	13.80	4.20
12/09/2014 14:30:29	210	2PA213	3.21	6.42	13.84	4.21
12/09/2014 14:30:29	203	2PS107	3.22	6.44	13.88	4.22
12/09/2014 14:30:29	213	2PB114	3.23	6.46	13.92	4.23

Byron's RMS

And the ability to select and trend points as with the PPC RTime



Byron's RMS

With the Replacement of the PPC, new Data Diode, and the addition of the PSS Computer, we were able to follow suit with the RMS in that we have a Level 2 System that can pass live data from the RMS in Real Time. We are able to share that data with those who are not in the MCR and have need of the viewing the data!

Real Time Demo!

Byron's RMS

Overall, I feel that the Sciencetech RMS System has performed very well and that the station is much better off for having upgraded.

I also have been satisfied with the level of support that we have received from Sciencetech when we have had issues.

Byron's RMS

Questions?