HARRIS

SERVICE BULLETIN

MAINTENANCE AND MODIFICATION DATA

BROADCAST DIVISION

BULLETIN NO: AM-460-TLH **DATE:** January 1997

EQUIPMENT: Gates One

SUBJECT: Installation of Fans and Airflow Sensor

Parts Required:

Qty	Part Number	Description
8	304-0045-000	10-32 acorn nuts
8	310-0013-000	#10 flat washers
8	314-0007-000	#10 split washers
50	356-0089-000	Cable ties
2	430-0039-000	Fans
1	448-0785-000	Air Filter
2	606-0467-000	Circuit breaker
8	817-0914-231	Stud, 10-32 X 3.75
1	839-5695-097	Front dress panel
1	839-5695-314	Grill, filter holder
1	992-9533-001	Airflow Sensor Kit

Also needed are wires 47, 48, 49, 50, 121, 122, 191, 192, 214, and 215. These have no part number.

Time Required: 3 hours

Tools Required: center punch, drill, 0.156 drill bit, small blade screwdriver, stubby phillips screwdriver, pliers, short 3/8" wrench

Procedure:

1. Turn the transmitter off, and disconnect the AC power from both the Low Voltage and High Voltage circuits.

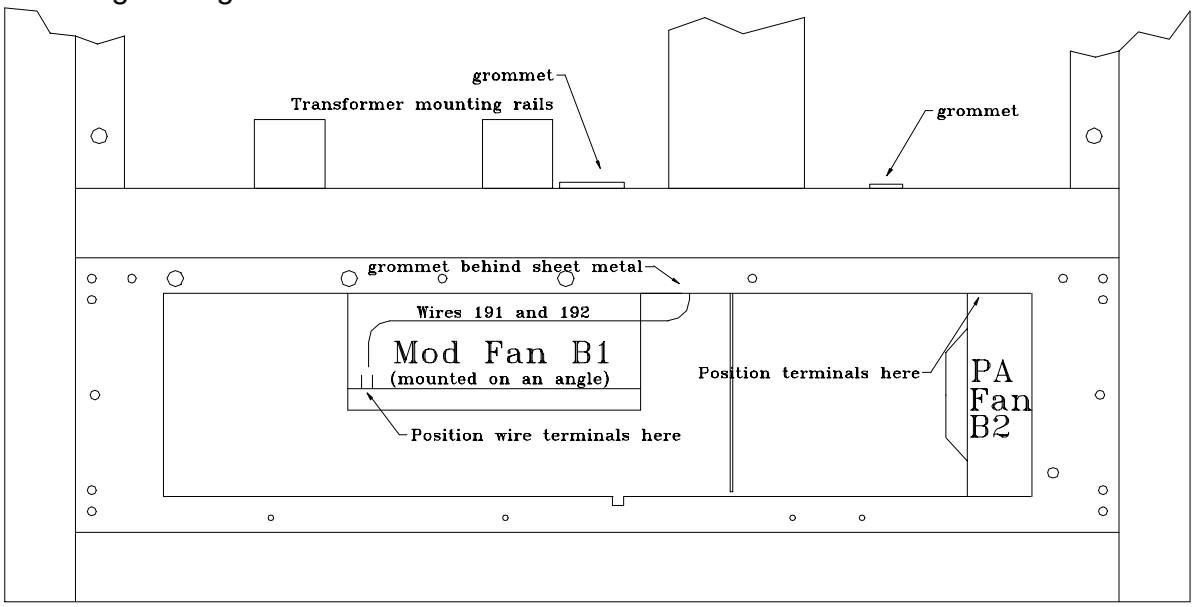
2. Remove the back door of the transmitter, plus the grill from the bottom rear.

3. Prepare to mount the fans by threading each stud all the way into the acorn nuts. Add a split washer and flat washer to each stud.

Note:

Although tapped mounting holes and ventilation holes for the fans are already provided, installing the fans is a fairly tedious process due to the limited access. The next steps are aimed at accomplishing the task with the least difficulty.

Also, please note that you must avoid over tightening the fan mounting hardware. It is possible to break the plastic housing of a fan by over tightening it.



Bottom Rear, Panel Removed

Referring to the above drawing, note the proper orientation of each fan. This is important in terms of air flow direction and the placement of the AC terminals of the fans.

The PA fan (B2) should have its AC terminals positioned in the upper corner nearest the rear of the transmitter. Install the studs (with acorn nuts, split washers, and flat washers in place) in each of the mounting holes. Snug the fan hardware. Do not over tighten.

The Modulator fan (B1) should have it terminals oriented to the left and nearest the back of the transmitter. When mounting it, install its lower front mounting hardware first. Do this by inserting two of the studs into the fan, then hold the fan in position while starting the mounting studs into their screw holes. Then install the studs in the back, top position. Snug the fan hardware. Do not over tighten.

Connect wires 214 and 215 to the PA fan (B2). Route these two wires up through a small grommet above and to the left of the fan. This will put them into the main interior of the transmitter. See drawing.

Continue routing wires 214 and 215 to the left, down through a larger grommet, into the base of the cabinet. See drawing.

Connect wires 191 and 192 to B1, the Modulator fan. Route wires 191 and 192 up through the nearby grommet, toward the front of the transmitter.

Connect wires 121 and 122 to the large power transformer, A19T1. Use the 240 and -11 terminals. Route these wires down through the same grommet as the heavy black wires that connect to the transformer.

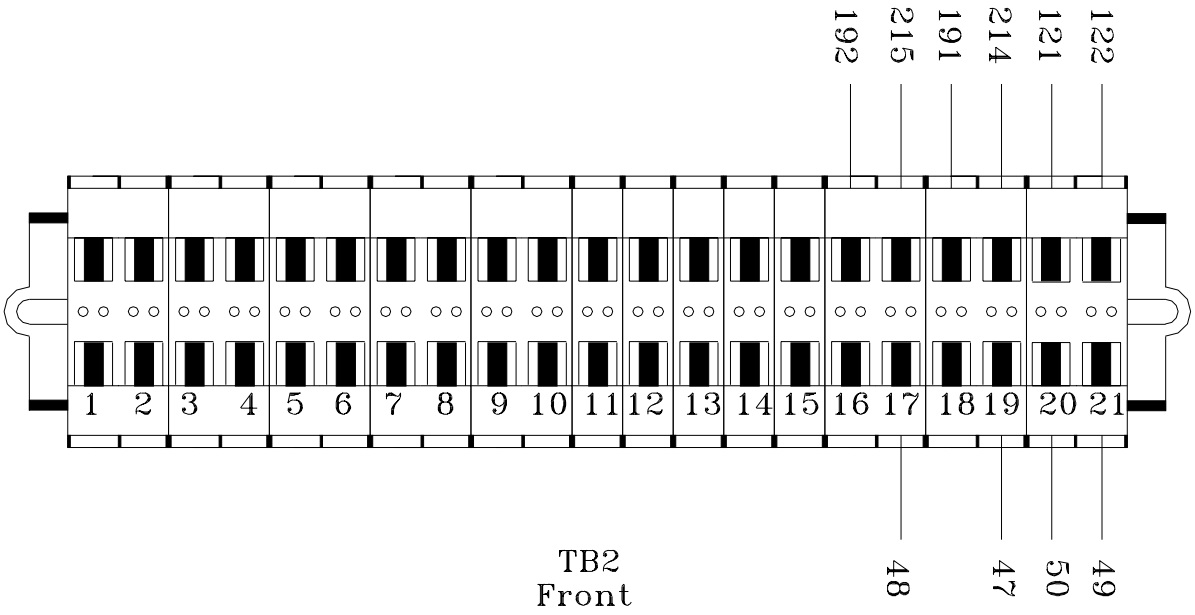
At the front of the transmitter, remove the dress panel from the AC drawer at the bottom. Then remove the mounting screws from the contactor drawer, and pull it out.

Install the circuit breakers in the holes provided for CB2 and CB3 in the front of the drawer.

Reach into the area behind the drawer, and pull wires 121, 122, 191, 192, 214, and 215 up to the front of the AC drawer.

Dress these wires along the wiring harness, and secure them in place with cable ties up to the point where the new wires enter the drawer.

Connect these wires to TB2 in the AC drawer as shown in this diagram.



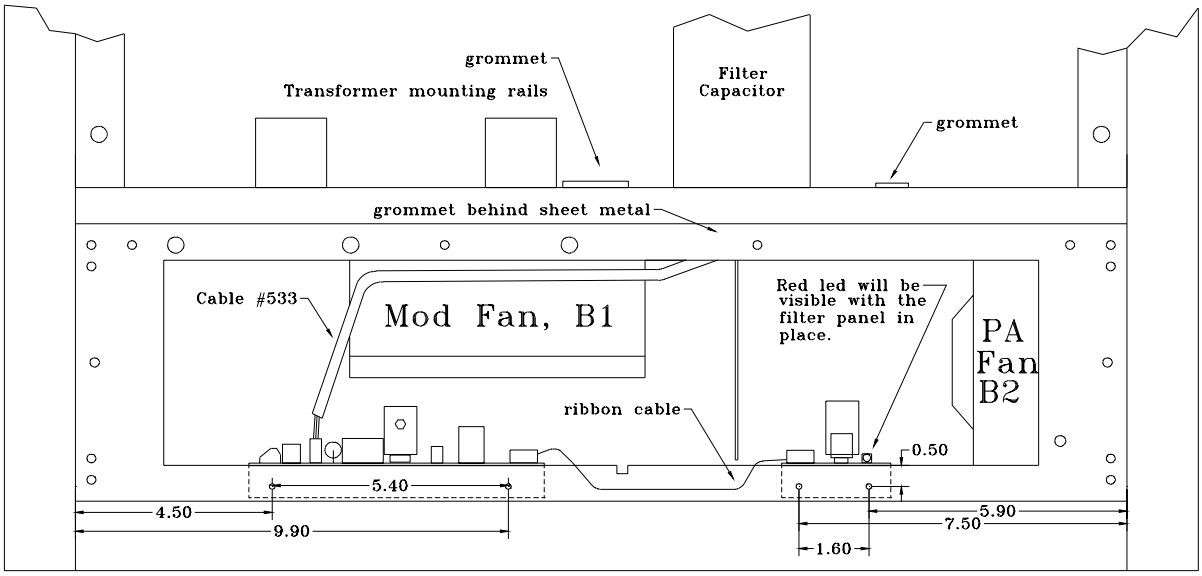
Note: For simplicity, only the additional wiring is shown.

Install wires 47 through 50 in the AC drawer as follows:

Wire	From	To
47	TB2-19	CB3 bottom
48	TB2-17	CB2 bottom
49	TB2-21	CB2 top
50	TB2-20	CB3 top

Dress the wires into the wiring harness and secure them with cable ties.

The Airflow Sensor boards will be installed in the air stream as it enters the transmitter.



Bottom Rear, with Filter Panel Removed

Using the above drawing and the mounting brackets, mark the placement of the mounting holes. Use a center punch to dimple the metal to ensure reasonable accuracy in the placement of the holes.

Drill the holes, using a 0.156" bit for clearing a 6-32 screw.

Vacuum the metal debris created by the drilling.

Route the open end of kit cable #533 up through the grommet indicated in the attached drawing, toward the contactor drawer. The end with the connector will stay at the back of the transmitter to connect to an Airflow sensor board.

Attach the mounting brackets to the transmitter, with the brackets on the inside of the opening, and flush with the edge of the opening. Use 6-32 screws and kep nuts.

Attach the Airflow Monitor circuit boards to the brackets, using 6-32 screws and a stubby Philips screwdriver.

Slip the ribbon cable supplied in the kit into the gap at the divider between the two fan compartments, then connect it between the Airflow Sensor boards.

At the front of the transmitter, pull out the contactor drawer.

Locate and remove wire #33. This is a white wire which goes from one coil connection of A19K1 (the contactor closer to the rear of the transmitter) to TB2-13 (the terminal strip in the middle area of the drawer).

Bring the connector end of cable #533 into the contactor drawer. Connect the stripped wire to TB2-13, where wire #33 was removed. Use a small blade screwdriver to open the jaws of the terminal by pressing down from the top.

Attach the push-on lug to the open terminal of K1, where wire #33 was removed.

Connect the shield wire to the chassis, at one of the mounting studs for K1.

Use cable ties to dress cable #533 along the other wiring into the contactor drawer.

Remote status connections may be made at TB1 on the main Airflow Sensor board. TB1 terminals 1 and 3 provide a closure when the sensor has taken action.

Install the contactor drawer, dress panel, and filter panel.

This completes the fan and airflow sensor installation. You should now be able to put the transmitter back into operation.

Testing the Airflow Sensor Operation

If you want to test the Air Flow Sensor at this time, first make sure the AC power is disconnected from the transmitter, then unplug one of the fans.

The transmitter can then be turned back on, however the lack of air flow should be detected, and the transmitter will shut down after 1 to 2 minutes. A warning beep will sound, and the red led on the smaller board will illuminate.

Press the OFF button, and disconnect the AC power. Reconnect the fan that was disconnected for this test.

Airflow Sensor Theory of Operation

The function of the Air Flow sensor is based on a comparison of voltage outputs from individual temperature sensing devices. One sensing device is unheated, such that it samples the ambient temperature. There are two other sensors; one for each fan, and they are heated by a resistor.

If a fan stops running, the corresponding heated sensor increases in temperature, whereas the ambient sensor is unaffected. As the heated sensor increases in temperature, the voltage difference climbs. When the pre-determined threshold is crossed, a comparator triggers, and closes the on-board relay. Contacts of this relay interrupt the contactor coil circuit. At the same time, the relay provides voltage to the audible warning device and the red led. Also, the status of the remote contacts change position.

As soon as the relay closes, power from the heated sensors is removed. This allows them to cool down so that you may restart the transmitter.

Drawings Enclosed:

843-5400-041	Airflow Sensor Schematic
839-7920-050	Gates One Overall Schematic, sheet 3

If you have any questions or comments concerning this bulletin, please contact:

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Radio Field Service
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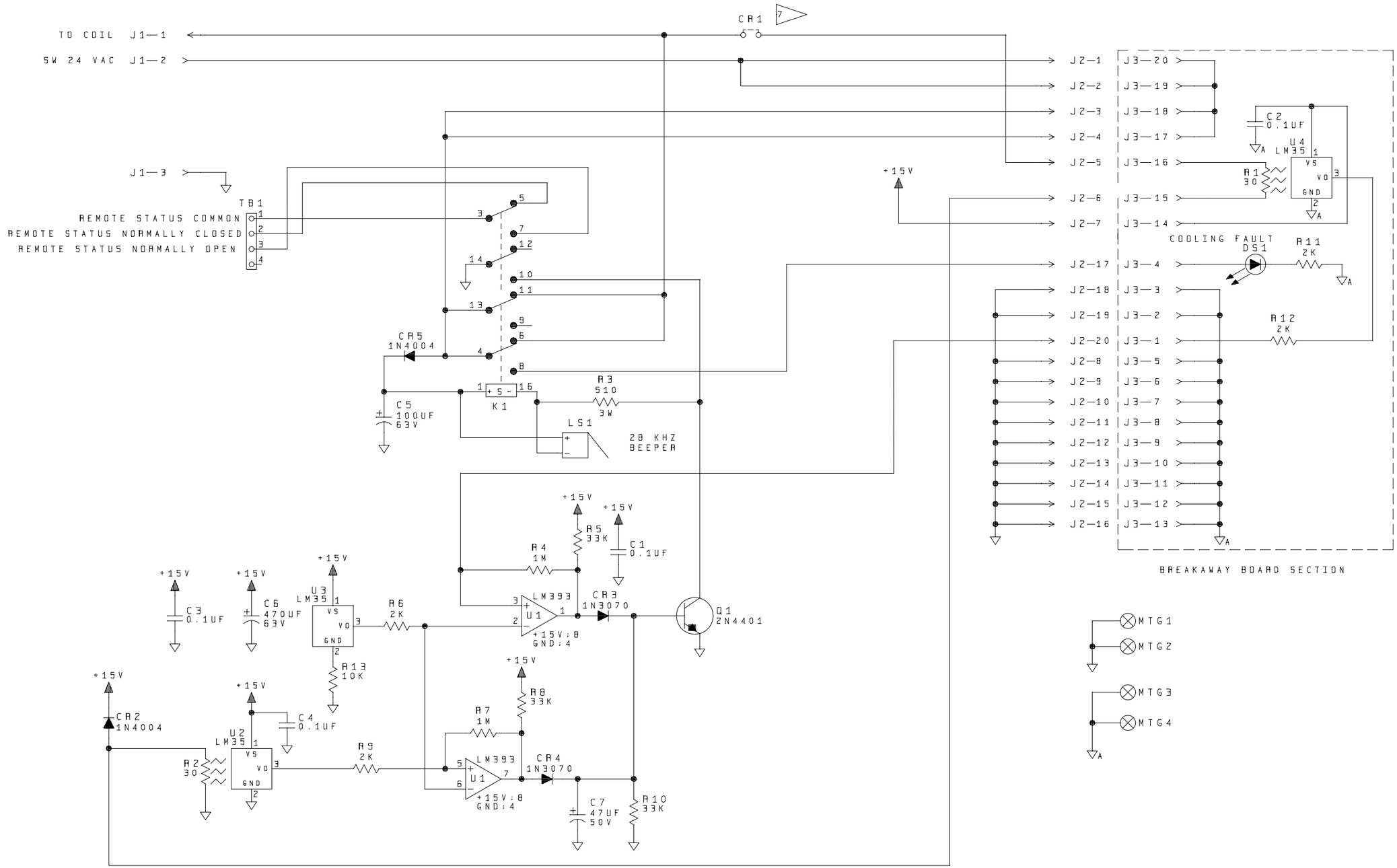

7 INSTALL JUMPER ON PC BOARD 843 5400 043 IN PLACE OF CR1

NOTES

4. INDUCTANCE IN UH.
3. CAPACITANCE IN UF.
2. RESISTANCE IN OHMS.
1. ALL RESISTORS ARE 1/2 WATT, 1%.

UNLESS OTHERWISE NOTED:

6. 5% RESISTORS MAY BE SUBSTITUTED FOR ANY RESISTOR UNLESS LABELED 1% ON THIS DOCUMENT.
5. (2/A1) SHEET NUMBER / ZONE — CONTINUATION SYMBOL

REVISION

LTR	ZONE	DATE	DFTM	ENG	ECO NUM
D		1-12-02	JPK	TLH	47924
R13 WAS 7.5K					
C		12-1-00	RLB	RLB	46689
CHANGE U2,U3,U4 TO TO220 PACKAGE					

HARRIS CORPORATION
BROADCAST SYSTEMS
P.O. BOX 4290
QUINCY, ILLINOIS 62305

DRAWN BY	DFD
DATE	11-1-94
ENG CHK	HOLLENBERG
PROJ ENG	HOLLENBERG
MFG ENG	
D	SHEET 1 OF 1

TITLE
SCH
AIRFLOW SENSOR

DWG # 843-5400-041 REV D

A12
CONTROLLER BOARD
992-8147-001
SCHEMATIC 839-7920-001

J1-1 / J1-40 → 40 → A24P1-1 / A24P1-40 — A24FL1
J2-1 / J2-40 → 40 → A24P2-1 / A24P2-40 — A24FL2

A16
OSCILLATOR BOARD
992-8146-001
SCHEMATIC 839-7920-021

A24P10-1 / A24P10-10 → 10 → J2-1 / J2-10
J3-1 / J3-2 → 172 → J2
J4 → FREQUENCY SAMPLE
SHIELD

WIRE 172 IS REPLACED BY WIRE 172 AND 172A

A17
OSCILLATOR BOARD
992-8146-001
SCHEMATIC 839-7920-021

A16J3 — 172 — J2 — 172A — K1 (9, 1, 5, 3, 11, 7, 13, 14)
J2-5 — JUMPER
A24P11-1 / A24P11-10 → 10 → J2-1 / J2-10
J3-4 — 273
J3-3
J3-2
J3-1 — 272
J1 → EXTERNAL INPUT
J4 → FREQUENCY SAMPLE
SHIELD

AUX OSCILLATOR (OPTIONAL)

A16J3 — 172 — J2
A5P2 — 167

A15
PDM GENERATOR BOARD
992-8145-001
SCHEMATIC 839-7920-022

A24P9-1 / A24P9-20 → 20 → J1-1 / J1-20
A7P2-3 — 165 → J2-1, J2-2
A6P2-3 — 164 → J2-3, J2-4
A7P2-1 — 163 → J2-5, J2-6
A6P2-1 — 162 → J2-7, J2-8

A18A1
OUTPUT MONITOR BOARD
992-8144-001
SCHEMATIC 839-7920-019

A24P7-1 / A24P7-10 → 10 → J2-1 / J2-10
A18P4-1 — 166 → J1-1, J1-2
A18P4-4 — 220 → J1-5, J1-6
A18P4-7 — 221 → J1-7, J1-8
MODULATION MONITOR → J3
SHIELD

CR1 1N4001 / CR2 1N4001 / C1 0.01 / M1 MULTIMETER
51 — A24P13-2
52 — A24P13-1
54 — M2-NEG

CR3 1N4001 / CR4 1N4001 / C2 0.01 / M2 PA VOLTAGE
53 — A24P13-3
54 — M1-NEG
58 — M4-NEG

CR5 1N4001 / CR6 1N4001 / C3 0.01 / M3 PA CURRENT
55 — A19R10-1
56 — TS1-3

CR7 1N4001 / CR8 1N4001 / C4 0.01 / M4 POWER
57 — A24P13-4
58 — M2-NEG

SEE SHEET 3

A24
INTERFACE BOARD
992-8148-001
SCHEMATIC 839-7920-012

A12P1-1 / A12P1-40 → 40 → J1-1 / J1-40
A12P2-1 / A12P2-40 → 40 → J2-1 / J2-40
A6P1-1 / A6P1-10 / A7P1-1 / A7P1-10 → 20 → J3-1, J3-10, J3-11, J3-20
J4-1, J4-10, J4-11, J4-20
A1P1-1 / A1P1-10 → 10 → J5-1, J5-10, J5-11, J5-20
J6-1, J6-10, J6-11, J6-20
A18A1P2-1 / A18A1P2-10 → 10 → J7-1 / J7-10
A15P1-1 / A15P1-20 → 20 → J9-1 / J9-20
A16P2-1 / A16P2-10 → 10 → J10-1 / J10-10
A17P2-1 / A17P2-10 → 10 → J11-1 / J11-10
AUX OSCILLATOR (OPTIONAL)

J12-1 — 125 — A20C1 POS(+)
J12-4 — 126 — A20C2 NEG(-)
J13-1 — 52 — M1-NEG
J13-2 — 51 — M1-POS
J13-3 — 53 — M2-POS
J13-4 — 57 — M4-POS
J13-5 — 31 — TB2-12
J13-6 — 75 — E39
J13-7 — 76 — TS1-5
J13-8 — 72 — A10P1-4 — SEE SHEET 2
J13-9 — 44 — A26A1-E1
J13-10
J13-11 — 224 — TB3-13 — SEE SHEET 3
J13-12 — 27 — TB2-13

TB1
1 — JMP — 2 : FAIL SAFE

TB2
1 LOW ON
2 TWO ON
3 THREE ON
4 FOUR ON
5 FIVE ON
6 HIGH ON
7 OFF
8 RAISE
9 LOWER
10 EXTERNAL KILL
— REMOTE INPUTS
11 PA VOLTS
12 PS CURRENT
13 POWER
— REMOTE METERING
14 INDICATOR RESET
15 LOW STATUS
16 TWO STATUS
17 THREE STATUS
18 FOUR STATUS
19 FIVE STATUS
20 HIGH STATUS
21 AUTO CUTBACK IND
22 SUPPLY OVER VOLTAGE FAULT
23 SUPPLY OVER CURRENT FAULT
24 UNDERDRIVE FAULT
25 VSWR FAULT
— REMOTE INDICATORS
26 AUDIO POS (+)
27 AUDIO NEG (-)
— AUDIO INPUT
28 GND

SEE SHEET 2

NOTES
. . . . . .

REVISION	LTR	ZONE	DATE	DFTM	ENG	ECO NBR
	F	.	JAN 30, 2001	SEC	SEC	46591
	REVISED SHEET 2, AND 3					
	G	.	JUNE 19, 2003	SEC	SEC	49331
	REVISED SHEET 3					

HARRIS CORPORATION
BROADCAST COMMUNICATIONS
P.O. BOX 4290
QUINCY, ILLINOIS 62305

DRAWN BY	ROB FINLEY
DATE	MARCH 1990
ENG CHK	RICHARDS
PROJ ENG	HOLLENBERG
MFG ENG	SANDIDGE
C	SHEET 1 OF 3

TITLE
WIRING DIAGRAM, GATES 1 SINGLE PHASE
-

DWG NO. 839-7920-050 . REV G

DWG NO. 839-7920-050 .

OUTPUT NETWORK

A6
PDM AMPLIFIER BOARD
992-5872-005
SCHEMATIC
839-7533-001

A24P3-1 — 10 — J1-1
A24P3-10 — J1-10
A15P2-7 — 162 — J2-1
J2-2
J5 — 153 — A10P11
J6 — 154 — A10P21
J2-3 — 164 — A15P2-3
J2-4

A6A1
PDM PULL-UP BOARD
992-5872-007
SCHEMATIC
839-7533-001

MP — A19C1
J1 — 230 — A19R21-1

A7
PDM AMPLIFIER BOARD
992-5872-005
SCHEMATIC
839-7533-001

A24P3-11 — 10 — J1-1
A24P3-20 — J1-10
A15P2-5 — 163 — J2-1
J2-2
J5 — 155 — A10P31
J6 — 156 — A10P41
J2-3 — 165 — A15P2-1
J2-4

A7A1
PDM PULL-UP BOARD
992-5872-007
SCHEMATIC
839-7533-001

MP — A19C3
J1 — 232 — A19R21-1

A5
IPA BOARD
992-9813-001
SCHEMATIC
843-5400-171

J2 — 167 — J2
SHIELD
J3-1
J3-2 — 18 — E13
J3-3
J3-4
J3-5
J3-6
J3-7
J3-8 — 16 — A20C3 POS
E11 (Q13 DRAIN) — 226 — A26L1-1
E12 (Q11 DRAIN)

A5E11 — 226 — A26L1 — 227 — A26L2 28UH — 242 — MP

A26C1A MP | A26C1B | A26C1C | A26C1D | A26C1E

A10
PDM FILTER BOARD
992-5874-009
SCHEMATIC
839-5695-419

A6P5 — 153 — J11 (WHT)
A6P6 — 154 — J21 (RED)
A7P5 — 155 — J31 (BLK)
A7P6 — 156 — J41 (GRN)
A24P13-8 — 72 — J1-1 / J1-2 / J1-3 / J1-4

(WHT) J12 — 129 — A1P11
(WHT) J13
(RED) J22 — 133 — A1P21
(RED) J23
(BLK) J32 — 137 — A1P31
(BLK) J33
(GRN) J42 — 141 — A1P41
(GRN) J43
E1
E2

A1
PA BOARD
992-9714-001
SCHEMATIC
843-5400-161

A24P5-11 — 10 — J1-1
A24P5-20 — J1-10
A26A1J1 — J2
SHIELD
E34 — 182 — J3 (RED)
A10P12 — 129 — J11 (WHT)
A10P22 — 133 — J21 (RED)
A10P32 — 137 — J31 (BLK)
A10P42 — 141 — J41 (GRN)

A1A1
PA TOROID SCHEMATIC
992-5868-008

MP — E14

A26A1
IPA POWER SPLITTER BOARD
992-5889-002

A24P13-9 — 44
A26T1
E1 — MP
J1 — A1J2
SHIELD
J2
SHIELD
J3
SHIELD
J4
SHIELD

MP — A21L1 — A21C1 — A21L2 — MP — A21C2 — A21L3 — MP
A18C1 25PF 7.5KV

221 — A18A1P1-7 — A18P4 7 — 221A
220 — A18A1P1-5 — 8 — 4 — 5
166 — A18A1P1-1 — 1 — 2 — 220A
A18CR11 — A18T1 — E24 — E23
166A — A18CR12 — A18T2 — E26 — E25

A21L8 — A21C3 — E22
A21L4 TUNING
A21L5 LOADING — J1 — RF OUTPUT
A21L7 — A21C4
A21E1 MP SPARK GAP
197 — A21L6 2MH — 198 — E11

SEE SHEET 1
SEE SHEET 3

NOTES
1. FREQUENCY DETERMINED

REVISION	LTR	ZONE	DATE	DFTM	ENG	ECO NBR
	F	.	JAN 30, 2001	SEC	SEC	46591
	CHANGED PART NUMBERS AT A5					
	G	.	JUNE 19, 2003	SEC	SEC	49331
	UPDATED REVISION PER ECO					

HARRIS CORPORATION
BROADCAST COMMUNICATIONS
P.O. BOX 4290
QUINCY, ILLINOIS 62305

DRAWN BY	ROB FINLEY
DATE	MARCH 1990
ENG CHK	RICHARDS
PROJ ENG	SANDIDGE
MFG ENG	-

C SHEET 2 OF 3

TITLE
WIRING DIAGRAM, GATES 1 SINGLE PHASE
-

DWG NO. 839-7920-050 . REV G

DWG NO. 839-7920-050 .

AC POWER HIGH VOLT
1 PHASE 197-251V
50/60Hz

AC POWER
LOW VOLT
1 PHASE
197-251V
50/60Hz

TB1 241 240 81 A19K1-L1 82 A19K1-L2 14 TB2-8 15 TB2-10 GND E10

A19DS1 TB2

A19RV4 V275LA15A
A19RV5 V275LA15A
A20RV3 V275LA15A
A20RV4 V275LA15A

1 A20CB1-1
2 A20CB1-2
3 A20CB1-3
4 A20CB1-4
66 A19K1-L1
67 A19K1-L2
14 TB1-5
15 TB1-6
41 A19S4-COM
32 A19K1-COIL-A
38 A19K2-AUX-1
31 A24P13-5
533 CLEAR A20J1-2
27 A24P13-12
46 A20TB3-18
45 A20TB3-15
48 A20CB2-2
47 A20CB3-2
121 A19T1(240v)
50 A20CB3-1
122 A19T1(-11v)
49 A20CB2-1

A19T1 +11 0 -11 208 240 R1 R2
A19K1-T2 91
TB2-21 122
TB2-20 121
90

A19R1 2 180W
93 87
L1 T1 L2 T2 L3 T3 84 A19K1-T1
35 A19K2 (RUN)
A19K1-T2-34
AUX-1 AUX-2 TB2-12 38 36

TB1-1 81 L1 T1 84 A19K2-T1
TB2-1 66 L2 T2 91 A19T1(0)
TB2-3 67 L3 T3 34 A19K2-COIL-B
TB1-2 82
TB2-11 32 A19K1 (START)
A20A1J1-1 533 BLK

A20CB1 LINE LOAD A20DS1
TB2-7 1 3 TB2-15
TB2-9 2 4 TB2-14
A20CB2
TB2-21-49 48 TB2-17
TB2-20-50 47 TB2-19
A20CB3

A20B1 A20B2
AIR FLOW

A20A1 AIR FLOW SENSOR
992-9146-001
SCHEMATIC:
843-5400-041
J1-1 533 BLK A19K1-COIL-B
J1-2 533 CLEAR TB2-13
J1-3
TB1 1 2 3 4
NOT USED
REMOTE STATUS NORMALLY OPEN
REMOTE STATUS NORMALLY CLOSED
REMOTE STATUS COMMON

SEE SHEET 2

TB2-14 TB2-15 A24P13-11
46 45 224

TB3 24VDC 13 14 12 11 7 10 9 0VDC 7 8 60VDC 6 5 75VDC 4 90VDC 3 105VDC 2 120VDC 1
A20T1
A20RV1
A20RV2
E13

TB3 15 240 16 208 17 -11 18 0 19 +11

+20v DC
-20v DC
A20CR1
A20CR2
AC

8 125 A24P12-1
A20C1 25K 40WVDC
A20R1 2K 2W
10 245 A20C3-NEG
11
A20C2 25K 40WVDC
A20R2 2K 2W
9 126 A24P12-4
248 AC 246 16 A5P3-8
249 AC 247 245 A20C2-POS
A20C3 7.4K 200WVDC
A20R3 20K 10W

MP A19CR2 1N3742 80A
MP A19CR4 1N3742 80A
MP A19CR1 1N3742 80A
MP A19CR3 1N3742 80A
193 194
A19RV1 V275LA15A E30 E31
MP MP MP
102 103
108 78 77
A19C5 5100 350WVDC
A19R15 20K 10W

E35 107
A19R4-2 110
A19C1 POS 113
A19C3 POS 115
A19S1 119

A1P3-182
MP
M3-NEG 56 TS1-3 A19R8 150 2W TS1-7 216 E34
E29 218 TS1-9 A19R19 4750 1% TS1-5 A19R9 130K 2W TS1-1 217 E35
A24P13-7 76
M3-POS 55 A19R10 1 2 3 CW 74
A19CR1 CATH 107 212

E39 108 75 A24P13-6
A19R6 METERING SHUNT (MECH)
E15

A19R7 METERING SHUNT (MECH)

212 A19L1 213
A19R21 500 200W
230 A6A1P1
232 A7A1P1

GND SWITCH REAR PANEL (MECH) A19S1
GND SWITCH REAR PANEL (MECH) A19S2
112
A19R4 2 180W
119 A19CR1-CATH
A19CR1-CATH 110

MP A7A1 115(A19CR1-CATH)
A19C3 860 450WVDC
A19R13 20K 10W

MP A6A1 113(A19CR1-CATH)
A19C1 860 450WVDC
A19R11 20K 10W

TB2-11 41 A19S4 COM NO 42 E13 13 MP E19 97 E12
MP E10 E18
18 A5P3-2
REAR PANEL INTERLOCK

NOTES

2. A20TI SECONDARY TAP VOLTAGES SHOWN ARE INDICATIVE OF POWER SUPPLY OUTPUT VOLTAGE AVAILABLE FROM A SPECIFIC A20T1 TAP TO ZERO VOLTS REFERENCE. WIRE 249 IS CONNECTED TO TAP (NOT NECESSARILY #6) THAT RESULT IN NOMINAL 28V P-P PA MODULE RF DRIVE SIGNAL.

1. FOR SEPARATE HV AND LV POWER SUPPLY INPUT INSTALL LV POWER ON TERMINALS 5 & 6: HV POWER ON TERMINALS 1, AND 2 DELETE JUMPER WIRES #240 AND #241.

REVISION	LTR	ZONE	DATE	DFTM	ENG	ECO NBR
	F	.	JAN 30, 2001	SEC	SEC	46591
	UPDATED REVISION PER ECO					
	G	.	JUNE 19, 2003	SEC	SEC	49331
	REVISED @ TB3-17, 19 SWAPPED VOLTAGES...					

HARRIS

HARRIS CORPORATION
BROADCAST COMMUNICATIONS
P.O. BOX 4290
QUINCY, ILLINOIS 62305

DRAWN BY	ROB FINLEY
DATE	MARCH 1990
ENG CHK	RICHARDS
PROJ ENG	HOLLENBERG
MFG ENG	SANDIDGE
C	SHEET 3 OF 3

TITLE
WIRING DIAGRAM, GATES 1
SINGLE PHASE
POWER SUPPLY

DWG NO. 839-7920-050 . REV G