MODEL 8004C

MICROPHONE STATION CONTROL CARD

The Model 8004C Microphone Station Control Card is a component of the IED 8000 Series™.

The 8004C Microphone Station Control Card includes a 307 kHz oscillator, and a detector circuit to demodulate the control signals from each of the microphone stations. The signal is then converted to serial format and sent to the on-board microcontroller (MCU) which in turn communicates with the 8001CPU card through an I²C bus on the mother board.

The 8004C Microphone Station Control Card can communicate with any microphone station type described in the microphone station product descriptions, Section 3, Group 01, Sub A for 500 Series Microphone Stations, and Section 3, Group 02 Sub A for 508 Series Microphone Stations.

Also included on board is a voltage converter circuit which converts the ±15 V supplies to +30 V at 0.5 A for phantom powering of the microphone stations.

There are three LED indicators located on the front edge of the card. The upper (red) LED indicates an MCU fault when lit. The center (green) LED indicates the presence of 30 VDC phantom power when lit. The lower (green) LED indicates MCU running when lit.

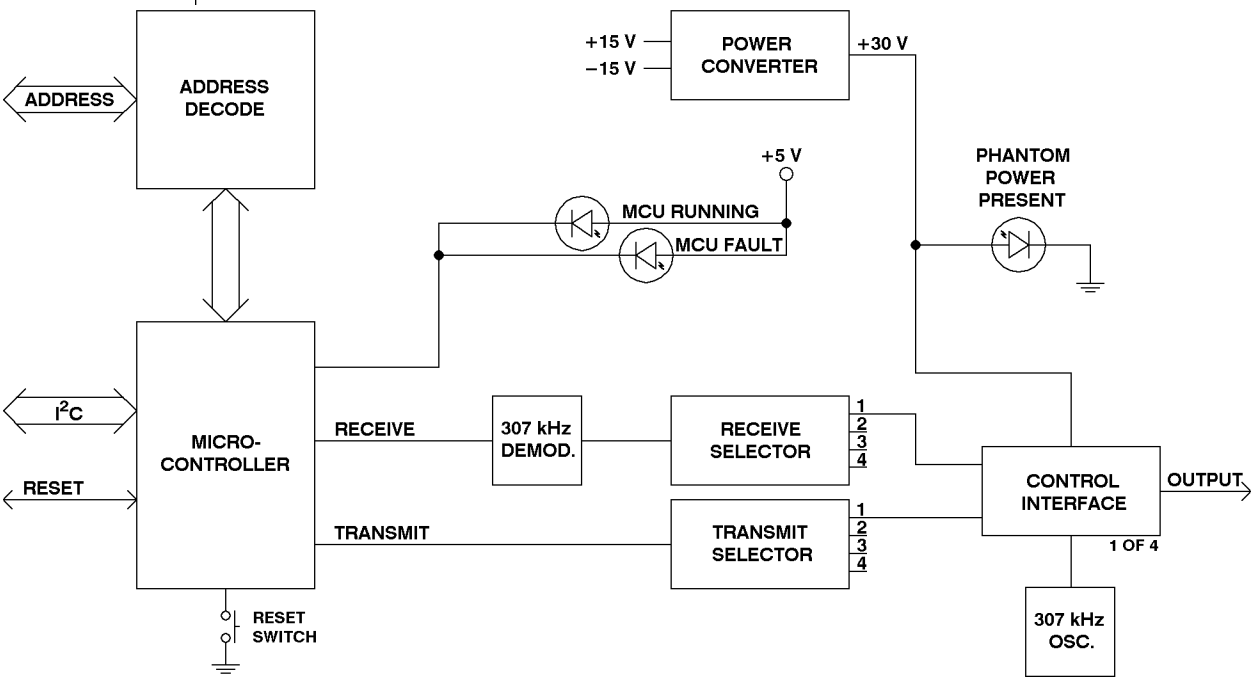

Figure 1 - 8004C Microphone Station Control Card Block Diagram

IED®
Innovative Electronic Designs

+30 VDC and Ground test points are located on the front edge of the circuit card to allow monitoring of the +30 VDC output voltage.

A reset line from the mother board allows the on-board microprocessor to be reset from the 8001CPU. A momentary push switch is located just above the uppermost LED for manual reset of the card, when necessary.

SUPPLY	ANY 500 SERIES MICROPHONE STATION	ANY 508 SERIES MICROPHONE STATION
+15 V	110 mA	125 mA
–15 V	110 mA	125 mA

Table 1 - Added Load Current per Microphone Station

Note: Microphone stations with handsets (FM types) represent the maximum current drain. The drain for other microphone types is slightly less.

Total Current = Supply Current (see ELECTRICAL, ANALOG, Item 6, page 3) + N x added load current, where N = the number of microphone stations connected, and the added load currents are values given in Table 1, above.

SPECIFICATIONS

ELECTRICAL, ANALOG

1. Number of Control Inputs 4
2. Control Signal Data Transmission Rate
   - Standard . . . . . 19.2 kBaud
   - Optional . . . . . 9.6 kBaud
3. Modulation Level. . . . . ≤1V
4. Carrier Frequency
   - Standard. . . . . 307 kHz
   - Optional . . . . . 150 kHz
5. Phantom Power Supply
   - Phantom Power Voltage . . . . . +30 V
   - Phantom Power Current, Max. . . . . 0.5 A
6. Power Supply
   - Supply Voltage Range
     - +15 V Supply . . . . . +14.25 V to +15.75 V
     - – 15 V Supply . . . . . –14.25 V to –15.75 V
     - +5 V Supply . . . . . 4.75 V to 5.25 V
   - Supply current
     (8004C card, only. For current drain of microphone stations, see Table 1.)
     - V= +15 V . . . . . 43 mA
     - V= –15 V . . . . . 96 mA

CONTROLS

1. MCU Reset. . . . . Momentary Push Switch

INDICATORS

1. MCU Fault . . . . . Red LED
2. Phantom Power Present . . . . . Green LED
3. MCU Running . . . . . Green LED

CONNECTORS

1. 32-pin Euro Connector, male, right-angle (2 each) . . Hirose PCN10-32P-2.54DS

MECHANICAL

1. Size (maximum overall dimensions as viewed from the front)
   - Height . . . . . (11.43 cm) 4.50"
   - Width. . . . . (2.03 cm) 0.80"
   - Depth . . . . . (20.42 cm) 8.04"
2. Weight . . . . . (160 gm) 0.352 lb

ENVIRONMENTAL

1. Operating Temperature Range . . . . . (+32 °F - +104 °F) 0 °C - +40 °C
2. Storage Temperature Range . . . . . (–40 °F - +158 °F) –40 °C - +70 °C

IED®
Innovative Electronic Designs

PIN	FUNCTION	PIN	FUNCTION
1	No Connection	17	No Connection
2	No Connection	18	No Connection
3	No Connection	19	No Connection
4	No Connection	20	No Connection
5	No Connection	21	No Connection
6	Ground	22	Ground
7	+30 V External Supply In	23	+30 V External Supply In
8	Ground	24	Ground
9	Ground	25	Ground
10	Control 4 In +	26	Control 4 In –
11	Control 4 Shield	27	Control 3 Shield
12	Control 3 In +	28	Control 3 In –
13	Ground	29	Ground
14	Control 2 In +	30	Control 2 –
15	Control 2 Shield	31	Control 1 Shield
16	Control 1 +	32	Control 1 In –

Table 2 - Pin Connections, Upper Euro Connector

PIN	FUNCTION	PIN	FUNCTION
1	Address Line 4	17	Address Line 3
2	Address Line 2	18	Address Line 1
3	Address Line 0	19	I²C Bus Interrupt Line (Inverted)
4	I²C Serial Data	20	I²C Serial Clock
5	+5 V	21	Master Reset Line
6	–15 V	22	–15 V
7	+15 V	23	+15 V
8	Spare 2	24	Spare 3
9	Ground	25	Ground
10	Ground	26	Ground
11	Ground	27	Ground
12	Audio Test Bus +	28	Audio Test Bus –
13	Audio Monitor Bus +	29	Audio Monitor Bus –
14	Audio Test Signal Bus +	30	Audio Test Signal Bus –
15	Internal Audio Routing Bus 2	31	Internal Audio Routing Bus 1
16	Internal Audio Routing Bus 3	32	Internal Audio Routing Bus 4

Table 3 - Pin Connections, Lower Euro Connector