INSTRUCTION MANUAL

MODEL 2711-70 FSK Demodulator, 70 MHz

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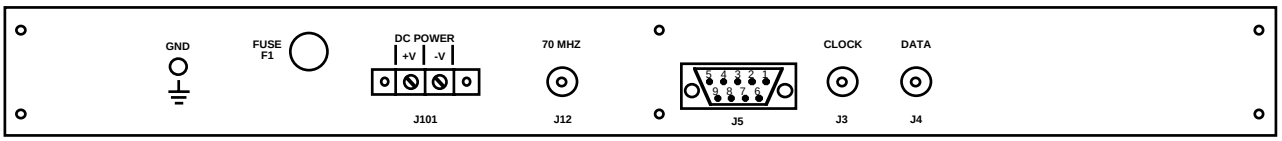
MODEL 2711-70 FSK Demodulator, 70 MHz

1.0 General

1.1 Equipment Description

The 2711-70 FSK Demodulator accepts an FSK modulated signal at 70 MHz and provides RS-422 serial data output. Front panel LEDs provide indication of alarm (red), data activity (green), and power (green). The 2711-70 accepts a -10 dBm, 70 MHz input signal into 75 ohms. Connectors are BNC female for 70 MHz input and DB9 for the RS-422 data/clock and alarm. The unit is powered by an external +48VDC power supply, and housed in a 1 3/4" X 19 " X 16" rack mount chassis.

FRONT PANEL



REAR PANEL

FIGURE 1.1 Model 2711-70 Front and Rear Panels

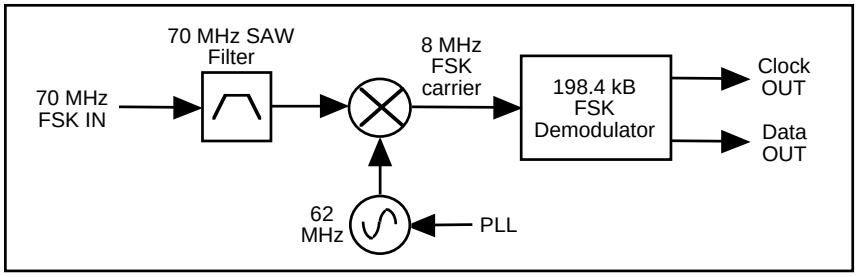


FIGURE 1.2 Model 2711-70 FSK Demodulator Block Diagram

1.2 Technical Characteristics

TABLE 1.0 2711-70 FSK Demodulator Specifications*

Input Characteristics

Data Interface	RS-422, 1kΩ pull-up to +5VDC
Logic "1"	> 3V
Logic "0"	< 1V

Output Characteristics

Impedance/Return Loss	75Ω /14 dB
Frequency	70 MHz
Output Level	-10 dBm

Data Characteristics

Bit Rate	198.4 kb/s
Synchronization	None (Direct FSK with logic 1 = +74.4 kHz dev. & logic 0 = -74.4 kHz dev.)
Format	Serial
Interface	RS-422
Scrambling	None
Forward Error Correction	None

Modulation Characteristics

Modulation	FSK
Deviation	±74.4 kHz dev.
Spacing	300 kHz
Bandwidth	200 kHz

Controls, Indicators

Power	Green LED lights when +48VDC is present
Data Activity	Green LED lights on output data transitions
Alarm	Red LED lights on data alarm

Other

70 MHz Connector	BNC (female)
Alarm/Data Connector	DB9 (female), Open collector
Size	19-inch, 1RU standard chassis, 1.75" high X 16.0" deep
Power	+48VDC ± 20%, 15 Watts max from external source

Options

TTL Interface

*+10 to +40 degrees C; Specifications subject to change without notice

2.0 Installation

2.1 Mechanical

The 2711-70 consists of one PC Board containing a Data Demodulator module, a DC/DC Converter, a Frequency Downconverter module, and sadditional circuitry housed in a 1 RU (1 3/4 inch high) by 16 inch deep chassis. A separate, external +48VDC power source provides power for the assemblies. The 2711-70 can be secured to a rack using the 4 holes on the front panel. Figure 2.0 shows how the 2711-70 is assembled.

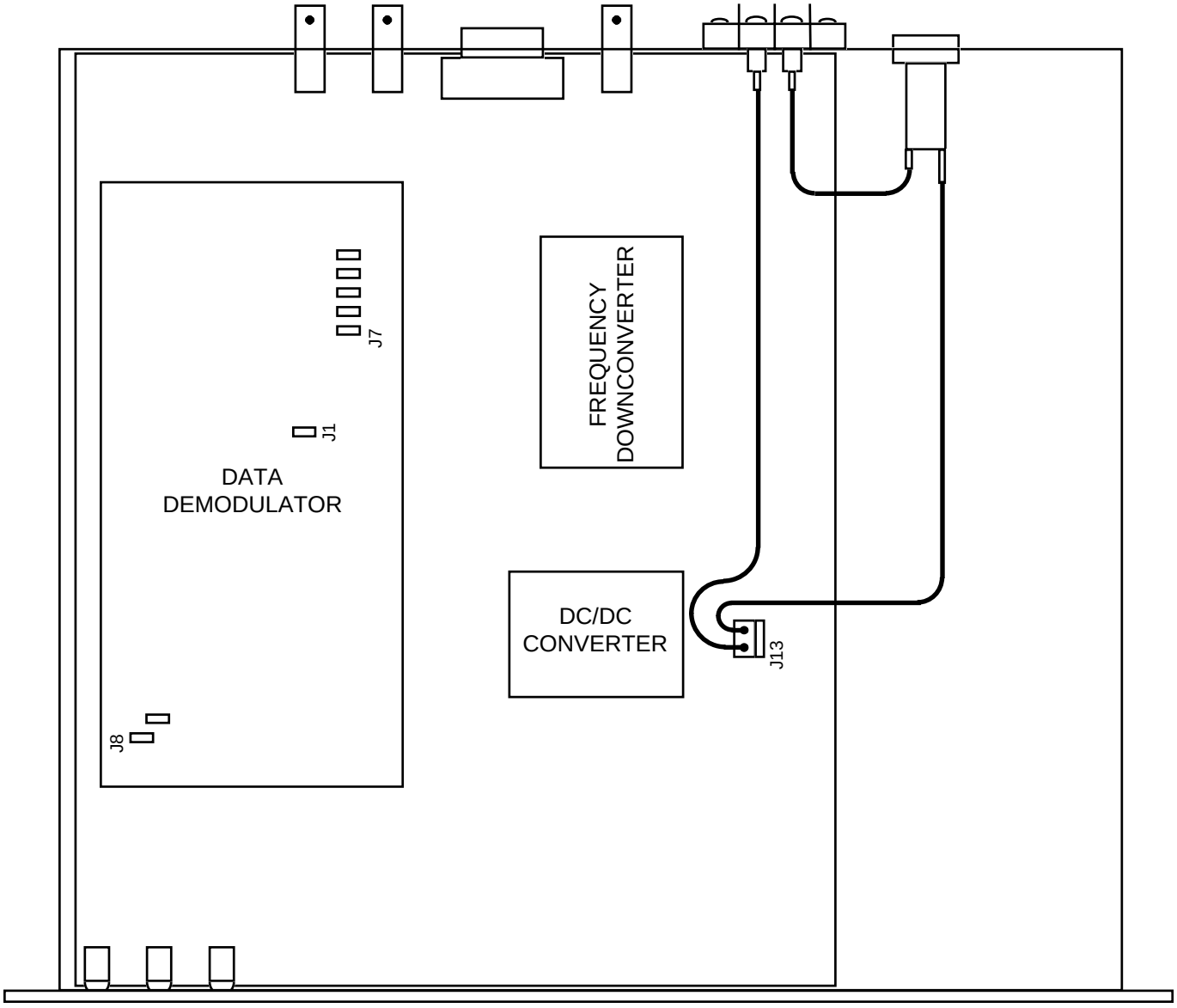


FIGURE 2.0 2711-70 Mechanical Assembly

2.2 Rear Panel Input/Output Signals

Figure 2.1 shows the input and output connectors on the rear panel.

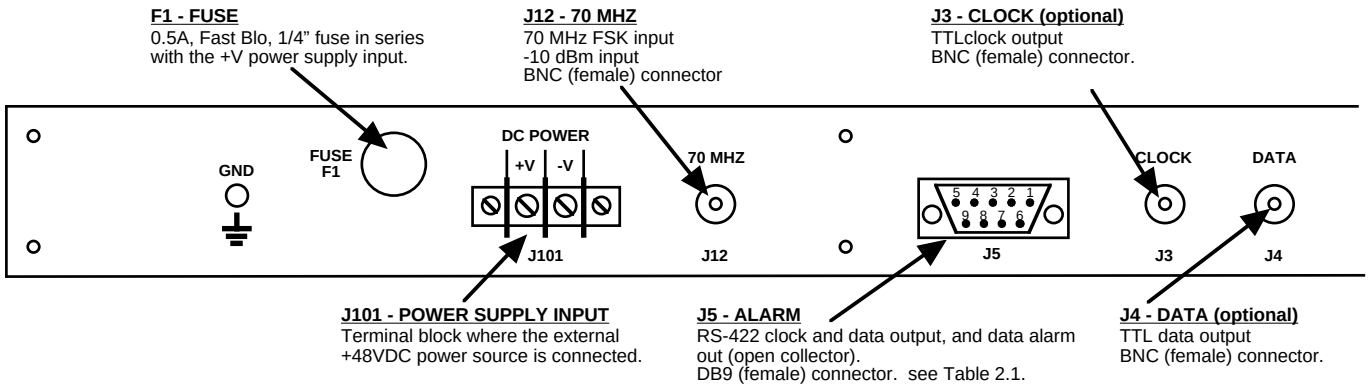


FIGURE 2.1 2711-70 Rear Panel I/O's

Pin	Function
1	RS-422 Clock -
2	RS-422 Clock +
3	RS-422 Data -
4	RS-422 Data +
5	Ground
6	NOT USED
7	Open Collector Alarm
8	NOT USED
9	NOT USED

TABLE 2.1 J5 Pinouts (DB9)

2.3 PCB Controls/Settings

Table 2.2 combined with Figures 2.0 and 2.2 show the user selectable PCB controls/settings available via jumpers on the Data Demodulator module. NOTE: Jumpers J3, J4, J5, and J6 should always be in the non-dotted position for RS-422.

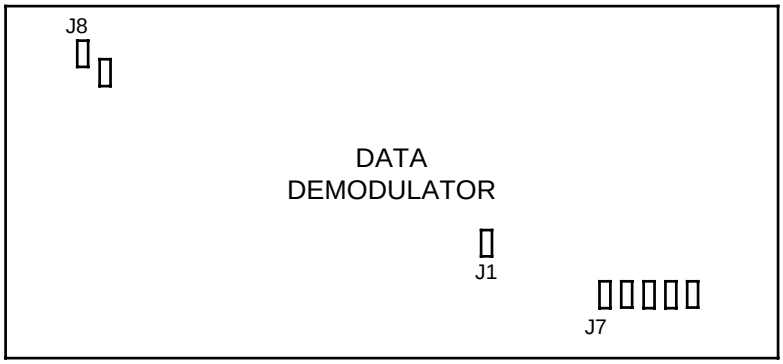


FIGURE 2.2 Locations of Jumpers J1, J7, and J8

Jumper	To Dotted End Pin	To Non-dotted End Pin
J1	Squelch Enable	Squelch Disable
J7	Normal Clock Output	Inverted Clock Output
J8	Normal Data Output	Inverted Data Output

TABLE 2.2 PCB Jumper J1, J7, and J8 Settings

2.4 Front Panel Controls and Indicators

Figure 2.3 shows the front panel controls and indicators.

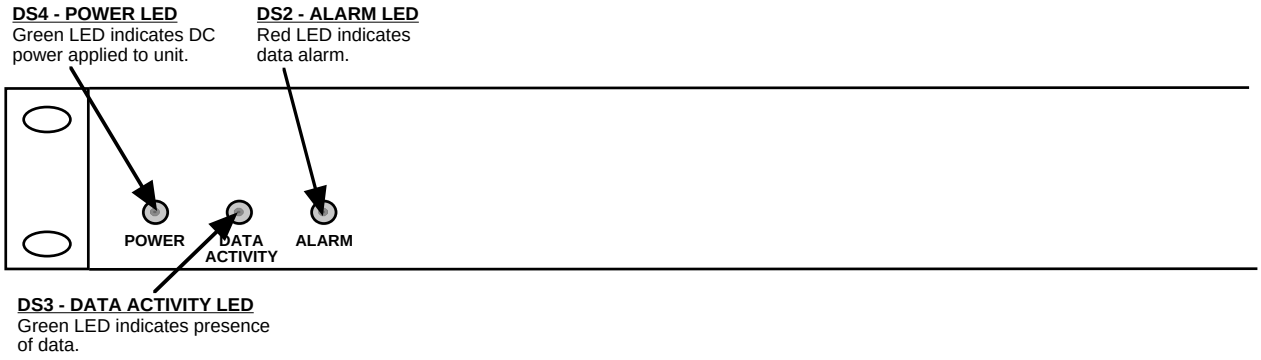


FIGURE 2.3 2711-70 Front Panel Controls and Indicators

2.5 Installation / Operation

2.5.1 Installing and Operating the 2711-70, FSK Demodulator

1. Connect 70 MHz FSK signal to 70 MHZ input, J12 (Figure 2.3).
2. Set the Data Demodulator jumpers J1, J7, and J8 to the desired settings (Table 2.2, Figure 2.0, Figure 2.2).
3. Connect +48VDC to DC POWER terminal block, J101, on the back panel (Figure 2.1).
4. Make sure that the POWER LED, DS4, is on and the ALARM LED, DS2, is off.
5. Connect DB9 connector, J5, to external equipment (TTL option - DATA and CLOCK connector, J4 and J3) (Figure 2.1).

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