



Setup and Programming for the Drake MEQ1000A / SDM1000
Multiplexing Hybrid QAM Modulator
 for QT Plus Transmodulation of ANIK G1 and F1R T1 Transponders

Note: The basic SDM1000 single tuner install uses the leftmost slot (Input A) when viewed from the rear panel. Use front panel select buttons to cycle between MEQ1000A Host QAM Modulator and SDM1000 Satellite Demodulators. To enter program mode press the ENTER button that is located in the center of the four arrow buttons and hold in for several seconds until the bottom line of the display begins to flash.

SDM1000 Programming

DEMOMODE: Modulation FEC to match transponder received.

FREQUENCY: L-band frequency in MHz to match transponder to be received.

SYMBOL RATE: Symbol Rate (Ms) to match transponder to be received.

*Note – once the SDM1000 locks on a transponder it will provide a SNR reading in dB.

Pol	Spot Beam	Transponder	L-band	Modulation FEC	Symbol Rate (Ms)
V	Nat	G1 X1	1091.50	8PSK--8/9	22
V	Nat	G1 X2	1122.00	8PSK--8/9	22
V	Nat	G1 X3	1152.50	8PSK--8/9	22
V	Nat	G1 X4	1183.00	8PSK--8/9	22
V	Nat	G1 X5	1591.50	8PSK--5/6	22
V	Nat	G1 X6	1622.00	8PSK--5/6	22
V	Nat	G1 X7	1652.50	8PSK--5/6	22
V	Nat	G1 X8	1683.00	8PSK--5/6	22
H	Nat	G1 X9	1091.50	8PSK--8/9	22
H	Nat	G1 X10	1122.00	8PSK--8/9	22
H	Nat	G1 X11	1152.50	8PSK--8/9	22
H	Nat	G1 X12	1183.00	8PSK--8/9	22
H	Nat	G1 X13	1591.50	8PSK--8/9	22
H	Nat	G1 X16	1683.00	8PSK--2/3	20.5
V	Nat	F1R T1	964.75	* 8PSK—3/4	21

*Note - For Anik F1R Transponder 1 only, Drake recommends setting the SDM1000 for 8PSK 4/5 for optimal operation.

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MEQ1000A Programming

Unit ID: # (0 thru 63)

- MEQ1000A may be accessed through the front panel at any time
- Assign a unique ID # from 1 to 63 to each MEQ1000A in order to distinguish them for remote access from the Drake Digital Headend Control Program.
- ID # 0 allows front panel access only.

RS-232 Baud Rate: corresponds to baud rate from the connected computer.

MULTIPLEX: Enabled

INPUT B OFFSET: 0 (only relevant if you have a second module in the rightmost slot)

MPEG PROGRAMS: Select Programs

Program filtering is necessary to reduce the total number of HD programs from ANIK G1 to 4 services per MEQ1000A in order to reduce the transponder multiplex to fit in a 38.8 Mbit/s 256QAM channel. Confirm the MPEG program numbers of the desired services to be included in the output.

*Note - The Drake Digital Headend Control Program is a valuable tool here. It allows you to read the PAT table from Input A and display the list of all services on the transponder. You can then select the programs to be included in the output multiplex. If you are not setup to access the MEQ1000A through the supplied software it may be programmed from the front panel as follows:

MPEG PROGRAMS: Select Programs should be flashing if in program mode.

Press ENTER button

Shows MPEG PROG 00001: The default will be Not Selected

Use the left / right arrow buttons to scroll to MPEG program number to be selected and then the up /down arrow to select Input A. Repeat this for all MPEG program numbers of the services that are to be included in your output multiplex.

CA FILTER: Disabled

PSIP: Disabled

QAM Mode: QAM-256B

QAM SymRate: Preset (5.3606 for QAM-256B)

Interleaver: I128, J4 recommended for QAM-256B or I128, J1

OUTPUT FORMAT: Normal

Output ChannelMap: CATV

Output Channel: select EIA Ch. 2 to 158 (54 to 1,002 MHz) from channel map

RF LEVEL: + 45.0 to + 62.0 dBmV in 0.5 dBmV steps to balance with other modulators

DTA/EAS CONTROL: Disabled

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Using the MEQ1000 to cherry pick from 2 multiplexes:

The MEQ1000A is capable of holding two input modules. The leftmost module, when viewed from the rear panel is Input A and the rightmost input B. Any combination of SDM1000 satellite demodulator cards, DTD1000 ATSC/QAM tuner cards and HDE24 HD or SDE24 dual SD local encoder cards may be installed as input modules. The MEQ1000 provides the ability to cherry pick individual services from the multiplex's of both Input A and Input B. However, the total amount of data from all services can not exceed the 38.81 Mbits/s maximum limit for a 256QAM RF channel. Please consult Drake Canada if you have any questions.

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