SPLnet SNMP Agent Guide

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Overview

This guide provides an overview of the capabilities provided by the SPLnet SNMP Agent. This agent is used in both the SPLnet Model 100 and Model 112 units. For the most complete and up-to-date information, please refer to the MIB files located on the website: www.splnet.net.

SNMP Capabilities

The SPLnet's SNMP Agent supports SNMP v1 and v2c operations including *get*, *getnext*, and *set*. The Models 100 and 112 can also send SNMP v1 or v2c traps (notifications) and will respond properly to SNMP community names.

The SNMP Agent supports data objects from two MIBs: SNMPv2-MIB (which can be viewed at http://www.ietf.org/rfc/rfc3418.txt) and M100-MIB (http://www.splnet.net/MIB-Files/M100-MIB.mib). The SNMPv2-MIB defines objects standard to most SNMP devices such as sysDescr and sysContact. The M100-MIB defines all parameters specific to the SPLnet Models 100 and 112. The Studio Technologies MIB (STI-CAPABILITIES), available for download at http://www.splnet.net/MIBFiles/STI-CAPABILITIES.mib, describes how the SPLnet's SNMP Agent implements the objects in these two MIBs in detail.

SNMPv2-MIB Support

The SPLnet SNMP Agent implements two groups of objects from SNMPv2-MIB: the system group and the snmpTrap group. See the SNMPv2-MIB for more details.

system group

OID	Function
sysDescr	This OID reports a textual description of the device. Read only.
sysObjectID	The authoritative identification of the device's top-level OID address: 1.3.6.1.4.1.26565.1.1. Read only.
sysUpTime	The number of hundredths of a second since the device was last restarted. Read only.
sysContact	Textual identification of the person in charge of managing the device. The factory default for this field is "Unknown". Read-write.
sysName	Textual name to identify the device. Factory default is "Studio Technologies, Inc." Read-write.
sysLocation	Textual name to identify the location of the device. Factory default is "Skokie, Illinois USA". Read-write.
sysServices	The OID reports 72 indicating this device supports the TCP and application protocols. Read only.
sysORLastChange	The OID reports 0 due to the characteristics of the device. Read only.

The following objects are located within the sysORTable:

OID	Function
sysORIndex	The OID reports 1 as is appropriate for the device. Read only.
sysORID	Fixed to 1.3.6.1.4.1.26565.100.1, which is the OID address of the stiM100Capability statement within the STI-CAPABILITIES MIB. Read only.
sysORDescr	Fixed as "M100 Capabilities" in the device. "A textural description of the capabilities identified by the corresponding instance of sysORID." Read only.
sysORUpTime	Fixed to 0 in the device. "The value of sysUpTime at the time this conceptual row was last instantiated." Read only.

snmpTrap group

OID	Function
snmpTrapOID	Fixed at 26565.1.0.1. "The authoritative identification of the notification currently being sent. This variable occurs as the second varbind in every SNMPv2-Trap-PDU and InformRequest-PDU." Note: The Models 100 and 112 send this OID with version v2c traps only. Read only.
snmpTrapEnterprise	Not implemented by the device.

M100-MIB

The data objects within the M100-MIB are separated into a number of functional groups.

m100Notifications group

SPLnet units can be configured to send SNMP traps (notifications) to a trap receiver. All of the relevant parameters can be configured using the Models 100 and 112's SNMP webpages. These include status, trap community name, receiver address, version, trigger threshold, trigger measurement type, and minimum trap interval. The status, trigger measurement, and trigger threshold parameters can also be configured using SNMP *set* commands that are part of the m100Config group.

Test traps can be generated from the unit's SNMP webpage as well as using an SNMP *set* command. (See the m100Config group.) Note that test traps replace the normal trap text with "Test Trap." If you need to test parsing of a trap's "real" text you can generate a test trap by temporarily setting the trap trigger threshold to a very low value, e.g., 1.

OID	Function
splThresholdExceeded	This is the OID of the trap sent when the current SPL measurement defined by trapTriggerMeasurement exceeds the threshold defined by trapTriggerThreshold. It is not sent if trapEnable is set to disabled. It is not sent more often than the minimum time interval defined in the device's SNMP webpage. Not accessible using read or write.
trapString	This text object is sent only as part of a trap (notification) and includes the triggering SPL value, trigger measurement, and trigger threshold. It is sent in the following format (using example data): "97.4 dBA (Leq 10 sec) exceeded trap threshold (94 dB)". If the trap was sent as a test trap the text is "Test Trap." Not accessible using read or write.

m100SplData group

The m100SplData group contains a number of read-only objects.

OID	Function
splFast	Current L_F measurement reported in tenths of a dB. Returns –1 if valid data not available.
splFastMax	Current L_{Fmax} measurement reported in tenths of a dB. Returns –1 if valid data not available.
splSlow	Current L_S measurement reported in tenths of a dB. Returns –1 if valid data not available.
splSlowMax	Current L_{Smax} measurement reported in tenths of a dB. Returns –1 if valid data not available.
leq10sec	Current L_{eq10s} measurement reported in tenths of a dB. Returns –1 if valid data not available.

m100SplData group, continued

OID	Function
leq1min	Current L_{eq1min} measurement reported in tenths of a dB. Returns –1 if valid data not available.
leq5min	Current L_{eq5min} measurement reported in tenths of a dB. Returns –1 if valid data not available.
leq10min	Current $L_{eq10min}$ measurement reported in tenths of a dB. Returns –1 if valid data not available.
leq15min	Current $L_{eq15min}$ measurement reported in tenths of a dB. Returns –1 if valid data not available.
leq30min	Current $L_{eq30min}$ measurement reported in tenths of a dB. Returns –1 if valid data not available.
leq1hr	Current L_{eq1h} measurement reported in tenths of a dB. Returns –1 if valid data not available.
leq8hr	Current L_{eq8h} measurement reported in tenths of a dB. Returns –1 if valid data not available.
leq24hr	Current L_{eq24h} measurement reported in tenths of a dB. Returns –1 if valid data not available.
leqContinuous	Current L_{eqT} measurement reported in tenths of a dB. Number of seconds in measurement given by leqContinuousSecs. Returns –1 if valid data not available.
leqContinuousSecs	Number of seconds in the current L_{eqT} measurement. Returns 0 if valid data not available.
l10	Current L_{10} (percentile) measurement in tenths of a dB. Returns –1 if valid data not available.
lUser	Current L_{user} (percentile) measurement in tenths of a dB. Returns –1 if valid data not available.
l90	Current L_{90} (percentile) measurement in tenths of a dB. Returns –1 if valid data not available.
lnSecs	Number of seconds in the current L_n (percentile) measurements in tenths of a dB. Returns 0 if valid data not available.

m100SplData group, continued

OID	Function
splOverloadFlags	This is a "bit mask" created by adding the following error codes: 0 No overloads 1 splFastSlowLeq1sec 2 splFastSlowMax 4 leq10sec 8 leq1min 16 leq5min 32 leq10min 64 leq15min 128 leq30min 256 leq1hr 512 leq8hr 1024 leq24hr 2048 leqContinuous 4096 lUser 8192 l1 16384 l10 32768 l50 65536 l90 131072 peakC
m100Indicator1	This is a "bit mask" that shows the status of the Model 100's green LED function during last second. Each bit gives status for 1/8th of a second. LSB contains first (oldest) 1/8-second data.
m100Indicator2	This is a "bit mask" that shows the status of the Model 100's red LED function during last second. Each bit gives status for 1/8th of a second. LSB contains first (oldest) 1/8-second data.
peakC	Current L_{Cpk} measurement reported in tenths of a dB. Returns –1 if valid data not available.
tenSecLogger	This object is 10 bytes long and its data is updated every ten seconds. If any of these values are not available they will return –1. Byte 1: Block ID. Starts at 0 and increments each time the object is updated, wrapping back to 0 after 255. Byte 2: 0 if all measurement data in object is valid; 1 if an overload occurred during the measurement period. Bytes 3 and 4: The L_{FMax} measurement during the measurement period. Reported in tenths of a dB. Bytes 5 and 6: The L_{SMax} measurement during the measurement period. Reported in tenths of a dB. Bytes 7 and 8: The L_{eq10s} measurement during the measurement period. Reported in tenths of a dB. Bytes 9 and 10: The L_{Cpk} measurement during the measurement period. Reported in tenths of a dB.

m100SplData group, continued

OID	Function
leq1Sec	Current L_{eq1s} measurement reported in tenths of a dB. Returns –1 if valid data not available.
fixedLeqID	This integer is 2 bytes long and allows unique leq measurements to be identified. The lower byte is incremented each second upon updates to the fixed L_{eq} values from length 1 sec to length 15 min. This wraps back to 0 after 59. The upper byte is incremented each minute upon updates to the fixed L_{eq} values from length 30 min to 24 hr and wraps back to 0 after 59. Note the upper byte is updated when the lower byte wraps from 59 to 0.
l1	Current L_1 (percentile) measurement in tenths of a dB. Returns –1 if valid data not available.
l50	Current L_{50} (percentile) measurement in tenths of a dB. Returns –1 if valid data not available.
oneSecLogger	This object is 10 bytes long and its data is updated every second. If any of these values are not available they will return –1. Byte 1: Block ID. Starts at 0 and increments each time the object is updated, wrapping back to 0 after 255. Byte 2: 0 if all measurement data in object is valid; 1 if an overload occurred during the measurement period. Bytes 3 and 4: The L_{Fmax} measurement during the measurement period. Reported in tenths of a dB. Bytes 5 and 6: The L_{Smax} measurement during the measurement period. Reported in tenths of a dB. Bytes 7 and 8: The L_{eq1s} measurement during the measurement period. Reported in tenths of a dB. Bytes 9 and 10: The L_{Cpk} measurement during the measurement period. Reported in tenths of a dB.
splAFast	Current A-weighted L_F measurement reported in tenths of a dB. Returns –1 if valid data not available.
splAFastMax	Current A-weighted L_{Fmax} measurement reported in tenths of a dB. Returns –1 if valid data not available.
splASlow	Current A-weighted L_S measurement reported in tenths of a dB. Returns –1 if valid data not available.
splASlowMax	Current A-weighted L_{Smax} measurement reported in tenths of a dB. Returns –1 if valid data not available.

m100SplData group, continued

OID	Function
splCFast	Current C-weighted L_F measurement reported in tenths of a dB. Returns –1 if valid data not available.
splCFastMax	Current C-weighted L_{Fmax} measurement reported in tenths of a dB. Returns –1 if valid data not available.
splCSlow	Current C-weighted L_S measurement reported in tenths of a dB. Returns –1 if valid data not available.
splCSlowMax	Current C-weighted L_{Smax} measurement reported in tenths of a dB. Returns –1 if valid data not available.
splFastBlock	This object is 18 bytes long and is updated eight times per second. The first byte contains the block ID which increments each time the object is updated. The block ID wraps back to 0 after 31. The second byte is 0 if all measurement data in object is valid; 1 if an overload occurred during the measurement period. The next two bytes contain the current L_F value in tenths of a dB. The next two bytes contain the L_F value measured 1/8 of a second ago. The next two bytes contain the L_F value 2/8 of a second ago, etc. The last two bytes contain the L_F value measured 7/8 of a second ago.
splSlowBlock	This object is 18 bytes long and is updated eight times per second. The first byte contains the block ID which increments each time the object is updated. The block ID wraps back to 0 after 31. The second byte is 0 if all measurement data in object is valid; 1 if an overload occurred during the measurement period. The next two bytes contain the current L_S value in tenths of a dB. The next two bytes contain the L_S value measured 1/8 of a second ago. The next two bytes contain the L_S value 2/8 of a second ago, etc. The last two bytes contain the L_S value measured 7/8 of a second ago.

m100Config group

The m100Config group contains a number of read-write objects. Writing to many of these objects with a *set* command may change the behavior of the Models 100 and 112.

OID	Function	
frequencyWeighting	1	dBA
	2	dBC
	3	dBZ

m100Config group, continued

OID	Function
resetMeasurements	Reading always returns 0. This is a “bit mask” created by adding the following codes. Writing an integer between 1 and 255 resets the appropriate measurements. 1 resetFixedLeqs 2 resetContinuousLeq 4 resetLns 8 resetSplFastMax 16 resetSplSlowMax 32 resetFreqLeqs 64 resetFreqFastMaxs 128 resetFreqSlowMaxs 256 resetPeakC 511 resetAll
trapEnable	This object defines the status of the trap (notification) function. 1 disables trap (notification) generation 2 enables trap generation
trapTriggerMeasurement	This object defines which measurement is used to trigger traps. 1 splFast 2 splSlow 3 leq1sec 4 leq10sec 5 leq1min 6 leq5min 7 leq10min 8 leq15min 9 leq30min 10 leq1hr 11 leq8hr 12 leq24hr 13 leqContinuous 14 lUser 15 l1 16 l10 17 l50 18 l90 19 peakC
trapTriggerThreshold	Defines the trap trigger threshold in dB SPL. Acceptable values range from 1 to 160.
smtpEnable	1 Disables email/SMS generation 2 Enables email/SMS generation
lUserValue	L_{user} (percentile) threshold in tenths of a percent. Values from 1 (0.1%) to 999 (99.9%) are valid.

m100Config group, continued

OID	Function
lnBufferLength	1 oneMin 2 fiveMin 3 tenMin 4 fifteenMin 5 thirtyMin 6 oneHr
sendTestTrap	Reading always returns 0. To allow a test trap to be sent trapEnable must be configured for enable trap generation. 1 Send test trap (notification)
indicatorStatus	This is a “bit mask” created by adding the following codes. 1 On-board LEDs enabled 2 Applet “virtual” LEDs enabled
outputClosure	0 notAvailable (Read only) 1 disabled 2 enabled 3 followsThreshold (follows indicator threshold 2 (T2) for Model 100, follows Output Closure threshold for Model 112)

m100Sys group

The m100Sys group contains objects which relate to Models 100 and 112 system data.

OID	Function
currentTime	Textual display of the current time and UTC offset. Read only.
serialNum	Serial number of the device’s hardware. Read only.
systemFirmwareVersion	Textual display of the device’s main processor firmware version. Read only.
systemHardwareVersion	Textual display of the device’s hardware version. Read only.
dspFirmwareVersion	Textual display of the device’s DSP firmware version. Read only.
updateDSPfirmware	Reading always returns 0. Read-write. 1 Initiates TFTP download of DSP firmware.
appletSize	Integer display of the size of the Applet in Bytes. Read only.
updateApplet	Reading always returns 0. Read-write. 1 Initiates TFTP download of Applet.
tftpServerAddress	Textual address of the TFTP server. Can be a name (such as tftp.splnet.net) or an IP address (such as 70.91.247.59). Factory default is “tftp.splnet.net”. Read-write.

m100Sys group, continued

OID	Function
sysErrorFlags	This is a "bit mask" created by adding the following codes. Read only. 0 No errors 1 Unable to find SMTP (mail) server 2 Failed to communicate with SMTP (mail) server 4 Unable to find SNMP trap receiver 8 Failed to send SNMP trap 16 Unable to find SNTP (time) server 32 Failed to communicate with SNTP (time) server 64 Unable to find TFTP server 128 Failed to communicate with TFTP server 256 Failed to change Configuration Menu password 512 Valid TEDS data not read 1024 Microphone input not calibrated
clearSysErrors	Reading always returns 0. Read-write. 1 Clears system error codes.

m100Mic group

The m100Mic group contains a number of objects which relate to the Models 100 and 112's system input and connected microphone.

OID	Function
micStatus	Integer display of the status of the system's input. Read only. 1 No microphone connected 2 TEDS 0.9 microphone connected 3 TEDS 1.0 microphone connected 4 No valid TEDS data found 5 Non-TEDS microphone connected 6 Audio only
micClass	Integer display of the connected microphone's measurement class. Read only. Returns –1 if data not available. 0 class 0 1 class 1 (per IEC 61672) 2 class 2 (per IEC 61672)
m100InputType	Integer display of the configuration of the system's input. Writing will cause all measurements to be reset. Read-write. 1 CCP – TEDS Sensitivity 2 CCP – Manual Sensitivity 3 Audio Only – Manual Sensitivity
micSensitivity	Integer display of the connected microphone's sensitivity reported in tenths of mV/Pa. See Note 1. Read only. Returns –1 if data not available.

m100Mic group, continued

OID	Function
manualSensitivity	Integer display of the manual sensitivity reported in tenths of mV/Pa. If manual sensitivity is the active source writing will cause all measurements to be reset. Read-write. Returns –1 if data not available.
micManufacturerID	Integer display of the connected microphone's manufacturer ID. See Notes 1 and 2. Read only. Returns –1 if data not available.
micModelNum	Integer display of the connected microphone's model number. See Note 1. Read only. Returns –1 if data not available.
micSerialNum	Integer display of the connected microphone's serial number. See Note 1. Read only. Returns –1 if data not available.
micCalibrationDate	Textual display of the connected microphone's latest calibration date. See Note 1. Read only. Returns "---" if data not available.
micCalibrationPeriod	Integer display of the connected microphone's recommended number of days required between calibrations. See Note 1. Read only. Returns –1 if data not available.
fieldCalibrationDate	Textual display of the date and time when the last field calibration data was stored. Displays "---" if a field calibration value has never been stored. Read only.
fieldCalibrationValue	Field calibration value in tenths of a dB. Acceptable values range from –125 (–12.5 dB) to +125 (+12.5 dB). Writing will cause all measurements to be reset. Read-write.
m100InputGain	Determines the gain of the system's input. Read-write. 1 neg15dB 2 zerodB 3 pos15dB 4 pos30dB
m100MaxSPL	Integer display of approximate maximum SPL in linear operating range of Model 100 or Model 112 based on current sensitivity and input gain. Use overloadFlags to accurately determine if the linear operating range has been exceeded. Read only.
ccpCurrent	Determines the amount of current supplied to the microphone whenever CCP is enabled. Read-write. 1 normal current 2 high current

m100Mic group, continued

Note 1: Information in this OID derived from connected microphone's Transducer Electronic Data Sheet (TEDS) data. Refer to IEEE 1451.4 Template 27 for details.

Note 2: OID micManufacturerID for Studio Technologies, Inc. is 82. For a complete list of TEDS-compliant manufacturers see http://standards.ieee.org/regauth/1451/manufacturerID/Public_Listing.html.

m100SensorBus group

The m100SensorBus group contains read-only objects which relate to the Model 100's sensor bus and Model 112's meteorological inputs.

OID	Function
m100Temperature	Temperature reported in whole degrees Celsius. For Model 100 range is –55 to +100; for Model 112 range is –40 to +60. Returns –255 if not available.
m100RelativeHumidity	Relative humidity in percent (%) reported as integer. Range is 0 to 100. Returns –1 if not available.
m100WindSpeed	Wind speed reported in tenths of m/s (meters-per-second). Range is 0 to 50.0. Returns –1 if not available.
m100WindDirection	Wind direction reported in whole degrees. Range is 0 (North) to 359. Returns –1 if not available.

m100FreqData group

The m100FreqData group contains a number of objects which relate to the Models 100 and 112's frequency band measurements. Data available only from Model 100 units that have required software license. Data always available from Model 112 units. Refer to the resetMeasurements OID to reset the frequency band "Maxs" and "Leqs" OIDs contained in this group. Refer to Table 1 for listing of exact 1/3-octave and 1/1-octave frequency centers.

OID	Function
thirdOctaveFasts	A list of 1/3-octave L_F data. 62 bytes long, two bytes for each band. The first two bytes report the current L_F measurement for the 1/3-octave-band centered at 20 Hz in tenths of a dB. The next two bytes report the current L_F of the 25 Hz band, etc. The last two bytes report the current L_F for the 20 kHz band. Read only. Returns 31 –1s if data not available.

m100FreqData group, continued

OID	Function
thirdOctaveFastMaxs	A list of 1/3-octave L_{Fmax} data. 62 bytes long, two bytes for each band. The first two bytes report the current L_{Fmax} measurement for the 1/3-octave-band centered at 20 Hz in tenths of a dB. The next two bytes report the current L_{Fmax} of the 25 Hz band, etc. The last two bytes report the current L_{Fmax} for the 20 kHz band. Read only. Returns 31 –1s if data not available.
thirdOctaveSlows	A list of 1/3-octave L_S data. 62 bytes long, two bytes for each band. The first two bytes report the current L_S measurement for the 1/3-octave-band centered at 20 Hz in tenths of a dB. The next two bytes report the current L_S of the 25 Hz band, etc. The last two bytes report the current L_S for the 20 kHz band. Read only. Returns 31 –1s if data not available.
thirdOctaveSlowMaxs	A list of 1/3-octave L_{Smax} data. 62 bytes long, two bytes for each band. The first two bytes report the current L_{Smax} measurement for the 1/3-octave-band centered at 20 Hz in tenths of a dB. The next two bytes report the current L_{Smax} of the 25 Hz band, etc. The last two bytes report the current L_{Smax} for the 20 kHz band. Read only. Returns 31 –1s if data not available.
thirdOctaveLeqs	A list of 1/3-octave L_{eq1s} data. 62 bytes long, two bytes for each band. The first two bytes report the current L_{eq1s} measurement for the 1/3-octave-band centered at 20 Hz in tenths of a dB. The next two bytes report the current L_{eq1s} of the 25 Hz band, etc. The last two bytes report the current L_{eq1s} for the 20 kHz band. Read freqDataLeqSecs for the number of seconds since the last reset. Read only. Returns 31 –1s if data not available.
fullOctaveFasts	A list of 1/1-octave L_F data. 20 bytes long, two bytes for each band. The first two bytes report the current L_F measurement for the 1/1-octave-band centered at 31.5 Hz in tenths of a dB. The next two bytes report the current L_F of the 63 Hz band, etc. The last two bytes report the current L_F for the 16 kHz band. Read only. Returns 10 –1s if data not available.
fullOctaveFastMaxs	A list of 1/1-octave L_{Fmax} data. 20 bytes long, two bytes for each band. The first two bytes report the current L_{Fmax} measurement for the 1/1-octave-band centered at 31.5 Hz in tenths of a dB. The next two bytes report the current L_{Fmax} of the 63 Hz band, etc. The last two bytes report the current L_{Fmax} for the 16 kHz band. Read only. Returns 10 –1s if data not available.

m100FreqData group, continued

OID	Function
fullOctaveSlows	A list of 1/1-octave L_S data. 20 bytes long, two bytes for each band. The first two bytes report the current L_S measurement for the 1/1-octave-band centered at 31.5 Hz in tenths of a dB. The next two bytes report the current L_S of the 63 Hz band, etc. The last two bytes report the current L_S for the 16 kHz band. Read only. Returns 10 –1s if data not available.
fullOctaveSlowMaxs	A list of 1/1-octave L_{Smax} data. 20 bytes long, two bytes for each band. The first two bytes report the current L_{Smax} measurement for the 1/1-octave-band centered at 31.5 Hz in tenths of a dB. The next two bytes report the current L_{Smax} of the 63 Hz band, etc. The last two bytes report the current L_{Smax} for the 16 kHz band. Read only. Returns 10 –1s if data not available.
fullOctaveLeqs	A list of 1/1-octave L_{eq1s} data. 20 bytes long, two bytes for each band. The first two bytes report the current L_{eq1s} measurement for the 1/1-octave-band centered at 31.5 Hz in tenths of a dB. The next two bytes report the current L_{eq1s} of the 63 Hz band, etc. The last two bytes report the current L_{eq1s} for the 16 kHz band. Read freqDataLeqSecs for the number of seconds since the last reset. Read only. Returns 10 –1s if data not available.
freqDataOverloadFlags	Read only. This is a bit mask created by adding the following error codes: 0 noOverloads 1 freqFastSlow 2 freqFastMaxs 4 freqSlowMaxs 8 freqLeqs
freqDataLeqSecs	Number of seconds elapsed since the last reset. This can be used to identify each 1/3- and 1/1-octave unique frequency data L_{eq} reading. Read only. Returns 0 if data not available.
setCurFreqData	Use this to set which measurement type and frequency band is displayed at getCurFreqData. This is an integer found by starting with the band number. (See Table 1.) Then adding 0 for 1/3-octave data or 64 for 1/1-octave data. Finally adding 128 for L_F, 256 for L_{Fmax}, 512 for L_S, 1024 for L_{Smax}, and 2048 for L_{eq1s}. Read-write. For example 1/3-octave L_F at 1 kHz would be: 30 (1 kHz) + 0 (1/3-octave) + 128 (L_F) = 158. For 8 kHz 1/1-octave L_{eq} it would be: 39 (8 kHz) + 64 (1/1-octave) + 2048 (L_{eq1s}) = 2151.

m100FreqData group, continued

OID	Function
getCurFreqData	Current data from measurement type and frequency band determined by setCurFreqData reported in tenths of a dB. Read only. Returns –1 if valid data not available.
freqDataAvailable	Status of 1/3- and 1/1-octave data. notAvailable indicates Model 100 is not licensed for this capability. Model 112 will always indicate available. Read only. 1 notAvailable 2 available

Table 1. Nominal 1/3-octave midband frequencies shown below. Nominal 1/1-octave midband frequencies shown in bold. Exact frequencies follow ANSI S1.11-2004 base-two guidelines (based on ISO preferred numbers).

Band Number	Midband Frequency	Band Number	Midband Frequency	Band Number	Midband Frequency	Band Number	Frequency Center
--	--	20	100 Hz	30	**1 kHz**	40	10 kHz
--	--	21	**125 Hz**	31	1.25 kHz	41	12.5 kHz
--	--	22	160 Hz	32	1.6 kHz	42	**16 kHz**
13	20 Hz	23	200 Hz	33	**2 kHz**	43	20 kHz
14	25 Hz	24	**250 Hz**	34	2.5 kHz	--	--
15	**31.5 Hz**	25	315 Hz	35	3.15 kHz	--	--
16	40 Hz	26	400 Hz	36	**4 kHz**	--	--
17	50 Hz	27	**500 Hz**	37	5 kHz	--	--
18	**63 Hz**	28	630 Hz	38	6.3 kHz	--	--
19	80 Hz	29	800 Hz	39	**8 kHz**	--	--