NVISION Protocol

Shared Definitions

NP0015–00
Rev C

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1.0 Scope

This document contains definitions used by both NVISION Serial and Ethernet Protocols.

2.0 References

2.1 Specifications and Standards

- SMPTE 207M – Digital Control Interface – Electrical and Mechanical Characteristics

3.0 Document Conventions

1) Decimal numbers are expressed with no radix. Hexadecimal numbers are prefixed with a radix of "0x" as in the "C" programming language

2) The phrase "controlling device" within this document indicates the connector pin assignment:
   - For RS422, will match the "Bus Controller" assignment as defined in SMPTE 207M.
   - For RS232, will match RS232 DTE assignment.

3) The phrase "controlled device" within this document indicates the connector pin assignment:
   - For RS422, will match the "Tributary" assignment as defined in SMPTE 207M.
   - For RS232 will match the RS232 DCE assignment.

4) The phrase "Machine control router port is connected to a controlling device" within this document indicates the device connected to this port of the router should be a "controlling device". (Note that the port on the router will operate as a "controlled device" in order to provide the proper electrical interface to the connected device.)

5) The phrase "Machine control router port is connected to a controlled device" within this document indicates the device connected to this port of the router should be a "controlled device". (Note that the port on the router will operate as a "controlling device" in order to provide the proper electrical interface to the connected device.)

4.0 Definitions

4.1 Signal Types

Signal types values are limited to the range 0-255 (0xFF). The following are the Signal Type values and their meanings:

0x00	reserved
0x01	AES Async
0x02	AES Sync
0x03	Machine Control - Destination is Controlling (Also referred to as “Data Reverse”)
0x04	Monitor
0x05	Machine Control - Broadcast
0x06	Digital Video (NV6064, NV6128, NV6256 and NV6904 routers only)
0x07	AES Mono
0x08	Machine Control - Source is Controlling (Also referred to as “Data Forward”)
0x09	SWB Digital Video
0x0A	Analog Audio
0x0B	Video, Async AES or LTC
0x7F	SD Digital Video (NV6064, NV6128, NV6256 and NV6904 routers only)
0xFF	reserved

4.2 Device ID

A device ID is a function of a device's NVISION model designation. Device IDs are limited to the range 0-255 (0xFF). NVISION Device ID's include:

0x00	Unknown or cannot be determined
0x01	NV9301 X/Y Control panel
0x02	NV9302 32 key source select control panel
0x03	NV9303 Four Monitor Control Panel (discontinued)
0x04	NV9304 Special X/Y Mnemonic Broadcast Control Panel (discontinued)
0x05	NV9601 Control Panel
0x06	NV9602 Control Panel
0x08	NV1308 8 x 8 Router (discontinued)
0x0C	NV3512 AES/Time Code Router
0x10	MCPM-SD Master Control module within an NV5128 frame.
0x11	MCPM-HD Master Control module within an NV5128 frame.
0x12	MCPM-SDHD Master Control module within an NV5128 frame.
0x13	MCPM-MK-SD Master Control module within an NV5128 frame.
0x1C	NV3128 Machine Control Router
0x37	NV1055 and DA4055 4 channel mixers
0x38	NV3256 Machine Control Router
0x3C	DA4060 AES/Time Code delay (also discontinued NV1060)
0x3D	DA4061 Time Code delay (also discontinued NV1061)
0x3E	NV1062 AES/Time Code delay (discontinued)
0x3F	NV8256 Digital Video Router (also Main Server for discontinued NV9303, NV9304 and NV9370 Control Panels)
0x40	NV3064 AES/Time Code Router
0x41	NV5128 Router
0x42	NV5256 - Machine Control Router
0x43	NV8256 Plus - Digital Video Router 0x44 reserved for future product
0x45	NV6904 Digital Video Router
0x46	NV9570 Tally Panel (also discontinued NV9370)
0x5A	discontinued product
0x5F	NV9055 Mixer Control panel
0x60	NV6064 Digital Video Router
0x61	NV6128 Digital Video Router
0x62	NV6256 Digital Video Router
0x63	NV7256 Audio/Time Code Router
0x64	NV7512 Audio/Time Code Router
0xF0	Third party control systems under NVISION Serial Protocol
0xFB	reserved for Card Addressing Mode under NVISION Serial Protocol
0xFC	reserved for Direct Addressing Mode under NVISION Serial Protocol
0xFD	reserved for Volunteer Addressing Mode under NVISION Serial Protocol
0xFE	reserved for Global Addressing Mode
0xFF	reserved

4.3 Extended Status Values

Signal types values are limited to the range 0-65535 (0xFFFF). The following are the extended status values and their meanings:

0x0000	Success
0x0001	Invalid data
0x0002	Unknown error
0x0003	Invalid Source
0x0004	Invalid Destination
0x0005	Invalid Level
0x0006	Too busy to process command
0x0007	Byte count error
0x0008	Command not supported
0x0009	Invalid command for this device
0x000A	Unknown command
0x000B	Device not configured or initialized
0x000C	Destination Locked
0x000D	Destination Protected
0x000E	Source Locked
0x000F	Source Protected
0x0010	Machine control router port is connected to a controlled device - point to point
0x0011	Machine control router port is connected to a controlled device - Broadcast
0x0012	Machine control router port is connected to a controlling device - point to point
0x0013	Machine control router port is tristated
0x0014	Not Active
0x0015	No tieline is available
0x0016	Tieline in use
0x0017	Unknown source
0x0018	Machine control router port is connected to a controlling device - Broadcast
0x0019	Breakaway
0x001A	Chop
0x001B	no longer used
0x001C	Machine control router port is connected to a controlling device - receive only
0x001D	no longer used
0x001E	Machine control router port is connected to a controlled device - receive only
0x001F	Transition in process
0x0020	Source is in use.0x0021 Destination is in use.
0x0022	Source and destination are in use.
0x0023	Resource not available.
0x0024	Not Enough Resource to complete requested operation (e.g. not enough memory or disk space)
0x0025	Resource In Use (therefore requested operation can not be performed)
0x0026	Excluded crosspoint – the specified input may not be taken to the specified output.
0x0080	Failure

4.4 Baud Rate Values

Baud rate values are limited to the range 0-255 (0xFF). The following are the extended status values and their meanings:

0x00	9.600
0x01	19,200
0x02	38,400
0x03	56,700
0x04	115,200