

Protocol for Nigel B Design RS-485 Controlled Pager / Mixer, Version 2

Includes Local Paging, Global Override Paging Modes & Version Number.

Commands and replies 9 ASCII Characters followed by a carriage return (char 13) (hex 0D).
Mixer will reply to all commands except global commands.

Preamble NBD

Command ! Reply * (See sample commands)

Query ? Reply # (See sample commands)

Mixer Units 1-31 use addresses 01-31

Potentiometers Numbers A-B-C-D Potentiometers levels 00-99 A=Left B=Right C=Mic1 D=Mic2

Sample command from controlling computer (NBD03!A55) No spaces in commands. Spaces here are to illustrate values only.

Preamble Mixer # Command Pot # Value NBD 03 ! A 55 (Set pot #1 on mixer # 3 to 55)

Reply from mixer (NBD03*A55)

Preamble Mixer # Completed Pot # Value NBD 03 * A 55 (Command completed-No errors)

Sample Query

NBD 06 ? B 00 (What is setting of pot # 2 on mixer # 6) Reply

NBD 06 # B 65 (Pot # 2 on mixer # 6 is set at 65)

Mute command NBD12!m00 (Mute mixer 12)

NBD12!m99 (Unmute mixer 12)

Global Commands Use 99 for all mixers (No reply from mixers)

Global Mute Command NBD99!m00 Unmute NBD99!m99 (Mute or unmute all mixers)

Mute Query NBD06?m00 Reply NBD06#m00 or NBD06#m99 (Is mixer # 6 muted) Yes No

All queries must be to specific mixers as mixers do not reply to Global Commands.

Errors? Returns: Example (NBD06*e03) Mixer # 6 error # 3)

'1' = Buffer overflow - Command too long. Usually no reply.

'2' = Invalid address - You should never see this one.

'3' = Invalid value - Mixer didn't understand value sent.

'4' = Timeout between bytes - Characters must not have more than about 1 second between them. In most cases the mixer will not reply to this error

'5' = Invalid command - Mixer got the address but didn't understand the command.

'6' = Can't adjust - Mixer is muted can't set pots while muted

Dip switches Each have a value 1 to 16 left to right. Values are 1, 2, 4, 8, and 16. Switches add together to get an address of 01 to 31. 00 or all Switches off should not be used as this address is reserved for future use.

Local paging mode

Sending NBDaa!p99 turns on paging mode (where aa refers to the address of the mixer as set on the Dip switches on the rear of the mixer).

In paging mode the MIC1 jack on the rear of the mixer needs to have a microphone with a switch that shorts the ring on the plug to ground. When the switch is actuated the mixer will raise the microphone level to the normal setting and mute the other 3 inputs so an announcement can be made. When the switch is released the mixer will mute the microphone and bring the other 3 inputs back up to their former levels

To turn paging mode off send NBDaa!p00.

Global Paging Mode

Sending NBDaa!g99 turns on global paging mode (where aa refers to the address of the mixer as set on the Dip switches on the rear of the mixer). Sending NBD99!g99 sets all mixers to global paging mode.

In global paging mode the MIC2 input on the rear of the mixer serves as the global paging input. When the command NBDaa!h99 is received, MIC2 is raised to the previously set level and the other 3 inputs are muted. At this point any audio coming in the MIC2 jack (such as emergency announcements) will be sent out both right and left outputs of the mixer. When the global paging is finished and the global page command (NBDaa!h00) is received the MIC2 input is muted and the other 3 inputs set back up to their former levels.

Global paging over rides all other settings.

To turn paging mode off send NBDaa!p00 or NBD99!p00.

Version No.

Sending NBDaa?v00 will get a reply with the version number of the firmware installed times 10. Example sending NBD01?v00 would return NBD01#v12 for version 1.2 on mixer 01.

The mixer saves the channel settings, local paging mode and global paging mode in nonvolatile memory. When power is removed and restored the mixer will power up with the same settings as when power was lost.