

## **Model 200-Series Accessories Installation & Configuration Guide**

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## Model 200-Series Accessories Installation & Configuration

### 5-Pin Headset Connector Assembly (Order Code: 13579)

#### Overview

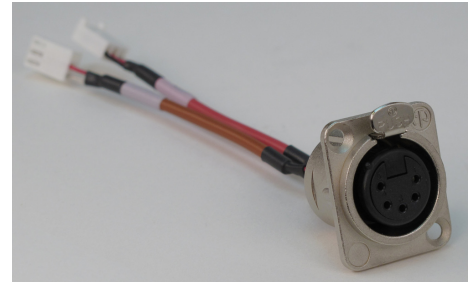
Allows headset with 5-pin XLR plug to be directly connected to Model 200-Series Announcer's Consoles.

#### Implementation

**Connector:** Neutrik NC5FD-L-1

**Suggested Connector Location:** Far right when viewed from back

**Suggested Connector Orientation:** Tab on left side when viewed from back



#### Connections:

Function	XLR Pin	Header-Pin on Models 210/211	Header-Pin on Models 212/220/230	Header-Pin on Models 214/215/216	Header-Pin on Model 233
Mic Shield	1	P4-1	P5-1	P2-1	P6-1
Mic +	2	P4-2	P5-2	P2-2	P6-2
Mic –	3	P4-3	P5-3	P2-3	P6-3
Phones –	4	P3-1	P4-1	P5-1	P5-1
Phones +	5	P3-2	P4-2	P5-2	P5-2

## Model 200-Series Accessories Installation & Configuration

### 6-Pin Headset Connector Assembly (Order Code: 13595)

#### Overview

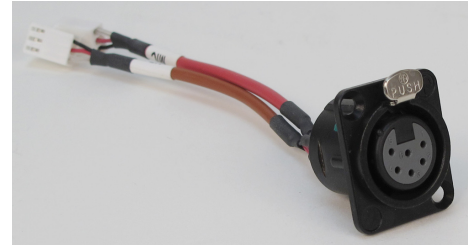
Allows headset with 6-pin XLR plug to be directly connected to Model 200-Series Announcer's and Producer's Consoles.

#### Implementation

**Connector:** Neutrik NC6FDS-L-1 (Switchcraft® pin arrangement)

**Suggested Connector Location:** Far right when viewed from back

**Suggested Connector Orientation:** Tab on left side when viewed from back



#### Connections:

Function	XLR Pin	Header-Pin on Models 210/211	Header-Pin on Models 212/220/230	Header-Pin on Models 214/215/216	Header-Pin on Model 233	Header-Pin on Model 240
Mic –	1	P4-3	P5-3	P2-3	P6-3	P6-3
Mic +	2	P4-2	P5-2	P2-3	P6-2	P6-2
Phones – (common)	3	P3-1	P4-1	P5-1	P5-1	P5-1
Phones Left +	4	P3-2	P4-2	P5-2	P5-2	P5-2
Phones Right +	5	P3-3	P4-3	P5-3	P5-3	P5-3
Mic Shield	6	P4-1	P5-1	P2-1	P6-1	P6-1

## Model 200-Series Accessories Installation & Configuration

### 7-Pin Headset Connector Assembly (Order Code: 13561)

#### Overview

Allows headset with 7-pin XLR plug to be directly connected to Model 200-Series Announcer's and Producer's Consoles.

#### Implementation

**Connector:** Neutrik NC7FD-L-1

**Suggested Connector Location:** Far right when viewed from back

**Suggested Connector Orientation:** Tab on left side when viewed from back



#### Connections:

Function	XLR Pin	Header-Pin on Models 210/211	Header-Pin on Models 212/220/230	Header-Pin on Models 214/215/216	Header-Pin on Model 233	Header-Pin on Model 240
Mic Shield	1	P4-1	P5-1	P2-1	P6-1	P6-1
Phones Right –	2	P3-1	P4-1	P5-1	P5-1	P5-1
Phones Right +	3	P3-3	P4-3	P5-3	P5-3	P5-3
Phones Left –	4	P3-1	P4-1	P5-1	P5-1	P5-1
Phones Left +	5	P3-2	P4-2	P5-2	P5-2	P5-2
Mic +	6	P4-2	P5-2	P2-2	P6-2	P6-2
Mic –	7	P4-3	P5-3	P2-3	P6-3	P6-3

## Model 200-Series Accessories Installation & Configuration

### 3-Conductor 1/4-Inch Connector Assembly *(Order Code: 31208)*

#### Overview

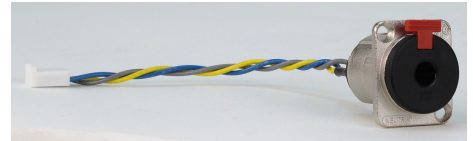
Allows a technician to add a 3-conductor 1/4-inch jack to Model 200-Series Announcer's and Producer's Consoles. Provides support for headphones that use standard "stereo" (tip/ring/sleeve) 1/4-inch plugs. Utilizes Neutrik® D-series locking connector. Installs in one of the back-panel spare-connector locations.

#### Implementation

**Connector:** Neutrik NJ3FP6C

**Suggested Connector Location:** Far right when viewed from back

**Suggested Connector Orientation:** Tab on left side when viewed from back



#### Connections:

Function	3-Conductor 1/4-Inch Jack	Header-Pin on Models 210/211	Header-Pin on Models 212/220/230	Header-Pin on Models 214/215/216	Header-Pin on Model 233	Header-Pin on Model 240
Phones – (common)	Sleeve	P3-1	P4-1	P5-1	P5-1	P5-1
Phones Left +	Tip	P3-2	P4-2	P5-2	P5-2	P5-2
Phones Right +	Ring	P3-3	P4-3	P5-3	P5-3	P5-3

## Model 200-Series Accessories Installation & Configuration

### IFB Input Card Kit (Order Code: 31212)

#### Overview

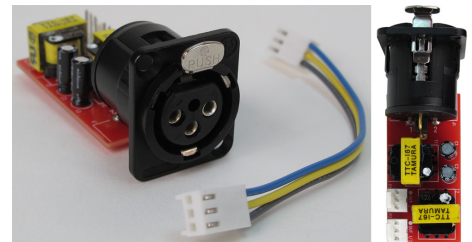
Allows technician to add electrically-isolated 2-channel IFB input to Models 210 and 211 Announcer's Consoles. Compatible with powered ("wet") IFB or party-line (PL) intercom circuits associated with fixed and mobile broadcast systems. Provides listen-only interface. Installs in one of the back-panel spare-connector locations. Kit includes card, interface cable, and hardware.

#### Implementation

**Connector Type:** 3-Pin Female XLR (Neutrik NC3FD-H-B)

**Suggested Connector Location:** Far left when viewed from back

**Suggested Connector Orientation:** Tab on left side when viewed from back



#### Connections:

Function	On 31212 Card	On Model 210*	On Model 211
Out 1/2	P2 (Aux Out Ch 1/2)	P11 (Aux In Ch 1)	P11 (Aux In Ch 1/2)
Out 2	P1 (Aux Out Ch 2)	P10 (Aux In Ch 2)	No connect

\* Contact factory for one additional interface cable

## Model 200-Series Accessories Installation & Configuration

### Direct Microphone Output Card Kit for Models 212, 220, 230, and 233 (Order Code: 31058)

#### Overview

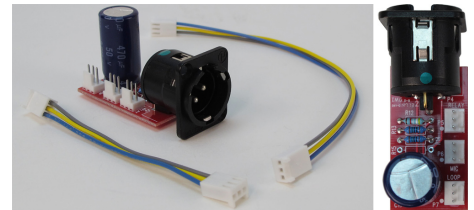
Allows technician to add direct microphone output to Models 212, 220, 230, and 233 Announcer's Consoles. Installs in back-panel spare connector location. Card features 3-pin male XLR connector. Kit includes card, interface cables, and hardware.

#### Implementation

**Connector Type:** 3-Pin Male XLR (Neutrik NC3MD-H-B)

**Suggested Connector Location:** Far right when viewed from back

**Suggested Connector Orientation:** Tab on left side when viewed from back



#### Connections for Models 212/220/230/233:

Function	Direct Mic Out Card	On Model 212	On Model 220	On Model 230 (Rev C or D PCB)	On Model 230 (Rev E or Later)	On Model 233
Mic In	P6	P5	P5	P5	P5	P6
Relay (requires setting DIP switches; see table below)	P5	P6 or P11	P9 or P10	P16 or P17	P15 or P16	P15 or P16
Mic Loop-Thru	P7	Available	Available	Available	Available	Available

#### DIP Switch Settings:

Function	On Model 212	On Model 220	On Models 230/233
Main (most common)	SW3-9 (↑) SW3-10 (↓)	SW3-7 (↑) SW3-8 (↓)	SW4-5 (↑) SW4-6 (↓)
Talkback 1	SW3-9 (↓) SW3-10 (↑)	SW3-7 (↓) SW3-8 (↑)	SW4-5 (↓) SW4-6 (↑)
Talkback 2	---	SW3-7 (↑) SW3-8 (↑)	SW4-5 (↑) SW4-6 (↑)

## Model 200-Series Accessories Installation & Configuration

### Direct Microphone Output Card Kit for Models 210, 211, 214, 215, 216, and 240

(Order Code: 31213)

#### Overview

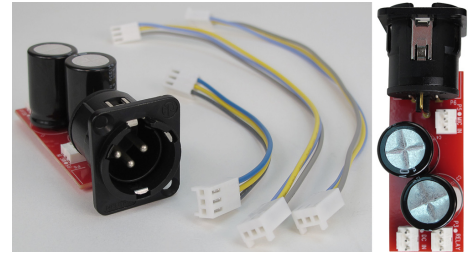
Allows technician to add direct microphone output to Models 210, 211, 214, 215, and 216 Announcer's Consoles and Model 240 Producer's Consoles. Installs in back-panel spare connector location. Card features 3-pin male XLR connector. Kit includes card, interface cables, and hardware.

#### Implementation

**Connector Type:** 3-Pin Male XLR (Neutrik NC3MD-H-B)

**Suggested Connector Location:** Far right when viewed from back

**Suggested Connector Orientation:** Tab on left side when viewed from back



#### Connections for Models 210/211/214/215/216/240:

Function	Direct Mic Out Card	On Model 210	On Model 211	On Model 214/215/216	On Model 240
Mic In	P5	P4	P4	P2	P6
Relay In (may require setting DIP switch; see table below)	P3	P17	P12	P7	P22, P23, P24, P25, or P26 as per application
DC In	P4	P13 or P20	P16 or P17	P6	P21

#### DIP Switch Settings:

Function	On Model 210	On Model 211	On Models 214/215/216	On Model 240
Main output controls relay	SW1-7 (↓)	Not required	Not required	Not required



## Model 200-Series Accessories Installation & Configuration

### Backup Microphone Output Card Kit (Order Code: 31211)

#### Overview

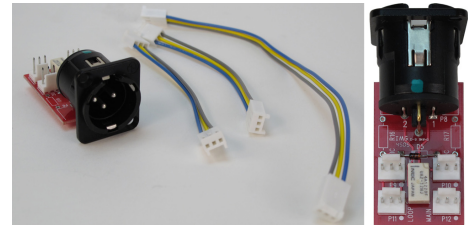
Allows a technician to create an audio output that automatically switches between the main output signal and the microphone input connection. Used to provide an automatic “fail-over” connection for specialized on-air broadcast applications. Installs in one of the back-panel spare-connector locations in Models 210, 211, 220, 230, and 233 Announcer’s Consoles. The card features a 3-pin male XLR connector and a high-reliability sealed electromechanical relay. Each kit includes card, interface cables, and hardware.

#### Implementation

**Connector Type:** 3-Pin Male XLR (Neutrik NC3MD-H-B)

**Suggested Connector Location:** Far right when viewed from back

**Suggested Connector Orientation:** Tab on left side when viewed from back



#### Connections for Models 210/211/220/230/233:

Function	On 31211 Card	On Model 210	On Model 211	On Model 220	On Model 230 (Rev C or D PCB)	On Model 230 (Rev E or later)	On Model 233
Mic In	P9	P4	P4	P5	P5	P5	P6
Main Out	P12	P5	P5	P6	P6	P6	P7
DC In	P10	P13	P16	P16	P18	P17	P17
Mic Loop-Thru	P11	Available	Available	Available	Available	Available	Available

## Model 200-Series Accessories Installation & Configuration

### Line Input Card Kit (Order Code: 31084)

#### Overview

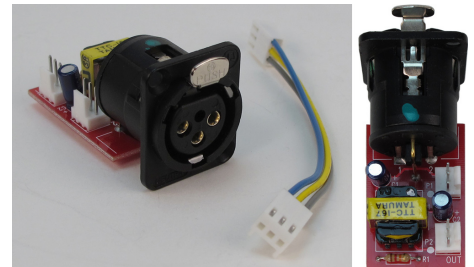
Allows technician to add a line-level input to Models 210 and 212 Announcer's Consoles and Model 240 Producer's Console; maximum two per unit. Installs in back-panel spare connector location. Card features 3-pin female XLR connector and isolation transformer. Kit includes card, interface cable, and hardware.

#### Implementation

**Connector Type:** 3-Pin Female XLR (Neutrik NC3FD-H-B)

**Suggested Connector Location:** User specifiable

**Suggested Connector Orientation:** Tab on left side when viewed from back



#### Connections for Models 210/212/240:

Function	On 31084 Card	On Model 210	On Model 212	On Model 240
Out	P2	P10 (Aux In 2) or P11 (Aux In 1)	P12 (Aux In 2) or P14 (Aux In 1)	P11 (Aux Phones Input Left) or P12 (Aux Phones Input Right)
Line In Loop-Thru	P1	Available	Available	Available

## Model 200-Series Accessories Installation & Configuration

### Line Input with Limiter Card Kit (Order Code: 31210)

#### Overview

Allows technician to add a level-controlled line input to Models 210, 212, 220, 230, and 233 Announcer's Consoles and Model 240 Producer's Consoles. Sophisticated VCA-based circuitry minimizes the chance that abnormally high input signal levels will cause listener discomfort. Installs in back-panel spare connector location; maximum two per unit. Card features 3-pin female XLR connector, isolation transformer, and high-density surface-mount-technology circuitry. Kit includes card, interface cables, and hardware.

R9 and R6 are used to set the limiter threshold and compression ratio, respectively. These resistors are 1% 1206 surface mount resistors available from most electronic component suppliers. Factory set for a threshold of +2 dBu with a 10:1 compression ratio. Modifications should be done by competent technicians only.

Limiter Threshold	R9 Resistor Value	Compression Ratio	R6 Resistor Value
+2 dBu (default)	150 k ohms	5:1	2.49 k ohms
+4 dBu	187 k ohms	8:1	1.30 k ohms
+8 dBu	249 k ohms	10:1 (default)	1.10 k ohms
+10 dBu	301 k ohms	12:1	909 ohms

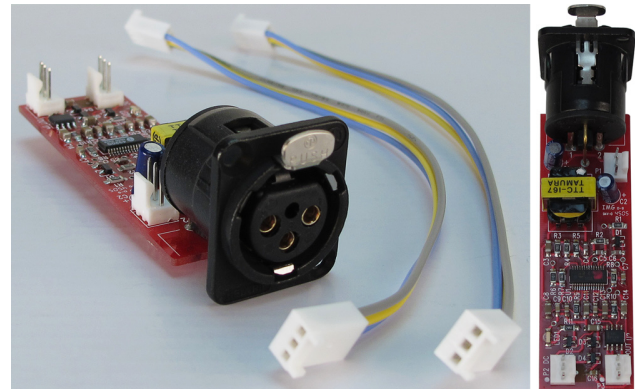
**Note:** These settings are for Rev A printed circuit boards. Please contact Studio Technologies support if your board is newer than Rev A.

#### Implementation

**Connector Type:** 3-Pin Female XLR (Neutrik NC3FD-H-B)

**Suggested Connector Location:** User specifiable

**Suggested Connector Orientation:** Tab on left side when viewed from back



#### Connections for Models 210/212/220:

Function	On 31210 Card	On Model 210	On Model 212	On Model 220
Out	P3	P10 (Aux In 2) or P11 (Aux In 1)	P12 (Aux In 2) or P14 (Aux In 1)	P14 (Line In 1) or P15 (Line In 2)
DC In	P2	P13	P16	P16
Line In Loop-Thru	P1	Available	Available	Available

#### Connections for Models 230/233/240:

Function	On Model 230 (Rev C or D PCB)	On Model 230 (Rev E or Later)	On Model 233	On Model 240
Out	P8 (Line In 1) or P9 (Line In 2)	P8 (Line In 1) or P9 (Line In 2)	P10 (Line In 1) or P11 (Line In 2)	P11 (Aux Phones Input Left) or P12 (Aux Phones Input Right)
DC In	P18	P17	P17	P21 or P27
Line In Loop-Thru	Available	Available	Available	Available

## Model 200-Series Accessories Installation & Configuration

### Line Output Card Kit *(Order Code: 31086)*

#### Overview

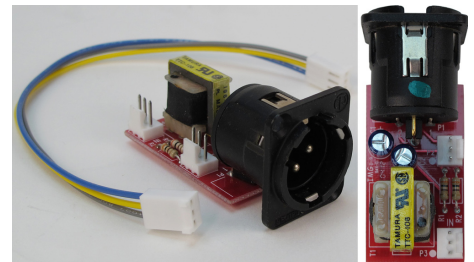
Allows technician to add a line-level output (–10 dBu nominal) to Models 212 and 230 Announcer's Consoles. Installs in back-panel spare connector location. Card features 3-pin male XLR connector and isolation transformer. Kit includes card, interface cable, and hardware.

#### Implementation

**Connector Type:** 3-Pin Male XLR (Neutrik NC3MD-H-B)

**Suggested Connector Location:** Far left when viewed from back

**Suggested Connector Orientation:** Tab on left side when viewed from back



#### Connections for Models 212/230:

Function	On 31086 Card	On Model 212	On Model 230
In	P3	P13 (Main Out) or P23 (Talkback Out)	P13 (Intercom Ch 2) or P14 (Intercom Ch 1)
Output Loop-Thru	P2	Available	Available

## Model 200-Series Accessories Installation & Configuration

### 3-Pin Female XLR Connector Card Kit (*Order Code: 31201*)

#### Overview

Allows technician to add “mult” or special function connector to Model 200-Series Announcer’s and Producer’s Consoles. Installs in back-panel spare connector location. Card features 3-pin female XLR connector and two 3-pin headers. Kit includes card, interface cable, and hardware.

#### Implementation

**Connector Type:** 3-Pin Female XLR (Neutrik NC3FD-H-B)

**Suggested Connector Location:** User specifiable

**Suggested Connector Orientation:** Tab on left side when viewed from back



3-pin female XLR connector (J1) connects to two 3-pin headers (P1 and P2) allowing for custom 200-Series Announcer’s and Producer’s Console interconnections. Refer to the following information for connection details:

- J1 pin 2 connects to P1 pin 2 and P2 pin 2
- J1 pin 3 connects to P1 pin 3 and P2 pin 3
- J1 pin 1 connects to P1 pin 1; P2 pin 1 is not connected (“floats”)

## Model 200-Series Accessories Installation & Configuration

### 3-Pin Male XLR Connector Card Kit *(Order Code: 31202)*

#### Overview

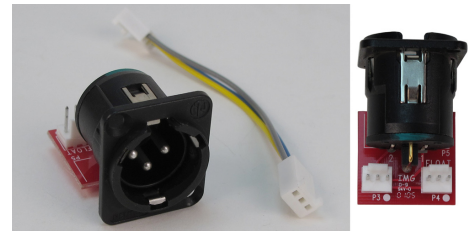
Allows technician to add “mult” or special function connector to Model 200-Series Announcer’s and Producer’s Consoles. Installs in back-panel spare connector location. Card features 3-pin male XLR connector and two 3-pin headers. Kit includes card, interface cable, and hardware.

#### Implementation

**Connector Type:** 3-Pin Male XLR (Neutrik NC3MD-H-B)

**Suggested Connector Location:** User specifiable

**Suggested Connector Orientation:** Tab on left side when viewed from back



3-pin male XLR connector (P5) connects to two 3-pin headers (P3 and P4) allowing for custom 200-Series Announcer’s and Producer’s Console interconnections. Refer to the following information for connection details:

P5 pin 2 connects to P3 pin 2 and P4 pin 2

P5 pin 3 connects to P3 pin 3 and P4 pin 3

P5 pin 1 connects to P3 pin 1; P4 pin 1 is not connected (“floats”)

## Model 200-Series Accessories Installation & Configuration

### 4-Pin Female XLR Connector Card Kit (Order Code: 31206)

#### Overview

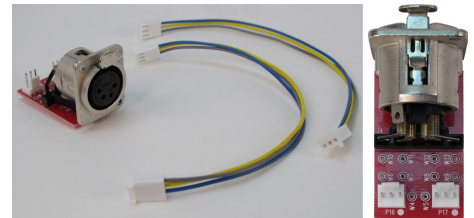
Allows technician to add special function connector to Model 200-Series Announcer's and Producer's Consoles. Installs in back-panel spare connector location. Card features 4-pin female XLR connector. Kit includes card, interface cables, and hardware.

#### Implementation

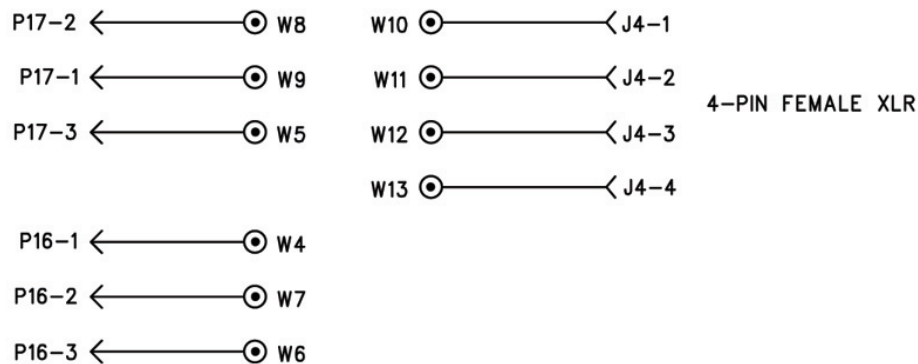
**Connector Type:** 4-Pin Female XLR (Neutrik NC4FDM3-H)

**Suggested Connector Location:** User specifiable

**Suggested Connector Orientation:** Tab on left side when viewed from back



Two headers on the card (P16 and P17) are available for custom board connections. Custom connections between the headers and the 4-pin XLR connector can be made using the following diagram:



## Model 200-Series Accessories Installation & Configuration

### Remote Switch Inputs Card Kit (Order Code: 31205)

#### Overview

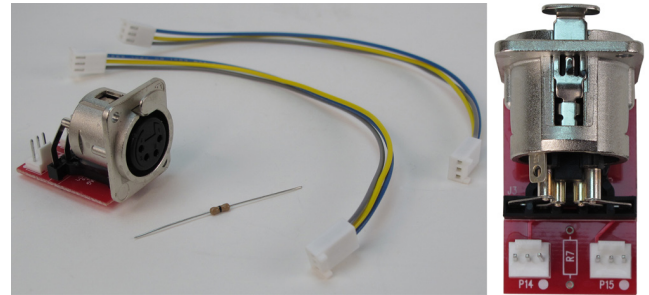
The following kit allows access to the remote switch inputs on Model 200-Series Announcer's Consoles.

#### Implementation

**Connector Type:** 4-Pin Female XLR (Neutrik NC4FDM3-H)

**Suggested Connector Location:** User specifiable

**Suggested Connector Orientation:** Tab on left side when viewed from back



#### Connections for Models 210/211/212/214/215/216:

Function	XLR Pin	On 31205 Card*	On Model 210	On Model 211	On Model 212	On Models 214/215/216
Common	1	P14-1	P14-1	P18-1	P17-1	P10-1 or P11-1
Main	2	P14-2	P14-2	P18-2	P17-2	P10-2
Talkback	3	P14-3	P14-3	P18-3	P17-3	P11-2
Unused	4	---	---	---	---	---

\* Insert and solder 0 ohm resistor ("jumper"), included in the kit, into location R7 on card

#### Connections for Models 220/230/233:

Function	XLR Pin	On 31205 Card	On Model 220	On Model 230 (Rev C or D PCB)	On Model 230 (Rev E or Later)	On Model 233
Common	1	P14-1	P18-1	P19-1	P18-1	P19-1
Main	2	P14-2	P18-2	P19-2	P18-2	P19-2
Talkback 1	3	P15-2	P17-2	P15-2	P19-2	P18-2
Talkback 2	4	P15-3	P17-3	P15-3	P19-3	P18-3



## Model 200-Series Accessories Installation & Configuration

### Tally/Remote Switch Input Card Kit (Order Code: 31203)

#### Overview

Allows technician to add status output (“tally”) and remote switch input to Models 212, 220, and 230 Announcer’s Consoles. Installs in back-panel spare connector location. Card features 3-pin female XLR connector and circuitry that provides current-limited 5 volt DC output and remote switch input. Kit includes card, interface cables, and hardware.

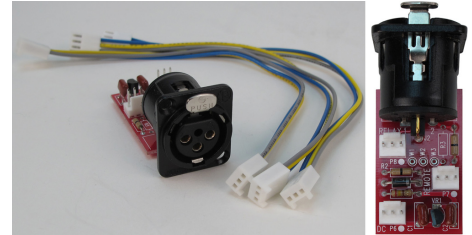
**Note:** These functions are built into the Model 233. See Model 233 User Guide for details.

#### Implementation

**Connector Type:** 3-Pin Female XLR (Neutrik NC3FD-H-B)

**Suggested Connector Location:** User specifiable

**Suggested Connector Orientation:** Tab on left side when viewed from back



#### Connections for Models 212/220/230:

Function	On 31203 Card	On Model 212	On Model 220	On Model 230 (Rev C or D PCB)	On Model 230 (Rev E or Later)
Remote Switch Input	P7	P17*	P18 (for Main) or P17 (TB1 or TB2**)	P19 (for Main) or P15 (TB1 or TB2**)	P18 (for Main) or P19 (TB1 or TB2**)
DC Power (from Announcer’s Console)	P6	P3	P13	P3	P3
Relay (requires setting DIP switches; see table below)	P8	P6 or P11	P9 or P10	P16 or P17	P15 or P16

\* Remove resistor R4 on card and replace R3 for TB functionality

\*\* Remove resistor R4 on card and replace R3 for TB2 functionality

#### DIP Switch Settings:

Function	On Model 212	On Model 220	On Model 230
Main (most common)	SW3-9 (↑) SW3-10 (↓)	SW3-7 (↑) SW3-8 (↓)	SW4-5 (↑) SW4-6 (↓)
Talkback 1	SW3-9 (↓) SW3-10 (↑)	SW3-7 (↓) SW3-8 (↑)	SW4-5 (↓) SW4-6 (↑)
Talkback 2	---	SW3-7 (↑) SW3-8 (↑)	SW4-5 (↑) SW4-6 (↑)

Function	XLR Pin
Common	1
Remote Switch Input	2
Current Limited +5 Vdc Out	3

## Model 200-Series Accessories Installation & Configuration

### EtherCon® Connector Card Kit (Order Code: 31207)

#### Overview

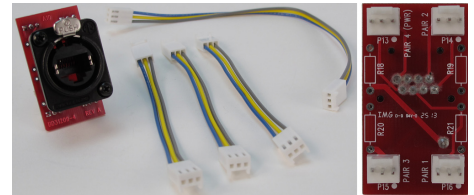
Allows technician to add Neutrik® EtherCon 8-pin “modular” Ethernet connector to Model 200-Series Announcer’s and Producer’s Consoles. Installs in back-panel spare connector location. Allows power and up to three input or output functions to be carried over one standard “data” cable. Kit includes card, interface cables, and hardware.

#### Implementation

**Connector Type:** EtherCon RJ45 Receptacle (Neutrik NE8FDV-B)

**Suggested Connector Location:** Center when viewed from back (or as desired)

**Suggested Connector Orientation:** Tab on left side when viewed from back



#### Connections:

Function	On 31207 Card	RJ45 Pin	EIA/TIA 568B Color Scheme
Pair 1			
+	P16-2	4	WHT/BLU
–	P16-3	5	BLU/WHT
Pair 2			
+	P14-2	1	WHT/ORG
–	P14-3	2	ORG/WHT
Pair 3			
+	P15-2	3	WHT/GRN
–	P15-3	6	GRN/WHT
Pair 4 (Power)			
+	P13-2	7	WHT/BRN
–	P13-1	8	BRN/WHT

## Model 200-Series Accessories Installation & Configuration

### Program/Talkback Card Kit (Order Code: 31204)

#### Overview

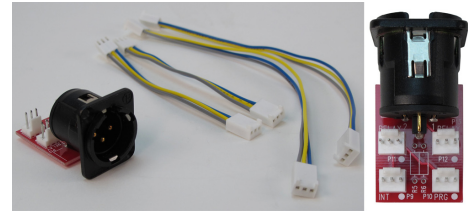
Allows technician to create an audio signal that switches between an external program source and a talkback output to Models 220, 230, and 233 Announcer's Consoles. Installs in back-panel spare connector location. Card features 3-pin male XLR connector. Kit includes card, interface cables, and hardware.

#### Implementation

**Connector Type:** 3-Pin Male XLR (Neutrik NC3MD-H-B)

**Suggested Connector Location:** Center when viewed from back

**Suggested Connector Orientation:** Tab on left side when viewed from back



#### Connections for Models 220/230/233:

Function	On 31204 Card	On Model 220	On Model 230 (Rev C or D PCB)	On Model 230 (Rev E or Later)	On Model 233
Relay A (requires setting DIP switches; see table below)	P11	P10	P17	P16	P16
Relay B (requires setting DIP switches; see table below)	P12	P9	P16	P15	P15
Program Input	P10	P14 (Line In 1) or P15 (Line In 2)	P8 (Line In 1) or P9 (Line In 2)	P8 (Line In 1) or P9 (Line In 2)	P10 (Line In 1) or P11 (Line In 2)
Talkback Input	P9	P6 (Main Out) or P7 (TB Out 1) or P8 (TB Out 2)	P6 (Main Out) or P7 (TB Out)	P6 (Main Out) or P7 (TB Out)	P7 (Main Out) or P8 (TB Out 1) or P9 (TB Out 2)

#### DIP Switch Settings:

Function	On Model 220	On Models 230/233
Main (most common)	SW3-7 (↑) SW3-8 (↓)	SW4-5 (↑) SW4-6 (↓)
Talkback 1	SW3-7 (↓) SW3-8 (↑)	SW4-5 (↓) SW4-6 (↑)
Talkback 2	SW3-7 (↑) SW3-8 (↑)	SW4-5 (↑) SW4-6 (↑)