

# *IFB-828*

## *IFB Interface*

### *User Manual*



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See the enclosed warranty card for further details.

**CUSTOMER SUPPORT**

Technical questions should be directed to:

Customer Service Department  
 Bosch Security Systems, Inc.  
 12000 Portland Avenue South  
 Burnsville, MN 55337 USA  
 Telephone: 877-863-4169  
 Fax: 800-323-0498

**RETURN SHIPPING INSTRUCTIONS**

Customer Service Department  
 Bosch Security Systems, Inc. (Lincoln, NE)  
 Telephone: 402-467-5321  
 Fax: 402-467-3279  
 Factory Service: 800-553-5992

Please include a note in the box which supplies the company name, address, phone number, a person to contact regarding the repair, the type and quantity of equipment, a description of the problem and the serial number(s).

**SHIPPING TO THE MANUFACTURER**

All shipments of product should be made via UPS Ground, prepaid (you may request from Factory Service a different shipment method). Any shipment upgrades will be paid by the customer. The equipment should be shipped in the original packing carton. If the original carton is not available, use any suitable container that is rigid and of adequate size. If a substitute container is used, the equipment should be wrapped in paper and surrounded with at least four (4) inches of excelsior or similar shock-absorbing material. All shipments must be sent to the following address and must include the Proof of Purchase for warranty repair. Upon completion of any repair the equipment will be returned via United Parcel Service or specified shipper, collect.

Factory Service Department  
 Bosch Security Systems, Inc.  
 8601 East Cornhusker Hwy.  
 Lincoln, NE 68507 U.S.A.  
 Attn: Service

|                                                                                                                                                                                                                          |                                                                                                                                                                                                                                               |                                                                                                                                                                                                                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>THE LIGHTNING FLASH AND ARROWHEAD WITHIN THE TRIANGLE IS A WARNING SIGN ALERTING YOU OF "DANGEROUS VOLTAGE" INSIDE THE PRODUCT.</p> | <div> <div>CAUTION</div> <div>RISK OF ELECTRIC SHOCK<br/>DO NOT OPEN</div> </div> <p>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER. NO USER-SERVICABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</p> |  <p>THE EXCLAMATION POINT WITHIN THE TRIANGLE IS A WARNING SIGN ALERTING YOU OF IMPORTANT INSTRUCTIONS ACCOMPANYING THE PRODUCT</p> |
| SEE MARKING ON BOTTOM/BACK OF PRODUCT                                                                                                                                                                                    |                                                                                                                                                                                                                                               |                                                                                                                                                                                                                        |
| <b>WARNING:</b> APPARATUS SHALL NOT BE EXPOSED TO DRIPPING OR SPLASHING AND NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.                                                             |                                                                                                                                                                                                                                               |                                                                                                                                                                                                                        |
| <b>WARNING:</b> THE MAIN POWER PLUG MUST REMAIN READILY OPERABLE.                                                                                                                                                        |                                                                                                                                                                                                                                               |                                                                                                                                                                                                                        |
| <b>CAUTION:</b> TO REDUCE THE RISK OF ELECTRIC SHOCK, GROUNDING OF THE CENTER PIN OF THIS PLUG MUST BE MAINTAINED.                                                                                                       |                                                                                                                                                                                                                                               |                                                                                                                                                                                                                        |
| <b>WARNING:</b> TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPRATUS TO RAIN OR MOISTURE.                                                                                                           |                                                                                                                                                                                                                                               |                                                                                                                                                                                                                        |
| <b>WARNING:</b> TO PREVENT INJURY, THIS APPARATUS MUST BE SECURELY ATTACHED TO THE FLOOR/WALL/RACK IN ACCORDANCE WITH THE INSTALLATION INSTRUCTIONS.                                                                     |                                                                                                                                                                                                                                               |                                                                                                                                                                                                                        |
|                                                                                                                                       | This product is AC only.                                                                                                                                                                                                                      |                                                                                                                                                                                                                        |

## *Important Safety Instructions*

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



# Table of Contents

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|                                                                                     |          |
|-------------------------------------------------------------------------------------|----------|
| <b>DESCRIPTION AND SPECIFICATIONS .....</b>                                         | <b>3</b> |
| Description .....                                                                   | 3        |
| Specifications .....                                                                | 4        |
| <b>INSTALLATION .....</b>                                                           | <b>5</b> |
| Installation in an RTS Digital Matrix .....                                         | 5        |
| IFB-828 LOCATION .....                                                              | 5        |
| MONAURAL EARSET PIN OUT .....                                                       | 6        |
| STEREO EARSET PIN OUT .....                                                         | 6        |
| Using the IFB-828 as a Simple Program Interface with 4020 and 4030 Belt Packs ..... | 7        |

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# Description and Specifications

## Description

The IFB-828 interfaces up to eight (8) RTS System's Model IFB-325, 4020, or 4030 IFB Belt Packs to any RTS Digital Matrix Intercom System, and it provides power to belt packs.

The IFB-828 may also be used as a simple program interface to feed two (2) separate program sources to each of eight (8) 4020 or 4030 belt packs (16 program sources to eight (8) belt packs total).

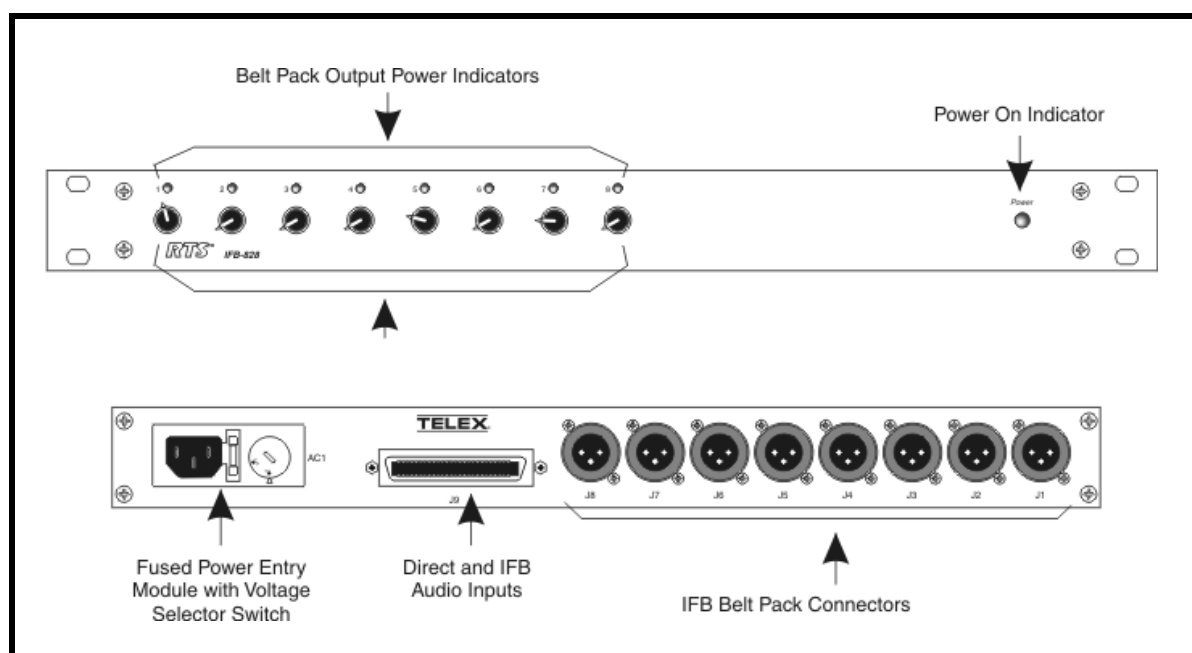


FIGURE 1. IFB-828 Reference View

Specifications

Dimensions

19” wide x 1.75” high x 7.5” deep (483mm x 44.5mm x 191mm)

Input Power Requirements

110/120 or 220/240 VAC, 50/60Hz, selectable via a back panel switch

Audio Inputs

Type:

Balanced (transformer coupled)

Level:

+4 to +8dBu

Impedance

Approximately 600 Ohms

Audio Outputs

Type

Unbalanced

Level:

-10 to -6dBu

Output Power (each IFB belt pack channel)

+24VDC, 160mA not to exceed a total of 750mA

Connectors

Input (J9)

Type: 50-pin telco

Outputs (J1 to J8)

Type: 3-Pin Male XLR

- |       |                                             |
|-------|---------------------------------------------|
| Pin 1 | Audio and DC Common                         |
| Pin 2 | +IFB Audio (interrupt audio) and +24VDC     |
| Pin 3 | +Direct Program Audio (non-interrupt audio) |



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*Installation in an RTS Digital Matrix*

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**IFB-828 Location**

The XLR connector output from the IFB-828 provides unbalanced audio and DC operating power to IFB belt packs. Therefore, very long cable runs (over several hundred feet) from the IFB-828 to the belt packs may result in diminished performance due to DC resistance in the cabling and noise induced by surrounding equipment. Select a location for the IFB-828 that is as close as possible to the belt packs or use appropriate precautions (shielded cable, heavier gauge stranded wire, routing away from unsaddled equipment, etc.)

**NOTE:** For broadcast applications, you typically locate the IFB-828 in the audio booth near the talent location, and no special precautions are required.

To **install an IFB-828 in an RTS Digital Matrix**, do the following:

1. Mount the **IFB-828** in an equipment rack or bay. It should be positioned near eye height when sitting or standing to permit adjustment of the IFB program levels and to check the power indicator lights. There are no special ventilation requirements.
2. Set the **voltage selector switch** on the back panel:
  - Select **110** for 110/120V, 50/60Hz operation
  - Select **220** for 220/240V, 50/60Hz operation
3. Connect a **25-pair telco cable** to J9 on the back of the IFB-828. Run this cable back to the audio distribution point for the intercom system (punch blocks, etc.).
4. Setup IFBs at the digital matrix intercom system using the intercom system configuration software.
5. In AZedit, select the **IFB icon** on the AZedit toolbar.
6. Double-click an **IFB resource**.  
*The Edit IFB window appears.*
7. Configure the **IFB ports**, as needed.
8. Once you have configured the required IFBs, assign the IFBs to keypanel keys.

**NOTE:** For keypanel setup information, see the AZedit User Manual (p/n 93507769000).

9. For each IFB that you setup, do the following:
  - Connect the **output port** from the matrix (that you defined in step 4) to an available IFB input of the IFB-828. Make the connections at the audio distribution point where you have connected the cable from J9 of the IFB-828. See Table 1 on page 6 for pin numbers.

- Connect the **IFB program audio source** to the intercom port that you defined as the program input port of the matrix (in step 4) and connect the IFB program audio source to the direct program input of the selected channel of the IFB-828.
10. Connect the **appropriate 3-pin XLR output connector** of the IFB-828 to the LINE (or LINES) connector of the IFB belt pack. Typical cable wiring is shown in Figure 2.
- NOTE:** In the factory default configuration, the IFB-325 belt packs receive IFB audio on pin 3 of its XLR connector. In this configuration, the belt pack's internal shorting plug J3 is set to pins 2 and 3 shorted. This is NOT the correct configuration for use with the IFB-828. To change the setting open the belt pack and reset the H3 shorting plug so that pins 4 and 5 are shorted. Refer to your IFB-325 manual for further information.
11. Connect an **earset** to the IFB belt pack.
- NOTE:** The Model IFB-325 accepts only monaural earsets. The Models 4020 and 4030 accept either monaural or stereo earsets. However, for the standard application of the IFB-828, only a monaural earset is required.
12. Set all **belt pack volume controls** and **all level controls** on the IFB-828 to minimum.
  13. Plug in the **IFB-828 power cord**.  
The main power LED on the front panel should light, and each channel LED lights indicating power is being supplied to the belt pack output on that channel. Verify the matrix is operational and that all program sources are operational.
  14. During normal operation (no IFB interrupts activated), have each talent position adjust their **belt pack volume control** for a comfortable program listening level. (Use the INTERRUPT control on a model 4020 or 4030 belt pack.)
  15. For each IFB:
    - While the IFB key is activated, adjust the **appropriate level control** on the front panel of the IFB-828 to mix the desired amount of direct program audio back into the keypanel's mic audio signal.  
*When the IFB key is released, the mic audio should cut off, and the normal program audio should be restored.*

### Monaural Earset Pin Out

Tip: IFB Audio & Direct Program Mix

Sleeve: Common

### Stereo Earset Pin Out

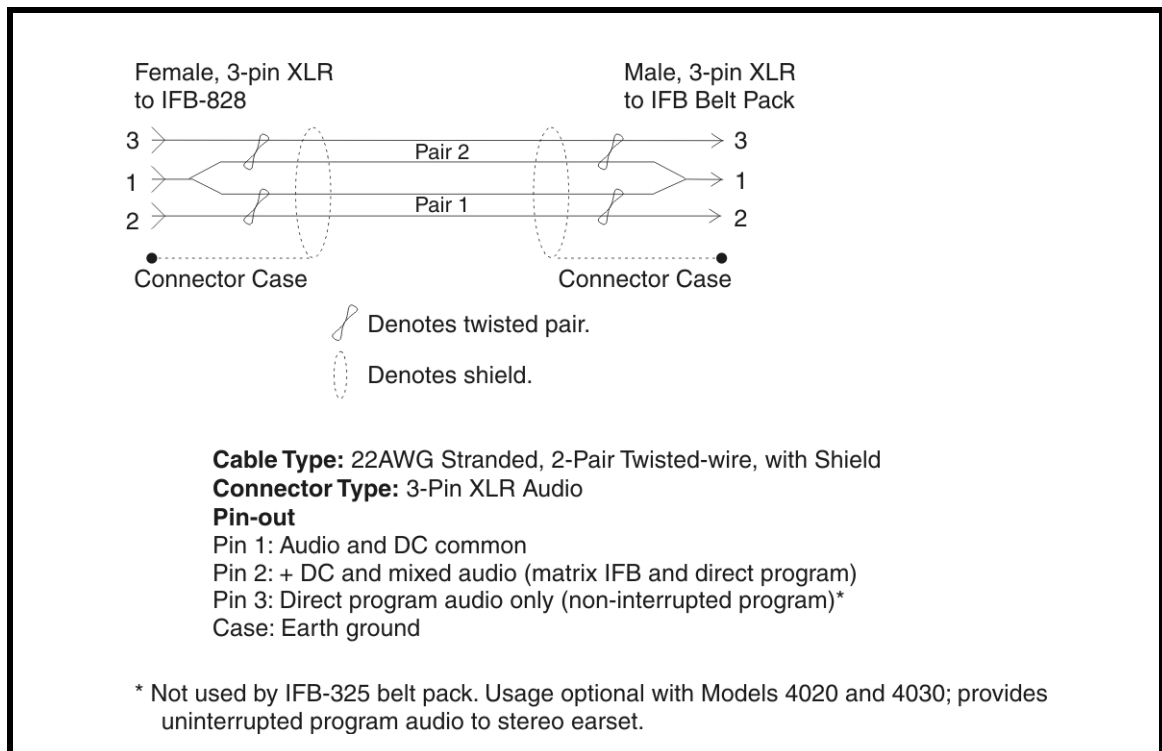
Tip: IFB Audio & Direct Program Mix (Interrupt)

Ring: Direct Program Audio (Non-Interrupt)

Sleeve: Common

**TABLE 1.** Input Connector Pin Out (J9)

| Pin Numbers |         | Description                       |
|-------------|---------|-----------------------------------|
| + Input     | - Input |                                   |
| 1           | 26      | Channel 1 direct program input    |
| 2           | 27      | Channel 1 IFB input (from Matrix) |
| 3           | 28      | No Connection                     |
| 4           | 29      | Channel 2 direct program input    |
| 5           | 30      | Channel 2 IFB input (from Matrix) |
| 6           | 31      | No Connection                     |
| 7           | 32      | Channel 3 direct program input    |
| 8           | 33      | Channel 3 IFB input (from Matrix) |
| 9           | 34      | No Connection                     |
| 10          | 35      | Channel 4 direct program input    |
| 11          | 36      | Channel 4 IFB input (from Matrix) |
| 12          | 37      | No Connection                     |
| 13          | 38      | Channel 5 direct program input    |
| 14          | 39      | Channel 5 IFB input (from Matrix) |
| 15          | 40      | No Connection                     |
| 16          | 41      | Channel 6 direct program input    |
| 17          | 42      | Channel 6 IFB input (from Matrix) |
| 18          | 43      | No Connection                     |
| 19          | 44      | Channel 7 direct program input    |
| 20          | 45      | Channel 7 IFB input (from Matrix) |
| 21          | 46      | No Connection                     |
| 22          | 47      | Channel 8 direct program input    |
| 23          | 48      | Channel 8 IFB input (from Matrix) |
| 24          | 49      | No Connection                     |
| 25          | 50      | No Connection                     |



**FIGURE 2.** IFB Belt Pack Interconnect Cable Wiring Diagram

### *Using the IFB-828 as a Simple Program Interface with 4020 and 4030 Belt Packs*

Use Table 1 on page 6 and the cable wiring sources to each IFB-828 channel. In this application, each direct program input at the IFB-828 feeds to the NON-INTERRUPT channel of the belt pack, and the level is adjusted by the NON-INTERRUPT control on the belt pack; each IFB input feeds to the INTERRUPT channel and is adjusted by the INTERRUPT control. The control on the IFB-828 front panel can be used to mix the NON-INTERRUPT audio into the INTERRUPT audio.

