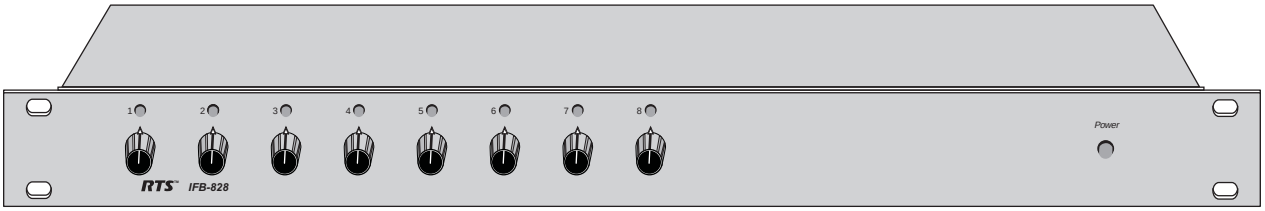
USER INSTRUCTIONS

IFB-828
IFB Interface



RTS™

9300-7094-000 Rev B_1, 8/99

PROPRIETARY NOTICE

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UNPACKING AND INSPECTION

Immediately upon receipt of the equipment, inspect the shipping container and the contents carefully for any discrepancies or damage. Should there be any, notify the freight company and the dealer at once.

WARRANTY INFORMATION

RTS products are warranted by Telex Communications, Inc. to be free from defects in materials and workmanship for a period of three years from the date of sale.

The sole obligation of Telex during the warranty period is to provide, without charge, parts and labor necessary to remedy covered defects appearing in products returned prepaid to Telex. This warranty does not cover any defect, malfunction or failure caused beyond the control of Telex, including unreasonable or negligent operation, abuse, accident, failure to follow instructions in the Service Manual or the User Manual, defective or improper associated equipment, attempts at modification and repair not authorized by Telex, and shipping damage. Products with their serial numbers removed or effaced are not covered by this warranty.

To obtain warranty service, follow the procedures entitled "Procedure For Returns" and "Shipping to Manufacturer for Repair or Adjustment".

This warranty is the sole and exclusive express warranty given with respect to RTS products. It is the responsibility of the user to determine before purchase that this product is suitable for the user's intended purpose.

ANY AND ALL IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY ARE LIMITED TO THE DURATION OF THIS EXPRESS LIMITED WARRANTY.

NEITHER TELEX NOR THE DEALER WHO SELLS RTS PRODUCTS IS LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND.

CUSTOMER SUPPORT

Technical questions should be directed to:

Customer Service Department
RTS/Telex,
2550 Hollywood Way, Suite 207
Burbank, CA 91505 U.S.A.
Telephone: (818) 566-6700
Fax: (818) 843-7953

RETURN SHIPPING INSTRUCTIONS

PROCEDURE FOR RETURNS

If a repair is necessary, contact the dealer where this unit was purchased.

If repair through the dealer is not possible, obtain a RETURN AUTHORIZATION from:

Customer Service Department
Telex Communications, Inc.
Telephone: (800) 828-6107
Fax: (800) 323-0498

DO NOT RETURN ANY EQUIPMENT DIRECTLY TO THE FACTORY WITHOUT FIRST OBTAINING A RETURN AUTHORIZATION.

Be prepared to provide 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 MANUFACTURER FOR REPAIR OR ADJUSTMENT

All shipments of RTS products should be made via United Parcel Service or the best available shipper, prepaid. The equipment should be shipped in the original packing carton; if that 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 inches of excelsior or similar shock-absorbing material. All shipments must be sent to the following address and must include the Return Authorization.

Factory Service Department
Telex Communications, Incorporated
8601 E. Cornhusker Hwy
Lincoln, NE 68505 U.S.A.

Upon completion of any repair the equipment will be returned via United Parcel Service or specified shipper collect.

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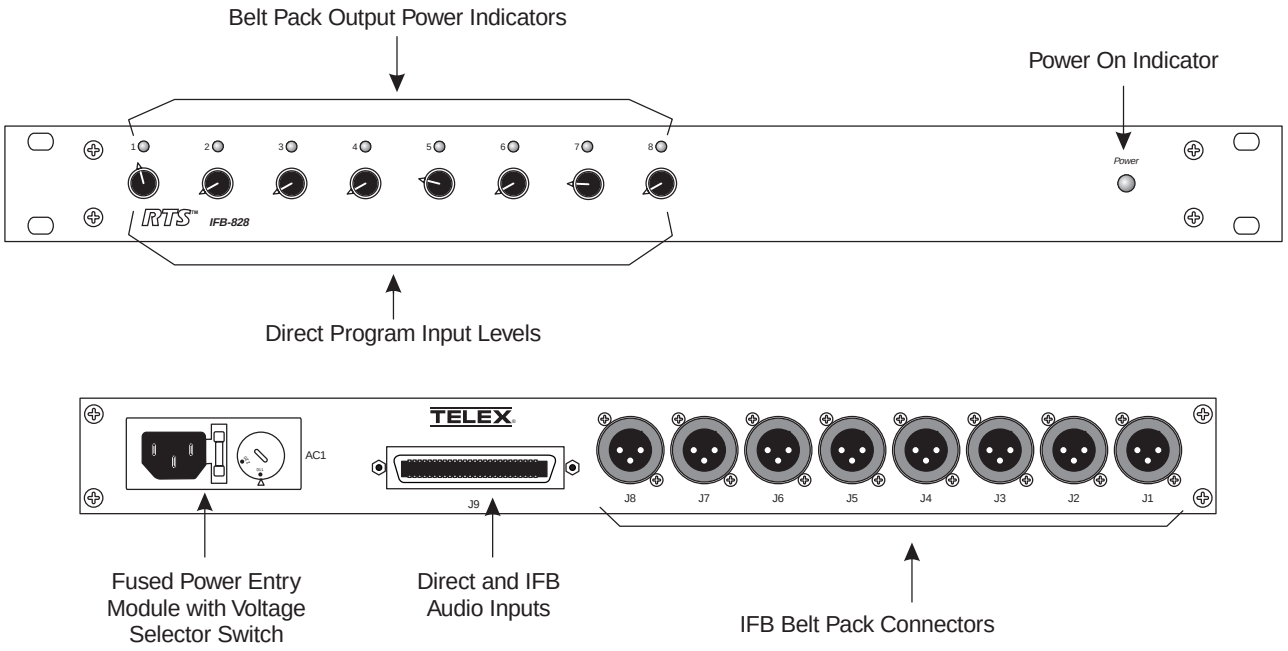


Figure 1. IFB-828 Reference View

1 IFB-828 Description

The IFB-828 interfaces up to eight RTS Systems' Model IFB-325, 4020, or 4030 IFB Belt Packs to any RTS Digital Matrix Intercom System, and it provides adjustable program muting during IFB operation (sometimes referred to as "ducking" or "dimming").

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

2 Installation in an RTS Digital Matrix

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.

☞ **IFB-828 Location:** The XLR connector outputs from the IFB-828 provide 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 unshielded equipment, etc.) For broadcast applications you will typically locate the IFB-828 in the audio booth near the talent location, and no special precautions are required.

2. Set the voltage selector switch on the back panel:

   Select 110 for 110/120 V, 50/60 Hz operation

   Select 220 for 220/240 V, 50/60 Hz 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 the IFB's at the digital matrix intercom system using the intercom system configuration software:

☞ **CSedit Users:** see "Creating an IFB" in Section 2 of your CSedit User Manual. For each IFB, note which intercom port you have setup as the IFB output port. You define this port in the IFB Out column of the Interrupt Foldback Bus Assignments table. Also note which intercom port you have setup as the Program Input port. You define this port in the Def Inp column of the table.

☞ **ADAMedit Users:** select the IFB button on the ADAMedit toolbar, then double-click on an IFB to open the Edit IFB dialogue window for that IFB. For each IFB that you setup, note which intercom port you have set as the IFB output port in the Output text box or list box. Also note which intercom port you

have setup as the Program Input port in the Input text box or list box.

5. Once you have configured the required IFB's, also be sure to assign them to keypanel keys:

☞ **CSedit Users:** see "Keypanel Setup" in Section 2 of your CSedit User Manual.

☞ **ADAMedit Users:** select the KP button on the toolbar, then press F1 to get help on keypanel setup.

6. For each IFB that you setup:

a. Connect from the output port of 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 for pin numbers.

b. Connect the IFB program audio source both to the intercom port that you defined as the program input port of the matrix (in step 4) AND also connect the IFB program audio source to the direct program input of the selected channel of the IFB-828.

7. Connect from 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.

☞ In the factory-default configuration, the IFB-325 Belt Packs receives 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 J3 shorting plug so that pins 4 and 5 are shorted. Refer to your IFB-325 Manual for further information.

8. Connect an earset to the IFB belt pack. 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.

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)

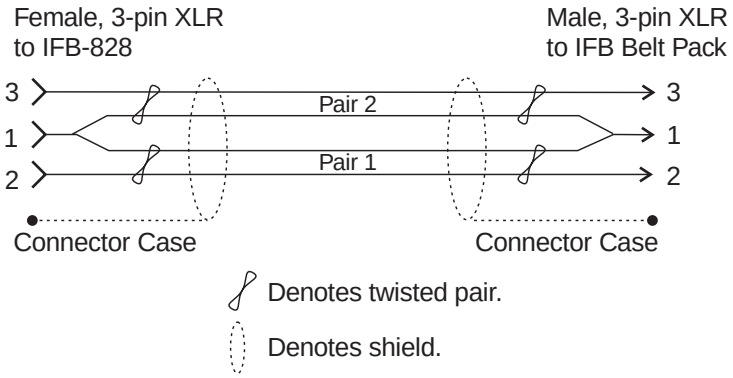
Pin Numbers		Description
+ Input	- Input	
1	26	Channel 1 direct program input
2	27	Channel 1 IFB input (from matrix)
3	28	No connection
4	29	Channel 2 direct program input
5	30	Channel 2 IFB input (from matrix)
6	31	No connection
7	32	Channel 3 direct program input
8	33	Channel 3 IFB input (from matrix)
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

9. Set all belt pack volume controls and all level controls on the IFB-828 to minimum.

10. Plug in the IFB-828 power cord. The main power LED on the front panel should light, and each channel LED should light indicating that power is being supplied to the belt pack output on that channel. Ensure that the matrix is operational and that all program sources are operational.

11. 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.)

12. **For each IFB:** activate the keypanel key that is assigned to that IFB. The program audio should be interrupted at the associated IFB belt pack, and the mic



Cable Type: 22AWG Stranded, 2-Pair Twisted-wire, with Shield
Connector Type: 3-Pin XLR Audio
Pin-out
Pin 1: Audio and DC common
Pin 2: + DC and mixed audio (matrix IFB and direct program)
Pin 3: Direct program audio only (non-interrupted program)*
Case: Earth ground

* Not used by IFB-325 belt pack. Usage optional with Models 4020 and 4030; provides uninterrupted program audio to stereo earset.

Figure 2. IFB Belt Pack Interconnect Cable Wiring Diagram

audio from the keypanel should become audible. 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 level should be restored.

13. This completes the installation procedure to use the IFB-828 with an RTS digital matrix.

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

Use Table 1 and the cable wiring in Figure 2 to connect one or two program 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.

4 IFB-828 Specifications

Dimensions

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

Input Power Requirements

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

Audio Inputs

Type: Balanced (transformer coupled)
Level: +4 to +8 dBu
Impedance: Approximately 600 ohms

Audio Outputs

Type: Unbalanced
Level: -10 to -6 dBu

Output Power (each IFB belt pack channel)

+24VDC, 200 mA

Connectors

Input (J9)

Type: 50-pin telco
Pin-out: see Table 1.

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)

5 IFB-828 Mechanical Assembly Parts

Qty	Description	Part Number
1	TRANSFORMER, TOROID	559002001
1	CONN .156 SP 3 POS	8800101838
1	CONN D HDWE KIT=KY	8800102463
1	A/C CORD/CONN 18GA	8800102668
1	A/C ENTRY MODULE	8800117313
9	CONN .100SP 2POS 24	8800127838
1	FUSE 1 AMP 5MMX 20M	8800129658
1	LED 5V GN PNL MNT W	8800131495
2	IDE PNL 7”	8800144463
8	KNOB POINTER 15MM	8800156636
8	KNOB 15MM ¼ SHFT	8800157458
8	LED GRN PNL MNT	8800191073
1	COVER 7” TOP/BTM	8800218428
8	KNOB CAP 15MM BLK	8800243720
1	PCB ASSY IFB POWER	90307094000
1	FRONT PANEL IFB828	90707094000
1	REAR PANEL IFB828	90807094000
1	BOTTOM PANEL	91007094000

6 IFB-828 PC Board Electrical Parts

Ref Des	Description	Part Number
C1	CAPACITOR, EL, 1000 UF, 50V	51821-536
C2	CAPACITOR, CM, 0.1 UF, 50V	52676-613
C11	CAPACITOR, EL, 10 UF, 50V	51821-639
C12	CAPACITOR, CM, 0.1 UF, 50V	52676-613
C13	CAPACITOR, EL, 10 UF, 50V	51821-639
C21	CAPACITOR, EL, 10 UF, 50V	51821-639
C22	CAPACITOR, CM, 0.1 UF, 50V	52676-613
C23	CAPACITOR, EL, 10 UF, 50V	51821-639
C31	CAPACITOR, EL, 10 UF, 50V	51821-639
C32	CAPACITOR, CM, 0.1 UF, 50V	52676-613
C33	CAPACITOR, EL, 10 UF, 50V	51821-639
C41	CAPACITOR, EL, 10 UF, 50V	51821-639
C42	CAPACITOR, CM, 0.1 UF, 50V	52676-613
C43	CAPACITOR, EL, 10 UF, 50V	51821-639
C51	CAPACITOR, EL, 10 UF, 50V	51821-639
C52	CAPACITOR, CM, 0.1 UF, 50V	52676-613
C53	CAPACITOR, EL, 10 UF, 50V	51821-639
C61	CAPACITOR, EL, 10 UF, 50V	51821-639
C62	CAPACITOR, CM, 0.1 UF, 50V	52676-613
C63	CAPACITOR, EL, 10 UF, 50V	51821-639
C71	CAPACITOR, EL, 10 UF, 50V	51821-639
C72	CAPACITOR, CM, 0.1 UF, 50V	52676-613
C73	CAPACITOR, EL, 10 UF, 50V	51821-639
C81	CAPACITOR, EL, 10 UF, 50V	51821-639
C82	CAPACITOR, CM, 0.1 UF, 50V	52676-613
C83	CAPACITOR, EL, 10 UF, 50V	51821-639
D1	DIODE, BRIDGE, 2A, 1000V, BR810DF	558011-000
D11	DIODE, 1N4004, 400V	50745-005
D12	DIODE, 1N4004, 400V	50745-005
D13	DIODE, 1N4004, 400V	50745-005
D21	DIODE, 1N4004, 400V	50745-005
D22	DIODE, 1N4004, 400V	50745-005
D23	DIODE, 1N4004, 400V	50745-005
D31	DIODE, 1N4004, 400V	50745-005
D32	DIODE, 1N4004, 400V	50745-005
D33	DIODE, 1N4004, 400V	50745-005
D41	DIODE, 1N4004, 400V	50745-005
D42	DIODE, 1N4004, 400V	50745-005
D43	DIODE, 1N4004, 400V	50745-005
D51	DIODE, 1N4004, 400V	50745-005
D52	DIODE, 1N4004, 400V	50745-005
D53	DIODE, 1N4004, 400V	50745-005
D61	DIODE, 1N4004, 400V	50745-005
D62	DIODE, 1N4004, 400V	50745-005
D63	DIODE, 1N4004, 400V	50745-005
D71	DIODE, 1N4004, 400V	50745-005
D72	DIODE, 1N4004, 400V	50745-005
D73	DIODE, 1N4004, 400V	50745-005
D81	DIODE, 1N4004, 400V	50745-005
D82	DIODE, 1N4004, 400V	50745-005
D83	DIODE, 1N4004, 400V	50745-005
J1	CONNECTOR, RA XLR, M-3	59892-003
J2	CONNECTOR, RA XLR, M-3	59892-003
J3	CONNECTOR, RA XLR, M-3	59892-003
J4	CONNECTOR, RA XLR, M-3	59892-003
J5	CONNECTOR, RA XLR, M-3	59892-003
J6	CONNECTOR, RA XLR, M-3	59892-003
J7	CONNECTOR, RA XLR, M-3	59892-003
J8	CONNECTOR, RA XLR, M-3	59892-003
J9	CONNECTOR, RA SHIELDED, F-50	590121-002
P1	CONNECTOR, ST POLARIZED, 0.100, M-2	57763-402

Ref Des	Description	Part Number
P2	CONNECTOR, ST POLARIZED, 0.100, M-2	57763-402
P3	CONNECTOR, ST POLARIZED, 0.100, M-2	57763-402
P4	CONNECTOR, ST POLARIZED, 0.100, M-2	57763-402
P5	CONNECTOR, ST POLARIZED, 0.100, M-2	57763-402
P6	CONNECTOR, ST POLARIZED, 0.100, M-2	57763-402
P7	CONNECTOR, ST POLARIZED, 0.100, M-2	57763-402
P8	CONNECTOR, ST POLARIZED, 0.100, M-2	57763-402
P9	CONNECTOR, ST POLARIZED, 0.100, M-2	57763-402
P10	CONNECTOR, ST LOCKING, 0.156, M-3	57708-103
R1	RESISTOR, CF, 1.8K OHM, 5%, 1W	52154-629
R2	RESISTOR, CF, 1.2K OHM, 5%, 1/2W	52154-456
R3	RESISTOR, CF, 1.2K OHM, 5%, 1/2W	52154-456
R4	RESISTOR, CF, 1.2K OHM, 5%, 1/2W	52154-456
R5	RESISTOR, CF, 1.2K OHM, 5%, 1/2W	52154-456
R6	RESISTOR, CF, 1.2K OHM, 5%, 1/2W	52154-456
R7	RESISTOR, CF, 1.2K OHM, 5%, 1/2W	52154-456
R8	RESISTOR, CF, 1.2K OHM, 5%, 1/2W	52154-456
R9	RESISTOR, CF, 1.2K OHM, 5%, 1/2W	52154-456
R11	POTENTIOMETER, 100 OHM, 10%, 1W	523015-000
R12	RESISTOR, MF, 2.26K OHM, 1%, 1/2W	54054-226
R13	RESISTOR, MF, 124 OHM, 1%, 1/4W	54042-124
R14	RESISTOR, WW, 10 OHM, 10%, 5W	50155-011
R21	POTENTIOMETER, 100 OHM, 10%, 1W	523015-000
R22	RESISTOR, MF, 2.26K OHM, 1%, 1/2W	54054-226
R23	RESISTOR, MF, 124 OHM, 1%, 1/4W	54042-124
R24	RESISTOR, WW, 10 OHM, 10%, 5W	50155-011
R31	POTENTIOMETER, 100 OHM, 10%, 1W	523015-000
R32	RESISTOR, MF, 2.26K OHM, 1%, 1/2W	54054-226
R33	RESISTOR, MF, 124 OHM, 1%, 1/4W	54042-124
R34	RESISTOR, WW, 10 OHM, 10%, 5W	50155-011
R41	POTENTIOMETER, 100 OHM, 10%, 1W	523015-000
R42	RESISTOR, MF, 2.26K OHM, 1%, 1/2W	54054-226
R43	RESISTOR, MF, 124 OHM, 1%, 1/4W	54042-124
R44	RESISTOR, WW, 10 OHM, 10%, 5W	50155-011
R51	POTENTIOMETER, 100 OHM, 10%, 1W	523015-000
R52	RESISTOR, MF, 2.26K OHM, 1%, 1/2W	54054-226
R53	RESISTOR, MF, 124 OHM, 1%, 1/4W	54042-124
R54	RESISTOR, WW, 10 OHM, 10%, 5W	50155-011
R61	POTENTIOMETER, 100 OHM, 10%, 1W	523015-000
R62	RESISTOR, MF, 2.26K OHM, 1%, 1/2W	54054-226
R63	RESISTOR, MF, 124 OHM, 1%, 1/4W	54042-124
R64	RESISTOR, WW, 10 OHM, 10%, 5W	50155-011
R71	POTENTIOMETER, 100 OHM, 10%, 1W	523015-000
R72	RESISTOR, MF, 2.26K OHM, 1%, 1/2W	54054-226
R73	RESISTOR, MF, 124 OHM, 1%, 1/4W	54042-124
R74	RESISTOR, WW, 10 OHM, 10%, 5W	50155-011
R81	POTENTIOMETER, 100 OHM, 10%, 1W	523015-000
R82	RESISTOR, MF, 2.26K OHM, 1%, 1/2W	54054-226
R83	RESISTOR, MF, 124 OHM, 1%, 1/4W	54042-124
R84	RESISTOR, WW, 10 OHM, 10%, 5W	50155-011
T11	TRANSFORMER, AUDIO	559001-000
T12	TRANSFORMER, AUDIO	559001-000
T21	TRANSFORMER, AUDIO	559001-000
T22	TRANSFORMER, AUDIO	559001-000
T31	TRANSFORMER, AUDIO	559001-000
T32	TRANSFORMER, AUDIO	559001-000
T41	TRANSFORMER, AUDIO	559001-000
T42	TRANSFORMER, AUDIO	559001-000
T51	TRANSFORMER, AUDIO	559001-000
T52	TRANSFORMER, AUDIO	559001-000
T61	TRANSFORMER, AUDIO	559001-000
T62	TRANSFORMER, AUDIO	559001-000
T71	TRANSFORMER, AUDIO	559001-000
T72	TRANSFORMER, AUDIO	559001-000
T81	TRANSFORMER, AUDIO	559001-000
T82	TRANSFORMER, AUDIO	559001-000
VR1	IC, VOLTAGE REGULATOR, LM317	53290-000
VR2	IC, VOLTAGE REGULATOR, LM317	53290-000
VR3	IC, VOLTAGE REGULATOR, LM317	53290-000
VR4	IC, VOLTAGE REGULATOR, LM317	53290-000
VR5	IC, VOLTAGE REGULATOR, LM317	53290-000
VR6	IC, VOLTAGE REGULATOR, LM317	53290-000
VR7	IC, VOLTAGE REGULATOR, LM317	53290-000
VR8	IC, VOLTAGE REGULATOR, LM317	53290-000

SHEET	SHEET REVISION STATUS
REV.	

REVISIONS							
LOC.	REV.	DESCRIPTION	ECO NO.	DRFT	CHKR	APP	DATE
	PA	PRE-RELEASE		MK	MK		7/8/93
	A	CHG XLR WIRES, ADD C×3's		MK	MK		10/4/93
	B	REVISED PER ECO	60223	DP	DP		12-6-95
	C	ADD R10, 20, 15-20	61656	MK	MK		9-25-96

To front panel LED (eight places)

To power entry module.

Figure 3. IFB-828 Circuit Board Schematic Diagram

DR MK	CK MK	APP	TITLE
DATE 7-8-93			IFB-828 IFB INTERFACE
CAD GENERATED DRAWING			TELEX® TELEX COMMUNICATIONS, INC. MINNEAPOLIS, MINNESOTA
FILENAME: schematics/90277094-000/c	IFB-828	90407094	SIZE D DWG. NO. 9027-7094-000
	MODEL	NEXT ASS'Y	SHT 1 OF 1

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