Telecast
Fiber Systems, Inc.

RingNeck™

Telephone Interface System

Instruction Manual

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Figure 1. *Ringneck System: Line End (Top) and Instrument End(bottom)*

Introduction

The RingNeck™ Telephone Interface system converts telephone signals into audio signals to provide telephone access to operators in remote locations. Two audio connections and two telephone line connections are supported. Capabilities also include fax and/or modem.

Theory of Operation

The RingNeck modules connect to Telecast transmitters and receivers which have a bidirectional audio link at each end or a 4-wire intercom. Signals generated from either tone or pulse dialing are compatible with the RingNeck system.

Telephone signals are input to the RingNeck Instrument module via a standard RJ11 phone jack on the module's right panel. The Phone module inputs the electronic signals to the audio input port of a Telecast audio product. The received audio signals are output to the Phone Line module, which interfaces with a field production vehicle or other telephone exchange.

System Components

The RingNeck modules are housed in a durable, weather-resistant mussel shell chassis. Protective extensions on the chassis left and right sides are equipped with key holes for wall mounting.
The Telephone Interface system consists of two standalone RingNeck modules which connect to Telecast audio transmitters and receivers. The RingNeck Telephone Interface System consists of:
- One RingNeck Telephone Interface Instrument module
- One RingNeck Telephone Interface Phone Line module
- Two 4-pin Eel Power cords
- Four 5-pin Male to 5-pin Male Cables (for use in 4-wire systems)
- Four 5-pin Male to two 3-pin XLR's (for use with bi-directional audio paths)

After unpacking, inspect the units for mechanical damage. Also check all electrical connectors and cables for bent or damaged pins. Report any damage to the carrier and to Telecast Fiber Systems, Inc.

Signal I/O
Power

The system is powered by a standard Telecast power supply or any external power supply providing 12 to 24 VDC. Power input is via a Switchcraft D4M 4-pin XLR connector located on the left panel of each Ringneck module. The left panel, identical for each module, is shown in Figure 1. Wire connections are shown in Table 1. If the RingNecks are to be used with other Telecast equipment, the power requirements are low enough that power can be "looped" through the RingNeck to the other piece of Telecast equipment. The "Power In" and "Power Out" XLR's serve this purpose.

A 2-Amp SLO-BLO fuse is located internally. This fuse should operate for the lifespan of the Ringneck system without need for replacement.
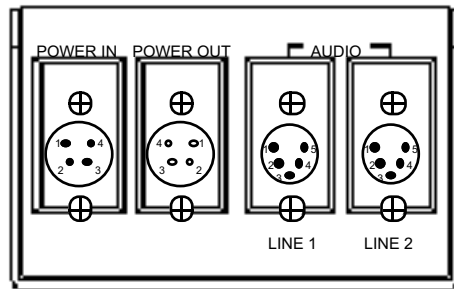

Figure 2. Left Panel Power I/O and Audio I/O

Pin	Signal
1	Ground
2	No connection
3	No connection
4	+ 12 to 24 VDC

Table 1. Power Connections

Main Power Switch and Status Indicator

The only operator control is the main power switch, located on the right panel of each RingNeck module. An LED adjacent to the power switch illuminates green when power is turned on. The right panel for both module types is shown in Figure 3.

Audio I/O

Audio I/O is via two switchcraft D5M 5-pin XLR connectors located on the left panel of each module; see Figure 2. Wire connections are shown in Table 2.

Pin	Signal
1	Ground
2	Audio In (+)
3	Audio In (-)
4	Audio Out (+)
5	Audio Out (-)

Table 2. Audio Connections

Telephone Interface

Two type RJ11 telephone jacks provide telephone interface. The telephone jacks are located on the right panel of each RingNeck module and are labelled Line 1 and Line 2; see Figure 3.
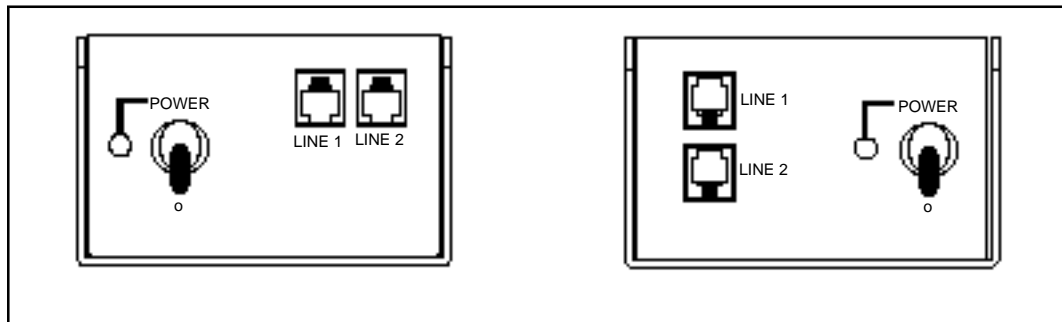

Figure 3. Right Panel Power Switch and Telephone interface

System Setup

Perform the following procedure to set up the RingNeck Telephone Interface System:

Power

1. Verify that the main power switch on each component is in the *off* position.
2. Insert the 4-pin XLR connector from the external Telecast power supply into the 12-24 VDC input receptacle **Power In**.
3. Plug the supply into an AC line appropriate with the label markings.
4. Run a cable between the Phone module XLR connector labelled **Power Out** to the Telecast Viper or Adder XLR connector labelled **Input Power**.

Telephone Interface

5. Insert the jack from a standard telephone cable into an active line telephone and connect to the Instrument module's telephone jack labelled **Line1**.
6. Insert the jack from a standard telephone cable from the Phone Line module's telephone connection labelled **Line1** to either a wall jack or to the production vehicle.

Note: For a second telephone connection, follow the above procedure but make all XLR and telephone connections to Line 2 connections.

Some after-market phones can experience ringer problems

Wiring Diagrams

Audio

To interface with a balanced audio system, connect the supplied Y-cable between the Instrument module and the audio board of the Telecast TX/RX. The audio wiring diagram is shown in Figure 3, and wire connections are defined in Table 3.

1. Run a split cable from the Instrument module's 5-pin XLR connector.
2. Connect one end to the 3-pin XLR connector on an audio input labelled **Audio In**, and the other end to the 3-pin XLR connector on an audio output labelled **Audio Out**.

Figure 3. Wiring for Audio
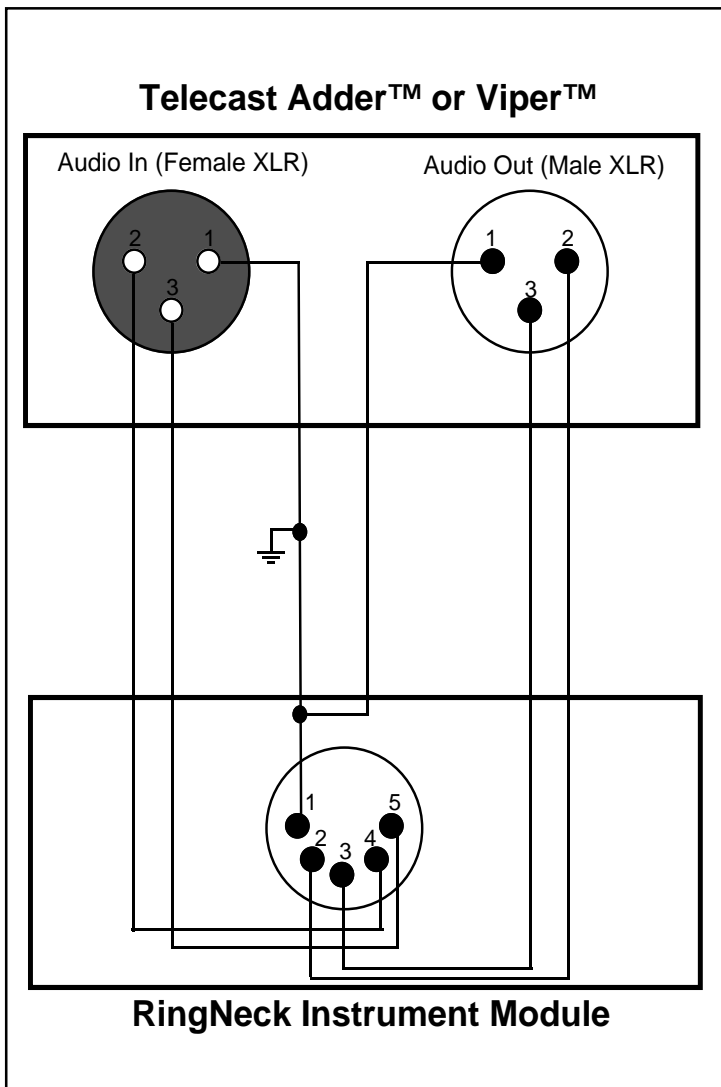
Pin #	Signal
1	Ground
2	Balanced I/O (+)
3	Balanced I/O (-)

Table 3. Audio Board XLR Connections

Intercom

To interface to a 4-wire intercom system, a cable must be run to the Telecast TX/RX intercom XLR connectors. 4-wire Auxiliary (balanced) intercoms use an individual 5-pin XLR on each module.

• Run a cable from the Instrument module's 5-pin XLR audio connector to the Telecast TX/RX intercom board's 5-pin XLR connector.

The wiring diagram for a 4-wire intercom is shown in Figure 4. Wire connections are defined in Table 4.

Figure 4. Wiring for 4-Wire Intercom
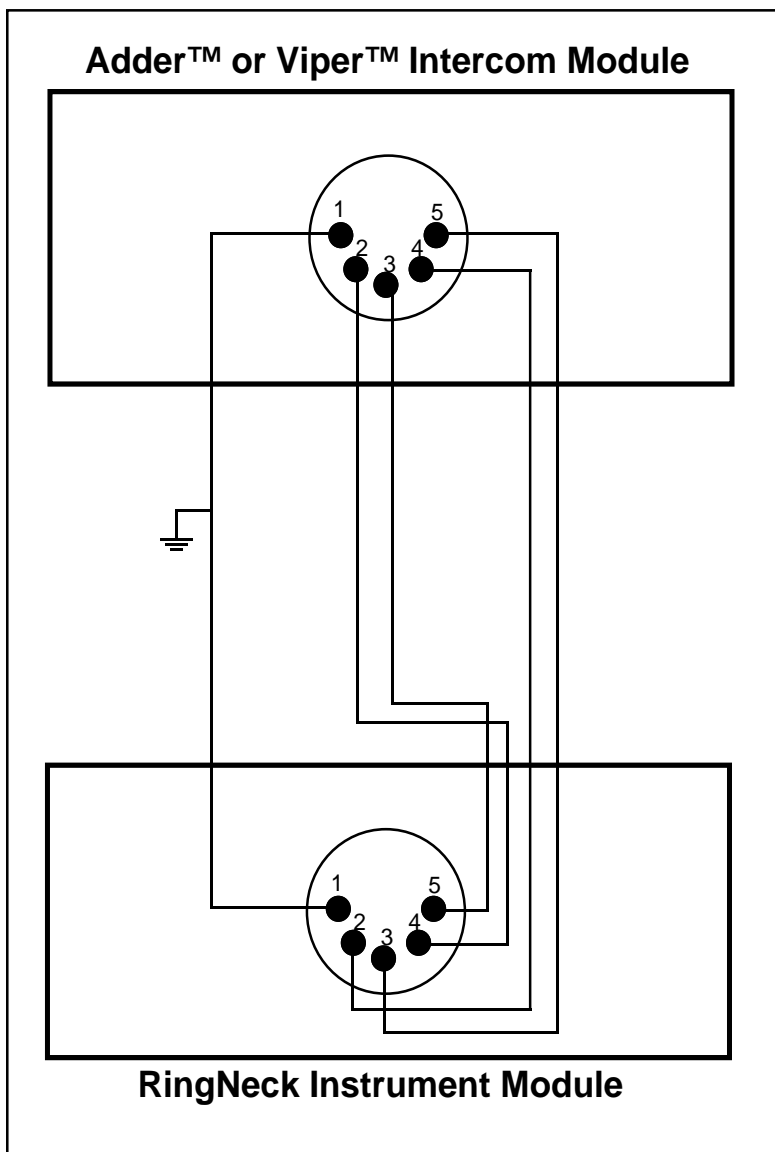
Pin #	Signal
1	Ground
2	Input (+)
3	Input (-)
4	Ouput (+)
5	Ouput (-)

Table 4. 4-Wire Intercom Module Connections

System Block

Telephone Network

Instrument

Ringneck Phone Line end

Communications Interface:
  copper
  fiber
  rf.......

Media

Communications Interface:
  copper
  fiber
  rf.......

Ringneck Instrument end

4 Wire

4 Wire

Network

12v DC

12v DC

Instrument

Ring Detect Signal

Hybrid

Off Hook Latch

Σ

Ring Generator

Hybrid

Off Hook Detect

Σ

600 Ohm Balanced 4-Wire Interface

Okay to AC Couple
+8dBm Max
(to 5Hz @ 600 Ohm)

Figure 5. System Block Diagram

Specifications

Electrical Specifications

Phone In/Outs ....2 Phone Lines (RJ-11 female conn.)
Audio In/Outs .... 2 Male 5-Pin XLR's
Input power .... 12V DC at .5 Amps, 4-Pin Male
                                                                    with 4-Pin female Loop Out

Frequency Response...100Hz-3500Hz

Physical

Dimensions .... 2.5"H x 9"W x 4.25"D
Shipping weight .... 4 lbs.

Complies with FCC Part 15

Warranty

LIMITED WARRANTY STATEMENT

Telecast Fiber Systems, Inc. ("Telecast") expressly warrants to Buyer that the Products supplied shall be free from defects in materials and workmanship for a period of 12 months following the date the Products are delivered to Buyer (the "Warranty Period"). Telecast's liability under this limited warranty shall be limited, at its option, to providing refund of purchase price for Products, or replacing or repairing Products shown to be defective either in materials or workmanship. Buyer's sole and exclusive remedy for breach of warranty shall be such refund, replacement or repair.

A claim of defect in materials or workmanship in any Product shall be allowed only when it is submitted in writing to Telecast Fiber Systems, Inc. within seven days after discovery of the defect, and in any event within the Warranty Period. No claim shall be allowed in respect of any Product which has been altered, neglected, damaged or stored in any manner which adversely affects it. In order to obtain service under the terms of this warranty, Distributor's customer or Distributor must notify Telecast of the defect prior to the expiration of the applicable warranty period and obtain a Return Authorization Number from Telecast. In no event may products be returned to Telecast or to Distributor for warranty service without having obtained from Telecast a Return Authorization Number.

This limited warranty applies only to new and unused Products delivered to Buyers located within the United States of America, or to international Buyers if sold through an authorized Distributor organization, and shall not extend to any equipment not manufactured by Telecast Fiber Systems, Inc., even though such equipment may be sold or operated with the Products. In addition, this limited warranty shall be void and of no further force or effect whatsoever if the Product is repaired or modified by any person other than an authorized representative of Telecast Fiber Systems, Inc. without the consent of Telecast Fiber Systems, Inc. This warranty shall not apply to any defect, failure or damage caused by improper use or inadequate maintenance and care. Nor shall this warranty apply to any damage caused in whole or in part by attempts by personnel other than Telecast's personnel, as approved in advance in accordance with the foregoing provisions, to open, install, repair, or service the Product; nor to damage resulting from improper connection with incompatible equipment; nor to damage to a unit which has been modified by personnel other than Telecast personnel.

Products returned to Telecast for warranty service shall be shipped, freight prepaid to Telecast. Telecast will return the repaired product or ship a replacement, freight prepaid, to either Distributor or Distributor's customer, as requested by Distributor's customer, at a location within the United States or, at Telecast's option, to Distributor's location in the case of international sales.

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