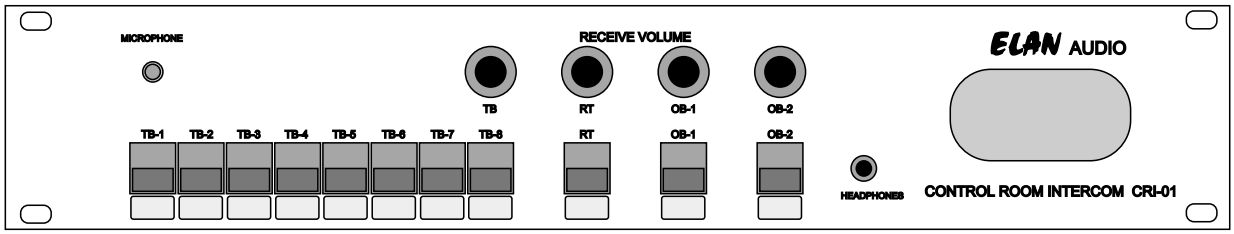
ELAN Audio

PROMOTIONAL

CRI-01
Rackmounting
Control Room Intercom



Manufactured in Western Australia

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TECHNICAL DESCRIPTION

Rackmounting Control Room Intercom System

Type CRI-01

The CRI-01 Rackmounting Intercom System, is a practical and versatile unit, specifically designed for use in Radio Station "Central Technical Control Rooms"

The CRI-01 is complete with a built in Power Supply, and occupies 2 units of Rack Space.

It features the following.

1; Built in Electret Microphone.
2; Second Mic Pre-amp suitable for Balanced Microphone.
3; Microphone level AGC Amplifier.
4; Built in Loudspeaker.
5; Headphone Socket.
6; Automatic Loudspeaker Mute with Headphone plugged in.
7; 8 General Talkback outputs.
8; Radio Telephone output with PTT Contacts.
9; 2 OB Line Talkback outputs with PTT Contacts.
10; 2 OB Line Loop-through circuits.
11; Separate Volume Controls for TB, RT, and OB inputs.
12; Link selectable PTT Contact closure when TB Button is pressed.
13; Link Selectable Loudspeaker Muting.
14; Link Selectable Loudspeaker "Dim".
15; Separate Talkback Clean-feed Output.
16; All external audio connections via "D" Connectors.

General Description.

The CRI-01 as standard, is provided with a simple built in Electret Microphone Capsule, feeding a basic Op-Amp based Pre Amplifier.

The quality from this Electret Microphone Capsule, is USUALLY adequate for normal purposes.

Additional Circuitry is provided on the main PCB for a more advanced Microphone Pre-Amplifier, having a Balanced Input, and Phantom Power provision, allows a high quality Balanced Line Dynamic or Electret Condenser Microphone to be used.

The Microphone Pre-Amp IC SSM 2017 is not provided as standard with the CRI-01.

A Dynamic, or Electret Microphone mounted on the CRI-01 can be supplied to special order.

Output from the Pre-Amplifier stage, is fed via links, to an Op-Amp providing further gain.

Gain of this stage is controlled by a Pre-set potentiometer to set the optimum level to the following AGC amplifier stage.

A High Quality AGC Amplifier, based on the SSM 2018T IC is provided. And feeds an output level Pre-set potentiometer, an Op-amp, and SSM 2142 Balanced Line Driver IC feeding line level Audio to the talkback unit output switching relays and Talkback Clean-feed output.

Line level, is adjustable to suit systems operating at levels from 0 dBu to + 8 dBu.

All audio to the outputs of the CRI-01 are switched by relays.

The CRI-01, is provided with four balanced line level inputs, being General Talkback, Radio Telephone, OB-1 and OB-2.

The inputs are differentially balanced by Op-Amps, and fed to the respective Input Level Gain Control Potentiometers.

A resistor is fitted between the low end of the track of each of these potentiometers, and ground, and normally shorted by a shunting link, to give full range level control of the audio signal.

This link may be removed, to prevent the audio of any individual input from being turned off completely.

Outputs from the Input Gain Control Potentiometers are mixed in resistors, summed in an Op-Amp, and fed on to two separate Audio Output Amplifier Stages.

One output stage feeds the Headphone Output via attenuator resistors.

The other stage feeds the built in loudspeaker.

Two relays are provided, and connected to the input circuit of the Loudspeaker Amplifier.

One Relay is wired to “Mute” the talkback loudspeaker whenever a headphone is plugged into the Headphone Socket, or a Talkback, RT or OB Talkback control switch, having a muting link fitted is pressed.

The other Relay is wired to “Dim” or reduce the loudspeaker level by about 20 dB when one of the above mentioned buttons, having its “Dim” link fitted is pressed.

General Talkback operation.

All connections to the CRI-01 associated with General Talkback operation appear on Connector D-1.

The CRI-01 is intended for basic 4 wire operation to each of its associated external talkback stations.

Talkback from each external talkback station, is fed to the Talkback input of the CRI-01.

Talkback from the CRI-01 is switched by relays to the respective inputs of each of the associated external talkback stations.

Links are provided on the main PCB to operate a PTT Relay from any or all the general talkback buttons.

Radio Telephone Operation.

All connections to the CRI-01 associated with RT Operation appear on Connector D-3.

This is again arranged for basic 4 wire operation.

Audio from the Radio Telephone System is fed to the RT input on the CRI-01 unit.

Audio from the CRI-01 unit is fed via a relay, to the Audio input of the RT system.

A normally open and floating PTT Contact is provided, closing whenever the RT Talkback button is pressed.

OB Line operation.

All connections to the CRI-01 associated with OB Operation appear on Connector D-2.

OB Line facilities are more comprehensive than those for General Talkback and RT operation in order to interface with different modes of OB operation and handling.

Each OB line, OB-1 and OB-2 feed to the Audio Inputs on the CRI-01, and is available as audio via the loudspeaker and headphones.

See the suggested application circuits in this handbook.

Operation Mode-1

Single line operation, with talkback against the signal from the OB line.

In this mode, the signal from each OB Line is looped through a separate relay to the Loop Output on the "D" connector.

The Loop Output is intended to feed to the Studio Wiring, either directly, or via an equaliser and Audio Distribution Amplifier if fitted

Signal from the OB Line is fed to the speaker amplifier directly from the OB Line.

The relay interrupts the loop through, and inserts talkback back into the OB-1 or OB-2 line when the respective OB talkback buttons are pressed.

Operation Mode-2

Four wire operation, or operation using the ELAN Audio ELE-01 Line Equaliser.

In this mode, the direct Audio Signal from the OB Line is not fed through the loop relay, and the OB Line connection is not used.

Instead the Audio Signal from the OB Line is fed into the CRI-01 talkback unit from the output of the ELE-01 Line Equaliser through the Loop Out connections.

The Talkback signal appearing on the OB-1 or OB-2 TB outputs of the CRI-01 when OB-1 or OB-2 talkback buttons are pressed is fed to the Talkback input of the ELE-01.

The corresponding PTT Relay Contacts closing when the OB Talkback Buttons are pressed operates talkback switching within the ELE-01 OB Line Equaliser.

Two drawings in the manual show several suggested methods of using the CRI-01.

Connections.

All Audio and Control connections to the CRI-01 appear on three "D" Type connectors.

General Talkback.

D-1 25 pin "D" Connector, Female on CRI-01.

Pins	1-14	TB-1 Out
Pins	2-15	TB-2 Out
Pins	3-16	TB-3 Out
Pins	4-17	TB-4 Out
Pins	5-18	TB-5 Out
Pins	6-19	TB-6 Out

Pins 7-20 TB-7 Out
Pins 8-21 TB-8 Out
Pins 9-22 TB-In
Pins 10-23 TB or Aux PTT Contacts

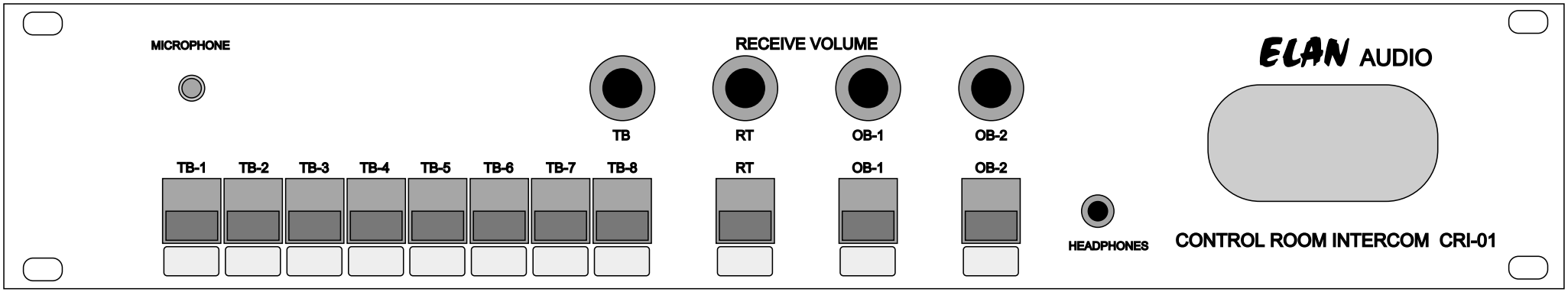
OB Lines

D-2 25 pin “D” Connector, Female on CRI-01

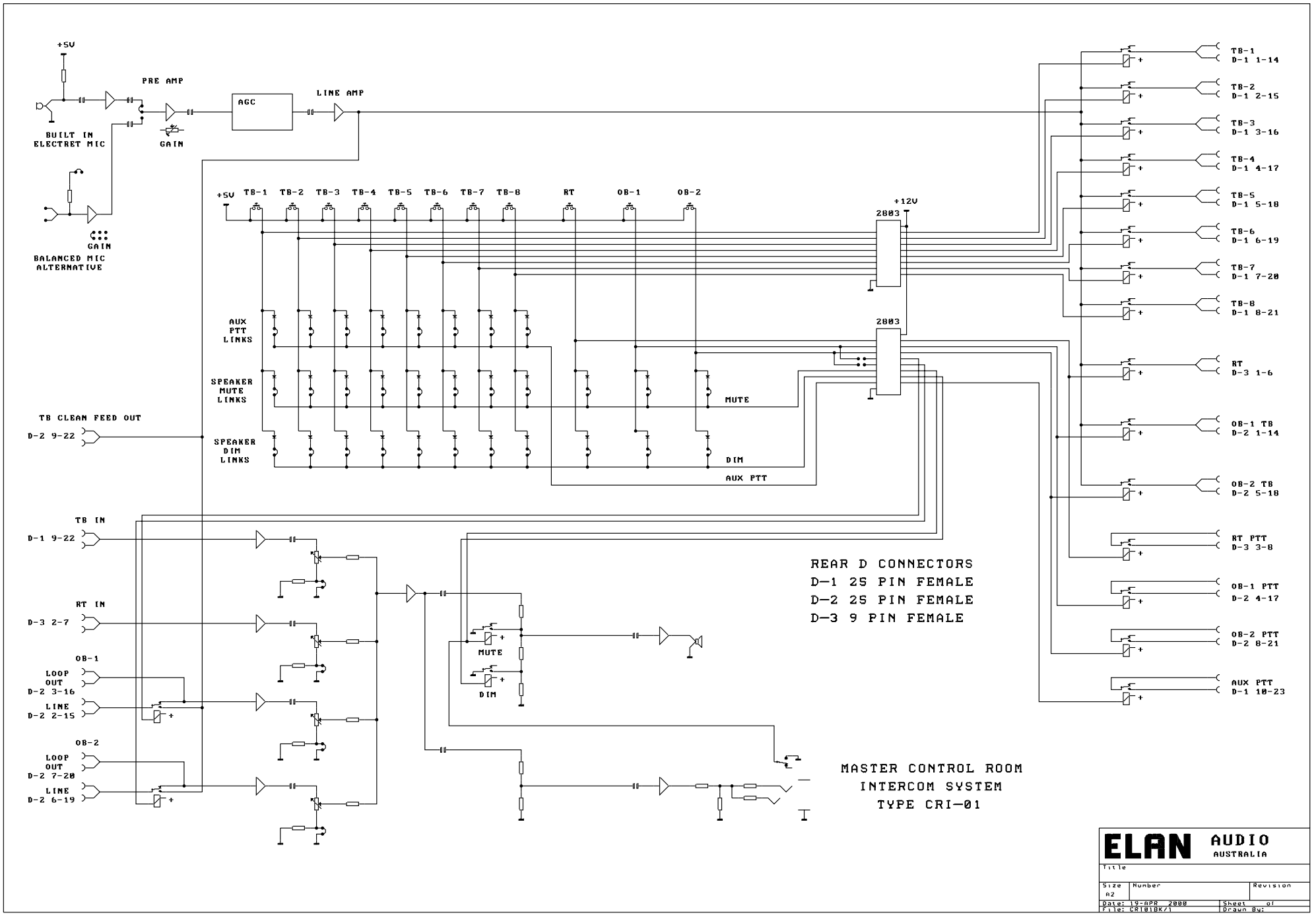
Pins 1-14 OB-1 TB Out
Pins 2-15 OB-1 Line
Pins 3-16 OB-1 Loop Out
Pins 4-17 OB-1 PTT Contacts
Pins 5-18 OB-2 TB Out
Pins 6-19 OB-2 Line
Pins 7-20 OB-2 Loop Out
Pins 8-21 OB-2 PTT Contacts
Pins 9-22 TB Clean-feed Out
Pins 10-23 GND
Radio Telephone.

D-3 9 pin “D” Connector, Female on CRI-01

Pins 1-6 RT TB Out
Pins 2-7 RT Audio In
Pins 3-8 RT PTT Contacts
Pins 4-9 N/c
Pin 5 N/c



Front Panel Layout CRI-01 Rackmounting Control Room Intercom System


+5V
PRE AMP
AGC
LINE AMP
BUILT IN
ELECTRET MIC
GAIN
GAIN
BALANCED MIC
ALTERNATIVE
+5V
TB-1
TB-2
TB-3
TB-4
TB-5
TB-6
TB-7
TB-8
RT
OB-1
OB-2
+12V
2803
2803
AUX
PTT
LINKS
SPEAKER
MUTE
LINKS
SPEAKER
DIM
LINKS
MUTE
DIM
AUX PTT
TB CLEAN FEED OUT
D-2 9-22
TB-1
D-1 1-14
TB-2
D-1 2-15
TB-3
D-1 3-16
TB-4
D-1 4-17
TB-5
D-1 5-18
TB-6
D-1 6-19
TB-7
D-1 7-20
TB-8
D-1 8-21
RT
D-3 1-6
OB-1 TB
D-2 1-14
OB-2 TB
D-2 5-18
RT PTT
D-3 3-8
OB-1 PTT
D-2 4-17
OB-2 PTT
D-2 8-21
AUX PTT
D-1 10-23
TB IN
D-1 9-22
RT IN
D-3 2-7
OB-1
LOOP
OUT
D-2 3-16
LINE
D-2 2-15
OB-2
LOOP
OUT
D-2 7-20
LINE
D-2 6-19
MUTE
DIM
REAR D CONNECTORS
D-1 25 PIN FEMALE
D-2 25 PIN FEMALE
D-3 9 PIN FEMALE
MASTER CONTROL ROOM
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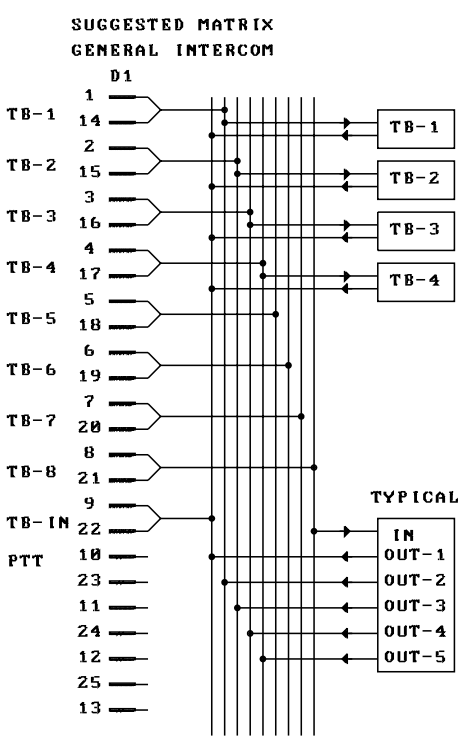

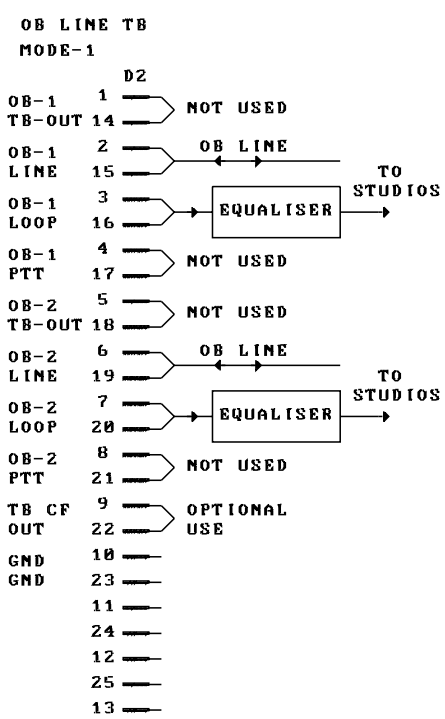

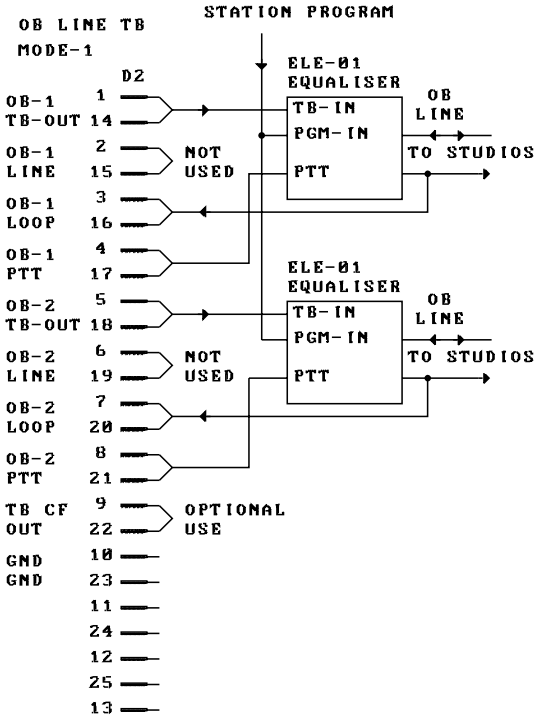

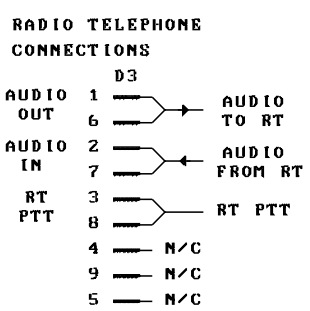

SUGGESTED APPLICATION CIRCUITS

CONTROL ROOM INTERCOM CRI—01

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