BT5

Operating Instructions

BALDWIN BOXALL
COMMUNICATIONS

BT5

The BT5 interface is used to connect the phone system to the public address system. It enables anyone to make a paging call from a phone.

Installation

1. Plug the BT5 telephone jack into the **two-wire analogue master socket**.

2. *Audio Connections:* Connect the audio output of the BT5 to the amplifier input using screened cable grounded at both ends, selecting the correct output level to match the type of amplifier input - e.g. "MIC" level output to a mic input or "LINE" level output to a line input.

3. *Access Connections:* If required, connect the BT5 "Access" pins to the relevant connections on the amplifier. This connection is required when the BT5 is used with our amplifiers as the inputs only become live when the relevant pins on the amplifier are connected together.
    This prevents the inputs from being permanently live, introducing unwanted noise onto the system and overriding background music.

4. *Busy Connection:* If required, connect the BT5 "BUSY" pin to the switched 0V output from the amplifier that is used to indicate the amplifier is in use.
    When the busy pin is taken to 0V the engaged tone pips will be sent back to the caller.
    Note: Ensure that the input used for the BT5 does not produce a busy condition.

5. Connect the BT5 and the amplifier to the 230V mains supply and switch on.

6. Turn up the relevant volume controls on the amplifier (both the channel and master control).

CHIME

1. If a pre-announcement chime is to be used then JP3 Jumper must be fitted in position "A". See Fig 1.

2. Even if using our amplifiers (some have a built-in chime) JP3 Jumper must still fitted in position "A".

3. If the amplifier does not have a chime, a chime module OPT33 can be fitted into the socket provided in the BT5.

4. When a call is made the chime will only be heard in the ear piece if an OPT33 is fitted. Allow the chime to finish to avoid talking over it.

Please note:

That VR1 (Vox Sensitivity), VR2 (Vox Release) and VR3 (External Chime) are factory pre-set and should not be adjusted unless absolutely necessary.
JP1 (vox release) and JP2 (timeout inhibit) are factory fit options and should not be moved.

OPERATION

1. Dial into the designated extension number.
    An acknowledge tone will be heard and then the announcement can be made.

2. After the announcement is complete, wait for two seconds and then replace the handset quietly.

Issue 5

Fault Finding

Problem: The BT5 does not acknowledge when the extension is dialled.
Check the phone socket is working by plugging in a standard telephone and then making and receiving a call (the BT socket MUST be a Master Socket). It is important that the phone rings when the extension is dialled.

Problem: The BT5 does not acknowledge when connected to a European / International telephone system or some ISDN digital adapters.
Set JP4 to position "A". This links the "Ring" input with the "Line" input to allow the ring detector to operate.

Problem: The BT5 is permanently engaged.
Make sure that the input that the BT5 is connected to does not produce a "BUSY" condition.

Problem: Dial tone is heard via speakers after the end of the call.
Either a) the caller's phone is in a noisy area and the background noise is preventing call termination, in which case the internal pre-set VR1 "Vox Sensitivity" should be adjusted towards minimum (anti-clockwise).

Or b) the caller is replacing the handset too quickly after finishing the announcement.
In this case the caller should be trained to wait for two seconds before replacing the handset.

If either of the above situations occur, the dial tone could prevent termination and may be heard over the speakers for 28 seconds.
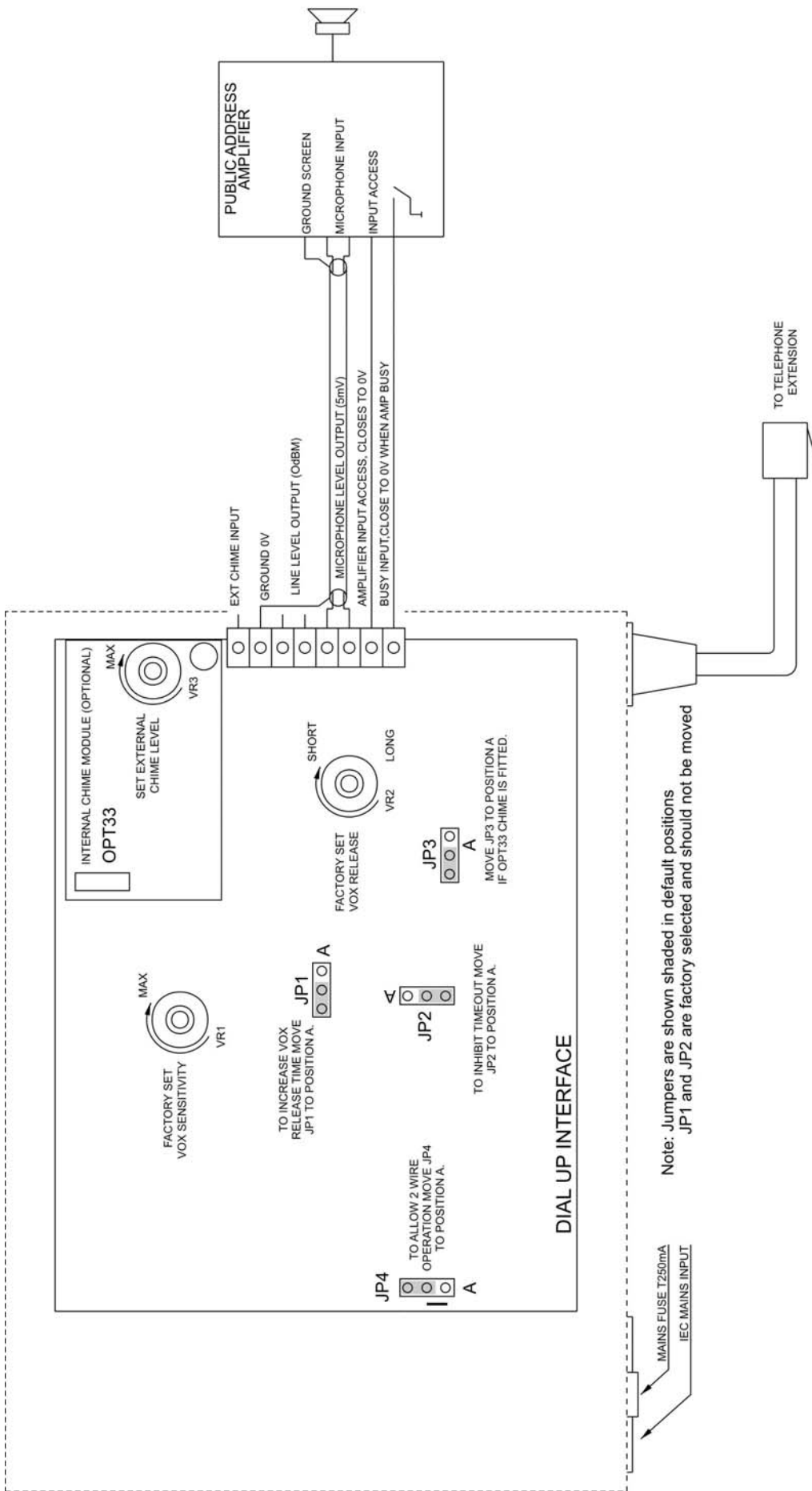
Problem: The announcement terminates too quickly during a silence.
Internal pre-set VR2 "Vox Release" should be adjusted anti-clockwise. It is factory set to 1 sec but adjustable to between 0.5 sec (fully clockwise) and 2 secs (fully anticlockwise).

BT5 SPECIFICATION

Engaged Tone	:	600Hz, 250ms on - 250ms off, -13dBM
Acknowledged Tone	:	600Hz, 2 sec @ -13dBM
Tone Level To Line	:	-13dBM
Min Ringing V To Operate	:	11V @ 50Hz
Min Line Current To Hold	:	30mA
Ren Value	:	1.0
Output Level At Limiting Line	:	0dBM @ 600 Ohms
Output Level At Limiting Mic	:	5mV @ 22 Ohms
Time Out Delay Normal	:	28 seconds
Time Out Delay Engaged i.e. Busy	:	8 seconds
Supply Input	:	220-240V, 50Hz
Supply Input Fuse Protection	:	250mA (T)
Supply Protection Fuse	:	50mA (F)
Line Protection Zeners	:	6.8V, 1.3W
Dimensions (mm)	:	270W x 122H x 70D

BT5 is approved for connection to the BT network approval No. S/2455/3/H/452969.

PUBLIC ADDRESS AMPLIFIER

GROUND SCREEN
MICROPHONE INPUT
INPUT ACCESS

TO TELEPHONE EXTENSION

EXT CHIME INPUT
GROUND 0V
LINE LEVEL OUTPUT (0dBM)
MICROPHONE LEVEL OUTPUT (5mV)
AMPLIFIER INPUT ACCESS, CLOSES TO 0V
BUSY INPUT, CLOSE TO 0V WHEN AMP BUSY

INTERNAL CHIME MODULE (OPTIONAL)
OPT33
SET EXTERNAL CHIME LEVEL
MAX
VR3

SHORT
FACTORY SET VOX RELEASE
VR2
LONG

JP3
A
MOVE JP3 TO POSITION A IF OPT33 CHIME IS FITTED.

FACTORY SET VOX SENSITIVITY
MAX
VR1

JP1
A
TO INCREASE VOX RELEASE TIME MOVE JP1 TO POSITION A.

JP2
A
TO INHIBIT TIMEOUT MOVE JP2 TO POSITION A.

DIAL UP INTERFACE

JP4
A
TO ALLOW 2 WIRE OPERATION MOVE JP4 TO POSITION A.

Note: Jumpers are shown shaded in default positions
JP1 and JP2 are factory selected and should not be moved

MAINS FUSE T250mA
IEC MAINS INPUT

Fig 1

BT5 Settings and Connections

- 4 -
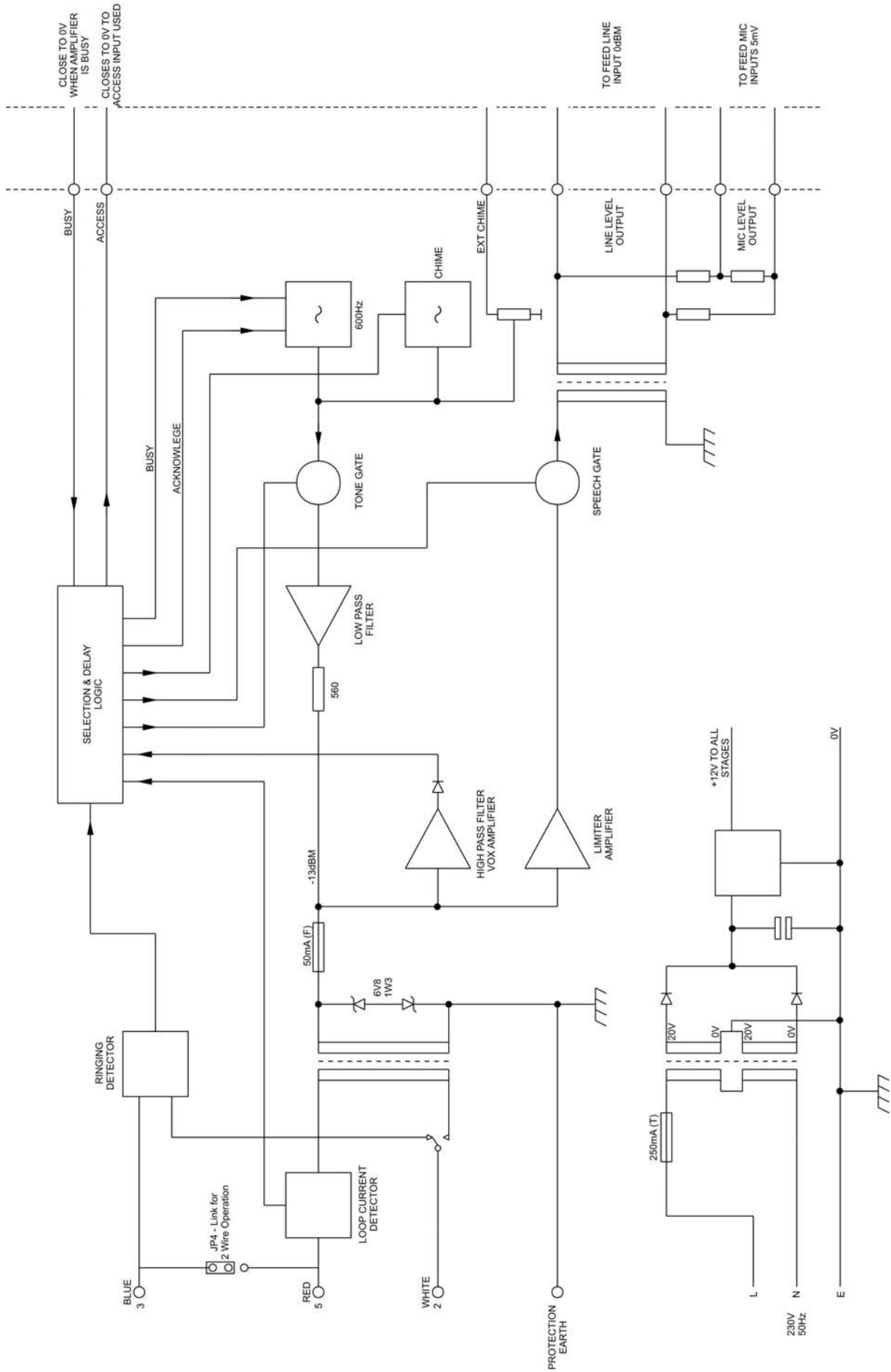
Fig 2

BT 5 Schematic Diagram

CLOSE TO 0V WHEN AMPLIFIER IS BUSY

CLOSES TO 0V TO ACCESS INPUT USED

TO FEED LINE INPUT 0dBM

TO FEED MIC INPUTS 5mV

BUSY

ACCESS

EXT CHIME

LINE LEVEL OUTPUT

MIC LEVEL OUTPUT

CHIME

600Hz

BUSY

ACKNOWLEGE

TONE GATE

SPEECH GATE

LOW PASS FILTER

560

-13dBM

SELECTION & DELAY LOGIC

HIGH PASS FILTER VOX AMPLIFIER

LIMITER AMPLIFIER

+12V TO ALL STAGES

0V

50mA (F)

6V8 1W3

RINGING DETECTOR

JP4 - Link for 2 Wire Operation

LOOP CURRENT DETECTOR

BLUE 3

RED 5

WHITE 2

PROTECTION EARTH

20V

0V

20V

0V

250mA (T)

L

230V 50Hz

N

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Issue 5