

## REPORTER TELEPHONE

### 20-381 Canford Reporter Telephone

#### Applications

The Reporter Telephone is a versatile system for the radio reporter using the telephone network to communicate programmes to the studio.

The facilities that are available are listed below:

- (1) Connection can be made via the keypad with a choice of tone/pulse dialling using a standard telephone line. Alternatively, the unit can be connected to the telephone line and the studio can call the reporter who is alerted by a built in buzzer. Pressing the **PHONE ACCESS** switch makes the connection between the studio and the reporter.
- (2) Where higher quality is required a programme line can be booked and, using the **PROG OUTPUT XLR**, the programme can be transmitted from mic or tape to the studio. In this mode the telephone content can contribute to the programme material or alternatively can be used as a dedicated cue-feed by appropriate selection of the **PHONE TO PROG** switch.
- (3) Where a high quality programme line is not available, the programme can be transmitted from mic or tape via the standard telephone line to the studio.
- (4) The recording facility can be used to record local material or telephone interviews via the **RECORD OUTPUT XLR**, for future programme insertion, using the unit as a portable mixer. To record, the **RECORD OUTPUT ON/OFF** switch (underside of the unit) must be in the **ON** position. This also enables the standard warning tone (a 'bleep' every 15 seconds) required under Section 22 of the Telecommunications Act 1984 when recording live two-way speech telephone calls. Warning tone may be disabled, subject to certain requirements [see Recording, **REGULATORY COMPLIANCE** section], by removal of link JP2 on the unit's lower circuit board but this must only be carried out by a trained technician.
- (5) An external monitor input (**EXTERNAL MONITOR XLR**) is also incorporated into the unit, and can be used by the reporter for cueing purposes. For programme line use, the unit incorporates a limiter section which is preset for +8dBm (internally adjustable) and the response time has 3 settings, slow, normal and fast, set by jumpers on the board

(factory setting normal).

The Reporter Telephone is designed for use in many countries and, therefore, incorporates a two-position headphone gain switch (**HP GAIN**) recessed into the underside of the unit. Position 'A' of this switch is the factory setting and the approved setting for connection to the United Kingdom telephone network. Position 'B' provides an increase in gain to the headphones, and is intended for use in more adverse telephone conditions where regulations permit.

The unit is powered by 3 x PP3 batteries for portable use. Where mains supply is available, a mains adapter can be plugged into the DC input connector of the unit with automatic changeover from battery power.

Low battery indication is provided, giving the user sufficient working time to change the batteries.

#### OPERATING INSTRUCTIONS

##### DIRECT CONNECTION TO THE STUDIO VIA THE TELEPHONE NETWORK:

- (1) Connect unit to the telephone circuit using supplied connection lead.
- (2) Connect mains adapter, or ensure that battery power is available.
- (3) Connect microphone and headphones to the unit.
- (4) Ensure that the hybrid power select switch is in the **LINE** position.
- (5) Switch on the unit by pressing the power **ON** switch.
- (6) Ensure that the **PHONE TO PROG** switch is NOT pressed.
- (7) Ensure that the **RECORD OUTPUT ON/OFF** switch is in the OFF position.
- (8) Set the mic level control and/or tape level control. Refer to note for Broadcasters in section dealing with **PSTN Attachment** on page 5.
- (9) Select tone or pulse dialling mode, whichever is appropriate to the telephone network being used.
- (10) Ensure that the **MIC MUTE** switch is in the **OUT** position ie mic is on.
- (11) Press the **PHONE ACCESS** switch when dialling tone is heard in the headphones, proceed to dial the desired number.
- (12) When a connection has been established the reporter can send his programme via microphone and/or tape input, monitoring on headphones.
- (13) The **PHONE LINE ON** LED will be **ON** to remind the user to terminate the call.

#### IF A QUALITY PROGRAMME LINE IS AVAILABLE:

- (1) Connect the programme line to the unit via an approved line interface unit to the device using the **PROG OUTPUT** socket (male XLR back panel). The programme will now be transmitted via the programme line. In this mode the standard telephone line can be used as a **CUE FEED**, or as a contribution to the programme being sent via the programme line.
- (2) If it is required that the telephone circuit should contribute to the programme content then the **PHONE TO PROG** switch should be pressed. In this mode the headphones now monitor the programme and the phone control sets the level of the telephone contribution.
- (3) If it is required that the telephone circuit should provide a **CUE FEED** for the reporter then the **PHONE TO PROG** switch should **NOT** be pressed. In this mode the headphones now also monitor the telephone circuit and the **PHONE CONTROL** adjusts **CUE** headphone volume.
- (4) The programme and the telephone line can be simultaneously monitored on the headphones at all times with the balance fully adjustable by headphone and phone controls.

#### CALL INDICATION

If it is required that the studio (or any other caller) is to establish the telephone connection then the following steps should be taken:

Leave the reporter unit connected to the telephone line with the power switch in the **OFF** position (to conserve battery power) and the phone access switch in the **OFF** position. When a call is received an internal buzzer will sound. The call can then be taken by depressing the **POWER**, followed by the **PHONE ACCESS** switches.

#### LAST NUMBER REDIAL

For **PULSE** or **TONE** dialling a last number memory is available.

In order to access this feature the telephone circuit needs to be briefly interrupted by switching **OFF** then **ON** (this is equivalent to replacing the handset on a standard telephone) and then depressing the redial button. The unit will then redial the last number stored in memory. This can be useful for international or long distance connections.

#### TO END A PHONE CALL

To disconnect, release the **PHONE ACCESS** button. If the unit is not to be used immediately, also switch **OFF** the power.

#### FEATURES:

- (1) Professional quality compression-limiter with well defined attack and release characteristics.
- (2) Ultra low noise microphone input stage.
- (3) High quality low noise, low distortion transformer balanced programme line output.
- (4) Telephone **CUE FEED** mode.
- (5) Calibrated peak programme meter - 13dB to +15dB in 3dB steps.
- (6) External monitor input, can be used for cueing purposes.
- (7) Ruggedly designed for portable use.

## CONNECTIONS:

- (1) Microphone input: Electronically balanced, input via a female XLR connector. 100dB CMMR typical, suitable for moving coil microphones with 200R impedance.
- (2) Tape input: Electronically balanced, input via a female XLR. Input impedance 10K. May also be used in single ended applications. A high level of protection against accidental DC transients is incorporated.
- (3) Programme line output: Transformer balanced with DC isolation, output via male XLR connector. Designed to drive high quality lines.
- (4) Record output: This is a switched attenuation (0/-50dB) version of the programme output via a male XLR connector. Electronically balanced.
- (5) External Monitor Input: Electronically balanced input via a male XLR. Protection against accidental DC transients is incorporated.
- (6) Headphone socket. ¼" stereo ('A' gauge) jack.
- (7) Telephone socket. Type FCC-68, Western Electrical (RJ11). (Unit supplied with adapter lead for UK use).
- (8) 24 volt DC adapter socket. Concentric barrel type, sleeve +ve. Inner pins 2.5mm diameter.

## CONTROLS:

- (1) Microphone level.
- (2) Microphone mute switch.
- (3) Tape input level.
- (4) Phone control. Controls telephone line input level, for contribution or cue.
- (5) Phone to Programme output switch.
- (6) Headphone level. Controls programme level to headphones.
- (7) Power on/off switch.
- (8) Peak programme level indicator.
- (9) Low battery indicator. LED illuminates when there is approximately 1 hour of battery life remaining.
- (10) Tone-pulse switch. Selects pulse or tone dialling mode.
- (11) Hybrid power select switch (**INT/LINE**). Enables the telephone hybrid to be internally powered (**INT**) in the absence of **LINE** voltage - ie for non-PSTN use.
- (12) Record Output switch. Enables/disables recording facility.
- (13) Record attenuation switch. Switchable between 0dB and -50dB.
- (14) Phone access switch. Controls connection to telephone line.
- (15) **PHONE LINE ON LED**

## TECHNICAL SPECIFICATION:

### TAPE TO PROGRAMME LINE

**Frequency response:** ±1dB (50 Hz-20kHz)

**T.H.D.** <0.1% 0dBm  
<0.15 +10dBm

**Output noise:** 104dBm typical

**C.M.R.R.** >100dBm.

### MICROPHONE TO PROGRAMME LINE

**Frequency response:** ±1dB (50Hz-20kHz)

**T.H.D.** <0.1% 0dBm

**Output noise:** <-120dB referred to input 60dB gain

**C.M.R.R.** >100dB

### TELEPHONE HYBRID PERFORMANCE

**Test conditions:** Loop current, 30mA

**Receiving gain flatness:** <±1dB (200-3400Hz)

**Receiving distortion:** <2%

**Receiving noise:** Typically 160uV

**Sending gain flatness:** <±1dB (200-3400Hz)  
**Sending distortion:** <2%  
**Sending noise:** <-60dBm

#### SIDETONE PERFORMANCE

**Test conditions:** Frequency = 1kHz  
Loop current, 30mA  
**Sidetone gain:** Typically 36dB  
**Sending gain:** Typically 46dB  
**Sidetone cancellation:** >11dB

#### PULSE AND DTMF DIALLER PERFORMANCE

**DTMF Tone amplitude:** -6dBm high group tones  
-8dBm low group tones

**Make-break ratio  
in "pulse" mode:** 67:33

#### POWER REQUIREMENTS

**External:** 24VDC supply (must comply with EN 60950 or EN 41003)  
Canford stock codes: UK : 20-383, European: 20-384  
**Internal:** 3 x PP3 (MN1604, 6LF22, 4022) Canford stock codes 59-141/59-102  
**Current consumption:** Typical 55mA  
**Typical battery life:** 2-3 hours depending on type  
**Overall dimensions:** 235 (d) x 195 (w) x 65 (h) mm  
**Weight:** 2.25Kg

#### REGULATORY COMPLIANCE

This apparatus is intended to be used with screened signal cables and the specified DC PSU. Cables connected to the input and output ports must be less than 3m in length to ensure correct operation.

In common with most sensitive audio/video equipment, electrical phenomena such as high voltage transient pulses on the mains supply could result in an audible disturbance at the signal output(s) of this unit. If this occurs, it is recommended that this interference is eliminated at its source or a mains filter fitted.

The use of radio transmitting equipment, such as mobile telephones and hand-held radio sets, in close proximity to this apparatus could result in an audible disturbance at the output of the apparatus.



The CE mark is applied to this product in respect of the Low Voltage Directive and the Electromagnetic Compatibility Directive. This apparatus complies with the safety and EMC requirements of these Directives when used as intended in domestic, commercial, light industrial and similar general indoor use. It must not be subjected to splashing or dripping.

### **PSTN Attachment**

The Reporter Telephone is approved under **BABT Approval Number 503929** for connection to UK switched telephone networks, when used with the Shure SM58 microphone and the Beyer DT100 headphone, and with the headphone gain switch left in the factory setting, VIZ: position 'A'. Broadcast professionals may substitute microphones with the same performance characteristics as the Shure SM58. Likewise, headphones with the same performance characteristics as the Beyer DT100 may be used.

**Broadcaster's Note:** Signal power levels sent to the telephone line.

In order to operate the Reporter Telephone in accordance with its approval criteria, it is necessary to ensure that the power levels of signals sent to telephone lines remain within specified limits. So that this can be achieved for the composite signals of speech, music etc. input to the device for telephone network transmission, the **MIC LEVEL** and/or **TAPE INPUT LEVEL** controls should be adjusted before accessing the telephone line, until the **PEAK PROGRAMME LEVEL INDICATOR** just reads **0dB**. This setting gives optimum compliant signal power levels for sending to the telephone network.

### **WARNING!!**

The Reporter Telephone is sold for **professional broadcast use only** and must not be used for normal telephone calls.

### **Programme Line Attachment**

The Reporter Telephone is offered for sale under **General Approval NS/G/123/L/100013** for **indirect** connection to sound circuits provided by telephone network operators.

### **Connection to Other Equipment**

Microphone Input: The interconnection circuits for this interface are classified as Safety Extra Low Voltage (SELV) as defined in European safety standard EN 60950 and must only be connected to other SELV interconnection circuits.

Tape Input: The interconnection circuits for this interface are classified as Safety Extra Low Voltage (SELV) as defined in EN 60950 and must only be connected to other SELV interconnection circuits.

Prog. Output: The interconnection circuits for this interface are classified as Safety Extra Low Voltage (SELV) as defined in EN 60950 and must only be connected to other SELV interconnection circuits.

Record Output: The interconnection circuits for this interface are classified as Safety Extra Low Voltage (SELV) as defined in EN 60950 and must only be connected to other SELV interconnection circuits.

Headphone Socket: The interconnection circuits for this interface are classified as Safety Extra Low Voltage (SELV) as defined in EN 60950 and must only be connected to other SELV interconnection circuits.

External Monitor Input: The interconnection circuits for this interface are classified as Safety Extra Low Voltage (SELV) as defined in EN 60950 and must only be connected to other SELV interconnection circuits.

DC Adapter Socket: The interconnection circuits for this interface are classified as Safety Extra Low Voltage (SELV) as defined in EN 60950 and must only be connected to other SELV interconnection circuits. Connect only 24V DC mains adapter equipment which complies with EN 60950 or EN 41003

## **Recording**

In accordance with the requirements of approval under Section 22 of the Telecommunications Act 1984, the Reporter Telephone will normally apply the standard warn tone (a half-second 'bleep' every 30 seconds) to the line, when recording of a live two-way speech telephone call is in progress. To avoid unwanted disruption to broadcast telephone interviews, however, the warn tone may be disabled by the means provided, providing compliance with the requirements of General Variation number NS/V/1235/T/100023, issued by the Director General of Telecommunications, Ofcom, are observed. One essential requirement is to give an alternative form of warning, such as one given at the start of the telephone conversation, stating the purpose of the call and the fact that it is being recorded.