

# HY-03

## Analogue Telephone Hybrid

The HY-03 is a high quality analogue telephone hybrid, which is suitable for most general telephony applications and is often used in radio and TV stations, bingo halls and dealing floors. The analogue HY-03 telephone hybrid is the replacement for the HY-02, which for many years has set the standard as an excellent value, high quality telephone hybrid.



The HY-03 can be used for any application where a clean telephone signal is required and the line is not subject to delay. The HY-03 retains many of the features of the HY-02 and adds some additional ones. Some of the features of the HY-03 include :

- **Fully automatic - adapts to varying line conditions and has automatic signal limiting.**
- **Local and remote line hold switching - calls can be remotely switched through a mixing console.**
- **Momentary or permanent latching remotes can be enabled.**
- **Balanced mic/line input - 10k $\Omega$  balanced input selectable for 0dBu clean feed line, or microphone level with adjustable gain.**
- **Balanced output - 0dBu low impedance balanced output, with output gain adjustment.**
- **Mixed output - the output can be a mix of the caller and mic/line input signals for recording both sides of the telephone conversation.**
- **Integrated ring detector - automatic call answering after a pre-determined number of rings.**
- **Fitted with K-break disconnect detection as standard with an option for dial-tone disconnect (HY-03DTD option).**
- **Line limiter, bandpass filter and output noise gate with preset threshold providing low distortion crystal clear audio.**
- **28dB typical line balance rejection.**
- **Built in power supply with switchable 115V, or 230V, mains input.**
- **BABT approval compliant with European PTT specifications.**

### What Is A Telephone Hybrid ?

Telephone hybrids (or telephone balance units) provide the interface between professional audio equipment and the public telephone network. They provide protection for your equipment and the public telephone lines, allowing for varying line signals and line conditions. Automatically cancelling out the unwanted signal they also facilitate two-way communication down a single telephone line.

Each hybrid has a telephone line connection, a handset connection and separate terminals for audio input and output from a broadcast mixer, or other professional audio source.

A large proportion of Sonifex hybrids are used in radio and television broadcasting applications for allowing external callers to be connected to the studio mixing console. Most of the other units are supplied to communication operations for allowing extremely effective conversion between 4-wire audio circuits and standard telephone lines.

The ringing detector can be used when you need to answer a call automatically, for instance, if a journalist files a report to a tape recorder over a telephone line,

the call can be picked up after a set number of rings by the ringing detector. The HY-03 has a built in ring detector that is enabled by one of the configuration settings switches on the rear panel.

### Which Format Is Most Suitable ?

The HY-03 analogue hybrids are available in three models :

HY-03 Single free-standing automatic analogue TBU with ringing detector.

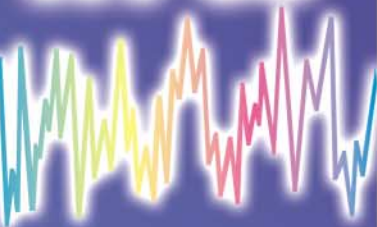
HY-03S Single 19" rack mounted automatic analogue TBU with ringing detector.

HY-02T Twin 19" rack mounted automatic analogue TBU with ringing detector.

Additionally, a eurocard size analogue hybrid HY-02EC and ringing detector RD-02EC are still available from the existing HY-02 range. Eurocards are supplied without a power supply, or casing and are therefore significantly cheaper than the other units. The cards can be slotted into a rack and located by the bracket at the front of the card. They are mainly used in mixing consoles, or other systems, which have been designed specifically with slots to hold eurocard equipment.

# SONIFEX

# HY-03



## SONIFEX

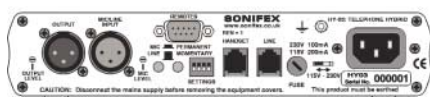
Sonifex have manufactured telephone hybrids for many years and have a reputation for quality combined with highest manufacturing standards.

Every stage in the manufacture of Sonifex products is carried out in purpose built head-quarters in the heart of the UK, from initial design to final test and delivery.

Sonifex is a BABT approved manufacturing facility with a licence to build telecommunications equipment and all telecom products are compliant with BS6301, BS7002, BS415 and CTR21.



Front

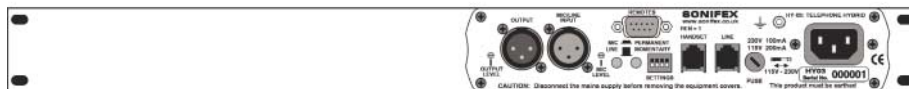


Rear

HY-03 Single free-standing automatic analogue TBU with ringing detector.

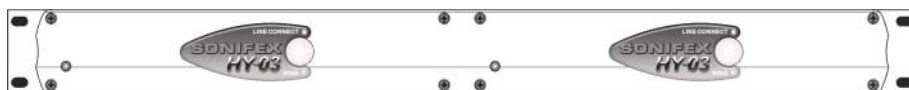


Front

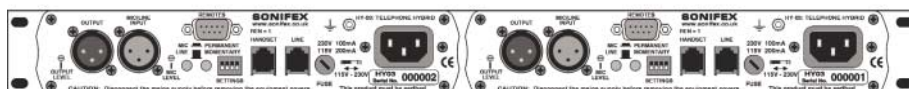


Rear

HY-03S Single 19" rack mounted automatic analogue TBU with ringing detector.



Front



Rear

HY-02T Twin 19" rack mounted automatic analogue TBU with ringing detector.

### Technical Specification

#### Audio Specification

Input Impedance - Line Mode (Clean Feed):	10kΩ balanced 0dB
Input Impedance - Microphone Mode:	200Ω balanced
Clean Feed Limiting Input:	+4dBu
Microphone Level Range:	From 74dB to 40dB adjusted by preset pot
Bandwidth to Telephone Line:	250Hz - 4kHz, -3dB ref 1kHz
Telephone Line Impedance:	Nominally 600Ω
Telephone Line Impedance Range:	300Ω to 1500Ω
Output Impedance:	50W balanced floating 0dBu
Output Level Range:	+8dB to -14dB adjusted by preset pot
Rejection Ratio:	45dB on 1kHz tone, typically 28dB on complex waveforms, reference peak level of 0dB
Ring Detector Sensitivity:	1 ring to 6 rings
Power:	230V 50Hz, or 115V 60Hz. 6W for HY-03.

#### Connections

Mic/Line Input:	XLR 3 pin female
Line Output:	XLR 3 pin male
Telephone Line:	RJ11 6/4 socket
Telephone Handset/Instrument:	RJ11 6/4 socket
Remotes:	9-way female 'D' type
Power:	IEC mains (CEE22)

Each unit is supplied with 1 x RJ11 to RJ11 telephone line lead, 1 x RJ11 to BT plug telephone line lead, 1 x BT handset socket to RJ11 plug adapter, spare fuses (2) for 230V & 115V operation, IEC mains lead fitted with moulded mains plug, handbook and warranty card.

Order Code	Description	Height	Width	Depth*	Total Nett Weight	Total Gross Weight
HY-03	Automatic analogue TBU with ringing detector, free standing	4.5cm	21.8cm	17.5cm	1.25kg	2.0kg
HY-03S	Automatic analogue TBU with ringing detector, 19" rack mounted	4.5cm (1U)	48.3cm (19" rack width)	17.5cm	1.30kg	2.1kg
HY-03T	Twin automatic analogue TBU with ringing detector, 19" rack mounted	4.5cm (1U)	48.3cm (19" rack width)	17.5cm	2.60kg	4.0kg

#### Accessories

Order Code	Description
HY-03DTD	Dial tone detect add-on board
HY-03SCON	Front panel conversion kit, HY-03 free standing to HY-03S 19" rack-mount front
HY-03TCON	Front panel conversion kit, HY-03 or HY-03S, to HY-03T 19" rack-mount front
HY-02EC	Eurocard version of HY-02 analogue TBU
RD-02EC	Eurocard version of ringing detector

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