



## TECPRO COMMUNICATION SYSTEM

Tecpro is a 'two wire' or, as it is sometimes known, 'party-line' or 'ring' system which enables a number of people to take part in the same conversation. Each participant can hear all other participants on the same circuit while being able to talk to them simultaneously, so a full 'duplex' conversation can take place – similar to a telephone system.

The major applications for these systems are in the theatre, conference, live performance and broadcast markets, though new applications are constantly emerging.

A basic Tecpro communication system would comprise a power supply and two or more outstations or beltacks. An outstation may be wall mounted, free-standing or mounted in a rack. It will usually have a built-in loudspeaker and possibly a microphone. Beltacks are intended for personal use and work only with a headset. Outstations and beltacks connect together with two core screened microphone cable which carries system power, audio, and various control signals. Most have a 3-pin XLR input and output and can be simply daisy-chained together. Alternatively interconnection can radiate out from a central, passive splitter. A combination of both methods is often used.

More complex systems may use a master station which has two in-built power supplies and offers two independent communication circuits, A and B. Participants in a conversation on circuit A cannot communicate with those on circuit B (unless the two circuits are linked at the Master Station). However the person operating the master station can communicate with circuits A and B separately or together.

### MS741 Master Station

**Combined power supply and 2 circuit station.**

**Optional Extender unit increases system capability to four circuit operation**

Designed to be the hub of a wired intercom system, the new MS741 is based on the successful MS731 Master Station and is compatible with existing Tecpro products. The new 1U format combines a re-designed front control panel offering both loudspeaker and headphone operation with two independent, full duplex intercom circuits.

Features:

- Compact 1U format
- Built-in electret microphone on front panel
- Front panel XLR4 input for gooseneck mic or headset
- 6.35mm Jack on rear offers additional external mic input
- Feedback cancellation presets on front panel (circuits A and B)
- Side-tone presets on front panel (circuits A and B) for headset use
- Mic amp limiting circuit protects against distortion and overloads
- High efficiency elliptical speaker, 2W. External speaker jack on rear panel
- Improved power supply offers up to a maximum of 1.25 amps per circuit (A and B)
- Supports up to 30 Tecpro BP111 beltacks per circuit
- Circuits A and B linkable, doubling drive capacity
- Two rear panel XLR3 outputs per circuit (A and B)
- Rear XLR3 socket 'Aux' Mic/Line input. Switchable 48V Phantom power is available when 'Mic' is selected
- 'Aux' programme material mixes to either or both circuits A and B. Front panel 'Aux' level control
- 'Aux' signal ducks when microphone is active. Duck level and threshold may be adjusted internally
- Dual action electronic 'Call' buttons offer latching and non-latching modes
- DC and 20KHz 'Call' signal send and receive. Visual and audible 'Call' indication
- DC 'Call' send may be disabled via internal link
- 24KHz Remote Mic Kill generation and recognition
- 28KHz Override signal (for remote volume restoration on Tecpro LS Loudspeaker stations) selectable on any/all circuits
- 'Announce' mode for paging to external sound system directly from microphone in use
- 15-Pin D-SUB for connecting a Master Station Extender unit (supplies 2 additional independent circuits)

Both intercom circuits (A and B) can power up to 30 Tecpro BP111 beltacks, or a mix of various headset and loudspeaker stations. Circuits A and B may be linked to form a single 'super-circuit' with double the drive capacity. The operator may speak to circuit A, circuit B, or both by pressing the associated circuit select buttons. Both circuits remain independent and cannot communicate with each other (unless linked). To attract the attention of operators who have removed their headsets, all beltacks and most loudspeaker stations are fitted with call-lights. Depressing the Call A or Call B switch triggers all call-lights on that circuit to illuminate.

A microphone or line level auxiliary signal can be added to Circuit A or B, both or none by pressing the Aux button and toggling through the four options. This allows external sources such as programme feeds, show relay or paging announcements to be mixed on to the communications circuits. The amount of auxiliary signal added is set using the 'Aux Level' control.

Each intercom circuit has its own power supply with short-circuit protection. All protection is electronic and automatic and no resetting is necessary following removal of a fault condition. As the supplies are independent, in the event of a cable fault temporarily disabling one circuit, the other circuit will continue to operate uninterrupted. Over-temperature detection circuitry monitors the entire power supply. The Master Station can be operated world-wide without the need to change power supply settings.



MS741



MS741



The built-in 2 watt elliptical speaker provides intelligible monitoring of the intercom circuits while the electret microphone recessed into the front panel supplies high quality talk-back audio. Feedback cancellation presets for circuits A and B help control howl-round when the loudspeaker and microphone are operating simultaneously.

A front panel mounted 4-pin XLR connector allows a gooseneck microphone or headset to be plugged in. Inserting a gooseneck microphone automatically mutes the Master Station's internal microphone. Plugging in a headset mutes both the internal microphone and the loudspeaker.

The 'Announce' facility re-routes the signal from the Master Station's talkback microphone away from the intercom circuits to a 6-pin DIN socket on the rear of the unit. In simple systems this signal can be fed directly to a separate audio system supplying, for example, the front of house PA. In more complex installations the output may be fed directly to a stage management desk for routing around the venue (closing contacts on the SM desk can be used to trigger the 'Announce' mode remotely via the input pin on the 6-pin DIN connector). Contact closure via 2 dedicated earth-free pins on the 6-pin DIN connector also occurs during 'Announce' mode and may be used to trigger other devices.

All series two Tecpro belt-pack and user stations on circuit A or B can have their microphones switched off remotely from the MS741 Master Station by use of the 'Remote Mic Kill' or 'RMK' facility. This avoids the build up of unwanted background noise caused by microphone circuits being left open unnecessarily. This feature is not compatible with original Tecpro designs which use mechanical switches. The new belt-packs when released later in 2008 will be fitted with electronic switches and will respond to 'RMK'.

In 'Override' mode, a 28KHz tone is generated which will trigger any Tecpro LS Loudspeakers on a selected circuit to operate at a pre-set level, irrespective of where the volume control is currently set. This avoids important back-stage announcements being missed because the loudspeaker volume control has been turned to zero. It can also cause the speaker to mute if the pre-set level is set at zero.

If additional communication circuits are required, adding a 27-742 Master Station Extender unit to the 27-741 Master adds a further two independent circuits, C and D.

#### Technical Specifications:

Power requirements:	Universal power supply, 100-260V AC, 45-65Hz (cable supplied).
Power output:	Maximum (per circuit) 1.25 amps, 2.5 amps total both circuits
Comms line:	200 ohm audio, 5K ohm DC, approx -30dBu operating level Outstations bridging impedance 20k ohm
Headset outputs:	To suit 25 ohm to 4K ohm headphones
Headset microphone inputs:	To suit 200 to 600 ohm dynamic microphones
Dimensions:	1U rackmount, depth 200mm excluding connectors
Weight:	2kg

### ME742 Master Station Extender

#### Combined power supply and 2 circuit extender unit

Linked to the Master Station the ME742 expands the system to four circuit operation

As events become more complex, it is increasingly common for more than two communications circuits to be required. Using a MS742 Master Station Extender unit with a MS741 Master Station will add a further two circuits C and D. The Master Station and Extender are linked together by a 15-way D-SUB cable (supplied). Circuits C and D are identical to A and B and may be used independently or linked as required. Between 1 and 4 intercom circuits can be configured.

#### Features:

- Compact 1U format
- Feedback cancellation presets on front panel (circuits C and D)
- Side-tone presets on front panel (circuits C and D)
- Improved power supply offers up to a maximum of 1.25 amps per circuit (C and D)
- Supports up to 30 Tecpro BP111 belt-packs per circuit
- Circuits C and D linkable, doubling drive capability. Circuit C may also be linked to circuit A
- Two rear panel XLR3 outputs per circuit (C and D)
- 'Aux' programme material mixes to either or both circuits C and D (front panel 'Aux' level control on MS741 Master Station controls programme volume)
- 'Aux' signal ducks when talkback microphone on Master Station is active.
- Duck level and threshold may be adjusted internally
- Dual action electronic 'Call' buttons offer latching and non-latching modes
- DC and 20KHz 'Call' signal send and receive. Visual and audible 'Call' indication
- DC 'Call' send may be disabled via internal link
- 24KHz Remote Mic Kill generation and recognition
- 28KHz Override signal (for remote volume restoration on Tecpro LS Loudspeaker stations) selectable on any/all circuits
- 'Announce' mode for paging to a second external sound system identical in operation to the Master Station Announce circuit but independent of the Master Station Announce circuit directly from microphone in use on Master Station
- 15-Pin D-SUB for connection to Master Station

Operationally, audio monitoring and microphone talkback facilities remain located on the Master Station front panel, while circuit selection, calling and linking of circuits C and D are located on the Extender unit.



ME742



ME742



Each intercom circuit has its own power supply with short-circuit protection. All protection is electronic and automatic and no resetting is necessary following removal of a fault condition. As the supplies are independent, in the event of a cable fault temporarily disabling one circuit, the other circuit will continue to operate uninterrupted. Over-temperature detection circuitry monitors the entire power supply. The Master Station Extender unit can be operated world-wide without the need to change power supply settings.

#### Technical Specifications:

Power requirements:	Universal power supply, 100-260V AC, 45-65Hz (cable supplied).
Power output:	Maximum (per circuit) 1.25 amps, 2.5 amps total both circuits
Comms line:	200 ohm audio, 5K ohm DC, approx -30dBu operating level Outstations bridging impedance 20k ohm
Headset outputs:	To suit 25 ohm to 4K ohm headphones
Headset microphone inputs:	To suit 200 to 600 ohm dynamic microphones
Dimensions:	1U rackmount, depth 200mm excluding connectors
Weight:	2kg

### LSM1 GOOSENECK MICROPHONE

Plug-in dynamic gooseneck microphone, 250mm stem, fitted with XLR 4 pin female connector. Suitable for use with MS741 and LS300 series. Available in satin-nickel (LSM1) or black (LSM1B) finishes.

Note: A maximum of one gooseneck microphone should be used on any one Tecpro circuit.

### CABLE REQUIREMENTS

Two factors affect the choice of cable for a particular system or installation. They are:

- Length of run – longer runs require larger cable
- Number of outstations on each cable run increasing the number of outstations requires larger cable

In general, we recommend 0.5mm<sup>2</sup> (20AWG) twin screened cable should be used (Canford heavy duty cables FST-HD, HST-HD and HST-HD-R are suitable), as this allows most flexibility of application. However, for short runs (up to approx 150 metres), provided that no more than about 12 outstations are served, a smaller cable 0.22mm<sup>2</sup> /0.25mm<sup>2</sup> (24AWG) will usually be acceptable (Canford types FST, HST and HST-R are suitable). For short cables of a few metres length serving only one station (eg. between wall connector and belt-pack), the core size is not critical.

Canford cable types HST-R and HST-HD-R have a polyurethane jacket, which has very similar properties to rubber - ie. very abrasion resistant and resilient. FST-HD is a foil screened cable specifically for installation purposes.

### WIRING CONVENTIONS

#### System cable connectors:

XLR 3 pin - Pin 1 Earth/screen	Pin 2 + 24v DC	Pin 3 Audio
XLR 6 pin - Pin 1 Earth/screen	Pin 2 +24v DC	Pin 3 Audio, circuit 1
	Pin 4 Audio, circuit 2	Pin 5 Audio, circuit 3
	Pin 6 Audio, circuit 4	

#### Headset connectors:

XLR 4 pin - Pin 1 Microphone earth/screen	Pin 2 Microphone signal	Pin 3 Earphones earth/screen	Pin 4 Earphones signal
XLR 5 pin - (BP116 and BP117 only)	Pin 1 Microphone earth/screen	Pin 2 Microphone signal	Pin 3 Earphones earth/screen
	Pin 4 Left earphone signal	Pin 5 Right earphone signal	

NB. 6 pin are Neutrik (Cannon compatible).

(Switchcraft 6 pin are non-standard, and are not suitable)

### PS711 3 CIRCUIT POWER SUPPLY

- Table top
- Continuously rated at maximum power
- DC output fully protected
- No manual resetting after short circuit
- XLR connectors - compatible with standard mic cables
- Up to 3 independent circuits
- Recessed controls – prevents damage if dropped

The PS711 is a power supply which serves as the system master in small, simple systems. Three separate communications circuits are provided. These can be linked by silent acting front panel switches in any combination. Up to 16 headset outstations, or a mix of headset and loudspeaker stations can be operated. The PS711 is rated to support these even in the event that the signal lamps on the system are permanently illuminated. The PS711 is protected against short-circuits, over-temperature and reverse voltages and is designed to survive the rigours of use in temporary installations. The PS711 may be chained into a circuit with any other Tecpro master stations or power supplies to boost the system drive capability using the BA905 boost adaptor.

#### Technical Specification:

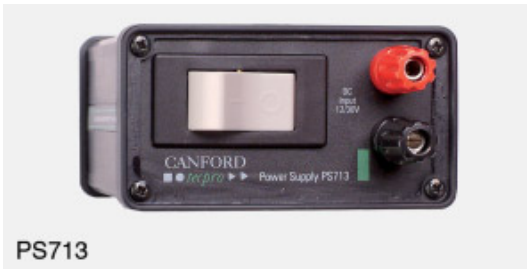
Power requirements:	100–130 or 200–260 V AC (internally selected), 45-65Hz (captive cable).
Output:	24V DC, fully protected. 0.64 A continuous – 16 headset stations total across rings. Maximum any one ring – 16 stations.
Comms line:	200 ohm audio, 5k ohm DC.



PS711



PS711



PS713



PS713



BP111



BP111



BP111



BP112/113

Dimensions: 65 x180 x225 mm (excluding connectors).  
Weight: 1.8 kg

A replacement power supply model is expected to be released during the currency of this new catalogue - contact Technical Support for further information.

### PS713 BATTERY POWER SUPPLY

(For use with external battery)

- Allows comms systems use without mains power
- 12 or 24 volt use
- Allows fully portable operation
- Robust housing makes almost unbreakable construction
- Self-contained circuit breaker protects wiring

The PS713 is a simple portable power supply interface which serves as the system master in mobile situations. It interfaces to an external DC supply in the range 12 to 30 volts (max) and contains a circuit breaker of 1 amp rating. The unit provides one comms circuit with three sockets. These are connected to Tecpro outstations in the normal way. It will provide power to up to 24 headset stations or a mixture of headset and loudspeaker stations. The unit is fitted with 4 mm banana/screw terminals for external DC connection.

#### Technical Specification:

Power requirements: 12-24V DC nominal, 30V peak, smoothed (ripple free).  
Reverse polarity protected. System works optimally from 24V.

Comms line: 200 ohm audio, 5k ohm DC.  
Dimensions: 107 x93 x50mm excluding connections.  
Weight: 425g.

### BA905 BOOST ADAPTOR

The BA905 is used to add an additional power supply to a Tecpro system. It isolates the additional power supply from the communications line, carrying only the DC power through to the circuit (without this adaptor, the additional power supply would provide a second communications line termination, which would cause problems). Any Tecpro MS or PS unit can be used to boost the power in a circuit by connecting the BA905 in series between the circuit outlet on the MS or PS unit and the circuit to be boosted. The BA905 also will allow any 24-30 volt power supply to be used as a booster, but will probably require the addition of a diode in series with the power supply.

Typical applications include providing power to a remote set of outstations, minimising line losses, or in systems with a large number of loudspeaking outstations.

#### Technical Specification:

Construction: XLR 3 female to female adaptor. Connections through on Pins 1 and 2 only.

### BP111 BELTPACK HEADSET OUTSTATIONS

#### Single circuit

- Robust extruded aluminium case - virtually indestructible
- Recessed controls and connectors - prevents breakage
- XLR 3 pin connectors - compatible with standard mic cables
- Rugged, non-tangle beltclip - also useful for wallhanging
- Specially moulded glass filled nylon bezel protects the unit when dropped
- Limiter on mic amp - prevents distortion due to overload
- Mic on-off switch - prevents unwanted noise on circuit
- Black finish - minimises visibility in stage applications
- Coloured bezels available as spare parts to enable colour coding of beltpacks

The BP111 Headset Outstation is a tough, light-weight remote station suitable for use free standing or hung on the belt or wall. It has been designed to withstand portable use where care is not always taken by the user.

The operator has a headphone volume control, mic on-off switch, and a signal light/switch for attracting the attention of other users on the same circuit. A pre-set adjustment is provided for the level of the user's voice in his own headphone (sidetone).

All connections to the unit are via XLR type connectors, rather than wired-in leads. This means that cable failures can be overcome by unplugging the faulty lead or headset rather than rewiring the box. All connections are on the bottom, making the unit more comfortable when clipped to the belt.

The high 'bridging impedance' of the unit ensures that side-tone and system sound levels are not altered as outstations are switched on and off the circuit.

The frequency response of the unit is carefully shaped to provide the optimum in both intelligibility and long term aural comfort.

#### Technical Specification:

Power requirements: 24/30V DC, 10mA quiescent. 40mA max with Signal lamp on.

Headphone output: Suits 8 ohm to 4k ohm headphones.

Microphone input: Suits 200 ohm to 600 ohm dynamic microphones.

Sidetone rejection: Up to 45dB.

Connectors: XLR 3 pin male and female - system loop through XLR 4 pin male for headset.

Dimensions: 107 x93 x50mm.

Weight: 400g

Construction: Black anodised extruded case with glass-filled nylon bezels for protection.



BP112/113



BP112/114



BP113



BP114/115/116/117



BP114/115/116/117



BP115



BP116

## BP112 and BP113 BELTPACK HEADSET OUTSTATIONS

### Dual circuit (switchable)

- Circuit selection on beltpack
- Recessed circuit selector switch
- Two XLR 3 pin connectors for separate circuit connections on BP112
- XLR 6 pin connectors for single cable connection on BP113
- Economical method for providing choice of operating channels

The BP112 and BP113 dual circuit headset outstations are very similar to the well proven BP111 single circuit unit, and use the same electronics and controls. However a recessed toggle switch is provided in the top panel of the unit to enable users to select either channel A or channel B operation

On the BP112, two XLR 3 pin female connectors are provided for connection to the rings, one connector for each circuit. This version will be useful where users want to use only standard twin screened (ie. microphone) cables. As both connector positions on the beltpack are used, there is no facility for loop-in, loop-out on this version.

On the BP113, two XLR 6 pin (Neutrik) connectors are provided, one female and one male, for loop-in, loop-out purposes. This version is intended for applications where only a single cable connection is wanted.

### Technical Specification:

Electronic and

mechanical parameters: As BP111

Connector:

BP112 – two XLR 3-pin female

BP113 – XLR 6 pin (Neutrik) male and female – system loopthrough

Both versions – XLR 4 pin male for headset.

## BP114 & BP115 BELTPACK HEADSET OUTSTATIONS

### Dual circuit (monaural)

- Simultaneous communication on two circuits
- Independent volume controls for each circuit
- Both channels mixed to headset earpiece(s)
- Speak to either or both circuits
- Signal (flash) onto either or both circuits
- Superbright LED flash indicator shows which channel is calling
- Two XLR 3 pin female connectors for separate circuit connections on BP114
- XLR 6 pin connectors for single cable connection on BP115

The BP114 and BP115 dual circuit headset outstations offer full simultaneous dual channel communications. Audio from both rings is mixed in whatever ratio the user requires, and fed to both earpieces of dual muff headsets, or to the single earpiece on the single muff units. Speech and signalling to each circuit is available to either or both simultaneously as required.

Note that if they are used on single circuit systems, the second (unused) circuit connection needs to be terminated. (An LI906 will provide this termination).

### Technical Specification:

Electronic parameters: As BP111.

Connector:

BP114 – two XLR 3-pin female

BP115 – XLR 6 pin (Neutrik) male and female – system loop through.

Both versions - XLR 4 pin male for headset.

## BP116 & BP117 BELTPACK HEADSET OUTSTATION

### Dual circuit (binaural)

- Simultaneous communication on two circuits
- Independent volume controls for each circuit
- Each channel independently fed to each earpiece
- Speak to either or both circuits
- Signal (flash) onto either or both circuits
- Superbright LED flash indicator shows which channel is calling
- Two XLR 3 pin female connectors for separate circuit connections on BP116
- XLR 6 pin connectors for single cable connection on BP117

The BP116 and BP117 dual circuit headset outstations offer full simultaneous dual channel communications. Audio from each ring is fed separately to each earpiece. Many users find it easier to follow two different sound sources when they are fed separately to each ear – a system often known as 'split feed'. Speech and signalling to each circuit is available to either or both simultaneously, as required.

Note that if they are used on single circuit systems, the second (unused) circuit connection needs to be terminated. (An LI906 will provide this termination).

Headsets to operate with these binaural dual channel beltpacks need to be fitted with an XLR 5 pin connector, and to have both earpieces separately wired. For obvious reasons, single muff headsets are not suitable for use with these units.

### Technical Specification:

Electronic parameters: As BP111.

Connector:

BP116 – two XLR 3-pin female

BP117 – XLR 6 pin (Neutrik) male and female – system loop through

Both versions - XLR 5 pin male for headset.



BP117

## HS120 SERIES HEADSET OUTSTATIONS

Fixed headset outstations for permanent installations

- Flush mounting
- Plug-in screw terminals for easy installation
- Up to 6 circuits on multi-circuit version
- Facilities identical to BP111 Beltpack

The HS120 Series Headset Outstations provide attractive and easy to install versions of the well-known Tecpro beltpack headset outstation BP111. It is useful in all fixed installations for building into table-tops, control consoles, and walls. The cables are terminated to a screw-terminal type plug, which then plugs into a socket on the HS120 Series unit. This makes it easy to terminate cables, and to install the unit itself after the site is clean. Servicing is also easy for the same reason.

Versions available:

- HS121 Flush mount single circuit
- HS122 Flush mount multi-circuit
- HS125 HS 122 electronics only for user incorporation into custom equipment (switches, selector, and volume pots included but no front plate). Headset 4 pin XLR connector supplied loose.
- HS129FB Flush mount back box for HS121 and HS122, with knockouts.

### Technical Specification:

Electronic parameters: As BP111  
 Dimensions: 100 x155mm. Depth clearance required – 30mm.



LS311F

## LS300 SERIES TALKBACK LOUDSPEAKER STATIONS

For use where 2 way loudspeaking communications are required

- Built-in microphone
- Signal light/switch
- Headset socket: mutes loudspeaker when in use
- 3 way overrides function (internally programmed)
- set to preset volume (overrides user volume control), or
- force from TALK to LISTEN at preset volume, or
- force from OFF or TALK to LISTEN at preset volume
- XLR 3 pin connectors on single circuit table versions – compatible with microphone extension cables
- Screw terminal plug and socket on fixed versions – easy to install and service
- Up to 9 circuits on multi-circuit flushmount versions, 4 on table versions.



LS331

The LS300 Series Talkback Loudspeaker Outstations are designed to cover a wide range of applications at modest price. They can be used in a push-to-talk mode with the built-in microphone, or fitted with a plug-in gooseneck microphone for hands-free duplex communications. Alternatively, when required, plugging a headset or handset into the front panel turns the unit into a headset outstation, automatically muting the loudspeaker.



LS332

The override function is operated by an ultrasonic control tone generated elsewhere in the system. The LS300 series is designed to provide several functions in override mode as outlined in the features above. Override can be used to take control of the system by forcing all loudspeaker stations from talk into listen mode. Emergency announcements can be provided for by turning on outstations which are locally off. Alternatively, loudspeakers could be muted from a central location by presetting the volume to minimum, then activating override.



LS312F

The table or surface mount box is reversible to allow the loudspeaker unit to face upward or downward when surface mounted. There is an additional user option to mount the connector, or make a cable exit in the rear face of the box. Keyhole slots are provided for wall fixing.

Note: Care must be exercised when using LS300 Series Loudspeaker Station in hands-free duplex applications. The unit deliberately contains no vox switching so as to prevent loss of syllables. While excellent side-tone rejection prevents the unit feeding back to itself, system feedback can occur if several hands-free units are in simultaneous use, or if headsets on the circuit are removed when turned up to a high volume. Use in push-to-talk mode, or with a headset, will prevent feedback problems should they occur.

Versions available:

- LS311F Single circuit flushmount (screw terminal connections)
- LS311T Single circuit table/surface mount (XLR 3 pin connections)
- LS312F Multi-circuit flushmount (screw terminal connections)
- LS312T Multi-circuit table/surface mount (XLR 6 pin connections)
- LS319FB Flushmount steel back box for LS311F and LS312F Detachable lid. Order LS311F separately.
- LS331 Single circuit rackmount (XLR 3 pin connections)
- LS332 Multi-circuit rackmount (XLR 6 pin connections)

### Technical Specifications:

Power requirements: Equivalent to 2 to 5 headset stations dependent upon average sound level  
 (from system power supply):  
 Microphone input: To suit 200 to 600 ohm dynamic microphones  
 Audio input: Loudspeaker – 3W max, over 96dB SPL at 1m  
 Headset – to suit 8 ohm to 4k ohm headphones  
 Comms line: Bridging impedance >5k ohm  
 Dimensions: Flush mount – 135 x242mm, min depth 50mm. Weight: 0.9kg  
 Table/surface mount: 148 x245 x85mm. Weight: 1.9kg  
 Metal enclosure with black enamel finish



27-909



LS211F



LS312



LS411

## SL909 XENON STROBE LAMP

This unit can be connected at any point in a ring, and when a signal light is sensed, will produce high power flashes at approximately 1 per second from a xenon beacon. The current consumption of approx. 60mA is approximately equivalent to 1½BP111 belt-packs with signal lamps on.

## LS SERIES PAGING LOUDSPEAKER STATIONS

- Paging and talkback functions can be combined in a single system
- Override function allows remote volume restoration
- Flush or surface mounting, built-in, hung on a wall or used on a table-top
- Easy individual setting of loudspeaker volume
- XLR 3 pin interconnection on table/surface mount versions, compatible with standard microphone extension cables
- Screw terminal plug and socket for easy installation and servicing on flushmount versions
- Up to 3 watt output – 96dB SPL at 1m

The LS200, 400 and 600 series of paging loudspeaker stations bring paging or listen-only capability to the Tecpro Communications System. They permit the construction of systems where paging can be added for just the cost of the LS units. There could be no amplifier to purchase at all. This is because they appear to the intercom system just like any other outstation. Each LS unit contains its own power amplifier, receiving its DC power from the system master via the comms line wiring. For example, a system could be constructed using an MS741 Master Station, where two-way communications took place on circuit A, while circuit B was used as a paging circuit.

Other applications benefit from the 'override' system. This can be used to turn a loudspeaker on at a set volume, or alternatively to mute it if the preset 'override' volume level is set to minimum. Paging systems using Tecpro loudspeaker stations allow microphones or two-way outstations to be added anywhere in the paging circuit at a later date, providing great system flexibility.

Versions available:

- LS211 Single circuit with front panel volume control and override to preset level
- LS411 Single circuit with front panel volume control
- LS611 Single circuit with screwdriver preset volume control
- LS319FB Flushmount steel back box for LS211F, LS411F and LS611F (accepts self-tap screws for mounting LS-F unit (supplied with LS-F unit).

Suffix F for flushmount, T for table/surface mount.

## Technical Specification:

Power requirements

(from system power supply): Equivalent to 2 to 5 headset stations dependent upon average sound level

Audio output: Loudspeakers 3W max, over 96dB SPL at 1m

Comms line: Bridging impedance >50k ohm

Dimensions: Flushmount – 135 x242mm, min depth 50mm.

Weight: 0.9kg

Table/surface mount – 148 x245 x85mm.

Weight: 1.9 kg

Finish:

Metal enclosure with black enamel finish

## CONNECTION ACCESSORIES

### STANDARD CABLES

All interconnections on the Tecpro Communications System (single circuit and separately cabled dual circuit) are made via twin-core screened cables terminated in XLR-3 type connectors. These are compatible with standard microphone extension leads. Correct phasing is most important. The system will not work if wires are reversed. Tecpro Communication equipment cannot however be damaged by any short circuit, open circuit or misconnected cables. The Tecpro range provides cables of various standard lengths to suit particular applications. These are made from heavy duty twin screened microphone cable (2 x 0.5mm<sup>2</sup>, with virtually indestructible neoprene or polyurethane jacket) with XLR 3-pin connectors at each end (one male, one female).

Cables are also available for dual circuit systems, which use XLR 6-pin (Neutrik) connectors. These also have a polyurethane jacket 6.5mm overall diameter, with XLR 6-pin connectors at each end (one male, one female). In addition there are two standard 'Y' leads to enable transfer from separately wired dual circuit systems to systems using 6 pin connectors. Both leads utilise 0.5m HST-R-M cable, YL918 has two 3 pin female XLRs to one 6 pin male XLR, YL917 has two 3 pin male XLRs and one 6 pin female XLR.

### SPECIAL FUNCTION CABLES

'Y'-lead YL908 is specifically designed for connecting outboard equipment to an AD903 auxiliary adapter. Adapter lead AL914 is specifically made for interconnecting a Maxon SL70 type hand portable radio to an AD913 simplex radio adapter.

### AD903 AUXILIARY INPUT & OUTPUT ADAPTER

(2 wire to 4 wire interface)

- Input and output on 4-wire side are transformer balanced, isolated and floating – reduces likelihood of hum and interference
- Very wide input and output ranges – will interface to mic or line level systems
- Sidetone null adjustment to minimise input to output crosstalk
- All presets are multiturn types for easy adjustment
- Industry standard XLR type connectors

The AD903 2 to 4 wire adapter allows connection of almost any audio source to a Tecpro ring intercom 2 wire system. For example, most broadcast video cameras



AD903



have in-built 4 wire comms systems which are cabled within the main video cable. Use of an AD903 at the camera control unit will allow that camera to appear as a part of the Tecpro communication system, while minimising extra wiring and expense. The AD903 will work with most separate send and receive communications systems in the same way. Levels are totally independently adjustable on input or output.

Other applications include injection of microphone or line level external inputs onto the comms system, and the provision for external equipment such as recorders, radio links, audio consoles or paging systems to listen to the comms system.

### Technical Specification:

Power requirements: 24-30v DC at 15mA from comms system  
 External input: -60 to +30dBu into 10k ohm nominal, balanced and floating  
 External output: -60 to +18dBu into 10k ohm nominal source, balanced and floating  
 Connections: 4 wire via XLR 4 pin male  
 Intercom ring (2-wire) via XLR 3 pin male and female (loop-through)  
 Controls: Mic/line switches and 10 turn presets to external system input and output  
 Sidetone null: 10 turn preset  
 Dimensions: 107 x93 x50mm  
 Weight: 420g  
 Construction: Black anodised extruded case with glassfilled nylon bezels for protection.  
 Accessory cable: 'Y' lead YL908 has 4 pin female XLR splitting to one male and one female 3 pin XLR, for 4 wire connection.

### AD913 SIMPLEX RADIO ADAPTER

- Allows combined wired/radio systems to be assembled
- Interfaces with most good simplex radio transmitters
- Audio connections transformer balanced to reduce hum and interference
- Presets multi-turn types for easy adjustment
- Robust extruded case - virtually indestructible
- Industry standard XLR type connectors

The AD913 allows communication between a Tecpro wired system and a simplex radio system, typically a pair or more of Walkie-talkies. It allows audio on the wired comms system to be transmitted to remote radios, and replies from these remote units to be heard by parties on the wired system circuit.

The unit provides a mic level output for connection to a transmitter and has a phone level input to accept a receiver. In addition it has arrangements to provide a push-to-talk (P.T.T.) or 'transmit on' switching, operated by the 'signal' lamp of outstations on the wired circuit to which the AD913 is connected. Any outstation can activate a radio transmission by depressing the 'signal' lamp switch. The system signal lamps on other outstations will light in the normal way, and the speech on the wired circuit will be sent to the transmitter and the necessary 'transmit' will be activated. All stations will hear incoming calls when the 'signal' is off.

### Technical Specification:

Power requirements: 24-30 DC, 15-25mA from comms system  
 External input: To suit earphone/speaker levels, 10k ohms nom. balanced and floating  
 External output: To suit mic inputs, 200 ohm nominal source balanced and floating, open circuit in receive mode  
 External PTT: Single pole contact, closed circuit in transmit, rated 0.25A at 28V DC  
 Connections: Transceiver via XLR 6 pin male (Neutrik). Intercom ring (2-wire) via XLR 3 pole male and female (loop-through)  
 Optional accessories: AL914 is readymade cable to interface the AD913 to the Maxon SL70 series VHF/UHF handportables. AL919 interfaces to the TTI FreeQuency TX-1446 and Maxon SL55 series. AL920 interfaces to the Multicom Junior 446MHz series.  
 Dimensions: 107 x93 x50mm  
 Weight: 450g  
 Construction: Black anodised extruded case with glass filled nylon bezels for protection

### YL916 HEADSET OUTSTATION 'Y'-LEAD

This cable enables the connection of an external earpiece/headphones and separate microphone to any Tecpro headset outstation. Typical applications include in-vision where the presenter wears an earpiece and reverse talkback uses a split feed of the presenter's microphone; alternatively, a headset station is remotely sited and a separate microphone and headphones are used.

Connections: XLR 4 pin female - Tecpro outstation  
 XLR 3 pin female (wired for unbalanced use) - microphone input to outstation  
 Neutrik in line jack socket (wired tip +ve, ring -ve, sleeve no connection) for use with mono or stereo headphones.

Please note we do not recommend the use of cables greater than 5 m with this lead.



AD913



AD913



YL917



YL908





SB901



LI906

## SB901 SPLITTER/ISOLATOR BOX

The SB901 Splitter Box provides an easy means of splitting a single circuit run into up to 4 spurs. It has one input, and four output sockets. Thus one cable can be run from a system master to a remote location and split there among several outstations, minimising daisy-chaining of outstations. It also contains an isolate switch. This separates two of the outlets on the SB901 into a separate communications circuit while permitting power to flow through. This is an inexpensive way to provide several independent circuits from one power station.

The construction of the SB901 is identical to the BP111 Beltpack Headset Station.

## LI906 LINE ISOLATOR

The LI906 is similar to the SB901 in function, but serves only to form an independent remote circuit. Power is passed through the unit while the communications circuit is interrupted. A new line termination network is provided for the new remote circuit.

### Technical Specification:

Comms line output: 200 ohm audio, 5k ohm DC  
 Construction: XLR 3 male to female adapter. Connections through Pins 1 and 2. Pin 3 terminated with line termination network  
 Connections: Female connector to main circuit, male connector to remote circuit

## WALLMOUNT CONNECTOR PLATES

Wallmount connector plates specifically for use with the Tecpro intercom system. These are designed to specification BS1363, the British standard for electrical connection accessories, so they fit onto standard electrical flush wallboxes (35mm depth type). Suitable flush boxes, which incorporate 20mm knockouts, are also available. In addition, a very heavy duty cast steel surface mount box is available. This has one 20mm conduit gland entry ready drilled.

Plates are black anodised 2.5mm aluminium. There is no standard convention for whether intercom wall outlets use male or female XLR connectors, so both types are offered. For installation convenience, XLRs are prewired to a multipole pushfit connector with appropriate mating half supplied. This enables cables to be terminated (and tested), with a simple push-on connection to the plate when the plates are fitted after building work completion.

Six versions are available (all supplied complete with fixing screws):

- WP961 Single circuit unit, XLR 3 pin female connector
- WP962 Dual circuit unit, XLR 6 pin female connector
- WP963 Dual circuit unit, fitted with 'A/B' short toggle selector switch, XLR 3 pin female connector
- WP965 As WP961 but XLR male
- WP966 As WP962 but XLR male
- WP967 As WP963 but XLR male
- WP968SB Cast alloy surface box for WP series plates, black stove enamel finish
- WP969FB Pressed steel flush box, with 20mm knockouts, 35mm depth

## HEADSETS

### DMH320 – Dual muff SMH310 – Single muff

- New generation high performance headsets specifically designed for communications use
- Retains the renowned durability and comfort of the 200 series
- Very robust construction, made from unbreakable flexible composite material
- Similar construction to 200 series, spare parts also available
- Dual-chamber foam-filled earshells, larger than 200 series for wearing comfort
- High acoustic isolation on DMH320 for reduced ear fatigue
- Extended response ear loudspeakers
- Broadcast quality noise-cancelling dynamic microphone
- New boom design allows use with boom at left or right hand side
- Mic switched off by swinging boom upwards
- Boom can be bent into optimum position to suit the wearer

### Technical Specification:

Nominal impedance: 400 ohm each at 1kHz  
 Frequency response: 20–20,000Hz  
 Sensitivity: 94dB s.p.l. for 1mW  
 Distortion: Less than 0.5%  
 Max. rated power handling: 0.5 watts  
 Microphone: Dynamic type, uni-directional, wired balanced  
 Nominal impedance: 200 ohm at 1kHz  
 Frequency response: 40–15,000Hz  
 Approx. weight: DMH320 350g  
 SMH310 220g  
 Cable: 1.8m (balanced mic with separate left and right ear loudspeakers)



SMH310



DMH320



DMH220



SMH130

### DMH220 – Dual muff SMH210 – Single muff

- Very robust construction with only two moving joints
- Hidden fixings hinder tampering whilst allowing easy repairs
- Full range of spare parts available
- Noise cancelling microphone on flexible steel-reinforced boom
- Steel core cable for extra strength
- Soft comfortable cushions



- Wide, smooth response for reduced listening fatigue

### Technical Specification:

Nominal impedance:	400 ohm each at 1kHz
Frequency response:	20–20,000Hz
Sensitivity:	94dB s.p.l. for 1mW
Distortion:	Less than 0.5%
Max. rated power handling:	0.5 watts
Microphone:	Dynamic type, uni-directional
Nominal impedance:	200 ohm at 1kHz
Frequency response:	300–11,000Hz
Approx. weight:	DMH220 250g DMH225 260g SMH210 210g
Cable:	1.5m steel braced.



HH10



HH5

### SMH130-Lightweight single muff with boom

- Lightweight design can be worn for long periods without fatigue
- Open single ear design using earloop not foam vinyl earpads
- Miniature dynamic boom mic, adjustable for left/right side

### Technical Specification

Nominal impedance:	150 ohm (both mic and earphone)
Frequency response:	150-8000Hz (earphone) 180-4500Hz (mic)
Max SPL:	103dB
Microphone type:	Dynamic, noise cancelling
Mic sensitivity:	-83dBV/0.1Pa
Weight (without cable):	35g

## HANDSETS

### HH10

The HH10 handset is designed to suit the Tecpro communication system and is used in place of the traditional headset with master stations and HS120 series outstations. It features a dynamic microphone and earpiece unit for clear, reliable speech use. In the 'rest' position, both earpiece and microphone are muted. When the 'press-to-talk' key is operated, both earpiece and microphone become operational.

Supplied complete with wall hanging bracket and fitted XLR 4 pin connector.

Note that this item is not suitable for use with LS300 series talkback loudspeaker stations.

### HH5

The HH5 handset is a 'fist' type microphone for use in noisy environments.

#### Master stations and power supplies

27-741	TECPRO MS741 Master station
27-742	TECPRO ME742 Master station extender
27-711	TECPRO PS711 Power supply
27-713	TECPRO PS713 Battery power supply

#### Beltpack stations

27-111	TECPRO BP111 Single circuit beltpack (XLR-3 connectors)
27-112	TECPRO BP112 Dual circuit beltpack (switchable) (XLR-3 connectors)
27-113	TECPRO BP113 Dual circuit beltpack (switchable) (XLR-6 connectors)
27-114	TECPRO BP114 Dual circuit beltpack (monaural) (XLR-3 connectors)
27-115	TECPRO BP115 Dual circuit beltpack (monaural) (XLR-6 connectors)
27-116	TECPRO BP116 Dual circuit beltpack (binaural) (XLR-3 connectors)
27-117	TECPRO BP117 Dual circuit beltpack (binaural) (XLR-6 connectors)

#### Fixed headset stations

27-121	TECPRO HS121 Fixed headset station, single circuit
27-122	TECPRO HS122 Fixed headset station, multi circuit
27-125	TECPRO HS125 Fixed headset station, electronics only
27-129	TECPRO HS129FB Flush box for HS121 and HS122

#### Talkback loudspeaker stations

27-321	TECPRO LS311F Loudspeaker station, single circuit, flushmount
27-311	TECPRO LS311T Loudspeaker station, single circuit, metal case
27-331	TECPRO LS331 Loudspeaker station, single circuit, rackmount
27-322	TECPRO LS312F Loudspeaker station, multi circuit, flushmount
27-312	TECPRO LS312T Loudspeaker station, multi circuit, metal case
27-332	TECPRO LS332 Loudspeaker station, multi circuit, rackmount
27-319	TECPRO LS319FB Flush box for LS series

#### Paging (listen only) loudspeaker stations

27-221	TECPRO LS211F Loudspeaker station, flushmount
27-211	TECPRO LS211T Loudspeaker station, metal case
27-421	TECPRO LS411F Loudspeaker station, flushmount
27-411	TECPRO LS411T Loudspeaker station, metal case
27-621	TECPRO LS611F Loudspeaker station, flushmount
27-611	TECPRO LS611T Loudspeaker station, metal case
27-319	TECPRO LS319FB Flush box for LS series

**Headsets (fitted with XLR 4 pin connector)**

27-310	TECPRO SMH310 Single muff headset
27-320	TECPRO DMH320 Dual muff headset
27-210	TECPRO SMH210 Single muff headset
27-220	TECPRO DMH220 Dual muff headset
27-130	TECPRO SMH130 Lightweight single muff headset
27-108	TECPRO DT108 Single muff headset
27-109	TECPRO DT109 Dual muff headset

**Headsets (fitted with XLR 5 pin connector, for use with BP116 and BP117)**

27-323	TECPRO DMH320 Dual muff headset (XLR 5 pin connector)
27-223	TECPRO DMH220 Dual muff headset (XLR 5 pin connector)

**Ancillaries and accessories**

27-901	TECPRO SB901 Splitter box, 1 in, 2 + 2 out
27-903	TECPRO AD903 2 to 4 wire adapter
27-908	TECPRO YL908 Y-lead for AD903
27-916	TECPRO YL916 Y-lead 4 pin XLR female to 3 pin XLR female & in-line jack
27-917	TECPRO YL917 Y-lead 6 pin XLR female to dual 3 pin XLR male
27-918	TECPRO YL918 Y-lead 6 pin XLR male to dual 3 pin XLR female
27-905	TECPRO BA905 Power supply boost adapter
27-906	TECPRO LI906 Line isolator
27-909	TECPRO SL909 Xenon strobe lamp
27-913	TECPRO AD913 Walkie-talkie interface
27-914	TECPRO AL914 Adapter cable AD913 to Maxon SL70
27-920	TECPRO AL920 Adapter cable AD913 to MultiCom Jnr
27-919	TECPRO AL919 Adapter cable AD913 to TTI TX-1446 and Maxon SL55
27-910	TECPRO HH10 Telephone style handset with cradle
27-915	TECPRO HH5 Fist mic for LS300 series
27-911	TECPRO LSM1 Gooseneck mic
27-912	TECPRO LSM1B Gooseneck mic

**Wallmount connector plates**

27-961	TECPRO WP961 Wallplate single circuit XLR 3 pin female
27-962	TECPRO WP962 Wallplate dual circuit XLR 6 pin female
27-963	TECPRO WP963 Wallplate dual circuit switchable XLR 3 pin female
27-965	TECPRO WP965 Wallplate single circuit XLR 3 pin male
27-966	TECPRO WP966 Wallplate dual circuit XLR 6 pin male
27-967	TECPRO WP967 Wallplate dual circuit switchable XLR 3 pin male
27-968	TECPRO WP968SB Cast alloy surface box
27-969	TECPRO WP969FB Flush box

**Cables**

27-923	TECPRO Single circuit cable - 3 metres
27-925	TECPRO Single circuit cable - 5 metres
27-930	TECPRO Single circuit cable - 10 metres
27-943	TECPRO Dual circuit cable - 3 metres
27-945	TECPRO Dual circuit cable - 5 metres
27-950	TECPRO Dual circuit cable - 10 metres