
XB series
Compact Broadcast Mixers
USB
MusiQ
OUTPUT
LIMITER
CompACT
TELCO
AUDITION
BUS
ALLEN&HEATH

Compact Broadcast Mixers

XB-14² and XB-10 are perfect for small radio or internet broadcast studios, college and university radio stations, podcasting, content creation and more.

Compact Broadcast Mixers

The XB Series offers a host of specialised broadcast features that normally come at a much higher price, providing superb integration with studio equipment at the cost and footprint of a general purpose mixer. Radio-friendly tools include telephone communication (telco) channels, mic channel ON switch sensing, stereo channel start/cue outputs for playback device control, automatic muting of speaker outputs and much more.

Self / Producer operated

Whether you need a mixer for a self-operated broadcast situation, or whether you have a separate studio and engineer, the XB series has features to fit. Separate monitor mixes can be created for operator and guests or presenter, so the engineer can check levels and cue sources while the presenter or guest can listen to a different source. The engineer/producer can communicate to the guest or presenter using the Talk feature, as well as speaking off-air with telephone callers. There is also the facility for remote control of channel mutes from the studio using the remote interface connectors - ideal for studio situated mute or 'cough' switches.

XB 14²

4 MIC/LINE CHANNELS

4 STEREO CHANNELS

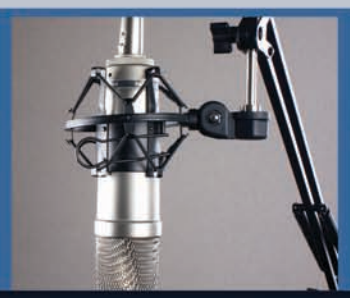
2 TELCO CHANNELS

XB 10

3 MIC/LINE CHANNELS

3 STEREO CHANNELS

1 TELCO CHANNEL



XB 10 Compact Broadcast Mixer

With its tiny footprint, XB-10 is an affordable but professional choice that will turn the smallest space into the hub of your broadcast operation. The mixer includes our CompACT compressor for keeping the presenter mic under control and an output limiter to ensure that the final mix to air does not saturate expensive broadcast equipment.

Features

3 MIC/LINE CHANNELS
3 STEREO CHANNELS
1 TELCO CHANNEL

- 3 mic/line channels
- 3 stereo channels
- 1 Telco channel with optional USB routing for VoIP
- HPF and 3-band, swept mid EQ on mono channels
- 2-band EQ on stereo channels
- 2-band shelf filters on Telco channel
- CompACT compressors on mic channels
- ON switch logic on mic and telco channels
- Start/cue logic outputs on stereo channels
- Separate headphones mix and outputs
- Auto mutes on control room outputs
- Remote mute facility on mic channels
- Configurable USB stereo audio in/out
- Aux / Alt bus for external processing, recording or auditioning
- XLR main outputs with inserts and variable limiter
- Input signal and peak metering
- Ground cancel switches on RCA outputs





XB-10 comes with a full duplex USB soundcard built-in and many useful routing options for recording and broadcast applications, including VoIP calls: by Selecting the USB input, the Telco channel can be used directly from the USB connection and callers can be accessed via Skype or similar applications. This saves you the use of costly hybrid units.

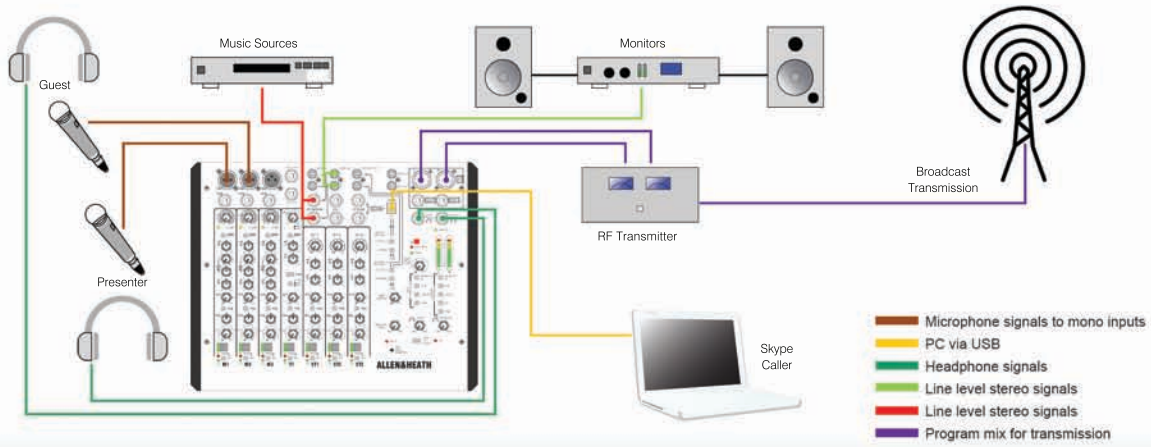
The Telco channel provides a selectable clean-feed output (LR PGM or Aux), 100Hz HPF, 2-band shelf EQ, USB routing options and TALK button.

XB-10 features a responsive 3-band, swept mid frequency EQ design which utilises MusiQ with optimised slope for a variety of sources.

A variable limiter ensures the level does not exceed a pre-defined level. Back panel option switches allow the limiter to be bypassed. A trim pot is used to vary the threshold and an LED on the front panel indicates when the limiter has triggered.

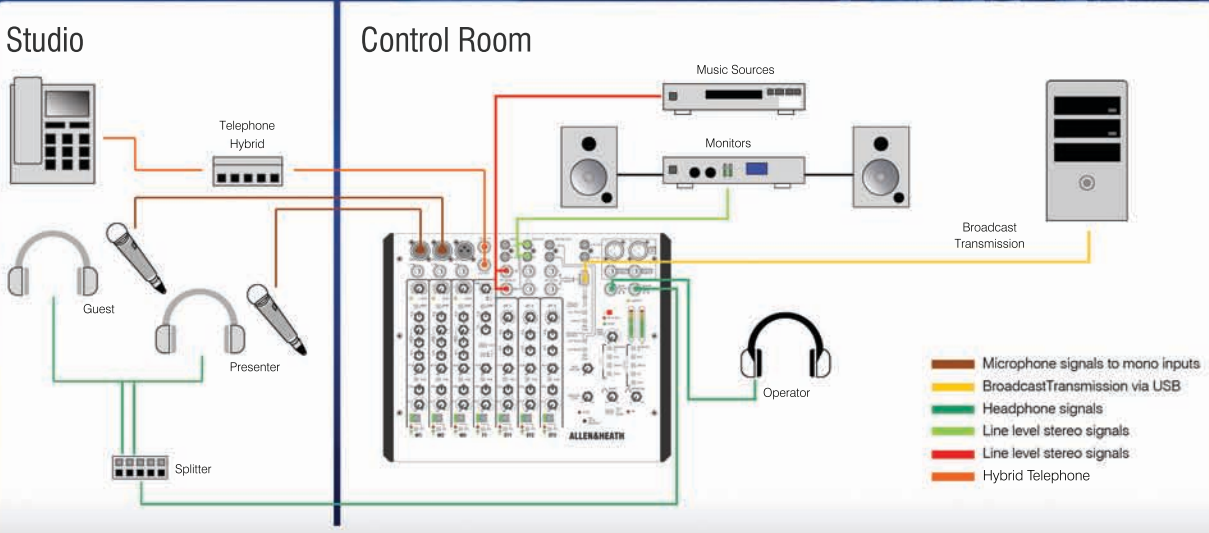
XB-10 features our ComPACT compressor on each of its mic channels. CompACT (Adaptive Compression Technology) is a program-dependent audio leveller. Unlike other compressors, which are effective only at reducing loud sounds, CompACT combines both downward and upward compression with peak limiting. Low level signals are given a gain boost, mid-level signals are mildly compressed with a soft knee response, and high level signals are limited.

Application Diagrams



Self Operated:

Mic Mute Monitor prevents feedback from speakers. A laptop running Skype replaces expensive telephone lines and hybrids – a cleanfeed is sent to the USB interface and the USB return is patched to the Telco channel.



Separate Studio and Control Room:

The computer is used for playback, recording and broadcast over the Internet.

Technical Specifications

Input

Mono channel Mic input (XLR)	-10 to -60dBu for nominal (+11dBu in max)
Mono channel Line input (TRS Jack socket)	+10 to -40dBu (+30dBu maximum)
Stereo input (TRS Jack sockets)	0dBu nominal (Gain = Off to +15dB)
Stereo input (RCA Phono sockets)	0dBu nominal (Gain = Off to +15dB)

Output

PGM L & R outputs (XLR)	+4dBu nominal. +25dBu maximum
PGM L & R inserts (TRS jack sockets)	-2dBu nominal. +21dBu maximum
Aux output (RCA phono socket)	0dBu nominal. +21dBu maximum
Alt output (RCA phono socket)	0dBu nominal. +21dBu maximum
Rec outputs (RCA phono sockets)	0dBu nominal. +21dBu maximum

USB Audio CODEC (Coder/Decoder)

USB Audio In/Out	USB 1.1 compliant 16bit
Sample Rate	32, 44.1, or 48kHz

THD+n

Mic in to PGM L/R Out, 15dB gain, 1kHz, +10dBu out	0.002%

Noise

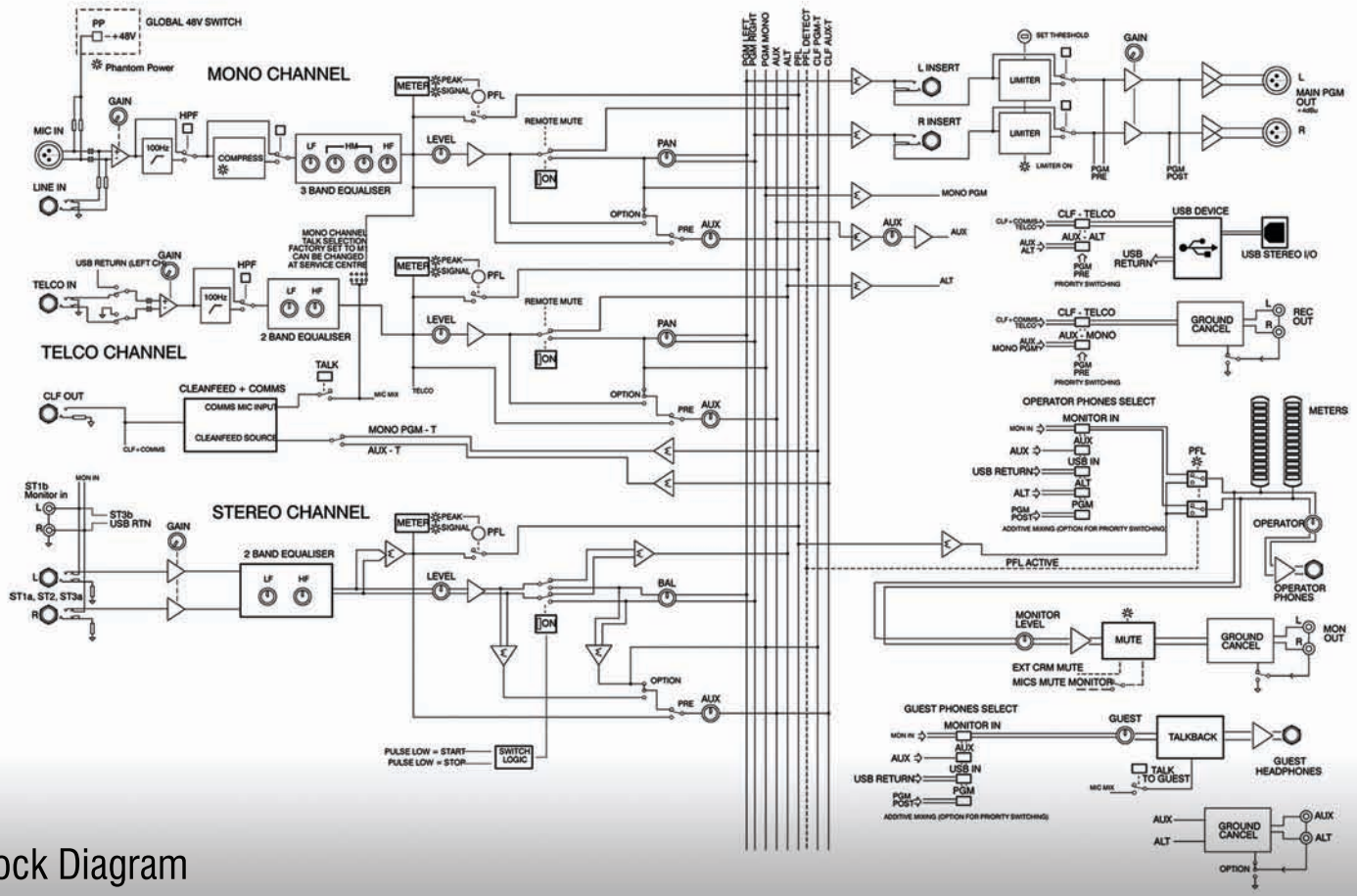
Mic Pre EIN @ max gain 150R input Z 22-22kHz	-126dBu
PGM out, PGM fader @ nominal 22-22kHz	-103dBu
Aux out, Alt out, Rec out @ nominal 22-22kHz	< -93dBu

Headroom

Analogue Headroom from nominal (0Vu) Outputs	21dB
Analogue Headroom from nominal (0Vu) Mix point	24dB
USB in & out headroom from nominal (0Vu)	14dB

Frequency Response

Mic in to PGM L/R Out, 30dB gain	+0.5/-1dB 10Hz to 30kHz
Line in to PGM L/R out 0dB gain	+0.5/-1dB 10Hz to 20kHz
Stereo in to PGM L/R out	+0.5/-1dB 10Hz to 30kHz



Block Diagram

XB-14² Radio Broadcast Mixer

XB-14² incorporates new features and styling based on feedback from the many broadcasters who have built their operations around the original XB-14. With a wealth of routing options, dual stereo channels for up to 7 stereo sources, and the addition of a dedicated Audition bus, enhanced microphone preamps and stereo channel gain range, XB14² satisfies the demands of small radio and internet broadcasters as well as larger studios with multiple rooms. With no less than 27 logic I/O for remote control and 15 configuration switches, XB-14² is a highly flexible solution.

Features

4 MIC/LINE CHANNELS | 4 STEREO CHANNELS | 2 TELCO CHANNELS

- 4 mic/line channels
- 4 Dual Source stereo channels
- 2 Telco channels
- HPF and 3-band, swept mid EQ on mono channels
- 2-band EQ on stereo channels
- Variable high pass / low pass filters on Telco channels
- Smooth-ride 100mm faders
- 2-stage, padless pre-amp design
- Fader-start sensing on mono channels
- Start/cue logic outputs on stereo channels
- External meter socket
- Separate headphones mix for engineer/producer and 2 guests
- Auto mutes on control room outputs
- Remote mute facility on mic channels
- Configurable USB stereo audio in/out
- Audition bus for auditioning and off-air recording
- Aux and separate stereo busses for processing/recording
- XLR main outputs with inserts
- Input signal and peak metering




DuoPre™

The XB-14² pre-amps use a two stage design, with carefully controlled amounts of gain in each stage. When amplifying the signal from the XLR input, the gain range is huge (69dB of range to be exact) and is very evenly distributed around the gain control, meaning better control of signal level. There is no “pad” switch, or pad circuit — line level signals are simply plugged into the second stage of the pre-amp by using the line input jack socket. This has the great advantage of lower noise when using the line input.

USB

XB-14² comes with a full duplex USB soundcard built-in and many useful routing options for recording and broadcast applications.

AUDITION BUS

The dedicated stereo audition bus can be used for auditioning or off air recording. Pressing the button marked AUD on the channels required transfers the mix from the program feed over to the audition bus.

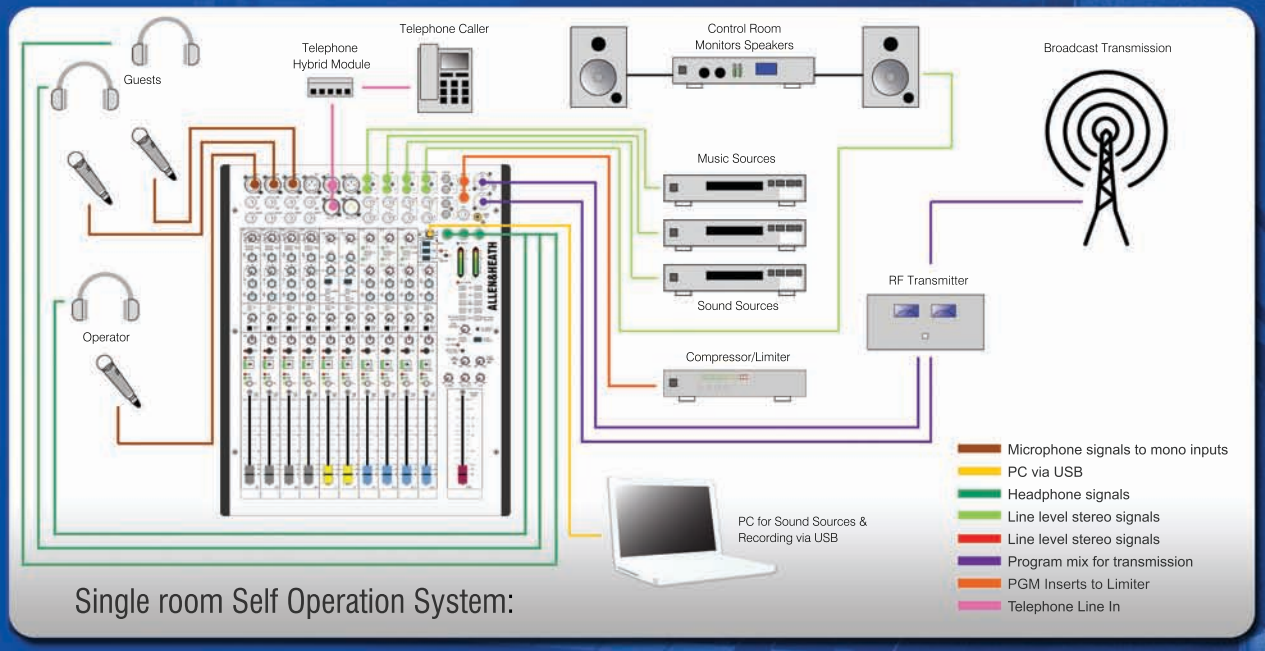
MusiQ

XB-14² features a responsive 3-band, swept mid frequency EQ design which utilises MusiQ with optimised slope for a variety of sources.

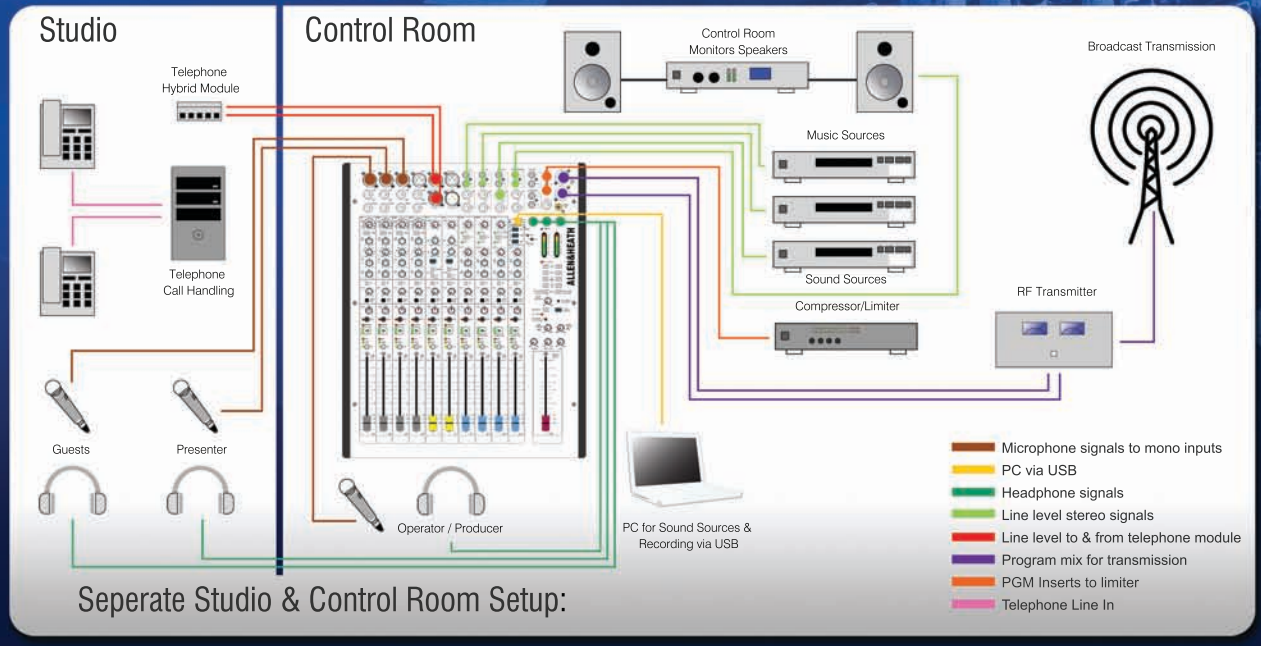
TELCO

The two Telco channels provide a selectable clean-feed output (LR PGM, Aux or Audition bus), variable high pass and low pass filters to reduce the frequency range of the channel when used with a telephone caller, and TALK button.

Application Diagrams



Single room Self Operation System:



Seperate Studio & Control Room Setup:

Technical Specifications

Input

Mono channel Mic input (XLR)	+6 to –63dBu for nominal (+17dBu in max)
Mono channel Line input (TRS Jack socket)	+10 to –26dBu (+30dBu maximum)
Stereo input (TRS Jack & RCA Sockets)	0dBu nominal (control = Off to +10dB)
Telco channel input (XLR)	+10 to –26dBu (+30dBu maximum)

Output

PGM L & R outputs (XLR)	+4dBu nominal. +25dBu maximum
PGM Mono output (RCA phono)	0dBu nominal. +21dBu maximum
Aux output (Jack socket)	0dBu nominal. +21dBu maximum
Mix B, Audition & CRM outputs (RCA phono sockets)	0dBu nominal. +21dBu maximum
Telco output (XLR)	0dBu nominal. +21dBu maximum

USB Audio CODEC (Coder/Decoder)

USB Audio In/Out	USB 1.1 compliant 16bit
Sample Rate	32, 44.1, or 48kHz

THD+n

Mic in to PGM L/R Out, 0dB gain 1kHz +10dBu out	0.001%

Noise

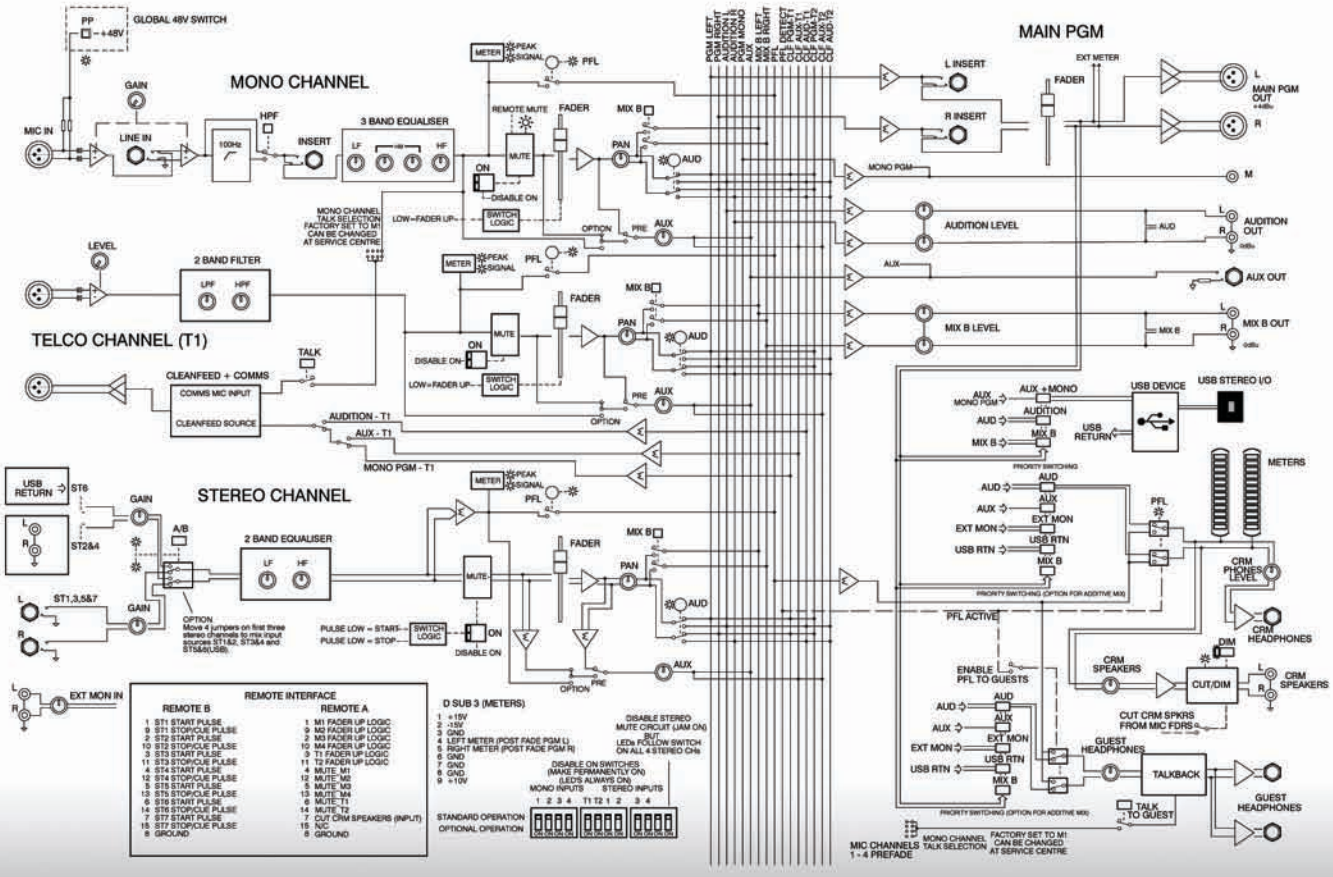
Mic Pre EIN @ max gain 150R input Z 22-22kHz	-127dBu
PGM out, PGM fader @ nominal 22-22kHz	-92dBu
Aux out, Alt out, Rec out @ nominal 22-22kHz	< -90dBu

Headroom

Analogue Headroom from nominal (0Vu) Outputs	21dB
Analogue Headroom from nominal (0Vu) Mix point	24dB
USB in & out Headroom from nominal ()Vu)	14dB

Frequency Response

Mic in to PGM L/R Out, 30dB gain	+0.5/-1dB 10Hz to 30kHz
Line in to PGM L/R out 0dB gain	+0.5/-1dB 10Hz to 20kHz
Stereo in to PGM L/R out	+0.5/-1dB 10Hz to 30kHz



Block Diagram

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