

# Freeway Timecode / RS422 Machine Control / Telco

THE FLEXIBILITY OF FREEWAY EXTENDS TO TIMECODE, RS422 AND TELCO SIGNAL FORMATS



# Timecode

High packing density

**FEATURES** 

- 128 x 128 in 3U
- Balanced signal presentation

#### **RS422 Machine Control**

- High packing density
- 128 port, or up to 64 x
   64 in 3U
- Point to point or broadcast routing
- Manual or automatic parking

#### **Telco**

- DVB-ASI
- SDH STM-1

#### **Timecode**

The Freeway 128 timecode router is assembled using  $32 \times 32$  modules, enabling  $128 \times 128$  to be housed in a 3U frame. This very high density module employs wide bandwidth analog/digital hybrid circuitry ensuring that the timecode signal is re-sliced and regenerated in accordance with SMPTE 12M-1995. This technology ensures problem free routing with all types of timecode, at all rates including fast spooling. Compatibility with both the 3U and 6U frames enables, for example, a useful  $32 \times 32$  timecode router to be slotted into a free slot in an existing Freeway system.

#### **RS422 Machine Control**

The Freeway 128, RS422 machine control router provides an ideal complement to the other signal types in the Freeway range by providing full electrical regeneration of the RS422 signal, guaranteeing the most reliable operation. It has the added advantage of being able to operate as a port based routing switcher, this enables machines to be connected as either controllers or devices, and indeed allows their function to change at will. With the addition of broadcast capability allowing one controller to send messages to multiple devices, the Freeway RS422 series is equally at home in a post production operation as a central routing switcher.

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#### Telco

Freeway supports a variety of Telco related signal formats allowing these signals to be easily incorporated into a traditional broadcast environment.

#### **DVB-ASI**

Whilst conventional SDI routing technology can often adequately route and distribute DVB-ASI signals at 270Mbit/s, Pro-Bel's experience is that the performance can be enhanced with certain modifications and so a specialized DVB-ASI variant of Freeway 64 is available.

| 16 channel input cards | Freeway | Freeway | Freeway |
|------------------------|---------|---------|---------|
|                        | 32      | 64      | 128     |
|                        |         | P       |         |

#### SDH/STM-1 155Mbit/s

Distribution of signals using the Synchronous Digital Hierarchies (SDH) format, at 155Mbit/s can also be supported using a Freeway 64 variant. This offers compatibility with the G703-12 standard, using BNC connectors.

| 16 channel input cards | Freeway | Freeway | Freeway |
|------------------------|---------|---------|---------|
|                        | 32      | 64      | 128     |
|                        |         | P       |         |

## **Technical Specification**

#### **Timecode**

#### **Inputs**

Number and Type 32: balanced 2 wire to SMPTE 12M,

per module

Input Impedance  $1k\Omega$ 

Input sensitivity 500mV p-p Input Common Mode

Rejection

±12V max

Connectors 50 way 'D' type plug, 16 circuits per

connector

**Outputs** 

Number and Type 32: balanced 2 wire typically 2V p-p

into  $10k\Omega$  per module

Output Impedance Less than  $50\Omega$ 

Connectors 50 way 'D' type sockets, 16 circuits

per connector

| 16 channel input cards | Freeway | Freeway | Freeway |
|------------------------|---------|---------|---------|
|                        | 32      | 64      | 128     |
|                        |         |         | P       |

#### **RS422**

#### **Ports**

Number and Type 32: balanced 4 wire (bi-directional) to

EIA standard RS422-A, per module

Input Impedance  $3k\Omega$ Input Sensitivity 150mV Input Common Mode ±12V max

Rejection

Max Output Current 40mA

Connectors Four 50 way 'D' type sockets with

optional 9 way 'D' socket breakout cable, 8 channels per assembly

| 16 channel input cards | Freeway | Freeway | Freeway |
|------------------------|---------|---------|---------|
|                        | 32      | 64      | 128     |
|                        |         |         | P       |

Specifications subject to change

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