

FOUT-7 Seven Way Fan-Out and FOUT-24 24 Way Fan-Out Technical Reference

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Introduction

The main function of the fan-out modules is to distribute the event stream generated by an event generator to a network of event receivers in star configuration. There are two types of fan-out modules a 7-way (FOUT-7) and 24-way (FOUT-24) module.

Main features include:

- Small form factor pluggable (SFP) transceivers with LC connectors, by default short wavelength (850 nm) transceivers for multimode fibre are provided.
- 19” rack unit with internal universal 110-230VAC / 50-60 Hz power supply.
- Alternate configuration to allow distribution of RF clock over fibre network.

FOUT-7

The seven way fan-out module may be configured either as a seven way optical fan-out with two differential LVPECL outputs or as a six way fan-out with a separate chain for RF clock distribution.

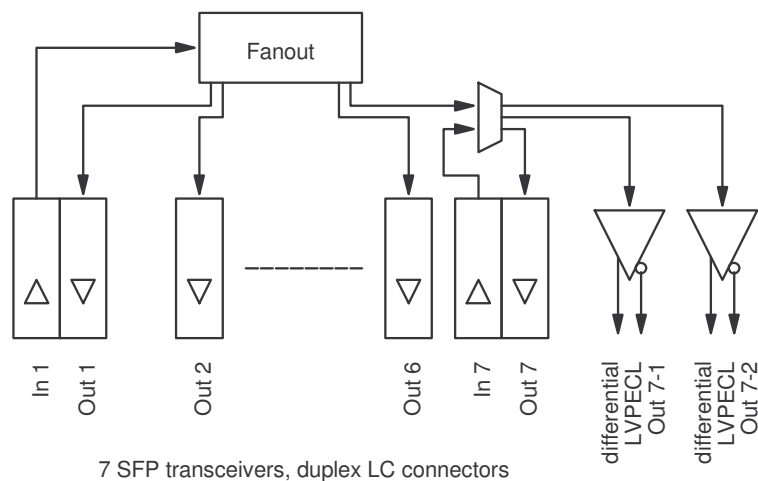


Figure 1: FOUT-7 block diagram

FOUT-7 Front Side

The front side of the seven way fan-out is shown in Figure 2. The front side includes the following connections and status leds:

Label	Connector	Signal Levels	Description
Port 1 IN	SFP/LC	optical	main optical input for ports 1 to 6 and 7 to 9
Port 1 OUT	SFP/LC	optical	Port 1 optical output
Port 2 OUT	SFP/LC	optical	Port 2 optical output
Port 3 OUT	SFP/LC	optical	Port 3 optical output
Port 4 OUT	SFP/LC	optical	Port 4 optical output
Port 5 OUT	SFP/LC	optical	Port 5 optical output
Port 6 OUT	SFP/LC	optical	Port 6 optical output
Port 7 IN	SFP/LC	optical	Auxiliary input for port 7 to 9

Port 7 OUT	SFP/LC	optical	Port 7 optical output
Port 8	LEMO 00	differential LVPECL	Port 8 differential output
Port 9	LEMO 00	differential LVPECL	Port 9 differential output
Power	Green Led		Device power
ETH	Yellow Led		10baseT link/activity led
Port x OK	Green Led		Light up when transceiver is plugged in and transceiver TX_FAIL is not asserted
Port x FAIL	Red Led		Flashes when there is no signal on the source (Port 1 IN or Port 7 IN) for this port output.
Channel 7-9 source select	Switch		Selects source port (1 or 7) for port 7-9 outputs



Figure 2: FOUT-7 Front Panel

FOUT-7 Back Side

The back side of the FOUT-7 module provides the power supply connector and a 10baseT ethernet port. The power supply requirements of the FOUT-7 are following:

Supply Voltage	Power Consumption
110-230 VAC / 50-60 Hz	approx. 15 W

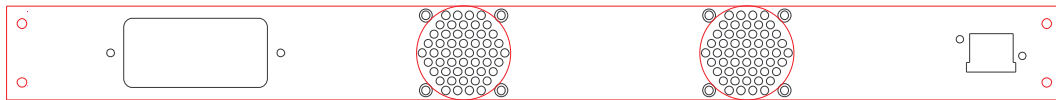


Figure 3: FOUT-7 Back Panel

FOUT-24

The 24 way fan-out module may be configured either as a 24 way optical fan-out or as one twenty way fan-out and one four way fan-out.

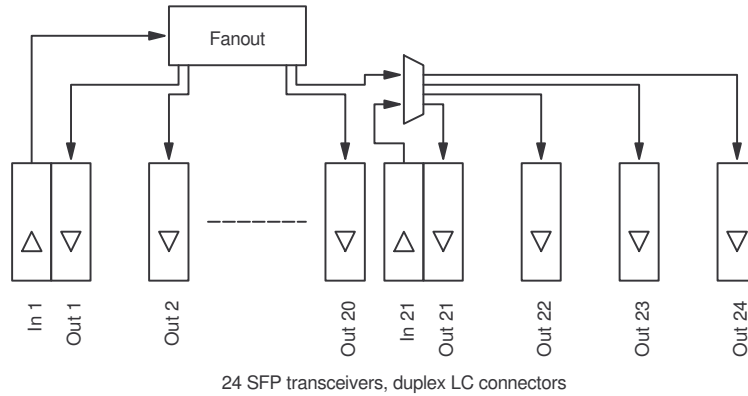


Figure 4: FOUT-24 block diagram

FOUT-24 Front Side

The front side of the 24 way fan-out is shown in Figure 5. The front side includes the following connections and status leds:

Label	Connector	Signal Levels	Description
Port 1 IN	SFP/LC	optical	main optical input for ports 1 to 20 and 21 to 24
Port 1 OUT	SFP/LC	optical	Port 1 optical output
Port 2 OUT	SFP/LC	optical	Port 2 optical output
Port 3 OUT	SFP/LC	optical	Port 3 optical output
Port 4 OUT	SFP/LC	optical	Port 4 optical output
Port 5 OUT	SFP/LC	optical	Port 5 optical output
Port 6 OUT	SFP/LC	optical	Port 6 optical output
Port 7 OUT	SFP/LC	optical	Port 7 optical output
Port 8 OUT	SFP/LC	optical	Port 8 optical output
Port 9 OUT	SFP/LC	optical	Port 9 optical output
Port 10 OUT	SFP/LC	optical	Port 10 optical output
Port 11 OUT	SFP/LC	optical	Port 11 optical output
Port 12 OUT	SFP/LC	optical	Port 12 optical output
Port 13 OUT	SFP/LC	optical	Port 13 optical output
Port 14 OUT	SFP/LC	optical	Port 14 optical output
Port 15 OUT	SFP/LC	optical	Port 15 optical output
Port 16 OUT	SFP/LC	optical	Port 16 optical output
Port 17 OUT	SFP/LC	optical	Port 17 optical output
Port 18 OUT	SFP/LC	optical	Port 18 optical output
Port 19 OUT	SFP/LC	optical	Port 19 optical output
Port 20 OUT	SFP/LC	optical	Port 20 optical output
Port 21 IN	SFP/LC	optical	Auxiliary input for ports 21 to 24
Port 21 OUT	SFP/LC	optical	Port 21 optical output

Port 22 OUT	SFP/LC	optical	Port 22 optical output
Port 23 OUT	SFP/LC	optical	Port 23 optical output
Port 24 OUT	SFP/LC	optical	Port 24 optical output
Power	Green Led		Device power
ETH	Yellow Led		10baseT link/activity led
Port x OK	Green Led		Light up when transceiver is plugged in and transceiver TX_FAIL is not asserted
Port x FAIL	Red Led		Flashes when there is no signal on the source (Port 1 IN or Port 21 IN) for this port output.
Channel 21-24 source select	Switch		Selects source port (1 or 21) for port 21-24 outputs

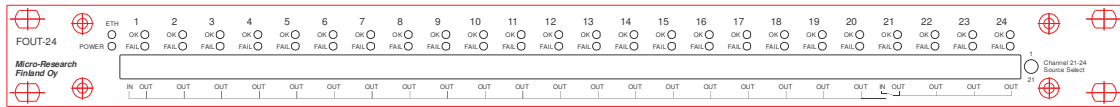


Figure 5: FOUT-24 Front Panel

FOUT-24 Back Side

The back side of the FOUT-24 module provides the power supply connector and a 10baseT ethernet port. The power supply requirements of the FOUT-24 are following:

Supply Voltage	Power Consumption
110-230 VAC / 50-60 Hz	approx. 35 W

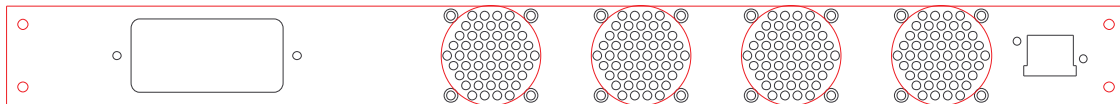


Figure 6: FOUT-24 Back Panel

Heat Dissipation and Cooling

Although the fan-out devices do not produce excessive heat some consideration should be taken into account. The modules are designed to take air in on both sides of the modules and blow out air through the back of the modules. Care should be taken not to block the air flow from the sides and the back of the modules. Modules may be stacked with no empty space between modules.