

The Apollotek 734M-01 transceiver system is a ruggedised unit which provides the capability to acquire and transmit a single data channel with the external data source feeding a data and clock signal at RS422 levels to the transceiver assembly through a 15-way microminiature connector.

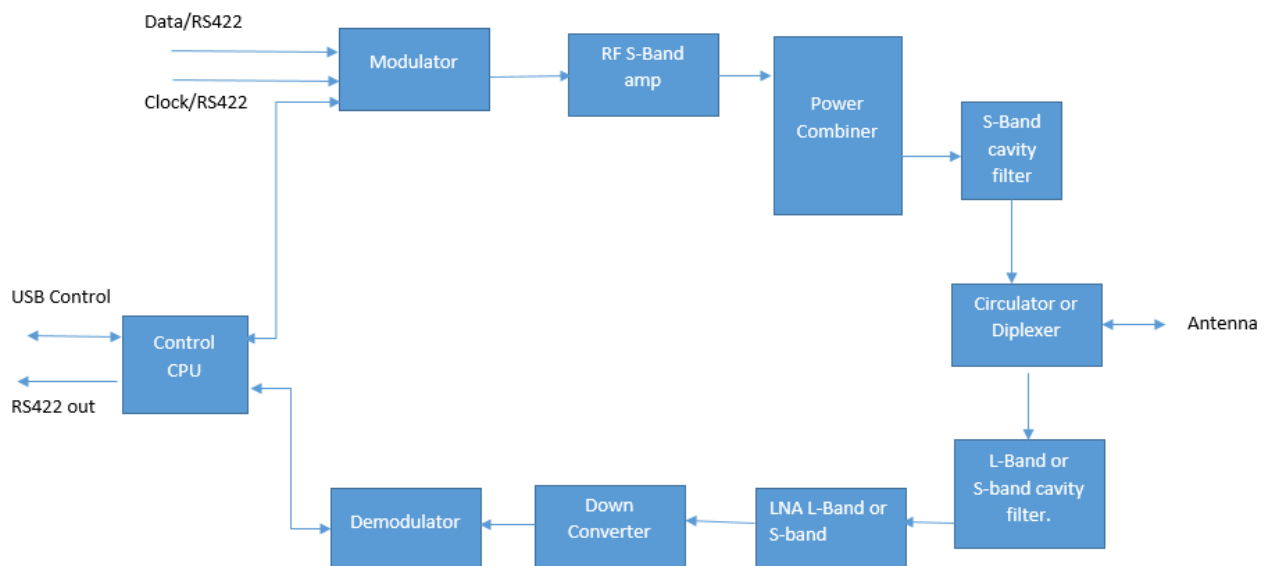
The RF transmissions are in the S-Band Telemetry frequency range allocation between 2200 MHz to 2400 MHz. The information is transmitted as a PCM/FM modulated RF signal.

The unit provides on-board user control capability through a USB Interface.

The transmitter can be programmed via the USB port or from a received structured data packet.

The top-level block diagram of the transceiver system is presented below:

### Single Transceiver Block Diagram:



RS-422 Data and clock inputs	Up to 15 MBPS serial NRZ-L with zero-degree clock phase
Input Connector	15-Way Micro-miniature D-Type socket
Modulation	PCM/FM in accordance with IRIG 106
RF Tuning Range per channel	200MHz in S-Band (2200 MHz to 2400 MHz)
Composite RF Power Output	Up to 50 mW RF power
RF Output Impedance	50 Ω
RF Output connector	SMA socket

**Transceiver Unit Power Supply**

Operating Voltage range                      5 V and 3.3 VDC

**Top Level User Control Interface**

Electrical Interface                              USB 2

User Control Connector                        shared 25-way micro-miniature socket (3 pins used)

User Control Host requirement                Windows 10 64-bit Operating System device (User supplied)

**User Programmable Functions**

A Windows Utility program is supplied with the Transceiver system to enable the user to program the following parameters:

RS422 Input Source Data Rate

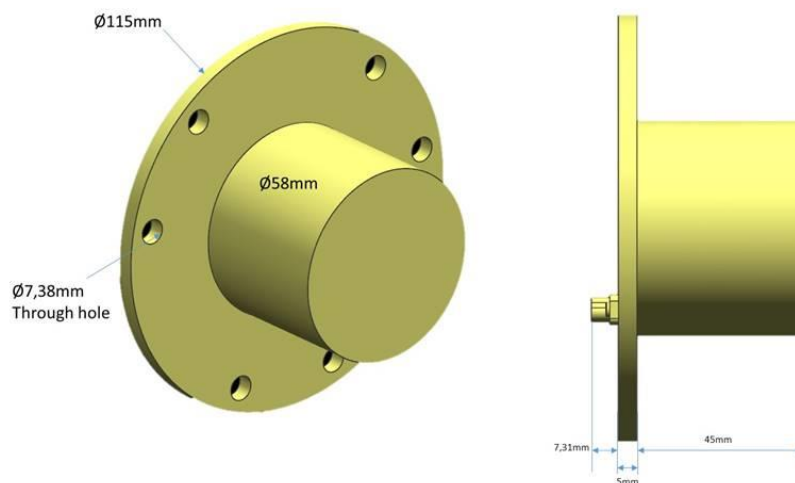
RF Transmit Centre Frequency

RF Power Output attenuator control

RF Receiver Section PCM serial data rate

**Mechanical Specifications**

The Transceiver is designed to be typically installed on the centreline of rotating turbines and has the following general form factor:



### Transceiver Connectors and pinouts

The Transceiver provides signal and control interconnections via a Glenair Micro-D MWDM series 15 way socket with the following pinout:

Pin Number	Description	Comment
1	5v TX #1	
9	Return	
2	Data 1 +	LVDS
10	Data 1 -	
3	Clock 1 +	LVDS
11	Clock 1 -	
4	3v3 out USB	
12	USB Return	
5	USB +	
13	USB -	
6	3v3	
14	return	
7	Control +	RS-422
15	Control -	
8	Screen	

Screens will be connected at the Digital PCB end only.

### RF Output

RF output is via a SMA connector which connects to a customer supplied and installed transmitting antenna.

### Transceiver Weight

The target weight of the Transceiver System (excluding the weight of any associated antenna and interconnecting cables) is approximately 200 grams. The exact weight will be provided at the time of delivery.