



UHF RADIO TRANSMITTER 3694 UHF RADIO RECEIVER 3696 UHF RADIO REPEATER 3711

A short range real-time telemetering system for Aanderaa PDC-4 raw data signals from Automatic Weather Station 2700, Data Buoys and other monitoring stations.

Approved by the Norwegian Post and Tele-communication Authorities. Approval No.99000011and 99000012.

Automatic weather stations and data buoys are normally placed far from inhabited areas. To convey data in real-time from these stations or buoys, UHF radio communication has been found to be a good and inexpensive solution. The Radio Transmitter 3694, Radio Receiver 3696, and Radio Repeater 3711 have been designed to take care of this data transmission.

The radio set is a low power, short range system, operating in the UHF band on frequencies between 400 and 500MHz, and requires line of sight between the transmitter and the receiver to function properly. A typical application for the radioset is transmitting a message from an AADI Automatic Weather Station every 10 minutes. This message consists of a number of 10-bit data words and lasts for about 4 seconds per word.

The Transmitter 3694 has a 2.5" OD aluminum housing with a half wave whip antenna on the top and a standard AADI sensor foot with a 6-pin receptacle at its lower end. The transmitter fits directly onto the AADI Sensor Cross Arm used on AADI Automatic Weather Stations and Data Buoys. The Receiver 3696 and Repeater 3711 have a

cone joint with an 18-pin receptacle which fits a vertical 2" aluminum mast section.

The antenna has a good low angle omnidirectional radiation pattern. The modulation type for the transmission is frequency modulation which allows the 10-bit PDC-4 Aanderaa code to modulate the transmitter directly.

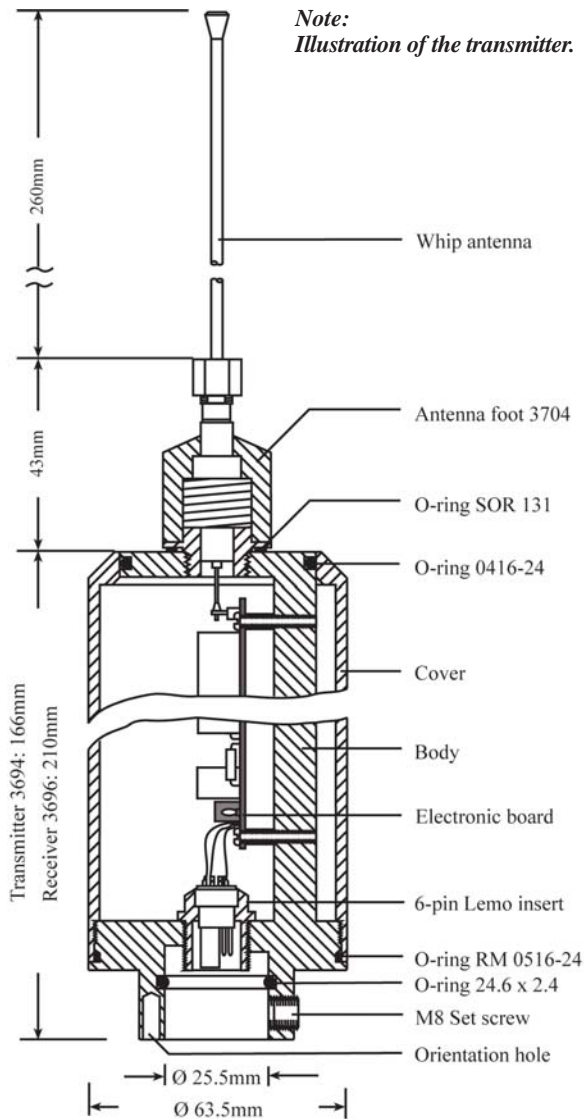
The output from the receiver is PDC-4 signals, the same as the input to the transmitter. This code is accepted by the 3127 Deck Unit for transfer of data into a PC.

The range of the radio set varies with topography. On land and over uneven terrain a range of 50km is realistic provided line of sight. Over flat land and water the range is only 6-8km with a normal antenna height.

To get a better range or where line of sight is not possible, use Repeater 3711.

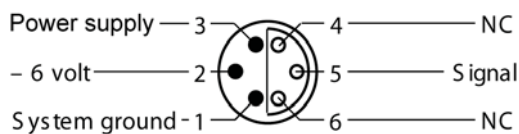
Specifications UHF Radio

D313 - May 2009



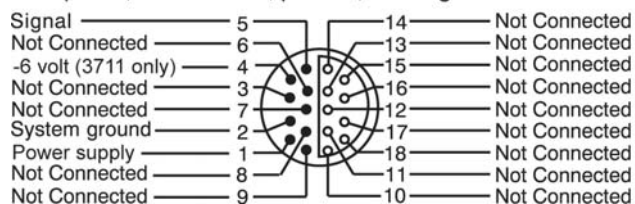
Pin configuration UHF Transmitter 3694

Receptacle, external view; bushing = ○ ; Pin = ●



Pin Config. UHF Receiver 3696 and Repeater 3711

Receptacle, exterior view; pin = ● ; bushing = ○



UHF Radio Transmitter 3694 (see front picture)

RF module: Woods & Douglas, ST 500
Type of transmission: Frequency shift F1D
Frequency: 400 to 500MHz*
 channel spacing: 25KHz
Output power: 100mW max
Output impedance: 50Ω
Input impedance: 10kΩ
Current consumption: Transmitting 100mA max
Temperature stability: ±5ppm
Net weight: 550g
Connection 3694: Standard sensor foot with 6-pin receptacle mating Sensor Cross Arms 3415, 3435, 3465 and 3485
 For installation on a 2" cone joint with 18-pin plug use Adapter 3715

Norwegian Type Approval No. 99000011

UHF Radio Receiver 3696

RF module: Woods & Douglas, SR 500
Double heterodyne receiver: 1st. I.F.45MHz
 2nd I.F.455kHz
Type of reception: Frequency shift, F1D
Sensitivity: -117dBm at 12dB SINAD
Frequency: As transmitter*
Output signal, PDC-4: 6V, 35mA at maximum load
Input impedance: 50Ω
Current consumption: 40mA
Net weight: 700g
Connection: 18 pin receptacle mating standard mast section with Radio Cable 2852
Dimension: H: 166mm, OD: 63mm
Accessories, optional: Brackets 3346 & tube with cone for fitting receiver to a vertical surface. Radio Cable 2852, 10m (shield)

UHF Radio Repeater 3711

RF module: Woods & Douglas, SX 500
 Otherwise specifications as for 3694 and 3696

Common to all units

Material and finish: Aluminum 6061T, anodized 10-15μ
Operating temp.: -30 to +50°C
Power supply: -7 to -14Vdc
Antenna: Half wave vertical whip type with connector type N
Approval: ETS 300 220, ETS 300 683,

* Note:

Concerning restrictions on use of this equipment, the responsibility for obtaining the applicable permission from the appropriate authorities remains solely with the user. Actual frequency will normally be specified by the same authority.

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Representative's Stamp



AANDERAA DATA INSTRUMENTS

Reliable Solutions 2